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Wednesday
April 23, 2014
9:00 AM-11:45 AM

Seminar 01 9:00 AM-11:45 AM 1001

BRIEF ALCOHOL INTERVENTION TRAINING FOR INTEGRATED PRIMARY CARE PROVIDERS

Jennifer S. Funderburk, PhD,[1,2] Robyn L. Fielder, PhD[1] and Stephen A. Maisto, PhD[2,1]

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Brief alcohol interventions (BAIs) are one of only a small number of empirically-supported interventions designed specifically for the primary care setting. Behavioral health providers integrated in primary care can serve as a useful resource to primary care providers and staff by helping to deliver and support the implementation of BAIs. This is especially important as greater numbers of primary care settings implement the recommended routine screening for hazardous alcohol use. However, lack of provider training has been identified as a barrier to implementation of BAIs (Johnson, Jackson, Guillaume, Meier, & Goyder, 2010; Nilsen, 2010). Provider training has been shown to increase rates of screening and BAI in primary care (Kaner, Lock, Heather, McNamee, & Bond, 2003; Kaner, Lock, McAvoy, Heather, & Gilvarry, 1999).

This 3-hour interactive workshop will increase behavioral health providers' knowledge and skills to facilitate the implementation of BAIs in their integrated primary care practice. The first half of the workshop will focus on describing the evidence supporting BAIs, reviewing the basic elements of a BAI with a specific focus on the World Health Organization's simple advice intervention, discussing how to integrate brief BAIs into typical clinical practice, dealing with common challenges to delivering BAIs, sharing free internet resources available to complement the interventions, and observing a role-play demonstration of a BAI among the presenters. The second half of the workshop will involve participants breaking into pairs to practice the delivery of a BAI using case scenarios developed by the presenters. At the end of the workshop, participants will be able to describe the evidence base supporting BAIs, understand the various elements of BAIs, and feel more comfortable delivering a BAI in practice.

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Seminar 02 9:00 AM-11:45 AM 1002

INTRODUCTION TO PSYCHOLOGICAL TREATMENTS FOR GASTROINTESTINAL (GI) CONDITIONS

Sarah Kinsinger, PhD and Laurie Keefer, PhD

Northwestern University, Chicago, IL.

Background/Rationale: Chronic, painful gastrointestinal conditions, such as irritable bowel syndrome, comprise a large portion of patients seen in outpatient gastroenterology clinics. There is strong empirical support for the use of psychological therapies, particularly cognitive-behavior therapy and hypnotherapy with these patients to improve symptoms and quality of life and many gastroenterologists seek out such providers in their community. However, the availability of these treatments for patients is limited due to a lack of trained providers. A recent survey from our group of 152 mental health providers around the US confirmed that 63% of licensed psychologists are already treating patients with digestive conditions (most common IBS) in their practice, but have had little guidance on how to apply evidence-based treatments. Of these, 81% indicated they would be somewhat to very interested in receiving further education on psychological treatments for GI conditions.

The authors have been running a nationally-recognized GI behavioral medicine service at Northwestern Medicine since 2006. We are currently the only fully integrated clinical GI-Psychology program in the country. We have the experience and interest in meeting the needs of colleagues interested in treating GI disorders with evidence-based psychological therapies and believe than an introductory workshop at SBM would be an ideal venue for dissemination.

Objectives: In an engaging, practical workshop, we will provide an introduction to working with patients with gastrointestinal conditions. We will provide a real-world snapshot of the role of GI health psychologists in a functioning outpatient GI clinic and explain the unique medical and psychological needs of GI patients. We will present an overview of evidence-based treatments for GI conditions with particular emphasis on cognitive-behavior therapy and gut-directed hypnotherapy. Additionally, we will provide specific guidance on the application of CBT skills with a GI population and feedback on the logistical aspects of developing a GI-psychology practice.

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Seminar 03 9:00 AM-11:45 AM 1003

AN INTRODUCTION TO INTEGRATIVE DATA ANALYSIS

Jennifer L. Walsh, PhD

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Integrative data analysis (IDA) involves the analysis of multiple (usually large) datasets that have been merged. IDA differs from meta-analysis in that it involves the combination of original data (not summary statistics), and it has a number of advantages in diverse fields, including behavioral medicine research. These advantages include increased sample size and statistical power; better representation of subgroups and low base-rate (rare or infrequent) behaviors; a broader, more valid assessment of constructs of interest; the ability to test hypotheses not considered in the original studies; and the potential to identify sources of between-study heterogeneity, which may inform theory, intervention development, and policy formation.

Recent years have been characterized by decreased resources to support new research efforts and increased calls for data sharing by the NIH and other sponsors. IDA plays a valuable role in maximizing limited resources and building a cumulative science. However, conducting IDA involves a number of practical challenges, including data sharing, differences in study designs, and heterogeneity in measurements across studies.

This seminar will provide an introduction to IDA, including methods to overcome these practical challenges. We will discuss the benefits and challenges of IDA; successful ongoing IDA projects; and applications of IDA in health research. Additionally, methods for integrating discrepant measures across studies (including tests of measurement invariance) and for testing cross-study replication will be demonstrated in Mplus, with suggestions provided for other data analytic platforms. Time will be reserved for open discussion of research questions that may be addressed with IDA. Attendees will be given a handout with the Power Point slides, an annotated bibliography of articles containing additional information, and sample Mplus syntax and output.

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Seminar 04 9:00 AM-11:45 AM 1004

ACCEPTANCE-BASED BEHAVIORAL INTERVENTION FOR HEALTH-RELATED BEHAVIOR CHANGE: THEORY AND CLINICAL APPLICATIONS

Meghan L. Butryn, PhD and Evan Forman, PhD

Psychology, Drexel University, Philadelphia, PA.

Specific behavioral changes dramatically reduce the incidence and consequences of diabetes, cardiovascular disease, cancer, and other diseases and conditions. Effective interventions are challenging to develop, especially those that promote long-term maintenance of behavior change. Individuals who initially succeed at health-related behavior change often find that their success is eventually eroded by profound biological (e.g., innate preferences for palatable foods) and environmental influences (e.g., a built environment that limits lifestyle activity). The science of behavior change is rapidly evolving, and emerging research is revealing that distress tolerance, mindful decision making, and commitment to valued behavior may be necessary for lifestyle modification. These psychological processes are integrated into innovative behavior therapies, i.e., acceptance-based treatments, which include acceptance and commitment therapy (ACT). Acceptance-based approaches have demonstrated promise when applied to areas such as weight control, physical activity promotion, and dietary change. This seminar will provide an in-depth consideration of the theoretical principles underpinning the acceptance-based behavioral approach. Empirical support from several randomized controlled trials will be reviewed. Five dimensions of clinical application to behavioral medicine also will be highlighted: acceptance (ability to tolerate unpleasant internal experiences, such as urges, fatigue, anxiety), willingness (ability to choose valued actions even if they produce or maintain unpleasant internal states), defusion (ability to appreciate thoughts and feelings for what they are and therefore to uncouple internal experiences from behaviors), mindful decision making (nonjudgmental awareness of experiences and moment-by-moment choices), and values clarification (clarity of the personal values that motivate behavior). The presenters will use live demonstration and video to depict how experiential exercises, metaphors, and at-home exercises can be used to most effectively teach these skills.

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Seminar 05 9:00 AM-11:45 AM 1005

INTRODUCTION TO THE MULTIPHASE OPTIMIZATION STRATEGY (MOST) FOR BUILDING MORE EFFECTIVE BEHAVIORAL INTERVENTIONS

Linda M. Collins, PhD

The Methodology Center, Penn State, State College, PA.

The majority of behavioral interventions in use today have been evaluated as a treatment package using a two-group randomized controlled trial (RCT). This approach is an excellent way to determine whether an intervention is effective. However, the treatment package approach is less helpful at providing empirical information that can be used to improve the intervention's effectiveness. In this seminar an innovative methodological framework for building more effective behavioral interventions, the Multiphase Optimization Strategy (MOST), will be presented. MOST is based on ideas inspired by engineering methods, which stress careful management of research resources and ongoing improvement of products. A comprehensive strategy, MOST includes a series of steps devoted to establishing the conceptual foundation of an intervention; gathering empirical information on individual intervention components via experiments designed for efficiency and conservation of research resources; making decisions based on the results of the experiments to develop the intervention; and evaluating the intervention via a RCT. MOST can be used to build a new intervention or to improve an existing intervention. Using MOST it is possible to engineer an intervention targeting a particular effect size, level of cost-effectiveness, or any other criterion.

This seminar will provide an introduction to MOST. Ongoing intervention development studies using the MOST approach will be used as illustrative examples. A substantial amount of time will be devoted to experimental design, which is an important tool in MOST. In particular, factorial experiments and fractional factorial experiments will be discussed. Time will be reserved for open discussion of how the concepts presented can be applied in the research of seminar attendees. Attendees will be given a handout with the Power Point slides and a list of articles containing additional information.

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Wednesday
April 23, 2014
12:00 PM-6:00 PM

Seminar 06 12:00 PM-6:00 PM 1007

GETTING SMART ABOUT DEVELOPING ADAPTIVE INTERVENTIONS: INDIVIDUALIZING SEQUENCES OF TREATMENT

Daniel Almirall, PhD, Inbal Nahum-Shani, PhD and Susan A. Murphy, PhD

Survey Research Center, Institute for Social Research, University of Michigan, Ann Arbor, MI.

The effective management of a wide variety of health disorders often requires individualized, sequential decision making, whereby treatment is dynamically adapted over time based on a patient's changing course. Adaptive interventions operationalize individualized, sequential, decision making via a sequence of decision rules that specify whether, how, for whom, or when to alter the intensity, type, or delivery of psychosocial, behavioral, and/or pharmacological treatments at critical decision points in the management of disorders. Adaptive health interventions can be used to develop or supplement clinical treatment guidelines. In this seminar, we present a novel experimental design—the sequential multiple assignment randomized trial, or SMART—intended specifically for the purpose of developing high-quality adaptive interventions.

Specifically, we will discuss why adaptive interventions are important; introduce SMART designs; contrast SMARTs with other experimental approaches; discuss SMART design principles, including common choices for primary and secondary aims; and acquaint the audience with data-analytic approaches for developing optimized adaptive interventions that are accordant with these primary and secondary aims. Illustrative examples will be drawn from studies using SMART designs that have been completed or are currently in the field.

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Seminar 07 12:00 PM-6:00 PM 1008

WORKING WITH ACCEPTANCE, MINDFULNESS, AND VALUES IN CHRONIC PAIN: AN INTRODUCTION AND SKILLS BUILDING SEMINAR

Kevin Vowles, PhD[1] and Lance McCracken, PhD[2]

[1]Psychology, University of New Mexico, Albuquerque, NM and [2]Psychology, Kings College London, London, United Kingdom.

Chronic pain can be a source of immense human suffering and disability. There is emerging evidence indicating that as pain sufferers set aside struggles for control over pain, attend to present experiences, and engage in meaningful activities, they suffer less and function better, even while pain persists. These treatment processes are respectively referred to as acceptance, mindfulness, and values-based action. The extant literature suggests these processes are highly relevant in the treatment of chronic pain, where the best researched therapy model has been Acceptance and Commitment Therapy (ACT), a form of CBT that directly targets these processes. This seminar will provide a brief overview of the theoretical model underlying ACT and will include significant opportunities for clinical practice. The majority of the seminar will be spent in experiential, skill building, and case conceptualization exercises with training modalities including include a mix of didactic instruction, modeling, and practice/role play. Opportunities for consultation, instruction, and feedback will also be provided. At the conclusion of the class, participants will be able to more adequately identify targets for treatment in those suffering from chronic pain and directly apply interventions to augment acceptance, mindfulness, and values.

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Seminar 08 12:00 PM-6:00 PM 1009

NIH GRANT WRITING SEMINAR FOR EARLY CAREER RESEARCHERS

Wendy Nilsen, PhD,[1] Susan Czajkowski, PhD,[4] Karina Davidson, PhD,[3] William Elwood, PhD,[1] Joel Hillhouse, PhD,[7] Francis Keefe, PhD,[2] Heather Patrick, PhD,[6] Michael Stirratt, PhD[5] and Laura Szalacha, EdD[8]

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This seminar will provide investigators who are new to the National Institutes of Health (NIH) grant application process with information and advice on writing a successful application for NIH funding. The format will include didactic presentations, question and answer sessions, a "mock" review, guidance on interpreting summary statements, and small group discussion. NIH scientists who oversee programs of research will describe current funding opportunities, grant mechanisms, policies, procedures, and steps in the grant submission process. An NIH review officer will discuss review procedures and considerations, and senior investigators will provide their perspectives on writing a successful application.

Ample time will be provided for questions regarding programmatic, review and grantsmanship aspects of the NIH funding process. In addition, experiential and small-group activities will deepen participants' knowledge of the grant writing process and provide more tailored information and feedback. A "mock" review session will be conducted to demonstrate the roles and interactions among various participants in a study section, including the NIH review officer, review group Chair and assigned reviewers. Participants will also be asked to submit in advance a 1-2 page synopsis of the research aims, hypotheses, and methods for an application they are considering submitting, and/or specific questions they may have regarding the grant writing and review process. These will be discussed in small groups led by NIH staff and senior investigators, allowing participants to receive detailed feedback and advice to enhance the quality of their future grant submissions.

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Seminar 09 12:00 PM-6:00 PM 1010

PROBLEM-SOLVING TRAINING FOR DEPRESSED MEDICAL PATIENTS

Arthur M. Nezu, PhD and Christine M. Nezu, PhD

Psychology, Drexel University, Philadelphia, PA.

Depression is a major public health problem, particularly when comorbid with a chronic medical illness, such as heart disease, cancer, and diabetes. Its consequences can be severe–for example, major depression, comorbid with a medical illness, increases the odds of mortality within a 1-year period 2.6 times greater as compared to nondepressed medical patients. Problem-Solving Therapy (PST) is an evidenced-based intervention, based on research identifying social problem solving (SPS) to be an important moderator of the negative effects of stressful life events, such as the experience and treatment of a chronic illness. The overarching treatment goal of PST is to foster adoption and implementation of adaptive problem-solving attitudes and behaviors. More specifically, PST, by teaching user-friendly skills, is geared to increase optimism, improve emotional regulation, and foster successful resolution of stressful problems. Both qualitative and meta-analytic reviews of the PST outcome literature strongly support its efficacy for treating depression across multiple populations including medical patients. In addition, recent research has supported its efficacy for ethnic minority and low income populations. The two presenters are co-developers of contemporary PST which has been revised and updated in concert with recent research from affective neuroscience and cognitive psychology.

This seminar will provide participants with (a) an overview of the conceptual and empirical underpinnings of the problem-solving model of depression upon which PST is predicated, and (b) clinical guidelines to conduct PST for a variety of medical patient populations. In addition to lectures, we will demonstrate various PST intervention strategies, engage workshop participants in relevant role-plays, and provide consultations regarding how to apply PST to medical patients with concomitant depression. Last, participants will learn how to apply this approach in various venues, including outpatient mental health, primary care, and home-based primary care settings.

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Wednesday
April 23, 2014
12:00 PM-2:45 PM

Seminar 10 12:00 PM-2:45 PM 1011

HOW TO CREATE AN EFFECTIVE PROFESSIONAL SOCIAL MEDIA PRESENCE

Sherry Pagoto, PhD,[1] Kate Wolin, SCD, FACSM,[2] Gary Bennett, PhD[3] and Kristin Schneider, PhD[4]

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In a time of shrinking research funds, academics more than ever need to make the public and key stakeholders aware of the impact of their work. Medical centers like the Mayo Clinic have led the way by developing Twitter feeds, Facebook pages, Youtube channels and blogs to increase the public's awareness of their science and medical care. Individual health care professionals and scientists are also leveraging social media to: promote their research, teaching, and practice; interact with the media, colleagues, potential collaborators, the patient population, and prospective students and staff; and to increase their impact and visibility as an expert in their fields. In this workshop, participants will get the exciting opportunity to launch an efficient and effective social media presence. Specifically, participants will learn how to develop a social media presence on Facebook, Twitter, Youtube, Linked In, and via blogging. Hands on guidance will be focused on Twitter and blogging. During the workshop, participants will open a Twitter account, learn to use its features, find relevant information, develop a base of followers, and produce content. Participants will also learn tips for creating a blog and writing blog posts, as well as where they can submit guest blog posts for maximal visibility. The workshop will help participants develop an individualized social media strategy, tailored to their needs and goals and with an emphasis on time management. Participants will also learn about how to maintain a high level of professionalism and deal with privacy issues. Participants should be equipped with a laptop (recommended) or smartphone for this hands-on workshop. No previous experience with social media is necessary to attend this workshop.

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Wednesday
April 23, 2014
3:15 PM-6:00 PM

Seminar 11 3:15 PM-6:00 PM 1012

BAYESIAN SPATIAL MODELING OF NEIGHBORHOOD EFFECTS

Andrew B. Lawson, PhD

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This seminar is designed to demonstrate the use and usefulness of Bayesian modeling as well as spatial contextual modeling in the analysis of behavioral and health-related outcomes in population level studies. The seminar outlines the following topics:

1) Bayesian methods : an introduction
2) small area geographic studies: an introduction
3) Individual level versus aggregated data
4) Contextual effects: family, group, neighborhood
5) Models for contextual effects and their use

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Wednesday
April 23, 2014
6:10 PM-7:30 PM

Poster Session A A-001

PROVISION AND DISCUSSION OF SURVIVORSHIP CARE PLANS WITH CANCER SURVIVORS: RESULTS OF A NATIONALLY REPRESENTATIVE SURVEY OF ONCOLOGISTS AND PRIMARY CARE PHYSICIANS

Danielle Blanch Hartigan, PhD, MPH,[1] Laura P. Forsythe, PhD, MPH,[2] Catherine M. Alfano, PhD,[1] Tenbroeck Smith, MA,[3] Larissa Nekhlyudov, MD, MPH,[4,5] Patricia A. Ganz, MD[6] and Julia H. Rowland, PhD[1]

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Survivorship care planning should involve discussions with cancer survivors to address their needs and optimize long term follow up. We examined frequency and factors associated with oncologists' and primary care physicians' (PCPs) provision of written survivorship care plans (SCPs) and discussion of survivorship recommendations with survivors. A nationally representative sample of 1,130 oncologists and 1,020 PCPs reported their survivorship care practices. Logistic regression models predicted multi-level factors associated with providing SCPs or discussing recommendations with survivors. Although a majority of oncologists (64%) reported always/almost always discussing recommendations with survivors, fewer also discussed who survivors should see for follow-up care (32%); fewer still also provided a SCP to the survivor (<5%). Survivorship care recommendations and provider responsibility were not regularly discussed by PCPs and survivors (12%). Oncologists who reported detailed training about late and long-term effects of cancer were more likely to provide SCPs (OR = 1.73, 95%CI = 1.22-2.44) and to discuss survivorship care with survivors (OR = 2.02, 95%CI = 1.51-2.70). PCPs who received SCPs from oncologists were 9 times more likely (95%CI = 5.74-14.82) to report survivorship discussions with survivors. Training specific to survivorship care and coordinated care between PCPs and oncologists were associated with increased survivorship discussions with survivors. These nationally representative data provide a benchmark for implementation of efforts to improve survivorship care.

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A-002

PSYCHOSOCIAL CHARACTERISTICS OF WOMEN WITH SPORADIC UNILATERAL BREAST CANCER CONSIDERING CONTRALATERAL PROPHYLACTIC MASTECTOMY (CPM)

Patricia A. Parker, PhD, Susan K. Peterson, PhD, Isabelle Bedrosian, MD, Melissa Crosby, MD, Scott B. Cantor, PhD, Jun Ying, MS, Yu Shen, PhD, Robert J. Volk, PhD and Abenaa M. Brewster, MD

The University of Texas MD Anderson Cancer Center, Houston, TX.

The majority of breast cancer patients diagnosed with sporadic unilateral invasive disease are at low risk for developing a contralateral breast cancer; however, increasing numbers of women are choosing contralateral prophylactic mastectomy (CPM). There are limited data about the decision-making process and the psychosocial factors that influence women's interest in CPM. The goal of this study was to examine the psychosocial characteristics that predict women's interest in having CPM. Prior to their first visit with the breast surgeon, women were asked about their interest in several possible surgical treatments including CPM. Fifty-percent indicated no or little interest and 50% indicated moderate to extreme interest in CPM. At their first visit, women completed measures of demographics, illness uncertainty, body image, cancer worry, knowledge, distress (intrusive thoughts and avoidance behaviors) and fear of recurrence. Women were newly diagnosed with sporadic breast cancer ($n = 116$) with a mean age of 54 years ($SD = 11$ years). The majority were Caucasian (67%). Seventy-three percent were married and 52% had a college degree or higher. Univariate analyses indicated that ethnicity ($p = .04$) and employment status ($p = .04$) were associated with interest in CPM. Multivariate analyses indicated that, after adjusting for age and ethnicity, less knowledge about breast cancer ($p = .01$) and increased distress ($p = .05$) predicted greater initial interest in CPM. The results of the study will be used to inform the development of evidence-based educational and psychosocial intervention that will enable patients with sporadic breast cancer and their providers to make decisions about CPM. The long-term impact of the proposed research is to improve the quality of life of breast cancer survivors through informed decision making about CPM.

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A-003

THE ADJUSTMENT OF FAMILY CAREGIVERS FOLLOWING THE DEATH OF THE PATIENT

Melissa Masterson, MA,[1] Karen Hurley, PhD,[2] Talia Zaider, PhD,[1] Tammy Schuler, PhD[1] and David Kissane, MD[3,4]

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The relief and depletion models have been independently developed to explain the relationship between the caregiving experience and bereavement outcomes of caregivers. Due to the strain of caregiving, the relief model argues that the patient's death signals feelings of relief and results in better psychosocial bereavement outcomes for caregivers. The depletion model states that the strain of caregiving depletes caregivers' coping resources leaving them vulnerable to high rates of psychosocial morbidity following the death of the patient. The objective was to test the validity of these models by examining the adjustment of caregivers following the death of the patient. 79 caregivers who experienced losses as part of a larger randomized controlled trial (RCT) of family therapy for consecutive families were selected. Caregivers were assessed at two time points, T1 (during palliative care) and T2 (13 months post-death). Repeated measures analysis of variance compared scores for social functioning [Social Adjustment Scale (SAS)], depression [Beck Depression Inventory (BDI)], psychological morbidity [Brief Symptom Inventory (BSI)], and family coping strategies [Family Crisis Oriented Personal Evaluation Scales (F-COPES)] over time. Significant differences were identified for SAS total scores, BDI total scores, and F-COPES total scores between T1 and T2 ($p < .05$). BSI total scores were not found to be significantly different at T1 and T2 ($p = .07$). These results provide support for the relief model and highlight the beneficial opportunity that bereavement can present for family caregivers to improve social functioning and family coping and to reduce depression. However, improvements in overall psychological morbidity were not observed between T1 and T2. The mixed findings support the notion that the relief and depletion models are not mutually exclusive; rather that they need to be integrated to accurately portray the adjustment of caregivers.

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A-004

PHYSICAL ACTIVITY IN THE WAKE OF BEING DIAGNOSED WITH BREAST CANCER: IMPLICATIONS FOR SELF-RATED HEALTH, CANCER-RELATED SYMPTOMS, AND RECURRENCE

Richard Bränström, PhD

Department of Clinical Neuroscience, Karolinska Institute, Stockholm, Sweden.

Breast cancer is one of the leading causes of death among women. Studies have consistently shown an association between physical activity and increased health and well-being after a cancer diagnosis. Nevertheless, large proportions of breast cancer survivors do not meet recommended levels of physical activity. The aim of the current study was to describe physical activity levels during the first two years after being diagnosed with breast cancer, and to explore the predictive ability of physical inactivity on longer-term self-rated health, physical symptoms, psychological distress, and recurrence. Study participants were women recently treated for breast cancer at one of the three main hospitals in Stockholm between 2007 and 2009. A total of 729 women were included and responded to five questionnaire assessments during the 24 months following diagnosis. Less than one third of the participants were sufficiently physically active at baseline. Physical activity decreased at 4 month follow-up, increased at 8 month follow-up, and subsequently decreased slightly during the subsequent follow-up period. Physical inactivity was related to reduced health, increased symptom such as pain, fatigue, depression, and anxiety, and cancer recurrence. This study provides additional support for the beneficial consequences of being physically active after a breast cancer diagnosis. More specifically, being physically active even at a very low level seems to have health benefits. Although the results from the current study is promising and give support for the role of physical activity and activity change after breast cancer diagnosis as a potential intervention, future randomized trails are needed to confirm these findings.

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A-005

JOB SATISFACTION AS A RESILIENCY FACTOR AMONG MEDICAL INTERPRETERS: A QUALITATIVE STUDY

Cheyenne A. Fox Tree-McGrath, BA (2014),[1,2] Jan Mutchler, PhD,[1] Giselle K. Perez, PhD,[2] Katia Canenguez, EDM, MA[1,2] and Elyse R. Park, PhD[2]

[1]University of Massachusetts Boston, Bedford, MA and [2]Massachusetts General Hospital, Boston, MA.

Medical interpreters play a key role in conveying information to Limited English Proficiency (LEP) patients. They are at high risk of burnout because they often convey bad news to patients and share patients' feelings of stress, confusion, and vulnerability. Job satisfaction has been shown to be a buffer against stressors and burnout in other oncology professions. However, to date, little is know about the factors that enhance resiliency and prevent burnout among medical interpreters. The purpose of this study is to identify aspects of work that medical interpreters enjoy that may serve as a buffer against burnout. Focus groups were held at three local Boston hospitals in the Spring 2013 with medical interpreters ($n = 29$) who worked 20 hours or more a week. Mean age was 47.2 years (±8.38), and 59% were female. 41% were Hispanic, 17% Asian American, and 38% other ethnicities. Content analysis, conducted with NVivo 10, highlighted three main aspects of interpreters' work that contributed to job satisfaction: 1) intellectual stimulation and learning, 2) pro-social behavior, and 3) facilitating information and communication. Enhancing the ability for interpreters to learn on the job, allowing interpreters to assist in helping LEP patients feel more comfortable, and letting them effectively communicate information as part of a team could help increase job satisfaction, decrease interpreter burnout and increase retention. These findings will be used to target a resiliency program that could decrease burnout rates among medical interpreters.

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A-006

FEAR OF CANCER RECURRENCE IN BREAST CANCER SURVIVORS RETURNING FOR SURVEILLANCE MAMMOGRAMS: TRAJECTORIES OF CHANGE OVER TIME

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Few studies have examined fear of cancer recurrence (FCR) longitudinally or applied theoretical models to predict which survivors will report greater FCR. This study examined trajectories of FCR before and after mammograms in women who completed breast cancer treatment. We predicted multiple distinct trajectories of FCR and that the cognitive-behavioral model (CBM) of health anxiety would predict FCR. Specifically, we hypothesized that greater perceived risk, worse perceived consequences of a recurrence, lower coping self-efficacy, and more reassurance-seeking behaviors would be associated with a trajectory reflecting greater FCR. Participants were 160 women who finished treatment for stage 0-IIIA breast cancer 6-36 months previously. They completed visual analogue scales for current worry and anxiety about cancer recurrence at six time points in the month before and month after the mammogram. Measures of perceived risk and perceived consequences of breast cancer recurrence, treatment efficacy beliefs, reassurance seeking behaviors, and coping self-efficacy were completed at baseline. Piecewise growth mixture models revealed significant change in FCR over time with little change before the mammogram and substantial change following receipt of negative results. Analyses yielded two distinct trajectories of change over time (higher-FCR class (n = 121); lower-FCR class (n = 39). Relative to the lower-FCR class, higher-FCR class membership was predicted by greater perceived risk, lower coping self-efficacy, and more reassurance-seeking behaviors (*p*s < .01). As predicted, distinct trajectories of FCR were identified, with hypotheses based on the CBM partially supported. Taken together, findings suggest that interventions that seek to increase coping self-efficacy, limit reassurance-seeking behaviors, and promote more accurate perceptions about cancer recurrence may be effective in addressing heightened FCR in breast cancer survivors.

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A-007

REFOCUSING CERVICAL CANCER PREVENTION EFFORTS: TWO APPLICATIONS OF THE CAROLINA FRAMEWORK

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Objective. More than 4,000 US women die each year from cervical cancer, a largely preventable disease, suggesting that current prevention efforts are inadequate. The Carolina Framework for Cervical Cancer Prevention delineates 4 main causes of cervical cancer: human papillomavirus (HPV) infection, lack of screening, screening errors, and not receiving follow-up care. We used the Framework to identify high-need counties in North Carolina and develop recommendations for improving prevention efforts.

Methods. We created a cervical cancer prevention need index (CCPNI) that ranked NC counties on cervical cancer mortality, HPV vaccination, and Pap test screening. Next, we gathered recommendations for improving existing NC cervical cancer programs and policies via interviews with 19 stakeholders from key governmental and non-profit organizations across the state.

Results. NC's 100 counties varied widely on CCPNI items, including annual cervical cancer mortality (median 2.7/100,000 women; range 0.0-8.0), adolescent girls' initiation of HPV vaccine (median 31%; range 10%-55%), and Pap testing in the previous 3 years among Medicaid-insured women (median 59%; range 40%-83%). Counties with the greatest prevention need formed 2 distinct clusters in the northeast and south-central regions of the state. Interviews identified specific actions to improve cervical cancer prevention in NC, achievable within existing programs and resources, which we grouped into 8 recommendations. These recommendations include reducing missed opportunities to serve existing patients and increasing provider recommendation of screening and vaccination.

Conclusions. North Carolina exhibits striking geographic disparities in cervical cancer prevention need. Future prevention efforts should prioritize high-need regions and refine existing policies and programs using the recommended approaches. Other states can use the Carolina Framework to increase the impact of their cervical cancer prevention efforts.

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A-008

LUNG CANCER STIGMA AND DELAYED MEDICAL HELP-SEEKING BEHAVIOR

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Lung cancer (LC) kills more people than any other cancer because it is often diagnosed at an advanced stage. LC is thought asymptomatic until advanced; however, many at an early stage experience symptoms but do not seek medical evaluation. Understanding potential barriers to medical help-seeking behavior (HSB) in LC symptoms is critical; LC stigma is an important barrier.

The purpose was 1) to determine if there was a correlation between LC stigma & delayed medical HSB in LC patients and 2) to describe sociodemographic characteristics related to LC stigma. It was hypothesized 1) there would be a positive relationship between LC stigma scores & delayed medical HSB and 2) LC stigma scores would differ by ethnicity, gender, & smoking status.

Descriptive, cross-sectional, correlational design (N = 93 LC patients) using a survey to measure LC stigma and an in-person interview to collect demographic & medical characteristic data.

Pearson correlation revealed a significant relationship between LC stigma scores & delayed HSB (r = .27,p = .01). Independent-samples t-tests revealed no significant difference in LC stigma scores by gender, but a statistically significant difference by ethnicity (t(91) = -2.57,p = .012, two-tailed). One-way ANOVA explored the impact of smoking status on LC stigma scores and found no significant difference among never, past, or current smokers (F(2,90) = .14,p = .872).

LC stigma is a potential barrier to timely medical HSB, subsequent diagnosis and treatment in individuals with symptoms suggestive of LC. There may be a cultural component to LC stigma; however, further investigation is needed. Findings indicate a public health need for increasing awareness of the prevalence of LC stigma regardless of smoking status. Future research should target decreasing the stigma associated with lung cancer and increasing early medical HSB.

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A-009

EXAMINING ASSOCIATIONS BETWEEN BODY MASS INDEX AND POST-SURGICAL OUTCOMES AMONG PATIENTS TREATED FOR BLADDER CANCER: A QUALITATIVE AND QUANTITATIVE APPROACH

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Introduction: Obesity, a growing epidemic in the US, has been associated with worse oncologic outcomes and post-surgical morbidity among bladder cancer patients. To our knowledge the impact of body mass index (BMI) on psychosocial and functional outcomes in muscle invasive bladder cancer (MIBC) patients has not been evaluated. We hypothesized that higher BMI is associated with worse post-surgical psychosocial and functional outcomes in patients treated for MIBC with cystectomy and urinary diversion. Methods and Materials: Participants were MIBC patients treated with cystectomy and urinary diversion (N = 29 patients; 27.6% women) and were recruited from the Department of Urology at Icahn School of Medicine at Mount Sinai and a national Bladder Cancer Advocacy Network (BCAN) between January, 2010 and April, 2012. Data was collected through individual interviews and patients' electronic medical record. Qualitative (immersion/crystallization approach) and quantitative data analyses (Fisher's Exact tests and Logistic Regression) were performed to examine associations between BMI and post-outcomes controlling for potential covariates. Results: Of the 29 patients, 79.31% were obese/overweight (BMI = > 25 kg/m2) with median BMI of 29.8 kg/m2 (IQR = 5.8). Being obese/overweight was significantly associated with pre- and post-surgical depressive symptoms and increased difficulties with post-surgical complication, recovery, urinary incontinence, sexual dysfunction, treatment side effects, altered body image, and changes in life style (p <0.05). Additionally, being normal/underweight (BMI < 25 kg/m2) was significantly associated with more worries about the treatment and increased difficulties with post-surgical neobladder care (p <0.05). Conclusions: Patients diagnosed with MIBC who are obese/overweight have worse psychosocial and functional outcomes compared to normal/underweight patients. Further examination of these associations is needed to improve our understanding of pathways between BMI and theses outcomes.

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A-010

HOW DO FOLLOW-UP CARE INSTRUCTIONS AND TREATMENT SUMMARIES RELATE TO CANCER SURVIVOR'S SURVEILLANCE, SCREENING, AND LATE/LONG TERM EFFECTS?

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Purpose: National organizations have mandated survivorship care plans, including following-up care instructions (FCI) and treatment summaries (TS), be provided to every cancer survivor at the end of treatment. However, to date, there is limited empirical evidence regarding the possible beneficial relationship between survivorship care plans and survivor's cancer-related care and health. In particular there is a paucity of published research concerning how FCI and TS relate to surveillance and screening behaviors, attendance at medical appointments, and late/long term effects experienced by survivors.

Methods: Using data from the 2010 LIVESTRONG online survey of cancer survivors (N = 4286 post-treatment cancer survivors), the current study tested the associations between receipt of FCI/TS and survivors' cancer surveillance and screening behavior, attendance at medical appointments, and the number of late/long term effects experienced.

Results: Compared to survivors who did not receive FCI, survivors who received FCI were more likely to receive cancer surveillance (OR 1.62, 95% CI 1.28, 2.07), recommended cancer screenings (OR 2.63, 95% CI 2.01, 3.47), attend all regular medical appointments (OR 2.24, 95% CI 1.59, 3.17), and have fewer late/long term effects (b -1.55, p = .01). Compared to those who did not receive TS, survivors who received TS were more likely to receive recommended cancer screenings (OR 1.13, 1.76) and to attend all regular medical appointments (OR 1.79, 95% CI 1.31, 2.44).

Conclusions: This study adds to what is known about the relationship between survivorship care plans and survivor's cancer-related care and late/long term effects. The findings presented here support the idea that FCI and TS are beneficial to survivors' cancer-related care. Furthermore, it is the first study to show that FCI may be associated with fewer late/long term effects. Future research should further explore the specific mechanisms by which FCI may reduce late/long term effects among survivors.

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A-011

REHABILITATION INCLUDING SOCIAL AND PHYSICAL ACTIVITY AND EDUCATION IN CHILDREN AND TEENAGERS WITH CANCER (RESPECT) - FEASIBILITY STUDY OF PEERS OF CHILDREN WITH CANCER AS AMBASSADORS DURING TREATMENT

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Background: A cancer diagnosis interrupts the children's everyday life, socialization and interfaces with schoolmates. To prevent marginalization, the feasibility of including healthy classmate as ambassadors biweekly during cancer treatment at the hospital was explored.

Patients and Methods: 15 children (age 6-18 years) newly diagnosed with cancer participating in the rehabilitation project RESPECT. The feasibility study of the ambassador intervention includes ambassador: recruitment, transportation, visit rates, safety and adverse effects.

Results: Prior to the project, screening tools and safety measures related to the ambassador function were developed. 14 of 15 (93 %) children wished to have a schoolmate visit them biweekly at the hospital. Following an education session in the child's school class, written ambassador application forms were handed out. The mean number of applicants was 8, (range 3 to 12). The least number of applicants were among children in small classes or newly enrolled in school. It was possible to assign two ambassadors to each child. Safe transport of the ambassadors to the hospital was arranged by car, by public transportation (bus/train/plane) or by being escorted by parents. Transportation distances varied from one mile, to app 200 miles. It was possible to carry out biweekly ambassador visits to the hospital in 13 of 15 children. The visitation rates fluctuated during the treatment course depending on the child's well-being. Two ambassadors terminated their function pre-maturely. None of the children have expressed being scared or worried following the exposure to their classmate's disease/treatment during their visit to the hospital.

Conclusion: This feasibility study shows it is well accepted, safe and feasibly to include biweekly visits of healthy class mates to children with cancer during the in-hospital treatment period.

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A-012

PERCEIVED RISK AS A MEDIATOR BETWEEN OPTIMISM AND CANCER WORRY IN WOMEN AT RISK FOR BREAST CANCER

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Previous work has shown that optimism is a personality trait associated with lower cancer worry in women in the general population. Few studies, however, have explored the relationship between optimism and cancer worry in women at risk for cancer. We hypothesized that 1) women at risk for breast cancer who have higher levels of optimism would have lower levels of cancer worry. We also previously found that higher optimism was associated with lower perceived risk of cancer and less cancer worry in a community-based sample of women. Thus, we hypothesized that 2) perceived risk would mediate the relationship between optimism and cancer worry among women at risk for breast cancer. Finally, we hypothesized that 3) the associations between optimism, cancer worry and perceived risk would be stronger in the women at risk for breast cancer than in the community sample. Participants (n = 122) with a family history of breast cancer were recruited from the community and screened for elevated distress at study entry. Participants were given measures of cancer worry, optimism, and perceived risk. Path analysis was used to examine the relationship between optimism and cancer worry with a bootstrap method to estimate the significance of the indirect effect. Results indicated that 13% of the variance in cancer worry was explained through direct paths from optimism (β = -.09) and perceived risk (β = .33). The indirect path from optimism to cancer worry via perceived risk was significant (β = -.09, p = .003). When compared to the community sample, in women at risk the association between optimism and cancer worry was weaker, yet the association between perceived risk and cancer worry was stronger. This suggests that in women at risk for cancer perceived risk is a more salient variable in predicting cancer worry. These results suggest the importance of targeting women's perceived risk of cancer to better understand and possibly help reduce their cancer worry.

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A-013

COVARIATES OF PAPANICOLAOU TEST SCREENING AMONG HIV-POSITIVE WOMEN RECEIVING OUTPATIENT MEDICAL CARE FROM THE MEMPHIS TRAN SITIONAL GRANT AREA OF THE RYAN WHITE PART A PROGRAM

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Significance. HIV-positive women are at greater risk of contracting the Human Papillomavirus (HPV) and experiencing cervical neoplasia. Annual Papanicolaou (Pap) tests are important in this population and recommended by the HIV/AIDS Bureau.

Objectives. 1.) Determine Pap testing incidence of HIV-positive women in 2011-2012, and 2.) Identify covariates of Pap testing among HIV-positive women.

Methods. Secondary analysis of the Memphis Transitional Grant Area (TGA) Ryan White program's CAREWare database was conducted using logistic regression. The sample included 587 HIV-positive women who had at least one medical visit in 2011-2012.

Results. Approximately 56% of the women included in the analysis had a documented Pap test in 2011-2012. White women were twice as likely to have no documented Pap test as Black, women (OR = 2.242, p = .023). Residents of Mississippi were five times more likely to not have a documented Pap test than those living in Shelby County, TN (OR = 5.128, p = .001). Women with one, two and three medical visits were all three times more likely to not have a documented Pap test than women with four or more visits (OR = 2.972, p < .001; OR = 2.972, p < .001; OR = 3.045, p < .001).

Conclusions. Only slightly more than half of the HIV-positive women enrolled in the Memphis TGA Ryan White Part A program had documentation of a Pap test in 2011-2012. Results from the logistic regression analysis indicate there may be gaps in Pap screening of HIV-positive women living in rural areas and less engaged in medical care, which may delay diagnosis and treatment of abnormal cervical neoplasia.

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A-014

PSYCHOLOGICAL WELL-BEING AMONG LATINAS STARTING CHEMOTHERAPY FOR CANCER

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Research suggests that individuals receiving treatment for cancer are at risk for poor psychological functioning. However, little is known about the prevalence of psychological distress among Spanish-speaking Latinas with cancer, a population generally considered hard to reach. To address this issue, this study examined psychological distress among Latinas scheduled to begin chemotherapy for cancer. It was hypothesized that a sizeable number of participants would report psychological distress and that greater self-efficacy for managing stress would be associated with less distress. Participants included 67 Spanish-speaking women (age *M* = 51.20, *SD* = 10.43) who self-identified as Latinas. Measures of anxiety (HADS), depression (HADS), cancer-specific distress (IES-R), and self-efficacy in managing stress (MOCS) were administered in Spanish. The majority of participants were white (82%), married (56%), had at least a high-school diploma (57%), and reported a household income of less than $40,000 (83%). Results indicated that many participants reported clinically significant levels of anxiety (55%, *M* = 8.24, *SD* = 4.71) and depression (30%, *M* = 5.20, *SD* = 4.22). Univariate analyses to identify relevant demographic covariates indicated that married participants reported fewer depressive symptoms and older participants reported less cancer-specific distress ($ps \leq .10$). In regression analyses controlling for relevant demographics, those who reported greater self-efficacy for managing stress reported lower levels of anxiety, depression, and cancer-specific distress ($ps < .01$). In addition to showing that many Latinas starting chemotherapy are psychological distressed, findings suggest that interventions to reduce distress in this patient population should target improving self-efficacy for managing stress.

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A-015

SYMPTOMS AND PALLIATIVE CARE NEEDS OF PANCREATIC ADENOCARCINOMA PATIENTS

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Background: Little is known about the symptoms and palliative care needs of pancreatic adenocarcinoma (PanC) patients. Methods: PanC patients seen at Stanford completed an online survey at baseline and monthly follow-ups for up to 8 months (Nov 2012-Jul 2013). Of 25 approached, 88% consented to participate. Results: 16 participants (73%) completed the baseline survey. The majority were 66 years old (SD = 9.2), Caucasian (75%), 6 months post-cancer diagnosis (range = 1-29), and had a resectable tumor (75%) and Whipple procedure (63%). Prior to diagnosis, no participants reported depression, nausea, or vomiting. Only 13% indicated weight loss and 6% had lack of appetite. Surprisingly, neurological symptoms, such as pain (50%), fatigue (38%), sleep problems (38%), and memory difficulties (31%), were the most prevalent prior to diagnosis. For symptom management, the most common mind-body therapy used (i.e. biofeedback, talk therapy, etc.) was spiritual practices, as 56% participated for a median of 2 sessions (range = 1-7) and 60 minutes per session (range = 5-90) in the past week. All patients with unresectable tumors participated in spiritual activities. On a scale of 0 "not present" to 10 "worst imaginable", patients with unresectable v. resectable tumors had more severe pain (7.0 v. 1.8), depression (4.5 v. 0.1), and anxiety (4.5 v. 0.7) at baseline. By the first follow-up, however, severity of depression and anxiety decreased significantly to 0 and 0.7, respectively, and stayed at mild levels for those with unresectable tumors. Conclusions: While this study has limitations due to small sample size and recall bias, these results suggest that PanC patients may have increases in neurological symptoms such as sleep and cognitive difficulties prior to diagnosis. PanC patients' high engagement in spiritual activities suggests that there may be psychological benefits for patients with unresectable cancer. Future research should explore the role of spirituality in symptom management and the benefits of providing spiritual support early in the management of the disease.

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A-016

QUITTING THE "CANCER TUBE:" A QUALITATIVE EXAMINATION OF THE PROCESS OF INDOOR TANNING CESSATION

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This study examined Health Belief Model (HBM) relevant constructs (motivations for cessation, facilitators and barriers to quitting, perceptions of the quitting experience, and future indoor tanning use intentions) in a qualitative study to evaluate their relevance for inclusion in future indoor tanning cessation interventions. Participants were former tanning bed users (N = 14) who reported frequent use in 2007 (as defined by at least 10 tanning bed visits in the past year), but had quit by 2010. Telephone interviews were conducted by trained interviewers between December 2011 and April 2012. Participants identified important motivations for quitting including health and financial reasons, as well as the central role of family and friends in providing encouragement for indoor tanning cessation. However, participants also noted substantial barriers to maintain indoor tanning quitting in many forms (such as social pressures to look good from family members and friends, and tanning salon incentives). Participants described the quitting experience by discussing three aspects, including the quitting process, withdrawal, and relapse. Participants' experience of withdrawal highlighted psychological factors more often than physical factors; some were open to resuming use in the future. In conclusion, this study represents one of the few studies on cessation of indoor tanning use, and helps to anticipate important challenges women face as they initiate and maintain cessation of this potentially addictive behavior. These findings will be useful in intervention development to encourage cessation, the strengthening of policies (such as restricting number of times per week, and banning underage tanning) to regulate the indoor tanning industry, as well as public health messaging to raise awareness of this prevalent, easily accessible cancer risk behavior.

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A-017

EXPERIENCE AND ATTRIBUTIONS OF 10 CANCER ALARM SYMPTOMS IN A COMMUNITY-BASED SAMPLE OF OLDER ADULTS

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Background
Patient misattribution of cancer symptoms to a non-serious cause may lead to diagnostic delay. We investigated attributions of cancer alarm symptoms in a community-based sample.
Method
A questionnaire was mailed to adults (n = 4858, >50 years, no cancer diagnosis) through primary care, asking about symptoms in the past 3 months. Cancer was not mentioned in the questionnaire but 10 'alarm' symptoms were embedded within a longer symptom list. Follow-up questions for each symptom included attribution ('what do you think caused it' in free text') and concern about seriousness ('not at all' to 'extremely').
Results
Over half (915/1724; 53%) the respondents had experienced at least one 'alarm' symptom. Only 20 respondents (2% of those reporting symptoms) cited cancer as a possible cause, ranging from 7% (6/129) for unexplained lump to 0% for unexplained weight loss (0/73). A higher proportion (23%) thought their alarm symptoms might be serious, ranging from 12% (13/112) for change in a mole, to 41% (100/247) for unexplained pain. There were no significant demographic associations with cancer attribution. Demographic associations with perceived seriousness were inconsistent, but significant effects included: lower education (OR = 2.3; CI 1.1,4.6) and non-white ethnicity (OR = 1.9; CI 1.0,3.7) associated with perceiving persistent cough as serious, non-white ethnicity (OR = 2.4; CI 1.2,5.0) associated with perceiving change in bladder habits as serious, and not working (OR = 2.3; CI 1.2,4.4) associated with perceiving persistent pain as serious.
Conclusion
Recent experiences of 'alarm' symptoms were common but were rarely attributed to cancer. There was no evidence that respondents who were older (and thus higher risk), or more educated, had better recognition. These findings are consistent with retrospective reports from cancer survivors showing that people from all walks of life can often fail to recognize the potential seriousness of cancer 'alarm' symptoms.

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A-018

EARLY DETECTION OF MELANOMA BY SKIN SELF-EXAMINATION: A RANDOMIZED TRIAL OF INTERNET, WORKBOOK AND IN-PERSON INTERVENTIONS

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Objective: An Internet-based educational program was developed as a scalable, effective intervention to enhance performance and accuracy of SSE among those at-risk to develop melanoma. Its efficacy was compared to that of an in-person intervention and a workbook intervention.
Methods:The educational content of the Internet intervention was taken directly from the scripted in-person (face-to-face) PowerPoint presentation delivered by a trained facilitator and workbook training arms of the study. Enrollment totaled 500 pairs with randomization of 165 pairs to the in-person,165 pairs to the workbook; and 70 pairs to the Internet pilot intervention arms.
Results: There was a significant difference in the self-efficacy of the pairs receiving the three interventions with the Internet group being more confident than the workbook group, but not as confident as the pairs in the in-person intervention (Chi-square, df = 10.427, P = .003). In the skill quiz, the Internet intervention group scored significantly higher than their counterparts in the workbook group (1-way analysis of variance showed a significant difference in means, P = .01).
Conclusions: This study suggests that an Internet intervention can deliver skills training comparable to other training methods and the experience can be accommodated during the customary outpatient office visit with the physician.

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A-019

"I'D RATHER BE FAT AND ALONE THAN HAVE CANCER": CANCER AND OBESITY DISCUSSIONS IN FACEBOOK AND TWITTER

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Social media interactions offer an important data source on public discourse about health topics. The relationships between obesity and cancer, have been extensively studied in public health research, yet little attention has been paid to online discussions about their associations. We sought to explore the ways in which these constructs were discussed on social media. Initial data were downloaded from Facebook and Twitter using a web-crawling service between 1/23-3/23, 2012 with the pre-selected keywords: "obese/obesity," "overweight," and "fat." A further subset containing the words "cancer" and related words was extracted (N = 3702 posts). After removing duplicates and irrelevant posts, a final linguistic corpus contained 1382 posts (Facebook: n = 291; Twitter: n = 1091). The following inductively-generated relational themes emerged from the data: obesity is associated with cancer (OAC, n = 389), a third factor is associated with both obesity and cancer (TFAOC, n = 335), obesity causes cancer (OCC, n = 85), obesity is valued differently than cancer (n = 60), obesity is not linked to cancer (n = 13), cancer causes obesity (n = 6), and other (co-occurrence of both constructs in a post, n = 492). Conceptual themes, including references of support (n = 146), insults or references to stigma (n = 284); structural elements, including questions (n = 187), imperatives (n = 202), and epistemic stance (restated fact: n = 876; opinion: n = 506) were also coded. Very few posts related to OAC, TFAOC, or OCC involved emotional content (n = 23, 3%). Findings indicate that the dominant discourse reflects an awareness of the evidence supporting the association between obesity and cancer risk, but heterogeneity in terms of information completeness and accuracy persists. Monitoring social media data is an effective tool to gauge public perceptions of health risk.

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A-020

USE OF A DVD-BASED EXERCISE PROGRAM AMONG BREAST CANCER SURVIVORS: A QUALITATIVE STUDY

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Background:
Improved detection and treatment has led to increased survival rates among breast cancer (BCa) survivors; nevertheless, survivors continue to experience numerous adverse treatment side effects that diminish their quality of life. Regular physical activity, including upper body strength training, has been shown to alleviate the negative effects of breast cancer treatments and can help breast cancer survivors return to pre-surgery functioning via improved muscular strength, physical fitness, and quality of life.
Objective:
To evaluate BCa survivors' perceptions of a DVD-based exercise program, and to describe their physical activity beliefs, behaviors, and preferences of BCa survivors.
Methods:
Female BCa survivors were asked to view a DVD-based exercise program prior to attending one of five focus groups. A semi-structured guide was used by a trained moderator to facilitate discussion. The focus groups were digitally recorded and later transcribed verbatim. Transcripts were analyzed using a thematic analysis approach based on principles of grounded theory.
Results:
Forty-five BCa survivors were screened, 33 of whom participated in a focus group. The analysis resulted in two major themes: (1) factors that encourage, and (2) factors that serve as barriers to use of a DVD-based exercise program. Within these categories several sub-themes were identified, including changing notions of the relationship between physical activity and health status, pros and cons of using a DVD-based exercise program, information gaps in the healthcare setting, and time points of greater receptivity for use of a DVD-based exercise program.
Conclusion:
DVD-based exercise programming is an acceptable resource for female BCa survivors. Identified themes can inform the development of future DVD-based exercise programs so that they adequately address BCa survivors' needs throughout the cancer continuum.

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A-021

RECOGNITION OF CANCER WARNING SIGNS AND ANTICIPATED HELP-SEEKING

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Background
Not recognising a symptom as suspicious is one of the commonest reasons given by cancer patients for delay in help-seeking. We aimed to investigate this prospectively in a community sample, by examining associations between recognition of warning signs relevant to breast, colorectal and lung cancer and anticipated time to seek medical help for potential symptoms of these cancers.
Methods
Computer-assisted telephone interviews were conducted with a population-representative sample (N = 6965) of UK adults age ≥50 years, using the validated Awareness and Beliefs about Cancer (ABC) scale. Anticipated time to help-seeking for persistent cough, rectal bleeding and breast changes was categorised as >2 vs. ≤2 weeks. Recognition of persistent cough, unexplained bleeding and unexplained lump as cancer warning signs was assessed (yes/no). Associations between recognition and help-seeking for each symptom were examined controlling for potential confounders.
Results
Men, older people, ethnic minorities, and those from lower educational backgrounds, were less likely to recognise warning signs. For each symptom, the odds of waiting >2 weeks were significantly increased in those who did not recognise the related warning sign: breast changes: OR = 2.45, 95% CI 1.47-4.08; rectal bleeding: OR = 1.77, 1.36-2.30; persistent cough: OR = 1.30, 1.17-1.46, independent of demographic factors and health care access.
Conclusion
Recognition of warning signs was associated with anticipating faster help-seeking for potential symptoms of three common cancers in a community sample. Strategies to improve recognition of early warning signs may facilitate earlier diagnosis. Research is needed to develop cost-effective ways to raise awareness without increasing anxiety or inappropriate help-seeking.

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A-022

PREDICTORS OF CANCER FEAR IN A POPULATION-BASED SAMPLE OF OLDER ADULTS

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Background
Cancer is a widely feared disease, but little is known about the distribution of cancer fear in the population, or the predictors of high levels of cancer fear. We examined demographic and health predictors of cancer fear, and explored the mediating role of state anxiety, in a large population-based sample of older adults.
Methods
Questionnaires were mailed to all men and women (n = 13,351) aged 55-64 years registered with participating General Practices as part of the baseline evaluation for the UK Flexible Sigmoidoscopy Trial. Cancer fear was assessed with a 3-item scale incorporating worry frequency, discomfort thinking about cancer, and specific dread of cancer; each scored from 0 (strongly disagree) to 4 (strongly agree). Demographic information was self-reported. State anxiety was indexed with the 6-item version of the Spielberger State Trait Anxiety Inventory.
Results
7,971 questionnaires were returned (60%), with 6,360 complete for all study variables. A quarter of respondents (26%) did not endorse any of the fear items, and 17% agreed or strongly agreed with all three (high fear group). In logistic regression analyses, high fear (mean total score 9.8/12) was predicted by being female (OR = 1.45), non-White (OR = 1.79), having no educational qualifications (OR = 1.67), being a current smoker (OR = 1.38), having a recent GP visit (OR = 1.30), and poorer self-rated health (OR = 2.56). State anxiety was significantly correlated with cancer fear (r = .29). Repeating the analysis including state anxiety showed little change in the pattern of demographic/ health predictors (female (OR = 1.32), non-White (OR = 1.70), no educational qualifications (OR = 1.64), current smoker (OR = 1.36), recent GP visit (OR = 1.28), poor self-rated health (OR = 1.77), and an independent effect of being in the upper half of the state anxiety scale (OR = 2.25).
Conclusion
Cancer fear was associated with socioeconomic deprivation and poorer health, and was higher in women, but general anxiety was the strongest individual predictor in this sample of older adults.

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A-023

HEALTH BEHAVIORS ASSOCIATED WITH HPV VACCINE RECEIPT AND INTENTIONS AMONG UNDERGRADUATE WOMEN

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The human papillomavirus (HPV) vaccine represents an important step in reducing cervical cancer incidence and mortality. Approved in 2006, the HPV vaccine is routinely recommended for females aged 9 to 26; however, a recent national survey found that only 45% of female college students had initiated the 3-shot vaccine series. Although a number of studies have identified predictors of HPV vaccination, few have examined its associations with other health behaviors. Evidence suggests that health-enhancing behaviors (e.g., healthy diet, exercise) tend to cluster together. In this study, we examined relationships between health behaviors and HPV vaccine receipt and intentions among undergraduate women at a Midwestern university.
Participants (N = 286) completed an internet-based survey that included measures of health behaviors (e.g., diet and exercise, vaccination history, recent physical examination) as well as questions regarding HPV vaccine receipt and intentions (i.e., likelihood of being vaccinated). Participants were, on average, 19 years old (SD = 1.9). The majority were Caucasian (80%), single (92%), sexually active in the past 3 months (65%), and recipients of the HPV vaccine (58%).
Results showed significant relationships between HPV vaccine receipt and the receipt of other medical care, including one or more hepatitis B vaccine shots (χ2(1, N = 284) = 10.09, p < .01) and a Pap smear in the past three years (χ2(1, N = 285) = 8.30, p < .01). Among those who had not received the HPV vaccine (N = 121), increased HPV vaccine intentions were associated with the receipt of the flu shot in the past year (r = .19, p < .05) and the receipt of HIV testing (r = .19, p < .05). However, HPV vaccine receipt and intentions were not significantly related to engagement in any of the other health behaviors (e.g., diet and exercise). Findings suggest that HPV vaccine uptake and intentions to receive the vaccine are associated with the receipt of other preventative medical care among undergraduate women.

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A-024

EXPLORING DEPRESSION IN OLDER ADULTS WITH CANCER

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Identifying depression in older cancer patients presents a unique challenge as it combines the difficulty of diagnosing depression in cancer patients with the complexities of detecting depression in older adults. The primary source of difficulty lies in the overlap between the DSM criteria for depression, and many side effects of cancer treatment and problems associated with advancing age.
Method: We conducted an extensive literature search of several databases using key search terms. Articles were also identified by a manual search of references from all retrieved articles. We explored the literature focusing on diagnosing depression in three separate groups: adults with cancer, older adults, and older adults with cancer. We categorized potential diagnostic criteria under three categories of affective, cognitive, and somatic symptoms.
Results: Unique depression profiles emerged for adults with cancer and older adults. Only 4 DSM symptoms appeared to have consistent efficacy: Anhedonia, concentration difficulties, insomnia/ hypersomnia, and psychomotor agitation/retardation. Additional possible symptoms were: Loneliness/social withdrawal, hopelessness/helplessness, malaise/despair/weariness of living, irritability, lack of usefulness/purpose/mastery, fearfulness, pessimism, feeling overwhelmed, bodily pain, and activity restriction beyond illness/functional ability.
Conclusions: Many DSM criteria were not supported in the literature to differentiate depression in older cancer patients, and are potentially replaced by what might be more sensitive, relevant criteria. These alternative criteria may not only provide more clinical utility for diagnosing MDD in this population, but may also be instrumental in identifying milder forms of depression, which are recognized as highly prevalent and clinically significant across these groups.

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A-025

ASSOCIATION BETWEEN HUMAN PAPILLOMAVIRUS VACCINE STATUS AND OTHER CERVICAL CANCER RISK FACTORS

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Background
Little is known about the relationship between uptake of the HPV vaccine and other risk factors for cervical cancer. We measured the association between vaccine status and cervical cancer risk factors among girls in London, UK, to establish whether unvaccinated girls are at a disproportionately high risk of cervical cancer.
Methods
We conducted a cross-sectional survey. Girls offered free HPV vaccine at school in 2008-9 were recruited three years post-vaccination when they were aged 15-16 years. Recruitment took place at 13 schools in London, selected to vary in deprivation, academic achievement, and level of HPV vaccine uptake. Participants answered questions on vaccine status, demographic characteristics, smoking status, sexual behaviour and intention to attend cervical screening in the future.
Results
1912 girls completed the survey and indicated their vaccine status; 78% (n = 1499) reported having received all 3 vaccine doses. There was no association between vaccine status and family affluence, smoking or sexual experience. In multivariable logistic regression analyses, girls from 'black' and 'other' ethnic backgrounds were significantly less likely to be fully vaccinated than 'white' girls (69% and 74% vs. 85%; ps < .01), and girls with low intentions to have cervical screening in the future were less likely to be fully vaccinated than girls with high screening intentions (70% vs. 82%; p < .05).
Conclusions
Our findings provide important information for future modelling of the impact of HPV vaccination on cervical cancer outcomes. Ethnicity is emerging as a strong predictor of vaccine uptake in many countries and there is an urgent need to understand and address this inequality. The finding that unvaccinated girls have lower intentions to be screened is consistent with other studies and, if borne out in behaviour, means efforts will be needed to ensure that screening is delivered to those most at risk. We found no evidence that vaccinated girls will choose not to go for screening because they feel protected from cervical cancer.

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A-026

LONGITUDINAL TRENDS IN MAMMOGRAPHY SCREENING: THE IMPACT OF CHANGES TO THE U.S. PREVENTIVE SERVICES TASK FORCE RECOMMENDATIONS

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The U.S. Preventive Services Task Force (USPSTF) revised guidelines for mammography screening in 2009, recommending against routine screening of women aged 40 to 49 years and declaring insufficient evidence to assess the benefits and harms for women aged 75 and older. This led to controversy within healthcare, advocacy, and patient communities. Using the Rochester Epidemiology Project data linkage system, we examined mammography screening in women 35 years of age and older residing in Olmsted County, MN before and after the guideline change. Women's screening participation was categorized according to consistency with USPSTF guidelines as per each relevant time period: every 1-2 years for women aged 40 or older during 2004-2005 (baseline), 2006-2009 (pre-recommendation change) and 2010-2012 (post-recommendation change). We defined screening as consistent with recommendations as 1 or more mammograms in 2004-2005, 2-4 mammograms in 2006-2009, and 2-3 mammograms in 2010-2012. Chi-square was used to compare screening rates in 2006-2009 to 2010-2012 overall, by age group, and by baseline consistency with screening guidelines in 2004-2005. Overall, declines in screening were observed: 61.5% of the population was adherent in 2004-2005, 57% in 2006-2009 and 46% in 2010-2012. There was a 12% decrease in screening from 2006-2009 to 2010-2012 for those ages 40-49, a 15% decrease for those 50-74 and a 20% decrease for those 75+ (all $p < 0.0001$). Declines were greatest among those whose screening participation was guideline-consistent in 2004-2005. Controversial changes to screening recommendations may undermine public confidence in and understanding of guidelines. Research is needed to assess factors that influence screening in the context of evolving recommendations.

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A-027

STRESS MANAGEMENT SKILLS MODERATE THE RELATIONSHIP BETWEEN CANCER CONCERNS AND DISTRESS AMONG PROSTATE CANCER SURVIVORS IN ACTIVE SURVEILLANCE

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Background: For men with low-risk prostate cancer (PC), active surveillance is an option that allows patients to delay quality of life compromises resulting from treatment. However, the intensive monitoring may be stressful and lead to greater distress and decisions to initiate unnecessary treatment. Prior work indicates that perceiving that one has the skills to manage stress may improve adjustment to active treatment for PC but less is known about men who opt for active surveillance. Purpose: This study examined whether perceived stress management skills (PSMS) moderated the relationship between prostate cancer (PC) concerns and psychological distress in survivors undergoing active surveillance. Methods: Participants were 71 ethnically diverse men in active surveillance. Participants completed questionnaires on demographics, relevant covariates, PSMS, total PC concerns (treatment concerns, social rejection, life and premature closure, financial concerns) and PC-specific distress (intrusive thoughts, avoidance, hyperarousal). Results: PSMS moderated the relationship between the total PC concerns and intrusive thoughts ($p < .01$). At low levels of PSMS, total PC concerns was related to greater intrusive thoughts, $\beta = 1.01$, $t(70) = 5.45$, $p < .01$, but not when PSMS concerns were high, $\beta = .19$, $t(70) = 1.27$, $p > .05$. A second test of moderation indicated that PSMS also moderated the relationship between the PC treatment concerns factor and intrusive thoughts. At low levels of PSMS, PC treatment concerns was associated with greater intrusive thoughts, $\beta = .76$, $t(70) = 4.09$, $p < .001$, but not at high levels of PSMS, $\beta = .233$, $t(70) = 1.72$, $p > .05$. Conclusions: Findings suggest a possible role for stress management skills to minimize distress and underscore the importance of interventions aimed at improving PSMS in men undergoing active surveillance.

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A-028

SEXUAL BOTHER IN MEN WITH ADVANCED PROSTATE CANCER UNDERGOING HORMONE THERAPY

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Sexual side effects are common following prostate cancer (PC) treatment. Men with advanced disease undergoing hormone therapy (HT) often experience worsened symptoms. The degree to which men are bothered by sexual dysfunction, however, is debated. Factors associated with increased bother are not well understood. This study described sexual dysfunction and bother among advanced PC (APC) patients undergoing HT and sought to characterize men with "high" levels of sexual bother. Measures included the EPIC sexual domain subscales, CES-D for depression, Functional Assessment of Cancer Therapy—General (FACT) for quality of life (QOL) and the Dyadic Adjustment Scale (DAS; 4 subscales) for relationship wellbeing. Sexual outcomes were evaluated using descriptive statistics. "High" and "low" sexual bother groups (based on published mean of non-PC controls) were compared using t-tests and chi-square. Participants ($N = 80$) were 70 ($SD = 9.6$) years old and reported 18.7 ($SD = 17.3$) months of HT. Sexual dysfunction ($M = 10.1$; $SD = 18.0$) was highly prevalent; whereas bother had a bimodal distribution ($M = 44.5$; $SD = 40.2$). Levels of dysfunction were comparable across high/low sexual bother groups ($t[78] = -1.16$, $p = .25$). Men with high sexual bother were younger and reported more months of HT, worse depressive symptoms and worse QOL (p's $< .05$); trends indicated more comorbidities and worse dyadic satisfaction and cohesion (p's $< .10$). Among a subset of patients, sexual bother may be an important target for intervention.

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A-029

SOCIAL RELATIONSHIP COPING EFFICACY (SRCE): A NEW CONSTRUCT IN THE MITIGATION OF LOSS OF SOCIAL SUPPORT

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Introduction: Reviews of the literature on psychosocial distress in cancer affirm the importance of social support for well-being, quality of life (Epplein et al., 2011), and longevity. Conversely, loss of social support can have negative psychosocial and physical effects (Nausheen et al., 2009). Importantly, those who are more physically debilitated experience greater loss of social support due to physical limitations. We propose that SRCE may explain why some individuals are able to maintain social relationships despite physical debilitation. SRCE is the confidence to engage in behaviors that could maintain or enhance social relationships. Method: 150 (mixed diagnosis) patients and survivors completed the Sickness Impact Profile (SIP;physical impact scales), the ISSB (received social support), and SRCE, ten items (alpha = .96) assessing coping behaviors to maintain or enhance close relationships. We tested a mediating model in which SRCE mediated the relationship between the SIP and the emotional support scale of the ISSB, controlling for major life events and SES. Results: The mediation analysis revealed a direct effect between the SIP and ISSB (-.207; $p < .02$) - greater physical impairment was related to lower levels of received emotional support. However, when SRCE was introduced as a mediator the direct relationship between SIP and ISSB was not significant. In the complete mediation, SIP was inversely related to SRCE (-.321; $p < .001$); but, SRCE was positively related to ISSB (.431;$p < .001$). Thus, whereas SIP may be associated with decreased SRCE, SRCE may mitigate the negative impact that physical debilitation can have on social support. Discussion: Further research is warranted, because the malleability of SRCE could provide a target for specific interventions focused on maintaining and improving social relationships during the trajectory of illness.

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A-030

EFFECTS OF SUPERVISED PHYSICAL ACTIVITY PLUS BEHAVIORAL COUNSELING ON MOTIVATIONAL OUTCOMES IN KIDNEY CANCER SURVIVORS: A PILOT STUDY

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Background: Supervised physical activity (PA) programs often have short-term effects on behavior change. Sustained motivation is needed for long-term PA maintenance. Purpose: To examine the impact of a supervised PA plus exercise counseling (SPA + EC) versus supervised PA plus behavioral counseling (SPA + BC) program on motivational outcomes based on the Theory of Planned Behavior (TPB) in kidney cancer survivors (KCS). Methods: Thirty-two KCS were randomized to either the SPA + EC ($n = 16$) or SPA + BC ($n = 16$) group. Participants were provided with six individual supervised PA sessions over 4 weeks that tapered to a home-based program. The SPA + EC group received standard exercise counseling based on exercise principles. The SPA + BC group received behavioral counseling sessions based on the TPB. Motivational outcomes from the TPB were assessed at baseline, postintervention (4 weeks), and 12-week follow-up using standardized measures. Results: At postintervention, analyses of covariance (ANCOVAs) demonstrated that, compared to the SPA + EC group, the SPA + BC group reported significantly higher planning ($p = .017$), perceived control ($p = .005$), and self-efficacy ($p = .078$). For affective beliefs at postintervention, the SPA + BC group believed they were more likely to 'exercise with others' ($p = .021$) and 'exercise in good weather' ($p = .008$). For control beliefs at postintervention, the SPA + BC group were more confident that they could exercise if they were 'tired/fatigued' ($p = .030$), had 'long work hours' ($p = .037$), and had 'other commitments' ($p = .010$). At 12-week follow-up, there were no significant differences between the groups. Conclusion: Adding behavioral counseling to supervised PA resulted in some positive effects on motivational outcomes in KCS.

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A-031

CULTURAL BELIEFS REGARDING TREATMENTS FOR CANCER IN CHILDHOOD CANCER SURVIVORS

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Background: Cultural beliefs about cancer vary by race/ethnicity among adults with cancer, which may influence behaviors and interactions with healthcare providers. To date, no study has examined how cancer treatment beliefs (traditional, alternative, lifestyle, and spirituality) vary among childhood cancer survivors from different racial/ethnic backgrounds or as compared to non-cancer controls. Methods: The health behaviors and beliefs of 452 childhood cancer survivors (150 African-American (AA), 152 Hispanic, 150 White) were examined cross-sectionally and compared to non-cancer controls (125 per racial/ethnic group). Childhood cancer survivors were recruited from the registries of four large academic treating institutions and controls were recruited via targeted digit dial. Beliefs about the effectiveness of four categories of treatments (traditional, alternative, lifestyle, spiritual) were assessed using an established 17 item Likert-scale (1-5) questionnaire. Chi-square tests were conducted for within and across survivor and control groups. Results: AA, Hispanic, and white survivors had stronger beliefs than ethnically-matched controls that traditional medicine is helpful in treating cancer. ($p < .01$AA, $p < .05$Hispanic, $p < .001$white). Hispanic survivors also believed more strongly than controls in alternative medicine treatments ($p < .04$), while AA survivors were more likely than controls to believe that lifestyle helps ($p < .056$). Within survivors, AAs were more likely than Hispanics and whites to believe in the role of spirituality ($p < .001$) and alternative medicine ($p < .04$) in cancer treatment. Whites were least likely to believe that spirituality and alternative medicine are helpful in treating cancer. Conclusions: This study provides preliminary evidence that beliefs in cancer treatments vary by race/ethnicity and by survivor status for childhood cancer survivors. Provider recognition and respect for varying cultural beliefs about treatments may promote greater patient/physician trust and enhanced communication.

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A-032

TESTING INVARIANCE OF A MODERATED MEDIATION MODEL FOR SUN PROTECTION BEHAVIOR

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Mediation modeling can be used to evaluate the causal model underlying the relationship between variables. Previous analyses showed mediation associations between constructs from the Transtheoretical Model of Behavior Change, and we want to know if these mediation relationships (models) are invariant across different subgroups. This study explored invariance across gender, age group, and skin tone (color) of a series of single-mediation sun protection models. Nine processes of change of sun protection served as independent variables (baseline), the pros, cons, and self-efficacy variables serving as mediators (6-month), and sun protection (sun avoidance and sunscreen)serving as the outcome (12-month). Three waves of data from individuals in the Precontemplation ($N = 964$) stage of sun protection at baseline were used. Multi-sample structural equation modeling was used to examine effects of the moderators. An initial unconstrained analysis was tested, followed by the use of cross-group equality constrains. Results suggest that all single-mediation models are invariant across gender, different age groups, and different (untanned) skin tones. The model fit well in all subgroups, and the difference in the CFI between unconstrained and constrained models was minimal ($\Delta CFI < .01$). The question that intervention effectiveness can be influenced by demographic subgroups has been of interest to behavioral researchers. The results show that the predicted single-mediation models are parsimonious models that function in similar manner for different population groups. These results support the general applicability of the theory to different demographic groups.

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A-033

A NEGLECTED CANCER SCREENING DISPARITY: INSURANCE-TYPE AND SCREENING COLONOSCOPY COMPLETION

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Background: Despite the increased dissemination of programs to address barriers to colorectal cancer screening, insurance associated disparities persist across the cancer continuum, from screening through treatment and survivorship. Insurance type (i.e., public vs. private) may be a barrier to participation in screening, but few studies have examined how insurance is related to participation in preventive cancer screenings, such as screening colonoscopy (SC).

Purpose: The purpose of this study was to examine whether completion of SC differed by insurance-type (i.e., private insurance versus Medicaid insurance) and to identify socio-demographic and psycho-social factors that were associated with insurance-type.

Methods: In this secondary analysis of a prospective, randomized controlled trial of patient navigation within an open access program for SC among low-income African Americans ($N = 276$; 50-64 years old), group differences (private insurance; Medicaid insurance) were assessed.

Results: SC completion rates differed by insurance-type; 58% of Medicaid-insured participants completed a SC compared to 78% of privately-insured participants ($p < .01$). Privately-insured participants were twice as likely to complete a SC as Medicaid-insured participants (OR: 2.55; $p < .01$). Medicaid-insured participants also had lower self-efficacy ($p = .01$) and patient activation levels ($p = .05$) compared to their privately-insured counterparts. There was a trend toward greater medical mistrust among Medicaid-insured participants ($p = .09$).

Conclusions: These results suggest that even when navigation assistance is provided, Medicaid-insured participants still face barriers that impact SC completion. Given that lower self-efficacy and lower patient activation were associated with insurance-type, participants with Medicaid insurance may need interventions that focus on increasing these skills. These findings also have implication for the expansion of Medicaid through the Affordable Care Act which will increase the numbers of people covered under this insurance.

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A-034

PREDICTORS AND CORRELATES OF DIAGNOSIS CONCEALMENT AMONG LUNG CANCER PATIENTS

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Lung cancer is commonly associated with tobacco use. Patients with lung cancer are often blamed for their illness by others and may try to avoid blame by concealing their diagnosis from others. Little is known about what factors might be associated with concealment. Thus, the objective of this study is to identify predictors and correlates of diagnosis concealment. Based on theory and prior research, introversion, social anxiety, and social support were hypothesized to be associated with concealment. Additionally, concealment was hypothesized to be associated with psychological distress, and use of coping strategies. The sample comprised 117 participants (50% female, age M = 64 years) receiving treatment for lung cancer who were recruited during routine outpatient visits. Clinical characteristics were collected via medical record review, and participants completed self-report measures of demographics, diagnosis concealment, introversion, social anxiety, social support, psychological distress, coping strategies, and perceived stigma. Approximately 31% reported diagnosis concealment. With the exception of social support, hypotheses regarding predictors and correlates of concealment were not supported (ps > .05). Exploratory analyses revealed that those who reported concealing their diagnosis were more likely to report drinking alcohol in the past month and among those had a recurrence of lung cancer, participants who had a more recent recurrence were more likely to conceal (ps < .05). Additionally, greater use of positive reappraisal as a coping strategy and poorer social support were associated with concealment (ps < .05). Lastly, concealment was associated with greater internalized shame related to the diagnosis of lung cancer. Although hypotheses were generally not confirmed, exploratory analyses identified factors that put individuals at increased risk for concealment. Future research should aim to examine the longitudinal relationships between predictors and important correlates of concealment.

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A-035

COMORBID DIABETES IN EARLY-STAGE BREAST CANCER PATIENTS IS ASSOCIATED WITH LACK OF IMPROVEMENT IN QUALITY OF LIFE 2 YEARS AFTER DIAGNOSIS

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Type 2 diabetes is a common comorbidity among breast cancer survivors. We sought to longitudinally assess the association between diabetes and quality of life (QOL) in early-stage breast cancer patients over a 2-year period. We used data from a longitudinal study of 549 women, aged $\geq$ 40 years, with newly diagnosed early-stage breast cancer (ductal carcinoma in situ, stage I or IIA). During four telephone interviews administered 6 weeks and 6, 12, and 24 months after final surgery, we measured QOL using the Functional Assessment of Cancer Therapy for Patients with Breast Cancer (FACT-B), where a total score ranges from 0-144 and higher scores indicate better QOL. Also, we collected patients' demographic data and asked about comorbid diabetes. Repeated-measures analysis of variance was used to test the change in QOL, using the FACT-B total score, as well as five subscales (physical, social, emotional and functional well-being, and breast cancer concerns), comparing patients with and without diabetes at baseline. Multiple comparisons were tested using Scheffé's test. Controlling for age, race, body mass index, education, and marital status, patients' mean QOL across the four interviews was 107 and 113 in those with and without diabetes, respectively. Patients with breast cancer and diabetes vs. breast cancer alone reported lower QOL on average over time on the total FACT-B (difference of least square means ± SE, 6.51 ± 2.24, p = 0.004), which could be considered clinically important, and physical (1.16 ± 0.50, p = 0.02), social (1.36 ± 0.52, p = 0.01), emotional (0.81 ± 0.39, p = 0.04), functional (1.80 ± 0.65, p = 0.006) well-being, and breast cancer concerns (1.29 ± 0.65, p = 0.048) subscales. In addition, QOL improved significantly over the 2-year follow-up among patients without diabetes (total score difference: 4.88 ± 0.66, p < .0001), but not among those with diabetes (-0.10 ± 1.89, p = 1.00). These findings could have implications for treatment and follow-up care of early-stage breast cancer patients with diabetes.

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A-036

FEELING LEFT OUT: AFRICAN AMERICAN BREAST CANCER SURVIVORS' AND CAREGIVERS' PERSPECTIVES ON THEIR PSYCHOSOCIAL NEEDS FOR COPING

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Research regarding the unique coping needs of African American breast cancer survivors (BCS) and their caregivers (BCC) for psychosocial care remains sparse. As a first step in developing a behavioral peer-support program for this population, we obtained experiential data from BCSs and BCCs regarding psychosocial support and resources for coping.

Five focus groups were conducted with both African American breast cancer survivors (n = 23) and African American breast cancer caregivers (n = 19). These 90-minute sessions were audiotaped, transcribed, and analyzed using thematic content analysis techniques.

In all focus groups, participants identified strikingly similar issues: a perceived lack of focus on African Americans dealing with cancer and the persistent cultural silence and stigma regarding cancer. These issues created barriers to meeting tangible, emotional, and social support needs from diagnosis to post-treatment. Self-identified needs of survivors also concerned financial, emotional, informational, and social support, as well as body image issues. Overall, survivors perceived that they lacked the best available information and resources for coping. For caregivers, self-identified needs concerned disease specific information and lack of resources to address their emotional coping needs. Furthermore, because the focus of treatment was on the survivor, caregivers perceived fewer resources to navigate the cancer journey successfully. Both survivors and caregivers expressed the need for culturally appropriate resources and counseling outside of family networks to lessen any burden/ disruption to the lives of the survivor and caregiver.

Despite advances in cancer treatment and survivorship, participants felt like they had many unmet needs. These concerns suggest that an array of cultural and social factors play a role in support seeking and recipient behaviors. Contextual data from formative research can inform peer-support interventions geared to reach survivors and caregivers.

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A-037

USING FACEBOOK FOR HEALTH PROMOTION: A FAILURE TO CONNECT

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Social networking sites offer opportunities to disseminate evidence-based, technology-based and personalized interventions as well as assess how these interventions are used, shared, and are effective for behavior change. The purpose was to test the dissemination of Health-e-Strides, a computer-tailored intervention (CTI) via Facebook, designed to promote healthy diet, physical activity and colorectal cancer screening.

We used Facebook advertisements to recruit participants from May to June 2013. The CTI was delivered through a website where participants completed a baseline survey. Upon survey completion they received a personally tailored newsletter and the option to select an incentive. They could then choose to either exit the site or complete another module and receive up to three more newsletters. Facebook ad functions considered were costing action, daily spending cap, and population reach. The advertisement was constructed to reach the greatest number of people and targeted United States residents age 21 and older who had an interest in cooking, education, health/well-being, and/or fitness.

The number of people reached through the Facebook ad campaign was 2,480,302 with 520 users clicking on the advertisement, and 515 unique visitors landing on the Health-e Strides website. We optimized our campaign by clicks to increase the odds of reaching 800 participants resulting in $1.01 being spent per click. The website bounce rate (meaning users either go back or move to another website) was 91.1%. Of the 23 participants recruited (23/515, 4.5% of unique visitors), 1% completed the baseline survey but did not select an incentive, 1.9% enrolled but did not complete the survey, and 1.8% completed the survey and received the incentives.

While the number of Facebook users suggests high access to potential research participants, how to reach and engage users may require other strategies. Lessons learned include advertising strategies such as minimizing cost per click vs. cost per impressions and the need to partner with Facebook health-based groups.

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A-038

DISTRESS SCREENING IN SURVIVORSHIP: WHO WANTS HELP AND HOW DO WE IDENTIFY THEM?

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Purpose: The long-term effects of cancer treatment can interfere with quality of life and adoption of healthy behaviors, thus potentially impairing recovery and survival. Survivorship presents additional barriers to psychosocial care, including limited resources and reduced face-to-face contact with health professionals. This study examines a widely-used screening tool within a paradigm of screening that includes desire for help and explores its potential impact on care delivery.
Method: 285 cancer survivors (M age = 62.98, female = 70%, Md years since treatment = 7.5, mixed diagnoses) completed the Distress Thermometer (DT), measures of psychosocial adjustment and quality of life. Participants also completed a checklist of psychosocial stressors and whether they would like to speak with a health professional.
Results: 73 of the 285 (26%) participants scored above the cut-off on the DT; 20 (27%) reported desiring follow-up with a health professional. Thus, the majority of distressed individuals (73%) were not motivated to seek help. Adding further complexity to screening, 20 survivors endorsed wanting help despite scoring below the cut-off score on the DT and thus being identified as non-distressed. Importantly, survivors who reported a desire for follow-up were more likely to be of a lower income bracket, unemployed and unmarried, and regardless of their DT score, had significant impairments in adjustment and quality of life (p's < .01).
Discussion: Approximately 1 in 4 participants were distressed; however few desired follow-up and an equal number wanted help but were not distressed. In order to effectively address this complex clinical task, screening may need to consider symptomatology and desire for help, and develop tailored interventions to assist the different groups that emerge (e.g. motivational interviewing for those who are distressed but not motivated to seek help). The current study is important in guiding effective survivorship care and contributes to the growing literature regarding the adjustment and needs of survivors.

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A-039

THE PARADOX OF OBESITY AND HUNGER: FOOD INSECURITY, WEIGHT STATUS AND QUALITY OF LIFE AMONGST LOW-INCOME ETHNIC MINORITY CANCER PATIENTS

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Purpose:The relationship between obesity and food insecurity (FI: limited or uncertain access to sufficient nutritious food to lead a healthy life) is yet to be fully explicated; however both have been associated with poor outcomes. Obesity has been implicated in 20% of cancers and adequate nutrition is paramount during treatment and follow-up.
Method: Participants (N = 407) completed a demographic questionnaire, the USDA Household Food Security Survey, quality of life and depression measures. The majority of participants were female (70%), African American/Black (50%) or Latino (38%) and diagnosed with breast (46%) or gastrointestinal (16%) cancer. The average age was 56 years and 83% had an income below the national poverty level.
Results: Analysis revealed that the average BMI of the sample was 27.8, with 36% overweight and 31% obese. Nearly half reported FI without hunger, while 28% reported FI with moderate or severe hunger. Female participants with FI without hunger had a significantly higher BMI than those who were food secure (BMI = 29.4 vs. 25.9, p = .004); no differences were observed in males. Amongst this group (females who were FI without hunger), further analysis revealed that obesity (BMI ≥ 30) was not associated with impairments in QOL or depression.
Discussion: This preliminary study revealed that 67% of low-income minority cancer patients were overweight or obese and critically, 78% endorsed some degree of FI. This is substantially higher than national averages of FI and particularly concerning given the importance of nutrition during treatment and survivorship. Women who were FI without hunger possessed a BMI more than 3 points higher than those who were food secure, suggesting evidence of the obesity-FI paradox. These results reinforce the importance of providing comprehensive support to vulnerable individuals during cancer treatment.

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A-040

IS OBESITY ASSOCIATED WITH COLORECTAL CANCER SCREENING AMONG AFRICAN AMERICANS AND LATINOS IN THE CONTEXT OF PATIENT NAVIGATION?

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Purpose: Obesity has been noted as a potential barrier to cancer screening uptake; however the association between excess body weight and colorectal cancer screening is not well established. The purpose of this analysis was to explore whether obesity influences the completion rate of screening colonoscopy among lower-income Latinos and African Americans undergoing patient navigation.
Method: This sub-analysis was conducted among Latino and African American participants who received patient navigation for screening colonoscopy and had complete BMI data (N = 520). Survey data was collected among individuals 50 years and older who were referred by their primary care providers for a colonoscopy at Mount Sinai's Primary Care Clinic. BMI data was based on data from chart review.
Results: The mean BMI of the sample was 31.17 kg/m2, with over half (53%) of the sample categorized as obese. Rates of screening were high (~80%), regardless of weight status. Adjusting for age, family history of colorectal cancer, smoking status, comorbid conditions, insurance, and education, obese status was not significantly associated with screening behavior among the entire sample and among groups stratified by race/ethnicity and gender.
Discussion: Whereas over half of the study participants were obese, our findings suggest that obese status does not negatively influence completion of screening colonoscopy among patients who are navigated for the procedure. Further studies are needed to determine whether this finding will be observed without the assistance of a patient navigator and in other patient populations.

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A-041

LONGITUDINAL EFFECTS OF ILLNESS UNCERTAINTY ON PROSTATE CANCER PATIENTS' ROMANTIC RELATIONSHIPS IN THE YEAR FOLLOWING TREATMENT

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Among prostate cancer (PC) patients, illness uncertainty (IU) is associated with poor quality of life, psychological distress, and maladaptive coping but little is known about how patient IU relates to PC patients' interpersonal functioning, such as with their partners. We theorized that feelings of uncertainty after treatment would draw focus toward the self rather than the partner which would negatively impact the relationship. Thus, we examined whether greater PC patient's IU (measured by Mishel Uncertainty in Illness Scale) related to less engagement with the partner as measured by partner's perception of emotional support received from the patient (e.g., I was able to depend on my partner) and relationship satisfaction. We also examined how patients' IU related to how much support they perceived they gave to their partner (e.g., I made a point to spend time with her when she was feeling low) and relationship satisfaction. PC patients (N = 165) and their partners were assessed at diagnosis and 1, 6, and 12 months post-prostatectomy. At 1 month, patients reported moderate IU (Range = 1-5, M = 2.25, std dev = .503). Patient's 1-month IU predicted a significant decrease in partner perceived support received at 1 (b = .28, p < .001), 6 (b = .29, p < .001), and 12 months (b = .18, p < .05) and a decrease in satisfaction at 6 months (b = .19, p < .05) only. Patient's 1-month IU only predicted a decline in their own reports of support provided (b = -.25, p < .01) at 1 month and across all time points was unrelated to their own satisfaction. Results indicate that patient IU post-treatment is related to poorer relationship functioning with partner in terms of social support and relationship satisfaction.

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A-043

DEPRESSION PREDICTS IMPAIRED COGNITIVE FUNCTION IN HEART FAILURE

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Introduction

Patients with heart failure (HF) have high rates of cognitive impairment and depression. In past work, depression has been shown to predict impairment in attention, executive function, psychomotor speed, and language in HF patients.

Purpose

We examined the relationship of depression with global cognitive function and two specific cognitive domains: attention and executive function, memory.

Methods

Older adults with HF ($n = 324$) were evaluated for depression with the Patient Health Questionnaire-9 and cognitive function with the Modified Mini Mental Status Exam (3MS), a composite score for attention and executive function (Frontal Assessment Battery and the Trails A and B), and composite score for memory (long-delay Rey Auditory Verbal Learning Test and the long-delay Rey Complex Figure Copy).

Results

Participants were 60% male and 72% Caucasian with an average age of 68.7 years. Depression scores revealed: 23% no depression, 35% minimal depression, 28% mild depression, and 14% moderate-severe depression. Nearly 30% of the sample was cognitively impaired (3MS). Linear regression revealed a significant relationship between depression classification and the executive and attention and memory domains. After controlling for race and socioeconomic status, depression status was a significant predictor of attention and executive function ($\beta = -1.09$; $p < .01$) and memory ($\beta = -0.97$; $p < .05$).

Conclusions

HF patients reporting depression on a commonly-used screening instrument have poorer cognitive function in multiple domains. Such findings extend past work by highlighting the importance of depression as a diagnostic entity in persons with HF, as both depression and cognitive impairment are associated with poorer adherence to health behaviors. Future studies are needed to determine the possibility that intervention for depression may also improve cognitive function in this high-risk population.

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A-044

COGNITIVE FUNCTION AND HEALTH LITERACY IN HEART FAILURE: THE ROLE OF IQ

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Introduction: For heart failure patients, health literacy (HL) is an indicator of poor health outcomes and cognitive function has been reported to predict health literacy. The role of IQ in the relationship between cognitive impairment and HL is an important next step.

Purpose: To examine whether cognitive function could predict impaired HL after controlling for estimated IQ.

Methods: Older adults with heart failure ($n = 333$) completed the health literacy medical term recognition test (METER) and cognitive tests: the Modified Mini Mental Status Examination (3MS) for global cognitive function, Trails-A for attention; Trails-B for executive function; the long delay Rey Auditory Verbal Learning for measure memory; and the Rey Complex Figure copy test for visuospatial ability. Estimated IQ was calculated using the North American Adult Reading Test and highest education level achieved. An adjusted score of 35 or less on the METER defined "impaired" HL.

Results: Participants were mostly male (60%), white (72%), with mean age of 69 years. Almost half had impaired HL (48%) and nearly one third (30%) had cognitive impairment. Simple linear regression analysis suggested that black race, estimated IQ, and all cognitive variables predicted increased risk of impaired HL. Three sequential logistic regression models were evaluated. In the final model, race and socioeconomic status were not associated with risk of impaired HL. Increased estimated IQ predicted a decrease in risk of impaired HL (RR: 0.86; 95%CI: 0.83-0.93). None of the cognitive variables predicted the risk of impaired HL.

Conclusions: In heart failure patients, cognitive function was not a predictor of impaired HL after controlling for IQ. Results suggest that IQ may mediate the relationship between cognitive function and HL. More investigation is warranted in that different conceptualizations and measures of HL may provide different insights about the relationship between HL, cognitive functioning, and IQ.

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A-045

COGNITIVE IMPAIRMENT DOES NOT PREDICT QUALITY OF LIFE IN HEART FAILURE

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Introduction: Adults with heart failure (HF) often demonstrate impairment across multiple domains of cognitive functioning and report poor quality of life (QoL). Surprisingly, cognitive deficits were generally not associated with QoL in a recent report (Pressler, 2010). The exception was memory, which was weakly associated with QoL. However, cognitive deficits interfere with self-care and disease self-management, which could be expected to affect QoL.

Purpose: We sought to verify this counter-intuitive finding in a large well-characterized sample of HF patients using both global cognitive functioning and memory.

Method: Participants were 313 adults (63% male) predominately Caucasian (73%) HF patients (68.9 ± 9.6 years) recruited from two medical centers. Exclusion criteria included dementia, history of neurological disorder or injury (e.g., stroke), moderate or severe head injury, and untreated sleep apnea. Global cognitive function was assessed using the Modified Mini-Mental State Examination (3MS). Memory was assessed with the Complex Figure Long Delay Free Recall. Self-reported QoL was assessed using the Kansas City Cardiomyopathy Questionnaire (KCCQ). Hierarchical linear regression was used for analyses.

Results: Cognitive impairment was observed in 31% of the sample. Controlling for age and education, global cognitive function did not predict QoL, $\beta = .09$, $t(312) = 1.43$, $p = .15$. Memory did not predict QoL $\beta = .06$, $t(312) = 1.01$, $p = .31$.

Conclusion: Cognitive function did not predict QoL in HF patients, consistent with Pressler et al. (2010). The overriding factor in QoL does not appear to be cognitive impairment; other factors may play a bigger role such as disease severity, age and depressive symptoms (Pressler et al., 2010). Future studies should investigate modifiable determinants of QoL in HF patients, toward the goal of finding interventions that preserve QoL during this chronic illness.

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A-046

THE IMPORTANCE OF NEUROTICISM FOR CARDIOVASCULAR DISEASE PATIENT OUTCOMES

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Type D personality, defined by both high levels of negative affectivity and social inhibition (Denollet, 2005), is a strong predictive factor of cardiovascular disease (CVD). The current study examines how the two component features of Type D personality, both separately and combined, predict various health outcome variables for patients who completed a 12 week cardiac rehabilitation (CR) program. CVD patients in standard CR completed the Type D Scale-14 at baseline, and measures of anxiety, depression, perceived stress, social isolation, chest pain, and exercise frequency at both baseline and 12 week follow-up. The sample included 248 CR patients (72.2% male; Mage = 64.15 years; SD = 10.76; 74.9% non-Hispanic Caucasian).The data was analyzed using multiple regression. Each model controlled for the baseline measure corresponding with the dependent variable. Type D personality was a significant predictor of anxiety [$b = .29$, $p = 0.008$; $R2 = .32$, $F(2, 113) = 26.3$, $p < .001$], depression [$b = .21$, $p = .041$; $R2 = .23$, $F(2, 113) = 16.4$, $p < .001$], and showed a trend toward predicting perceived stress [$b = .24$, $p = 0.054$; $R2 = .38$, $F(2, 120) = 36.6$, $p < .001$]. When the two feature components were analyzed simultaneously, only negative affectivity was a significant predictor of anxiety [$b = .03$, $p = 0.010$; $R2 = .35$, $F(3, 113) = 19.8$, $p < .001$], perceived stress ($b = .03$, $p = 0.016$; $R2 = .42$, $F(3, 120) = 27.9$, $p < .001$), and social isolation [$b = .04$, $p = .046$; $R2 = .27$, $F(3, 113) = 13.27$, $p < .001$], and showed a trend toward predicting depression [$b = .02$, $p = 0.072$; $R2 = .26$, $F(3, 113) = 12.9$, $p < .001$]. Neither Type D personality nor its component features predicted chest pain or days exercised at 12 weeks. Results indicate that while Type D personality does predict emotional distress, which is highly implicated in poor CVD patient outcomes (Frasure-Smith & Lesperance, 2003), negative affectivity is the driving force in this predictive model and should receive greater focus in CR programs and CVD research.

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A-047

VA HEALTHCARE SYSTEM RESPONSES TO A NATIONAL STROKE CARE REORGANIZATION

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In 2011, VHA released the Acute Ischemic Stroke (AIS) Directive which mandated reorganization of acute stroke care, including self-designation as Primary (P), Limited Hours (LH), or Supporting (S) stroke center. We conducted interviews in a sample of three levels of stroke centers to understand barriers and facilitators faced in response.

Methods: Of 45 invited facilities, 38 (84%) participated. The final sample included 9 P, 24 LH, and 5 S facilities and 107 clinicians. The semi-structured interviews were based on the AIS Directive. We analyzed the data using Nvivo 10 software.

Results: Frequent barriers reported were lack of personnel assigned to coordinate facility responses. Data collection was commonly reported. For thrombolysis measures, low number of eligible Veterans was another major barrier. The LH and S facilities reported barriers: access to radiology and neurology services; EMS diverting stroke patients to nearby stroke centers, maintaining staff competency with low volume of tPA eligible stroke patients, and a lack of stroke clinical champions. Solutions applied included cross training X-ray technicians to provide head CT coverage, developing stroke order sets/templates, and staff training. Larger facilities added a stroke code pager system and improved upon its use, and established ED nurses to become first alerts for an acute stroke patient. LH and S facilities responded by establishing formal transfer agreements to improve Veteran tPA access.

Conclusions. The AIS Directive brought focused attention to reorganizing and improving stroke care across a wide range of facility types. Larger VA facilities tended to follow established practices for organizing stroke care, but the unique addition of the LH designation presented some challenges to consistently organize systems. Since Veterans have financial interest in presenting to a VA facility, ongoing work to improve access to thrombolysis at smaller VA facilities is needed.

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A-048

PSYCHOLOGICAL CHARACTERISTICS OF FAMILIAL HYPERTENSION: HOSTILITY, FORGIVENESS, OR BOTH?

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A family history of hypertension (FH+) is a strong risk factor for developing hypertension, though the mechanism of this association is unclear. Genetic factors contribute, but psychosocial risk factors, such as trait hostility, may contribute as well. Both family history of hypertension and trait hostility are associated with increased cardiovascular stress reactivity, which is a risk factor for multiple disease states, including hypertension and cardiovascular diseases. Trait hostility itself is related to cardiovascular disease and mortality, and negatively related to trait forgiveness, whereas forgiveness is associated with positive health outcomes. However, it is poorly understood how trait hostility and forgiveness differ between FH + and FH- individuals. We measured Trait Hostility (Cook-Medley Hostility Questionnaire) and Trait Forgiveness (Heartland Forgiveness Scale) among a sample of 1257 university undergraduate students (Age: 17-36, M = 19.41, SD = 1.6; 70% Female) collected across several semesters. A multivariate ANCOVA assessed differences in Trait Hostility and components of Trait Forgiveness (forgiveness of self, others, and situation) between participants with FH + and FH-. Following adjustment for age, sex, and familial SES, FH + individuals reported higher Trait Hostility (M = 24.4, SD = 8.5; p < .01) and lower Trait Forgiveness of Situation (M = 27.3, SD = 5.7; p < .01) than FH- individuals (hostility M = 23.0, SD = 7.9; forgiveness of situation M = 28.4, SD = 5.5). Results indicate that Hostility and Forgiveness of Situation may play a role in the development of hypertension in FH + individuals. Forgiveness of Situation may be especially important, compared to other components of forgiveness, because hostility often involves a sense of unfairness and dissatisfaction with one's situation or events outside of one's control. Being able to accept, forgive, and reframe an unfortunate situation may serve as a core aspect in reducing hostile attributions, and consequent cardiovascular reactivity and health in turn.

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A-049

DEVELOPMENT OF A HEART FAILURE PATIENT-CAREGIVER DYAD INTERVENTION

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BACKGROUND: Reducing the rate of rehospitalization among heart failure (HF) patients is a major public health challenge and medication non-adherence is a crucial factor shown to trigger rehospitalizations. PURPOSE: This study was designed to gain insight into the potential for an intervention to improve medication adherence by supporting HF patients and their informal caregivers. METHODS: This was a qualitative pilot study of 10 dyads consisting of HF patients with an implantable cardioverter defibrillator (ICD) and their family caregivers recruited from an outpatient electrophysiology clinic at an urban medical center (N = 20, 70% minority, 75% female, mean age = 58 yrs). Semi-structured individual interviews were conducted to assess interest in and accessibility to new medication adherence technologies. Adherence to medications, self-efficacy, self-esteem, optimism, social support and depression were assessed by validated questionnaires. Readmission rates and medication adherence were assessed among patients at 30-days via standardized questionnaires. RESULTS: At baseline, 60% of patients reported sometimes forgetting to take their medications. The most common situations that made it difficult for patients to take their medications as prescribed included forgetfulness (50%), having other medications to take (20%), and feeling well (20%). At 30-days, half of patients reported non-adherence to their medications, and 10% reported being rehospitalized within the past month. Dyads reported widespread access to technology (80% have internet access, 70% cellular phones, 60% smart phones) and 50% were interested in mobile applications and text messages, suggesting potential modes for improving adherence. There was less acceptance of medication-dispensing technologies; 80% of caregivers and 40% of patients were concerned about added burden. CONCLUSION: Non-adherence to medications is widespread and there is interest from patients and caregivers in new technologies to aid in adherence, but added burden is a potential barrier to use.

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A-051

LONGITUDINAL TRAJECTORIES OF GLYCEMIC CONTROL AND ADHERENCE FOR YOUTH WITH TYPE 1 DIABETES (T1D)

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Significant deterioration can occur in glycemic control (HbA1c) throughout adolescence, placing youth at risk for chronic T1D complications. Few studies report longitudinal patterns of HbA1c and specific adherence behaviors across a broad age range. Longitudinal trajectories of HbA1c and adherence behaviors were evaluated over three years in youth with T1D with Individual Growth Curve (IGC) modeling.

At baseline, participants included 198 youth, ages 9-15 yrs (M = 12.7), 77% Caucasian, 74% with married biological parents, primarily in middle class households (M SES = 45.7), with mean HbA1c of 8.4%. HbA1c was obtained via medical record and adherence was measured annually with the 24-Hour Diabetes Interview over the 3-year study duration.

Glycemic control did not deteriorate significantly, but IGC modeling detected a trend of a steady deterioration in HbA1c by .04% per year. On average, HbA1c was 8.0% at age 10, peaked at 8.7% at age 12, and improved to 7.8% at age 17. IGC analyses revealed significant annual declines in adherence behaviors during adolescence, with detailed results reported for ages 10 to 17 years. Blood glucose monitoring declined by -.26 checks/day each year, p < .001, from 3.6 checks/day at age 10 to 2.1 checks/day at age 17. Meal frequency decreased by -.19 meals or snacks/day each year, p < .001, from 4.8 meals or snacks/day at age 10 to 3.1 at age 17. Daily exercise frequency declined by -.12 instances each year, p < .001 from 1.6 episodes/day at age 10 to 0.6 at age 17. Alternatively, adherence to nutrition recommendations remained stable. Naturalistic observation over a 3-year period in youth with T1D reveal steady declines in adherence behaviors from ages 10 to 17, with peak deterioration in glycemic control at age 12. Unexpected HbA1c patterns during late adolescence warrant additional research. Results may inform behavioral interventions to prevent deterioration in adherence and glycemic control throughout adolescence.

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A-052

SELF-EFFICACY, HEALTH BELIEFS AND EMOTIONAL-SOCIAL FACTORS AS PREDICTORS OF GLYCEMIC CONTROL AMONG ADULTS WITH TYPE 1 AND TYPE 2 DIABETES MELLITUS

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Diabetes Mellitus is one of the most difficult chronic disease states to control. The life-long challenge of balancing medication, diet, exercise, quality of life and psychological wellness needed to achieve glycemic control can be confusing, time consuming, frustrating and ultimately overwhelming resulting in less than 50% of patients reaching goal. The current study examines how factors of emotional social intelligence and self-efficacy are related to glycemic control in patients diagnosed with either Type 1 or Type 2 diabetes mellitus.

In this study, a total of 121 adult participants diagnosed with Type 1 and Type 2 Diabetes Mellitus more than six months prior to the commencement of the study were recruited from the New York Eye and Ear Infirmary's Retina Center and the Gerald J. Friedman Diabetes Education Institution at Beth Israel Medical Center.

It was concluded that the stronger the subject's self-efficacy, measured using the Confidence in Diabetes Scale (CIDS), the higher their emotional-social intelligence levels, measured using The Emotional Quotient Inventory (EQ-i). This significant positive relationship between CIDS and EQ-I scores was present for patients with T1DM but not for T2DM. Furthermore, patients with poor glycemic control (HbA1c), in particular patients with T2DM, were more likely to demonstrate higher levels of social responsibility and strong interpersonal relationships, optimism, and happiness. This finding supports the notion that the patients' predisposition toward following social norms supersedes that of making positive health choices in patients who are not in control of their diabetes especially in older populations.

Additionally, a factorial analysis found that an abridged version of the CIDS was a reliable and valid scale for assessing self-efficacy. This modified inventory may assist in isolating the most critical factors driving patient adherence behaviors and enhanced glycemic control among patients living with diabetes.

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A-053

COMMUNAL COPING AMONG COUPLES WITH TYPE 2 DIABETES

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When faced with a chronic illness, such as type 2 diabetes, partners often cope together. Communal coping, defined as a reappraisal of a stressor as "our issue" as opposed to "my issue," is a construct that reflects one possible way for couples to cope. In this study, we examined the links of communal coping to relationship variables and health outcomes among couples ($n = 50$) in which one partner was diagnosed with type 2 diabetes in the last 2 years. Participants were married or living with someone in a marital-type relationship. Both members of the couple were asked to respond to a questionnaire that measured communal coping, relationship variables, and psychological distress. Couples were also asked to provide answers to an audio prompt, which was subsequently transcribed and analyzed for pronoun usage using the LIWC program, and to participate in a videotaped discussion. Results showed a positive relation between patient and partner self-reports of communal coping ($r = 0.37$, $p < .01$). The various measures of communal coping showed some correspondence. Patient and partner self-reports of communal coping were marginally associated with independent raters' codes of communal coping in videotaped interactions ($p < .10$). Communal coping during videotaped interactions was correlated with greater use of the "we" pronoun from the audio prompt ($p < .05$). Both patient and partner self-reports of communal coping were related to higher levels of emotional intimacy, higher relationship quality, and greater perceived emotional and instrumental support from partner to patient (p's < .05). However, the links of communal coping to health outcomes were mixed. Patient self-reports of communal coping were unrelated to patient perceived stress but were related to greater partner perceived stress ($p < .05$). Both partner self-reports of communal coping and partner videotape communal coping were related to greater patient self-efficacy ($p < .05$). Taken collectively, it appears that communal coping is associated with positive relationship outcomes but may have different implications for patients' and spouses' health.

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A-054

WOMEN'S EXPERIENCES OF PREGNANCY IN TYPE 1 DIABETES: IMPLICATIONS FOR PATIENT CARE

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Achieving a successful pregnancy in women with pre-existing diabetes requires stringent management of blood glucose levels (BG). Persistent high BG immediately before and during pregnancy is associated with serious adverse pregnancy outcomes. BG targets for women with type 1 diabetes (T1D) who are either planning pregnancy or are currently pregnant are more rigorous compared to others with diabetes. Failing to achieve these targets can lead to poor pregnancy-related outcomes in T1D. The aim of this study was to explore experiences, barriers, and support systems for diabetes management (DM) in women with T1D in relation to their past, current, or future pregnancy.

Semi-structured phone interviews were conducted with 15 women (mean age = 36) with T1D from across the US. All participants were married and included women who were either currently pregnant or had previously been pregnant and those who were planning pregnancy. Interviews were recorded; sections relating to the current study aim were transcribed verbatim and coded.

Women reported high motivation to manage diabetes well for a successful pregnancy but that meeting the strict BG targets was a frustrating and a stressful challenge. Attempts to achieve and maintain these goals can be physiologically and emotionally exhausting. They reported guilt, concern for the unborn baby, difficulties keeping BGs within the tight range, and negative emotions when healthcare professionals used scare tactics. Women wished for the chance to be in touch with other women with T1D in a similar situation to "normalize fears". Almost all Ps noted that support from their husband, other family, and friends were of critical importance in their DM efforts.

Intensive DM required for pregnancy can impair quality of life and psychological well-being in women with T1D. To optimize outcomes, interventions need to target both physical and psychological health in T1D women planning or undergoing pregnancy and offer opportunities to learn from others who have successfully managed these challenges.

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A-055

RELIGIOSITY AS A COPING RESOURCE FOR DEPRESSION AND DISEASE MANAGEMENT AMONG OLDER DIABETIC PATIENTS

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Compared to the general population, diabetic patients experience a higher prevalence of depression, which can often exacerbate diabetic symptoms and complicate treatment. Studies show that religion is associated with both better physical health and better psychological functioning; however, studies incorporating religion and depression among diabetic individuals are scarce. The present study addressed this gap in the literature by examining archival data from the 2008 and 2010 data waves of the Health and Retirement Study (HRS). Only individuals who reported a diagnosis of diabetes were included in the final sample ($n = 2{,}539$). Using data from the 2010 data wave, cross-sectional findings indicated that stronger religiosity was positively correlated with perceived diabetes control ($r = .04$, $p < .05$) and negatively correlated with total number of depressive symptoms ($r = -.05$, $p < .05$) and total number of weeks depressed ($r = -.05$, $p < .05$). Longitudinal findings confirmed that stronger religiosity in 2008 was negatively correlated with total number of depressive symptoms in 2010 ($r = -.04$, $p < .05$). Logistic regression and multiple regression analyses were performed to test four moderation models. Results showed that religiosity significantly moderated the relationship between perceived diabetes control and total number of weeks depressed ($\beta = -.04$, $t(2501) = -1.99$, $p < .05$). More specifically, for diabetics with low levels of religiosity, whether they believed their diabetes was under control or not did not make a significant difference in the total number of weeks depressed. However, high levels of religiosity served as a buffer against the duration of depressive symptoms among diabetics who perceived to have their diabetes under control. Understanding how these constructs jointly influence diabetes management and psychological functioning is critical in that medical professionals may utilize such knowledge to enhance treatment outcomes.

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A-056

MOTIVATIONAL EFFECTS OF GENETIC TESTING FOR TYPE 2 DIABETES

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Several genetic markers are associated with increased risk of type 2 diabetes (DM). The utility of genetic testing for type 2 diabetes (DM) to motivate health behavior change is unknown. We analyzed secondary outcomes from an RCT on the effect of supplementing DM risk counseling with genetic test results. Participants were outpatients aged 21-65 with body mass index (BMI) $\geq$ 27 and without DM. At baseline, fasting plasma glucose (FPG), family history of DM, and lifetime DM risk were assessed. After 2-4 weeks, participants received risk counseling that addressed FPG, family history, and lifetime risk, followed by either DM genetic test results (CR + G; n = 303) or attention control eye disease counseling (CR + EYE; N = 298). Perceived risk of developing DM, readiness to change diet and physical activity, and diet and exercise self-efficacy were assessed at baseline, immediately post-counseling, and 3 and 6 months. Linear mixed models included a common intercept, time effect, time*treatment interaction, and randomization stratification variables (family history and BMI). Mean age was 54, 42% were White, 80% were male, 30% had BMI $\geq$ 35, and 53% had moderate/high family-history-based DM risk. Estimated diet self-efficacy during negative affect was greater in the CR + G arm than the CR + EYE arm post-counseling ($p = 0.03$) but did not differ between arms at 3 or 6 months ($p > 0.30$). There were no differential treatment effects at any time point for perceived risk, diet self-efficacy in socially acceptable circumstances, exercise self-efficacy, or readiness to change diet or exercise. Estimated diet self-efficacy in socially acceptable circumstances, exercise self-efficacy, and readiness to change diet and exercise improved from baseline to post-counseling in both arms ($ps < .04$). For readiness to change diet and exercise, these changes were sustained at 3 and 6 months ($ps < 0.05$). Genetic testing and counseling for DM risk without additional, ongoing behavioral intervention may be ineffective for motivating health behavior change.

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A-057

AN ECOLOGICAL PERSPECTIVE ON PERCEIVED SOCIAL SUPPORT AND DIABETES SELF-CARE BEHAVIORS

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Introduction: The risk for diabetes-related complications can be made worse by poor medication adherence, infrequent glucose testing, missing routine diabetes-related health visits, and poor eating and physical activity (PA) habits. Research suggests that social support can help Latinos overcome barriers to diabetes self-care. Consistent with the socio-ecological model, six levels of support and their association with diabetes self-care behaviors were examined: individual, family/friends, healthcare, neighborhood, media/health policy, and organizational.

Methods: Baseline survey and medical chart data were collected from 318 randomly sampled Latinos with diabetes in Southern California. Patients were participants in Peers for Progress, an international study to control diabetes. Multivariate linear regression examined the independent association of each dimension of social support on diabetes self-care behaviors.

Results: Patients were 57 (SD = 12) years old, predominantly female (64%), married (60%), unemployed or retired (76%), had less than a high school education (70%), and Mexican-born (78%). Individual support was a significant correlate of medication adherence, fruit & vegetable (F&V) intake, fat intake, and PA (all $p < .01$). Family/friend support was associated with medication adherence, ($p < .05$), F&V intake ($p < .0001$), and PA ($p < .05$). Healthcare support was associated with routine diabetes visits, F&V intake, and fat intake (all $p < .05$). Neighborhood support was associated with PA ($p < .05$). Media/health policy support was related to glucose testing ($p < .01$). Organizational support was not associated with any diabetes self-care behavior.

Discussion: Individual support was associated with most self-care behaviors followed by support from family/friends. However, individual support was not associated with glucose testing and routine health visits. Given the importance of these two behaviors for avoiding diabetes-related complications, research is needed to better understand how to support these behaviors.

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A-060

RELATIONAL ORIENTATIONS, COMMUNICATION, AND SEXUAL HEALTH AMONG HIV SERODISCORDANT MALE COUPLES

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Background: Among serodiscordant couples, unprotected anal intercourse (UAI) represents a risk of HIV transmission if the HIV-negative partner is in the receptive role or the HIV-positive partner's viral load is detectable. The present study examined how each partner's reports of relational orientations and communication (e.g., self-disclosure and constructive communication) were differentially associated with unprotected anal intercourse (UAI), protected anal intercourse (PAI), and the absence of sexual activity within serodiscordant same-sex male couples.

Methods: HIV-positive men and their HIV-negative partners (N = 116 couples) were surveyed. Participants' mean age was 46.70; 38.4% were racial/ethnic minority; 40% earned less than $20,000 annually; and 63% of HIV-positive men had an undetectable viral load confirmed by plasma HIV RNA viral load tests. A multinomial logistic regression model examined the associations between each partner's reported relational orientations, positive communication styles, and HIV-positive partners' viral load with sexual behavior, adjusting for depressive symptoms, relationship duration, age, and time since HIV diagnosis.

Results: Overall, 27.6% of couples reported engaging in PAI, 29.3% engaging in UAI, and 43.1% reported no anal sex in the past 3 months. HIV-positive partners' relational orientations were positively associated with PAI (aOR =1.48, 95%CI: 1.02, 2.14, $p < 0.05$), compared with UAI. HIV-negative partners' reports of positive communication were positively associated with PAI (aOR = 1.18; 95%CI: 1.00, 1.40; $p < 0.05$), compared with UAI.

Discussion: Dyadic coping, particularly how partners' view their relationship and communicate with one another may play an important role in sexual decisions. Study findings lend support for the incorporation of discussions of HIV risk reduction strategies and support for general relationship functioning for couples in HIV care.

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A-061

ALCOHOL USE AND SEXUAL RISK BEHAVIOR AMONG INDIVIDUALS INFECTED WITH HIV: A SYSTEMATIC REVIEW AND META-ANALYSIS, 2012 TO EARLY 2013

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Background: Alcohol use has been implicated as a prominent risk factor in the transmission of HIV. People living with HIV/AIDS (PLWHA) often remain sexually active after diagnosis, and many report engaging in unprotected sex. The purpose of this meta-analysis is to summarize recent research concerning the (a) prevalence of alcohol use, (b) prevalence of sexual risk behavior, and (c) association between alcohol use and sexual risk behavior among PLWHA. Methods: Comprehensive electronic database searches located 728 published studies with relevant keywords; 17 studies (k = 19 reports) were included because they sampled PLWHA, evaluated both alcohol use and sexual risk behavior (e.g., condom use, multiple partners), and were published between January 1, 2012, and April 1, 2013. Results: The study samples included 6,257 PLWHA (34 years of age; 48% women). Findings indicate that a substantial proportion of PLWHA use alcohol (37%) and engage in sexual risk behaviors (67% condom use; 25% multiple sexual partners). Among PLWHA, alcohol use was significantly associated with unprotected sex ($d_+ = 0.23$, 95% CI = 0.05, 0.40; k = 5). Sample characteristics and geographical region moderated the prevalence of alcohol use and sexual risk behaviors. Conclusion: Many PLWHA use alcohol and engage in sexual risk behaviors; and alcohol use is associated with sexual risk-taking. Secondary prevention programs for PLWHA that address alcohol use in the context of sexual behavior are needed.

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A-062

ALCOHOL USE DISORDERS AND RISK OF HIV TRANSMISSION AMONG SOUTH AFRICAN MALE PATRONS OF PUBLIC DRINKING VENUES

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Background: Public drinking venues (PDVs; e.g., shebeens) in South Africa are settings in which alcohol use and sexual behavior converge. The prevalence of alcohol use disorders (AUDs), and the association between AUDs and sexual risk behavior, in this context is unknown.
Methods: Men (n = 763; mean age = 30), recruited from townships outside of Cape Town, South Africa, completed a survey that assessed alcohol use, sexual risk behaviors, and risky sexual contexts. The self-administered Alcohol Use Disorder and Associated Disabilities Interview Schedule (DSV-IV Version) was used to identify likely AUDs. Bivariate regression analyses assessed whether screening for an AUD predicted sexual risk behaviors. Multivariate regression analyses examined whether AUDs or PDV-contexts predicted sexual risk behaviors.
Results: Most men (62%) met screening criteria for an AUD; 25%, 17%, and 20% were classified as having mild, moderate, or severe AUD, respectively. AUD was associated with HIV risk: men with an AUD reported more unprotected sex (% of events) compared to men without an AUD. Multivariate regression analyses indicated that both (a) AUD severity and (b) the contexts in which alcohol and sexual risk co-occurred predicted the proportion of unprotected sex.
Conclusion: AUDs among men who drink in PDVs were prevalent and associated with sexual risk behaviors and contexts in which sexual risk behaviors occur. Findings suggest the need to treat AUDs as an HIV risk-reduction strategy among patrons of PDVs.

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A-063

RISK BEHAVIORS FOR HIV INFECTION AMONG MEXICAN MIGRANTS ON THE BORDER

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Background: The prevalence of HIV infection is higher among Mexican states along the U.S.-Mexico border than in the rest of Mexico. The U.S.-Mexico border is also a transit point in the trajectory of Mexican migrants moving back and forth between Mexico and the U.S. This study aims to characterize Mexican migrants' risk behaviors for HIV infection and perceived social norms regarding sexual behaviors in the Mexican border region.
Methods: A cross-sectional, probability survey with migrants arriving from other border regions in Mexico was conducted in Tijuana, Mexico, between 2009 and 2010 (N = 553). Rates of last 12-month risk behaviors and subjective norms on sexual behaviors in the border region were computed, and incidence rate ratios were estimated to compare selected behaviors in and outside of the border region.
Results: On average, Mexican migrants had spent 4.5 months (SD = 4.8) in the border region during the last 12 months. During their stay in the border region, 16.6% of male and 5.2% of female migrants had sex with multiple partners; 14.3% and 15.3%, respectively, had sex with partners who had other sexual partners; 13.6% and 2.6%, respectively, had sex with casual partners; and 5.5% and 0%, respectively, had sex with sex workers. Most male migrants (82.4%) agreed that in the border region it is normative for men to have more than one sexual partner. Over half of the women (58.4%) agreed that it is normative for females to have sex with casual partners. Male migrants had higher incidence rates of having sex and unprotected sex with sex workers in the border region than other places ($p < 0.05$).
Conclusions: The Mexican border region represents a high-risk environment for HIV infection among Mexican migrants travelling along the U.S.-Mexico border. Prevention interventions targeting Mexican migrants should be deployed in this transit region.

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Citation and Meritorious Poster
A-065

IMMEDIATE EFFECTS OF BLOOD GLUCOSE ON WORKING MEMORY PERFORMANCE

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Blood glucose (BG) dysregulation is associated with cognitive impairment on a range of domains including working memory. Chronic hyperglycemia contributes to structural pathologies and impaired function. As BG is a primary fuel source, hypoglycemic episodes adversely affect cognition. Less is known about short-term effects of hyperglycemia on cognitive function. The purpose of this study was to examine the acute effect of BG on cognition, specifically working memory, during a single testing period.
Cognitive testing was administered immediately following a mid-day BG measurement in a sample of older adults (n = 60, Mage = 61 ± 7.9) with (n = 29) and without (n = 31) type 2 diabetes. The NBack task, with three conditions, measured working memory. In the zero-back condition, participants identified the current shape. Subsequently, they identified whether the current shape was the same or different from the previous shape (one-back) or two shapes ago (two-back). Reaction time (RT) and response accuracy were measured. A repeated measures analysis of variance (3x2) was used to examine the influence of BG on performance over the testing time period. BG was dichotomized into "normal" (70-130 mg/dL) and "high" (>130mgdL) categories for a non-fasting state. Diabetes status and demographics were used as covariates.
Analyses revealed that hyperglycemic individuals performed worse on zero- ($p < .01$, $d = .76$), one- ($p < .05$, $d = .84$), and two-back accuracy ($p < .05$, $d = .75$), but did not differ on RT. In addition to a between subjects effect of BG on Nback performance, an interaction between accuracy and BG emerged [$F(2, 43) = 3.516$, $p < .05$, $n2 = .141$] where individuals with initially high BG experienced a steeper decline in Nback accuracy. None of the covariates were significant.
Pre-testing BG level, while accounting for diabetes status, affected the decline in working memory accuracy. These data suggest that acute hyperglycemia contributes to cognitive impairments beyond those associated with diabetes status. High BG may influence individual ability to sustain adequate memory function.

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A-066

EMERGING ADULTS' REPORTS OF POSTTRAUMATIC GROWTH FOLLOWING TRAUMA VERSUS COLLEGE TRANSITION

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Research on posttraumatic growth (PTG) has mostly been conducted with individuals who experienced traumatic events during adulthood, and relatively little research has been conducted with survivors of traumatic events experienced during adolescence. In addition to the paucity of research with younger samples, growth - as conceptualized in the theoretical framework on PTG - can also arise from non-traumatic events such as normative life transitions (e.g., entering college); however, the differentiating characteristics of growth that develop from these two paths has not been empirically investigated. The current study explores these different pathways to growth by analyzing data from a group of emerging adults (ages 18-25) who reported experiencing a traumatic event during adolescence (n = 359) and a group of emerging adults recruited from the same sample frame who reported never experiencing a traumatic event (n = 187). This cross-sectional, multigroup study revealed that the control group scored significantly higher on overall PTG, and this difference was most significant in the domain of new possibilities. However, the trauma group did report higher levels of growth in the domain of appreciation for life. The nature of the event being reported on and the developmental stage of the survivor at the time of exposure appear to moderate the type of coping strategies used and thus the levels of PTG.

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A-067

SENIORWISE MEMORY TRAINING PLUS YOGA FOR OLDER ADULTS

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Mild cognitive impairment (MCI) is becoming increasingly significant in understanding the cognitive losses in older adults. Many individuals who might have this diagnosis are attempting to maintain their independence by either living at home or in retirement communities. Our hypothesis was that older adults who participated in twelve hours of the SeniorWISE memory training intervention plus Yoga at each session would show significantly better outcomes post intervention. We recruited adults from four retirement communities in Central Texas. One hundred and thirty three participants were assessed at baseline with eighty-three who completed the training were tested in five weeks at post intervention. A septuagenarian licensed psychologist taught memory training and a certified yoga instructor taught Yoga. Individuals had to complete a minimum nine hours of training. The MMSE was used to screen out cognitive impairment. Rivermead SPS and DAFS-Extended scores increased (both $ps < .001$), while CES-D scores ($p = .003$) decreased, however memory complaints ($p < .05$) increased. Changes in state and trait anxiety and MMSE scores were not statistically significant. We saw significant improvements in memory self-efficacy (59.77 vs. 71.72), memory performance (14.86 vs. 16.93), and instrumental activities of daily living on the DAFS-E (48.43 vs. 50.34). Those individuals in the intention to treat group who did not complete had significantly lower memory performance and instrumental activity scores at baseline, and attended fewer classes. The combined Memory + Yoga intervention promoted healthy brain function and boosted brain plasticity. Transfer of learning occurred as demonstrated by a significant increase in performance-based IADLs. Octogenarians have the cognitive reserve to remediate their memory impairment.

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A-068

MANIPULATING DEPRESSION REPORTS IN MEN AND WOMEN

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Research shows that males are significantly less depressed than females, but there are response biases in depression reports relevant to gender that might exaggerate this disparity. We examined response bias in reporting depression and ability to recognize depression. Undergraduates ($n = 111$) were randomly assigned to complete the CES-D under one of two conditions. In the 'Depression' condition they were told the questionnaire was evaluating depression, and in the 'Well-Being' condition they were told the questionnaire was evaluating general well-being. Students also completed a series of personality questionnaires to see if the response bias was influenced by personality or gender-based attitudes. There was no effect of condition or sex by condition interaction on depression reports. However when we controlled for baseline levels of depression (completed by a subset of participants in a prescreen prior to the study), we found a marginally significant condition by sex interaction ($p < .06$). Men reported significantly lower levels of depressive symptoms in the 'Depression' condition than in the 'Well-Being' condition ($p < .05$), whereas women's reports of depressive symptoms were unaffected by condition. Openness to Experience and Neuroticism interacted with condition to influence reports of depressive symptoms ($p = .05$ and $p < 001$, respectively). Participants who scored high in Neuroticism were more strongly influenced by the condition label, whereas participants who scored higher in Openness were less strongly influenced by the condition label. We also examined participants' ability to recognize depression based on their responses to a vignette representing Major Depressive Disorder. Masculine norms beliefs predicted inability to recognize depression ($p = .03$) and overall disregard for the individual's distress. By contrast, participants who scored higher on Feminist Attitudes were marginally more likely to correctly identify depression ($p = .11$). Openness and Neuroticism were also positive predictors of depression recognition (p 's < .001). Implications of gender and personality for depression will be discussed.

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A-069

ADVENTURES WITH ANTIDEPRESSANTS: A RANDOMIZED CONTROLLED TRIAL OF MEDICATION REMINDING IN COLLEGE STUDENTS

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College students are increasingly being prescribed antidepressant medications for treatment of depression and anxiety disorders, yet little research has examined ways to improve adherence to medications in this population. This study aims to determine if a medication reminder app delivered via a smartphone is useful for improving adherence in college students who are prescribed antidepressant medication(s). Participants were college students ($N = 40$) enrolled at a state-funded institution who had a current prescription for an antidepressant and regularly owned and used a smartphone device. Participants were randomized to either a reminder group or a control group. Both groups were asked to complete a survey and undergo a manual pill count at the beginning of the study and 30-days later. Participants who used the reminder app were 3.5 times more likely to adhere to their medication defined as taking 80% of their medication without overdosing (Chi-squared ($1, N = 40$) = 3.64, $p = .057$). Factors influencing medication adherence in college students included health beliefs, use of illicit drugs, and type of professional care received. Use of a medication reminder app delivered via a smartphone may increase adherence to antidepressant medications in college students.

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A-070

FAMILY PROBLEMS MEDIATE RELATIONSHIP BETWEEN FINANCIAL DIFFICULTIES AND CHILD PROBLEMS IN ONCOLOGY/HEMATOLOGY

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Research indicates that environment influences children's emotional and behavioral functioning. Limited research has investigated environmental and family influences on child problems among children with cancer and sickle cell disease (SCD). Utilizing Bronfenbrenner's model, it is hypothesized that increased financial difficulties will be associated with increased child emotional and behavioral problems and that family problems will mediate this relationship. It is predicted that patient diagnosis will moderate the mediation effect. This sample included 386 caregivers (M age = 34.39, SD = 8.77) of children with cancer and SCD, 0-18 years (M = 8.06, SD = 5.44; 43%female). Caregivers completed the Psychosocial Assessment Tool 2.0, assessing psychosocial risk for patient and caregiver distress. Analysis of the total, direct, and indirect effects utilized bias-corrected bootstrapping. Moderated mediation analysis examined the extent that patient diagnosis moderated the relationship. Examination of the initial total effect (path c) revealed that increased financial difficulties was associated significantly with increased child problems ($\beta = .19$, $p < .001$). The relationships between financial problems and family problems (path a; $\beta = .30$, $p < .001$) and between family problems and child problems (path b; $\beta = .38$, $p < .001$) were significant. Bootstrapped mediation analysis revealed a significant indirect effect of financial difficulties on child emotional and behavioral problems through family problems ($\beta = .11$, 95% CI = .07 to .16), 58% of the initial total effect (path c). Patient diagnosis did not moderate the mediation effect, $\beta = .01$, $p > .05$. Results indicate that increased financial problems were associated with increased child problems and that this relationship was mediated by family problems. Clinical application suggests that practitioners should assess caregiver access to financial resources and family problems when treating children with cancer and SCD.

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A-071

REDUCING ANXIETY & DEPRESSION USING MINDFULNESS-BASED STRESS REDUCTION IN A HISPANIC PRIMARY CARE POPULATION

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Mindfulness-based stress reduction (MBSR) has been found to be a cost-effective method in reducing anxiety and depression (Baer, 2003; Grossman, et al., 2004). Primary care settings report anxiety and depression as the most frequent mental health concerns among patients (Wittchen, Hans-Ulrich, 2002). Primary care settings are often the first line of defense in addressing such issues, especially in under-served populations. In order to address this issue, the current study examined the efficacy of a 12-week MBSR course compared to cognitive-behavioral stress management (CBSM) in a Hispanic-majority primary care center. The sample included 36 primary care patients (66.6% female; 51.4% Hispanic; Mage = 48 years; Mincome = 16,500). Data showed that in both groups, anxiety and depression were significantly reduced (anxiety: R2 = .67, t = 4.47, p = .001; depression: R2 = .70, t = 4.057, p = .001), and that the MBSR showed greater effects than CBSM on depression (R2 = .70, t = 3.06, p = .008). When analyzed separately, the Hispanic population continued to illustrate similar effects (anxiety: R2 = .47, t = 2.42, p = .033; depression: R2 = .78, t = 3.24, p = .007). Results suggest that MBSR may be a useful intervention in the treatment of anxiety and depression and that the intervention may be particularly of benefit in a Hispanic population. Future research may want to explore the mechanisms involved in such differences.

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A-072

DOES EMOTION REGULATION PREDICT PARTICIPATION IN THE ONLINE INTERVENTION STUDENT BODIES-EATING DISORDERS (SB-ED)?

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Introduction: The link between emotion regulation (ER) difficulties and Eating Disorders (EDs) is well established, yet the literature is scant on how ER difficulties affect usage of online interventions. This study explored the link between baseline ER difficulties and participation in a program for women with subclinical EDs. Methods: SB-ED is a 10-week, moderated online self-help cognitive behavioral program. Sixty women (mean age = 20.9, sd = 2.5) were randomized into active SB-ED or wait-list. At the time of randomization participants completed the Difficulties in Emotion Regulation Scale (DERS). The wait-list participants received SB-ED after 10 weeks and completed a second DERS at that time. Linear regression tested whether baseline DERS scores predicted the number of weeks that participants used the online intervention. Alpha of .05 was used for statistical significance for main effects and .10 for interactions. Results: Of the 32 women randomized to wait-list, 25 completed the wait and started SB-ED. In the regression model DERS score (p = .84) and treatment condition (p = .07) were not significant predictors of weeks used. However, there was a treatment condition x DERS score interaction (p = .059): higher DERS scores correlated with less usage among the wait-list group (r = -.38; p = .06). In the active group, higher DERS scores were positively but not significantly correlated with use (r = +.19; p = .33). A Fisher r to z transformation showed a statistically significant difference in the association between DERS scores and usage of the online intervention (z = 2.04, p = .04). Discussion: ER was not associated with degree of usage of SB-ED for participants using the intervention immediately. However, wait-list participants with higher ER problems used SB-ED less. This may indicate that needing to wait for treatment may affect adherence among individuals with lower ER. Participants with subclinical EDs and lower ER may benefit from more timely treatment.

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A-073

PERCEPTIONS OF FAMILY FUNCTIONING AMONG ADOLESCENTS OF TERMINALLY ILL CANCER PATIENTS

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Context and Objectives: More than children at any other developmental stage, adolescents are at high risk for distress and poor adjustment in the setting of parental cancer (Rainville et al., 2012). Adaptive family functioning is considered a protective factor (Krattenmacher et al., 2012). We examined adolescents' perceptions of three dimensions of family functioning and the degree of concordance with their healthy and ill parent in the palliative care setting. Methods: 30 palliative care families with an adolescent child (Mage = 14.5 yrs, SD = 1.5) completed the Family Relationships Index (FRI) at the baseline assessment of a larger trial of Family-Focused Grief Therapy. Agreement between adolescent and parental scores on subscales of the FRI was examined using bivariate correlations, Intraclass Correlations (ICC) and paired-sample t-tests. Results: 42% of adolescents scored below established cut-offs on the FRI, perceiving poor overall family functioning. Pearson product-moment correlations and ICC showed significant, moderate agreement between adolescents and their ill parent in perceptions of family cohesiveness, expressiveness, and conflict management (r = .39-.45, p < .05 and ICC = .36-.44), but poor agreement between adolescents and the healthy parent. 27% of adolescents had FRI scores equivalent to the ill parent, whereas only 4.5% had scores equivalent to the healthy parent. No significant differences were found between adolescent and parental ratings on paired sample t-tests. Conclusions: Almost half of adolescents perceived poor family functioning in the palliative care setting. Their perspectives were in close agreement with those of the ill parent, but less so with the healthy parent, who will presumably be the primary caregiver when the patient dies. Supportive interventions for adolescents anticipating the loss of a parent may need to address divergent perspectives about how the family is functioning at this difficult stage.

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A-074

UPWARD APPEARANCE COMPARISONS AND THE ONSET OF DISORDERED EATING SYMPTOMS DURING COLLEGE

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Body dissatisfaction and disordered eating behaviors are common among college women, yet only a subset of this population develops clinically significant disordered eating symptoms during college. Appearance-based social comparisons, particularly those made to others whose bodies are perceived to be "better" than one's own (i.e., upward appearance comparisons), have demonstrated concurrent relationships with body dissatisfaction and disordered eating. Little is known about the value of these comparisons for predicting the development of eating pathology, however. The present study examined the predictive value of upward appearance comparisons, as well as established risk factors for the development of eating disorders (i.e., body dissatisfaction, negative affect), for the onset of clinically significant eating pathology over one college semester. College women (N = 454) completed validated self-report measures of disordered eating symptoms, appearance comparisons, body dissatisfaction, and negative affect at the beginning of one semester, and again nine weeks later. Over this interval, approximately 7% of the sample moved from below to above the established threshold for clinically significant disordered eating symptoms (mean change = 1.28; within-person change p < .001). At baseline, these women endorsed stronger tendencies toward upward appearance comparison than women who did not develop eating pathology (p = .019). In contrast, women who were above the clinical threshold for eating pathology at baseline scored higher on established risk factors (ps < .05). These findings suggest that extent of upward appearance comparisons may be useful for identifying college women at risk for developing clinically significant disordered eating symptoms during college, and that an increased focus on upward appearance comparisons may improve eating disorder prevention programs on college campuses.

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A-075

THE PATIENT HEALTH QUESTIONNAIRE-4 IN HISPANIC AMERICANS

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The Patient Health Questionnaire-4 (PHQ-4) is increasingly used in primary care as a very brief screening measure of psychological distress, assessing current anxiety and depression symptoms. Adults with a current or lifetime diagnosis of anxiety or depression are more likely to smoke, be physically inactive and obese, and binge drink. Therefore, screening individuals for psychological distress may also help identify those who are likely to participate in unhealthy behaviors. However, despite the growing Hispanic American (HA) population in the United States, the psychometric properties of the PHQ-4 have not been evaluated for HAs. This study evaluated the reliability and structural validity of the PHQ-4 for English- and Spanish-speaking HAs. HAs with an English- (n = 210) or a Spanish-language preference (n = 226) completed the Generalized Anxiety Disorder-7 and the PHQ-9. The first two items from each measure were combined for these analyses to form the PHQ-4. Multiple-group confirmatory factor analysis was used to examine the goodness of fit of the two-dimensional factor structure across language-preference groups. Three separate models (i.e., configural invariance, metric invariance, and factor variance/covariance invariance) were evaluated using descriptive fit indices. The Satorra-Bentler X2 difference test was used to determine which model was the statistically superior fit. Results indicated a similar two-dimensional factor structure with equivalent response patterns and variances across language-preference groups. Internal consistency was good for both English ($\alpha = 0.86$) and Spanish ($\alpha = 0.87$) groups. Therefore, the two-dimensional PHQ-4 is suitable for use among HAs with English and/or Spanish language proficiency. The brevity of the measure makes it a good option for use in primary care as a quick screener of current anxiety and depression symptoms among HAs, and it may help identify those who are at high risk for engaging in unhealthy behaviors.

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A-077

A COMPARISON OF IPAD AND PAPER-BASED QUESTIONNAIRES IN HEALTHY AGING RESEARCH

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Digital questionnaires can validate data in real time, remove the need for data entry, dynamically display or hide content, prompt individuals to answer missing or mis-answered items, and can allow participants to explicitly state when items are skipped intentionally. Recent advances in tablet computer technology provide researchers with the ability to deliver such questionnaires using an intuitive interface that does not require the use of input devices (i.e., mouse and keyboard). This study compared a digital questionnaire battery delivered using an iPad-based web app designed for older adults with a traditional paper-based battery. Participants (N = 49; Mage = 66) completed three questionnaires using each delivery method followed by a brief evaluation assessing: Ease of use, perceived anxiety, and strengths and weaknesses of each method, as well as their preference. A non-parametric one-sample binomial test indicated that a significantly greater proportion of individuals preferred the iPad-delivered battery [41(3.428), p < .001]. Paired-sample t-tests indicated that measures collected by each method were not significantly different (all p > .443). Ease of use of the iPad interface, as well as anxiety while completing the digital battery were significantly correlated with preferences [(rs = .665,p < .001) and(rs = .552,p < .001) respectively] such that those who preferred the digital battery tended to find it easier to use and were less anxious while using it. Participants most frequently found the iPad delivery increased speed of use and improved data entry, although navigation was perceived as being more difficult. By comparison, participants felt that the paper packet was easier to read and navigate, but was slow and cumbersome, and they disliked the lack of dynamic features. This study was the first to compare the use of traditional data collection with the use an iPad-based web app. We believe that it adds to the growing body of evidence that emerging technology can be effectively harnessed in health behavior research targeting older adults.

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A-078

CLUSTER ANALYSIS: A RELEVANT STATISTICAL TOOL TO IDENTIFY DIFFERENT SOCIAL VULNERABILITY TRAJECTORIES IN A YOUNG PARENT'S PROGRAM EVALUATION

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Objective: To establish the relevance of cluster analysis as a statistical tool to identify different social vulnerability trajectories among pregnant teens participating in a young parent's program evaluation.
Method: 451 pregnant teens aged 20 years or less were recruited from 19 community health and social service centers across seven regions in Quebec, Canada, to respond to structured interviews. Theoretical and statistical criteria were applied to select 22 categorical and continuous variables that were submitted to a TwoStep cluster analysis. Missing data for at least one variable resulted in the exclusion of 14.2% (n = 64) cases.
Results: Three distinct social vulnerability trajectories were identified (R1, R2, R3). R1 (n = 153) predominantly includes young mothers who are pregnant for the first time and who live with their partner in a household reporting employment as the main source of income. Mothers of R2 (n = 101) are younger than the others, on average, and all live with their parents, or those of their partner, during their pregnancy. Young women from R3 (n = 133) tend to report a less favorable perception of their health and higher levels of psychological distress and childhood trauma than other study participants. The majority report a previous pregnancy and nearly nine out of 10 have dropped out of school.
Conclusion: The occurrence of missing data can reduce the number of cases in a study sample following cluster analysis. Careful variable selection resulted in the identification of different social vulnerability trajectories in a cohort of pregnant teens participating in a young parent's program evaluation, while ensuring the desired statistical power for subsequent analyses. Given the different realities and needs of these families, the derived clusters are essential indicators to discriminate the effects of an early intervention program.

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A-079

EFFECTS OF INDIVIDUALLY-TARGETED RECRUITMENT ON MINORITY ENGAGEMENT IN CLINICAL RESEARCH

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To address racial/ethnic minority underrepresentation in health research, we examined whether individually-targeted, ethnic-specific letters improved recruitment to a diabetes prevention trial. This experiment was efficiently integrated in "A Pregnancy and Postpartum Lifestyle Evaluation Study" (APPLES), a randomized lifestyle intervention trial among women with gestational diabetes and impaired glucose tolerance in the Kaiser Permanente Northern California healthcare system. Pregnant women identified in the electronic medical record, or EMR (n = 252 Asian, n = 86 White, n = 89 Hispanic, n = 18 African American) were randomized to targeted recruitment letters noting diabetes health disparities and risk information specific to their racial/ethnic group (n = 216), or standard letters with risk information for the general population (n = 229). All letters were English-Spanish bilingual and offered retail gift cards for participating in the APPLES trial. We examined the effects of targeted v. standard letters by race/ethnicity and preferred language obtained from the EMR on two recruitment rates: response (i.e., screening) and trial enrollment. The targeted letter did not significantly improve response or enrollment rates in overall or by racial/ethnic group. However, the targeted letter as compared to the standard letter showed trends for improved response (66.7% v. 33.3%, p = .06) and enrollment rates (38.9% v. 13.3%, p = .10) among n = 33 Hispanic women who preferred Spanish. In contrast, the targeted letter significantly lowered response (29.6% v. 57.1%, p = .04) and showed trends for lowered enrollment rates (25.9% v. 50.0%, p = .07) among n = 55 Hispanic women who preferred English. A targeted approach of ethnic-specific risk information may improve recruitment among Spanish-dominant, but not English-dominant Hispanic women. Culturally-influenced attitudes about research engagement and disease risk may warrant tailored strategies for diverse subgroups.

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Meritorious Poster

A-081

CHANGE IN HEALTH LITERACY OF ADULTS IN A WEIGHT LOSS TREATMENT TRIAL

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Low health literacy can interfere with the development of healthy lifestyle habits that promote energy balance and prevention of diet-related diseases. The aim of this secondary analysis was to determine if there was a change in health literacy in two cohorts of adults (N = 62) over the course of the SELF trail that included an 18-month behavioral weight loss intervention. All participants received nutritional education through written materials and in-person group sessions. The Newest Vital Sign, a 6-item questionnaire based on reading a food label, was used at baseline and 18 months. The six questions provided three sub-scores (prose literacy, numeracy, and document literacy) and a total score as an overall indicator of health literacy. Wilcox signed rank test was used to analyze the change in literacy. The total sample (N = 130) completed the questionnaire at baseline, but only two cohorts completed the questionnaire at 18 months (N = 62). The sample was, on average, 53.7 ± 9.9 years old, mostly female (80.6%), and 83.9% White; 72.1% had an income greater than $50,000/year and 16.1 ± 3.1 years of education. Mean BMI at baseline was 33.2 ± 3.5 kg/m2. Scores reflected adequate health literacy in the majority of participants (87%) at baseline. Eight participants reflected limited literacy at baseline, and the median improvement in score was 1.0 (p = .03) at 18 months. Participants with adequate literacy at baseline (N = 54) reflected a median change of 0 (p = .36) at 18 months. Although most participants had adequate health literacy for reading a food label, those who demonstrated limited literacy may benefit from additional attention to assist them in this practical and necessary exercise to improve dietary habits. Health literacy assessment may identify at-risk individuals who can use tailored education to assist them in developing label-reading skills that support the development of healthy eating habits.

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A-082

EVALUATION OF A RESTAURANT AND GROCERY STORE INTERVENTION TO IMPROVE THE NUTRITION ENVIRONMENT AND PROMOTE HEALTHY EATING

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Over two thirds of US adults are overweight or obese. Increasing research evidence suggests that the nutritional environment influences individual eating practices and supports the importance of interventions in restaurants and food stores for obesity prevention. The purpose of this study is to evaluate the impact of Waupaca Eating Smart (WES), a 10-month pilot community-level intervention to promote healthy eating through improvements in the nutrition environment of restaurants and food stores. The intervention followed a quasi-experimental design, with two partnering Wisconsin communities randomly assigned to serve as the intervention or comparison site. The "RE-AIM" framework was used to evaluate the impact of the intervention using data from pre- and post-test owner and customer surveys, sales records, and direct observation of intervention strategies and the nutrition environment. In the intervention community, over half of customers reported awareness of WES (Reach). WES was associated with a modest improvement in customer attitudes and behaviors among certain demographics and with greater restaurant nutrition environment scores (Effectiveness). Seven of 9 restaurants and 2 of 3 stores approached agreed to participate in WES (Adoption). Restaurants and stores implemented and maintained various strategies (Implementation, Maintenance). Overall, these findings suggest that community-based nutrition interventions in local restaurants and grocery stores can have a high level of reach and are likely to be adopted, implemented, and maintained. These interventions seem to be effective at improving nutrition environments in restaurants, but more evidence is needed to document the impact on consumer and owner attitudes and behaviors.

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A-083

MARKETING CHILDREN'S MULTIVITAMINS: AN ANALYSIS OF LABELS FOR GRAPHICS AND LANGUAGE THAT ENHANCE PRODUCT APPEAL

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An estimated one-third of American children take vitamins. National poison control data in 2011 indicate over 32,000 calls for exposure of children (ages 12 years and under) to pediatric multiple vitamin tablets. While the reasons for children's overconsumption of these vitamins have not been well documented, one speculation is that these products, particularly gummy vitamins, mirror food products not only in appearance, but in taste. The purpose of this pilot study was to analyze labels of popular children's multivitamins for marketing strategies, namely graphics and promotional language, that enhance these products' appeal to young children. We photographed vitamin containers from drug stores in the New York City area to assess marketing strategies. In total, we analyzed 24 packages of children's multivitamins. Almost three-fourths of the containers featured a popular cartoon character (70.8%) with the same number using promotional language referring to taste or flavor. Over 40% used the descriptive terms of "great" or "fun." There is a paucity of research on the type and potential effects of marketing strategies for children's vitamins. Future research is needed to determine ways to minimize accidental overdose.

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A-084

THEORY OF PLANNED BEHAVIOR CONSTRUCTS MEDIATE THE RELATIONSHIP BETWEEN SES-RELATED SCARCITY AND SUGAR CONSUMPTION

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Consumption of an unhealthy diet is one of many factors advanced to explain the strong link between socioeconomic status (SES) indicators and health. In particular, higher glycemic index (GI) diets are associated with Type 2 diabetes and coronary heart disease: rates of both diseases are significantly higher among individuals of lower SES. Reasons underlying the unhealthy food choices made by low SES groups are not fully understood, though there is evidence for contributions of economic, environmental, and knowledge constraints. The current study had two aims: 1) identify the SES indicators most strongly associated with consumption of a high GI diet; and 2) examine whether Theory of Planned Behavior (TPB) constructs mediate those associations. A cross-sectional sample of 152 participants from a large southeastern public university completed online self-report surveys to examine the influence of SES factors on food choice. Principal components analyses of 19 possible SES indicators reveal three composites (scarcity, family status, and family wealth). These composites were then included in a path model based on the TPB to account for variance in sugar consumption. In total, the model accounted for 17% of the observed variance in sugar consumption (p < .01). Of the SES composites, only scarcity significantly predicted attitudes (β = .25, p < .01) and perceived behavioral control (β = .17, p < .05). Attitudes (β = .22, p < .01), social norms (β = .25, p < .01) and PBC (β = .44, p < .01) significantly predicted behavioral intentions for healthy eating, which in turn significantly predicted current sugar consumption (β = -.34, p < .01). No direct effects of SES on sugar consumption were found. These results suggest that SES-related scarcity may influence food choice in part through its influence on attitudes and PBC, and highlight the likely importance of these psychological factors in understanding the SES-health gradient.

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A-085

BREASTFEEDING SUCCESS, SOCIAL NORMS, AND SCHOOL HEALTH EDUCATION: A SYSTEMATIC LITERATURE REVIEW

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BACKGROUND: Exclusive and prolonged breastfeeding are associated with numerous health benefits, including decreased risk for child obesity and asthma. Societal norms and attitudes towards infant feeding can profoundly affect a mother's motivation to start and continue breastfeeding. Although the rate of breastfeeding at six months has risen in the past ten years in the US; it is still lower than National goals. School-based interventions aimed at modifying the knowledge, attitudes, social norms and intended future practice regarding breastfeeding may be an effective way of improving rates.

METHODS: A systematic review of relevant literature was conducted to identify scientifically rigorous studies on school-based interventions and promotion activities that focus on breastfeeding.

RESULTS: Only five empirical articles on school based interventions to promote breastfeeding were found of the 1,900 citations from which relevant studies were selected for review and these interventions vary greatly in terms of format, duration, outcome measures, and significance of the results. Overall, these studies demonstrated positive effects on perceptions and attitudes towards breastfeeding and increased the behavioral intention of breastfeeding later in life.

CONCLUSION: School-based breastfeeding promotion programs hold promise for increasing knowledge of breastfeeding, support for breastfeeding, promoting positive attitudes, creating a culture where breastfeeding is normalized, and increasing future intentions to breastfeed.

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A-086

DINNER AT THE GAME: STUDENTS' CONCESSION STAND PURCHASES

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Background: School sporting events are major social gatherings especially in rural areas. Focus groups with parents suggest some families eat meals from the concession stand in part because of time pressures. There is a lack of survey data assessing student concession eating patterns.

Methods: Written cross-sectional survey of 209 middle and 505 high school students from 3 rural community schools and one high school in a small city, all in Iowa. Students were either approached during their lunch period or asked to complete the survey during their PE class.

Results: 9.8% of student reported they almost always bought "food equal to a full meal" at sporting events and another 40.3% did so sometimes (total of 51.1%). There were no significant differences by gender but middle schoolers were more likely to buy a full meal (12% almost always and 47.4% sometimes) vs high schoolers (9.1% almost always and 37.5% sometimes, $p = 0.008$). Students who purchased items often were also more likely to buy a full meal ($p < 0.001$). There were no purchasing differences among those who did or did not place importance on having healthy items at the concession stand. Students report eating 2.4 hours before the game on average; there was no difference by gender or grade. 6.9% almost always brought food from home to the game while another 27.2% brought food sometimes; there were no differences by gender or school level. On a scale from 1 to 5 (most important), students averaged a 3.15 regarding "how important it is to you that the school offer healthy/nutritious food and drink choices during sports events?"; 42.4% of student report that it is important or very important. Girls were more likely to feel healthy food was important (3.32 vs 2.99 $p = <0.001$) as were middle schoolers (3.39 vs 3.06 $p = 0.001$).

Conclusion: Half of students eat meals at the concession stand at least sometimes and almost 10% eat a full meal there almost every time they go to a game. Concession stands are part of the student eating environment that should not be ignored in efforts to improve the eating environment of children.

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A-087

FRUIT AND VEGETABLE PURCHASING AND CONSUMPTION PATTERNS IN LOW INCOME MEXICAN-AMERICAN FAMILIES

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Prevalence of obesity among Mexican American (M-A) children is significantly higher than in white children. Although the benefits of fruit and vegetable (F&V) consumption are widely known, F&V's are under-consumed, particularly among low-income groups with a high prevalence of obesity. This study examined potential barriers to F&V consumption in M-A families. Method. Focus group participants consisted of 38 M-A parents; 87% were female, and only 47% were married or living with a partner. Most reported a household income of $25,000 or less (85%) and education of a HS diploma or less (82%). Measures. A survey assessed demographics, nutritional knowledge, and F&V purchasing practices. Focus group questions assessed factors influencing F&V purchases at the store and factors influencing consumption of F&V's in the home. Procedure. Participants were recruited outside of a Hispanic-serving grocery store and using a snowball recruitment technique. Participants had to be Hispanic, a parent of a child (<18 years old), and responsible for grocery shopping/cooking. Participants completed the study consent form and a brief survey. Next, they participated in a 1 hr focus group discussion and received a gift card after its completion. Analyses. A thematic analysis was used to identify emergent themes from the responses to each focus group question. Survey data were analyzed using SPSS. Results. Parents reported price and quality of produce as the major determinants of their F&V purchases. Children's F&V preferences influenced some parents while others relied on nutritional value as the major influence. They reported a preference for fresh F&V's over canned or frozen and a preference for fruits over vegetables. Although parents recognized the nutritional value of F&V's, it was clear that home cooked meals were infrequent in these families and that their children consumed limited servings of fruits and vegetables in the home. These and other themes from this study may help guide interventions to promote F&V purchases and consumption in M-A families.

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A-089

S/HE'S GOT IT GOIN' ON: EXPLORING ETHNIC DIFFERENCES IN BODY TALK

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"Fat talk" is the term, coined by Mimi Nichter, for the documented tendency for White girls/women to say negative things about their bodies around other females. Other than her ethnographic research finding more fat talk among White middle school girls compared to African American girls, there is a dearth of research making ethnic comparisons of body image conversations. The current study used an online survey of age- and weight-representative U.S. adult men ($n = 1,982$) and women ($n = 2,001$) to assess whether participants in various racial/ethnic groups differed significantly on 1) exposure to and 2) pressure to engage in each of 3 body talk scenarios: negative (i.e., "fat talk"), self-accepting, and positive. Results of one-way ANOVAs indicated that Black and Hispanic women reported higher exposure to self-accepting and positive body talk than did White women, while White women reported more pressure to engage in fat talk than Black women did. This is consistent with the body image literature espousing pride and personal individualization of beauty and style among Black and Hispanic women (i.e., "got it goin' on"). Asian/Pacific Islander men reported the highest levels of pressure to engage in each form of body talk, while Black men reported significantly higher likelihood of exposure to self-accepting and positive talk relative to White men. Further exploration of varying forms of body talk holds promise for the development of culturally sensitive prevention and treatment efforts for body image, obesity, and disordered eating.

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A-090

SOCIAL SUPPORT AND MODELING: CORRELATES OF DIET AND PHYSICAL ACTIVITY AMONG ADOLESCENTS PARTICIPATING IN WEIGHT MANAGEMENT TRIAL

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Objectives: Social influences play an important role in shaping adolescents' diet and physical activity. We examined family and friend influences on diet and physical activity among overweight and obese adolescents participating in weight management intervention.
Methods: Six high schools were randomized to a school nurse counseling intervention targeting weight management through diet and physical activity behavior change or an information attention-control. Data on social support from family members and friends to eat healthy and engage in physical activity, family and friend modeling of healthy diet and physical activity behaviors, dietary patterns, and physical activity patterns were gathered from overweight or obese adolescents (N = 82) at baseline and 2- and 6-months follow-up. Linear mixed effects models adjusted for intervention effect over time, and intent-to-treat analyses were used.
Results: Regardless of intervention assignment, friend support to eat healthy was associated with increased fruit and vegetable consumption (0.4 servings/day) and decreased added sugar intake (-14.2 grams/day) (p's < 0.05); family and friend support to be physically active and number of physically active family members were associated with increased number of days/week active for > 60 minutes/day (0.7 days/week; 0.6 days/week; and 0.4 days/week, respectively, p's < 0.05).
Conclusions: Among high school adolescents, support from family and friends was correlated with several positive diet and physical activity behaviors. Strategies to solicit support for healthy eating and physical activity should be incorporated into school-based or family-based obesity interventions for adolescents.

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A-091

CONSIDERING CONTEXT: INDIVIDUAL AND COUPLES FACTORS LINKED TO ADHERENCE AND WEIGHT LOSS AFTER BARIATRIC SURGERY

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Surgical interventions for weight loss are the most successful interventions to treat the severely obese, yet there is significant variability in outcome. Success primarily depends on patients' postsurgical behavior. It is therefore essential to identify factors contributing to patients' success in making and maintaining recommended behavioral changes after weight loss surgery (WLS). According to self-determination theory, one's ability to initiate and sustain health behaviors is impacted by context. Prior research on various medical populations suggests that an individual's partner, a significant contextual factor, can impact behavior change. The current study examined motivation and relationship quality on patients' adherence to health behavior changes after WLS, and the association between adherence and sustained weight loss (%EWL). Participants were 111 women who had WLS at least 2 years prior to participation and who were in a relationship for at least 6 months. Participants completed questionnaires that assessed: relationship quality; motivation for target behaviors; engagement in postsurgical self-management behaviors; and surgery history. Results supported our hypotheses and indicated that better relationship quality, higher autonomous motivation, and less EE were associated with better adherence (△R2 = .19, F(3,107) = 8.39, p < .001). EE was associated with less %EWL (△R2 = .16, F(3,105) = 7.04, p < .01). Eating behavior adherence was the only adherence subscale significantly associated with higher %EWL (r = .30, p < .01). Post hoc analyses revealed that relationship quality and autonomous motivation were indirectly associated with %EWL through eating behavior adherence. These findings indicate that both individual and couples factors directly impact adherence and %EWL after WLS. Our findings are consistent with the literature on partnership and health and suggest that a couples-based intervention aimed at enhancing relationship quality and improving dyad behaviors may improve outcome after WLS.

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A-092

THINKING OF FOOD IS ASSOCIATED WITH BODY MASS INDEX IN AFRICAN IMMIGRANTS

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Overweight and obesity rates in the United States (US) are alarming. Sixty nine percent of adults are burdened by these conditions, and non-Hispanic Blacks have the highest rates compared to their ethnic counterparts. Yet, research on overweight and obese conditions in Black subgroups most often excludes immigrant status, particularly for persons who emigrate from Africa. Immigrant health research has shown that the transition to long-term US residency has been associated with higher body mass index (BMI). However, little is understood about the influence of eating behavior patterns on BMI in African immigrants. The current study examined the association among preference for fat, sugar and starch, time of eating, place of eating, and thinking about food, and BMI in 88 African immigrant men (80%) and women, aged 42 +/- 9 years (mean +/- SD) who immigrated to the US at age 18 years or older. On average, participants were overweight (BMI = 28.2 +/- 4.1 kg/m2). Participants completed the Eating Style Evaluation Questionnaire. Initial correlations showed that thinking about food was positively associated with time (r = .25, p = .03) and place of eating (r = .26, p = .03), but negatively associated with physical activity (r = .-24, p = .04). Regression analysis revealed thinking about food was the only eating style factor associated with BMI (beta = .27, p = .04) after adjusting for age, sex, physical activity, systolic blood pressure, and glucose control. Ruminating about food may exacerbate traditional risk factors for overweight and obesity such as physical inactivity and unhealthy eating habits in African immigrants. Future research should aim to clarify this association as well as the directionality (i.e., whether thinking about food leads to overweight conditions, or vice versa). Further, this study may be preliminary evidence for the need of validated cognitive-behavioral weight interventions for African immigrants.

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A-093

UNDERSTANDING FOOD INSECURITY AND OBESITY: A MEDIATION ANALYSIS

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INTRODUCTION: Obesity is one of the greatest health problems and affects 1/3 of adults in the United States. Food insecurity also affects approximately 17% of the population. Recent studies have demonstrated a positive association between obesity and food insecurity; however, the mechanism through which this relationship occurs is not well established. The purpose of the current study was to explore five potential mediators of the relationship between food insecurity and obesity that could help explain this relationship. METHODS: Baseline data from a community-based weight gain prevention study were used. Participants (N = 119) were residents of three counties in Southwest Rural Georgia. We examined (1) the presence of unhealthy foods and drinks in the home, (2) the frequency with which the individual ate outside of the home, (3) unhealthy food preparation methods, (4) importance of cost of food in purchasing decisions, and (5) the number of bad mental health days per month as potential mediators. RESULTS: Regression analyses were used to test for mediation. Food preparation (b = -1.20, χ2(1) = 4.68, p = .030) and importance of cost when purchasing food (b = -1.170, χ2(1) = 4.48, p = .034) partially mediated the association between food insecurity and obesity. DISCUSSION: Our findings help inform the complicated relationship between food access and availability, eating behavior, and weight gain. Further research should be conducted with larger samples to investigate the replicability of these findings. Such research may have implications for the development of joint obesity and food insecurity interventions.
Key words: obesity, food insecurity, weight gain prevention, weight management

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A-094

WEIGHT GAIN ATTRIBUTION, DEPRESSION, AND HISTORY OF PSYCHOLOGICAL PROBLEMS IN A PRE-SURGICAL BARIATRIC POPULATION

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Over 1/3 of US adults are obese. Cormorbidities include heart disease, stroke, Type 2 diabetes, and some cancers. Non-Hispanic blacks have the highest rates of obesity(49.5%), non-Hispanic whites the lowest(34.3%), and in 2010, 150-160,000 patients had weight loss surgery, most requiring a psychosocial evaluation. Factor analysis of 24 items on the Weight and Lifestyle Inventory (WALI) that assess attribution of weight gain reveals 5 factors; including eating in response to negative affect. Relationships were found in that those with minimal-mild depression report significantly less eating in response to negative affect than those with moderate-severe depression. In a sample of 122 females, approximately 40% endorsed eating in response to negative affect and in another study, approximately 25% report moderate-severe symptoms of depression while nearly 50% have a history of depression, anxiety, or related issues. The current study describes current depression, history of psychological problems, and factors attributed to weight gain in a pre-surgical bariatric population. As a part of a pre-surgical evaluation, 130 subjects completed the WALI and the Hospital Anxiety and Depression Scale (HADS). Subjects range in age from 20-64, are 55% Caucasian, 22% African American and have a mean BMI of 45.3 kg/m2. 45% reported a history of psychological problems, and approximately 20% endorsed current depressive symptoms. Those who endorsed depression attributed weight gain to eating when stressed ($r = .23$, $p < .05$), depressed/upset ($r = .28$, p,.01). At least 40% attribute weight gain to: overeating in response to positive affect/social cues, general overeating/impaired appetite regulation, and eating in response to negative affect with the highest percentage endorsing eating too much food (57.6%), eating when stressed (48.1%), and eating because of good taste(47%). Results support the need to address depression and to tailor intervention appropriately to improve the likelihood of post-surgical weight loss maintenance.

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A-095

BUILT ENVIRONMENT MATTERS: EFFECTS OF SMART GROWTH COMMUNITY PLANNING ON OBESITY RISK

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A recent study found that reducing daily kcal by as little as 130-142 may be sufficient to avert obesity in children. Smart growth principles include increasing walkability and availability of recreational facilities, which promote physical activity and thus prevent obesity risk. No study has evaluated daily kcal changes as a result of living in a smart growth community, nor have any examined longitudinal effects of smart growth community planning on reducing obesity risk.

Methods: Parent-child pairs selected into a smart growth community were compared with families who were not selected from a move in lottery and families from communities near the smart growth community ($N = 612$ parent-child pairs). Parents and children were assessed annually for 3 years with surveys, anthropometric measures, accelerometry, and GPS logger and GIS data. Changes in daily kcal and waist circumference were evaluated in the smart growth compared to control community families from T1 to T2. Outcomes for parents and children were analyzed separately.

Results: Smart growth community parents showed a marginal trend of decreased waist circumference after one year compared to controls. All groups decreased in daily kcal from T1 to T2, consistent with reports of recent obesity risk decline in California. Rates of decline in the smart growth group were 2 times that of control groups, with -228 kcal decline in parents and -243 kcal decline in children.

Conclusions: Families living in a smart growth community achieve almost twice the rate of decrease in daily kcal. Implications are discussed for translating findings to use by community urban planners, health care service providers and educators within communities.

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A-096

IMPACT OF THE PERCEIVED SIZE OF ADOLESCENTS' CLOSEST FRIENDS ON OBESITY AND EDS

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Purpose: Obesity and eating disorders(EDs) are growing social problems among teens. Both epidemics are increasingly conceptualized from an ecological model of health, including individual and social factors. The peer context is a particularly important factor for understanding weight related attitudes and behaviors; however, specific peer processes remain unclear. This study aims to examine how adolescents' perceptions of their friends' body sizes relate to their cognitions, behaviors, and mental health symptoms, and to identify peer processes that mediate these associations.

Methods: Participants included 409 youth in a racially diverse, low-income city ($M = 14.91, SD = .62$). Teens completed measures of weight related behaviors, mental health symptoms, peer contextual factors, and figure contour size of self and four friends. For analyses, weight related outcomes included: identification as overweight, dieting, exercise, body satisfaction, EDs, and depression. Only ratings of the thinnest and heaviest friends were used.

Results: Adolescents who rated their figure as large had friends who were relatively large. Hierarchical logistic and linear regressions were used to determine if perceived size of friends predicted the six outcomes. The perceived size of friends was predictive of teen identification as overweight ($X2(df = 2, N = 366) = 10.72, p < 0.01$), dieting($X2(df = 2, N = 364) = 6.42, p < 0.05$), exercise($X2(df = 2, N = 366) = 5.92, p < 0.05$), and ED symptoms($F(8, 347) \pm 0.02, p < 0.01$), but not body satisfaction or depression. The size of adolescents' thinnest friend was more predictive than their largest friend, and outcomes were stronger for girls. The mediating effects of peer processes will be examined.

Conclusions: Results are consistent with evidence of weight clustering, with correlations between adolescents' perceived body shape and that of their friends. Findings suggest that adolescents' perception of their friends' body sizes are linked to weight related cognitions, behaviors, and EDs. Implications for understanding the transmission of obesity and EDs among low-income adolescent girls will be discussed.

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A-097

RELATIONS BETWEEN WEIGHT-BASED TEASING, NEGATIVE AFFECT AND EMOTIONAL EATING

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Weight discrimination (WD), including weight-based teasing (WBT), is associated with adverse outcomes such as negative affect (NA) and binge eating (BE) (e.g. Haines et al., 2006). Consistent with the Affect Regulation Model of BE, which contends that NA is a direct antecedent to BE (Haedt-Matt & Keel, 2011), there is some evidence that WBT may lead to BE through increases in NA (Suisman et al., 2008). This suggests that NA may be a mechanism linking WBT with other types of aberrant eating.

Emotional Eating (EE) or the urge / tendency to eat in response to emotions, is another form of aberrant eating that has been explained via the affect regulation model. EE is a potential component of BE in individuals with Binge Eating Disorder (e.g., Engleberg et al., 2007), although it is also exhibited in undergraduate and normal-weight nonclinical samples, and is associated with eating disorder pathology (Ricca et al., 2012) and weight difficulties (e.g. Macht et al., 2007) in these samples. Despite the conceptual overlap between BE and EE and the association between WD and BE, only one study has examined the relation between WD and EE (Farrow & Tarrant, 2009). Results showed that WD contributed to EE in undergraduate students, although the study did not examine underlying mechanisms.

The current study used bootstrapping to test whether NA (PANAS; Watson et. al, 1998) mediated the relationship between WBT (POTS; Thompson et al., 1995) and EE (EES; Arnow et al., 1995) in 143 undergraduate students (M age = 20.37 (5.04) years; 25.4% M). Results showed that the overall model including WBT as the independent variable was significant: $R2 = .13$, $F(2, 140) = 20.69$, $p < .01$ and the indirect effect on EE through NA was also significant (bias corrected 95% CI = .007-.157). WBT predicted NA ($\beta = .09$, $p = .03$), although it was not a significant predictor of EE ($\beta = .06$, $p > .05$). These results suggest that NA mediates the relationship between WBT and EE, and that the relationship between WBT and greater levels of EE is contingent upon the experience of NA. Clinical implications and future directions will be discussed.

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A-098

PHYSICAL ACTIVITY, DIET QUALITY AND WEIGHT STATUS IN U.S. ADULTS: ASSOCIATIONS WITHIN AND ACROSS AGE GROUPS

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BACKGROUND. Physical activity and dietary guidelines are an important component in the efforts to combat obesity; however, no study has examined the associations between weight status and compliance with recent guidelines in a representative sample of U.S. adults. This study examined associations among moderate-to-vigorous physical activity (MVPA), diet quality, and weight status within and across age groups (20-29, 30-39, 40-49, 50-59, 60-69, and 70+ years) in U.S. men and women. METHODS. Participants included 2,587 men and 2,412 women ages 20-70+ years from the National Health and Nutrition Examination Survey 2003-2004 and 2005-2006. MVPA was measured by accelerometry and diet quality with the Healthy Eating Index-2005. Outcome variables included Body Mass Index (BMI) and waist circumference (WC). RESULTS. There was a significant positive age-related trend for WC in both sexes, and a significant positive age-related trend for BMI in men only (P's < 0.05). There was a significant negative age-related trend for MVPA and a significant positive age-related trend for diet quality in both sexes (P < .001). In models adjusted for age, race/ethnicity, poverty, smoking, and diet quality, MVPA had a significant inverse association with both BMI and WC for men and women in nearly every age group (P < 0.05). There were fewer significant positive associations between diet quality and weight status for men (30-39, 40-49, and 50-59 years) and women (50-59 years). CONCLUSION. We observed clear age-related trends for measures of weight status, physical activity and diet quality in U.S. men and women. MVPA was very consistently related to weight status in both sexes. The relationship between diet quality and weight status was less clear. These findings imply that at the population level, age-related increases in BMI and WC are more likely to be explained by declining physical activity than by changes in diet quality.

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A-099

IMPLICIT ATTITUDES ABOUT WEIGHT AND WEIGHT LOSS TREATMENT OUTCOMES

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Background: Past research examining weight bias among adults seeking weight loss treatment revealed that implicit weight bias was greater when participants viewed photos of individuals with obesity engaging in stereotype consistent activities (watching TV; eating junk food), compared to when the same individuals were engaging in stereotype inconsistent activities (exercising; eating healthy; Carels et al. 2013). The primary aims of the current study were to examine whether implicit weight bias related to prevailing stereotypes was: 1) influenced by participation in a weight loss program, and/or 2) associated with weight loss treatment outcomes.
Methods: Weight loss program participants (N = 44) were primarily female (84%) and Caucasian (94%). Average age was 53 (SD = 14) and average BMI was 37.0 (SD = 7.6; Range 27 - 63). They completed two Implicit Association Tests (IAT) utilizing photos of individuals with obesity engaging in stereotype consistent (watching TV; eating junk food) and inconsistent (exercising; eating healthy) activities at baseline and post-treatment. Participants also completed baseline and post-treatment assessments of binge eating and body weight. They also continuously provided self-monitoring data which yielded estimates of daily caloric intake, exercise, and self-monitoring frequency.
Results: Stereotype consistent implicit weight bias significantly decreased from baseline to post-treatment. Greater stereotype consistent bias at baseline was significantly associated with greater post-treatment binge eating and diminished self-monitoring. Greater stereotype consistent bias at post-treatment was significantly associated with greater percent weight loss.
Conclusion: Despite a reduction in implicit bias by the end of treatment, greater stereotype consistent implicit bias was associated with better treatment outcomes. Individuals responding in a biased way to stereotypical portrayals of weight regarding sedentary/eating behaviors may reflect a sense of vigilance and commitment to engaging in weight loss behaviors.

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A-100

INCREASES IN SELF-WEIGHING ASSOCIATED WITH LESS WEIGHT GAIN IN FRESHMAN COLLEGE STUDENTS

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Frequent self-weighing has been associated with improved initial weight loss and long-term maintenance following lifestyle treatment for overweight and obese individuals. It is unknown whether self-weighing is associated with beneficial outcomes in context of a brief prevention-oriented weight management program. The current study investigated this question within female college students (N = 64; baseline BMI = 25.6) who participated in a four-week, five-session weight gain prevention program during the fall or spring semester of their first year of college and who then returned for follow-up assessment one year later. Program goals included daily self-monitoring of weight, calories, and physical activity, decreasing caloric intake, and increasing physical activity. There was a significant increase in the frequency of reported self-weighing from baseline (start of the fall semester) until the end of the spring semester, p < .001. At baseline, 25.0% of participants reported weighing themselves less than once per year, 56.3% reported weighing themselves less than weekly, and 18.8% reported weighing themselves at least once per week. At the end of the spring semester, 14.3% of participants reported weighing themselves less than once per year, 36.5% reported weighing themselves less than once per week, and 49.2% reported weighing themselves at least once per week. Overall, the sample did not experience a significant change in weight from baseline to one-year follow-up, mean ± SD = .84 ± 3.74 kg, p = .076. There was a significant association between change in self-weighing and changes in weight during the first year of college such that individuals who increased their frequency of self-weighing experienced significantly less weight gain, F(1,62) = 5.66, r2 = .084, p = .020. These results suggest that regular self-weighing may be an important step in preventing excess weight gain during the first year of college.

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Meritorious Poster
A-101

CHANGES IN HEALTH BELIEFS FROM A CHURCH-BASED OBESITY INTERVENTION

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Faith-based programs can improve health by increasing knowledge and reducing risky behaviors associated with diet-related diseases such as obesity, heart disease, and cancer. The Biomedical/Obesity Reduction Trial (BMORe) was translated within three faith-based organizations to improve health in overweight and obese participants. This study assessed health belief changes from BMORe through a pre-/post-test focus group design. Six semi-structured groups were conducted at the beginning and conclusion of BMORe in Nashville, TN (n = 20), Columbia, SC (n = 20), and Hazard, KY (n = 21). Churches in TN and SC were predominantly African American while KY participants were rural Appalachian Caucasians. The protocol was based on the Health Belief Model measuring perceived severity/susceptibility to obesity, efficacy levels for healthy behaviors, perceived barriers/benefits of change, and cues to action. Transcribed audio data and notes were analyzed by two independent coders using NVivo. Thematic content analysis and the repetition method revealed consistent themes with inter-coder reliabilities of 0.864 kappa for pre- and 0.936 kappa for post-intervention analyses. Findings revealed that BMORe made participants feel "empowered" after 12 weeks compared to initially feeling "out of control" with their weight. New themes on the benefits of being healthy include being a role model, improved emotional health and quality of life, and fewer doctors' appointments and medications. Participants appreciated having accountability partners and support in the group. Although participants initially voiced the challenge of cooking healthier at home, all three sites indicated increased self-efficacy in cooking healthy meals for themselves and their families. Long-term barriers voiced by participants included keeping the weight off and sticking with healthy habits. This study demonstrates the significant impact BMORe had on increasing perceived abilities to eat healthy and exercise to prevent and mitigate existing diet-related chronic diseases.

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A-102

BEYOND SOCIAL FACILITATION: PREDICTING PALATABLE FOOD INTAKE IN FIRST-YEAR COLLEGE WOMEN

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Weight gain in first-year university students may be of particular concern in the development of lifelong overweight or obesity. Both Social Facilitation Theory and the Norms Matching Approach have been invoked to explain the augmentation of caloric consumption in social scenarios, yet neither paradigm is sufficient to explain observed patterns of social eating and indeed conflicting observations of socially-augmented eating in the literature are prevalent. The present experimental study attempted to resolve these conflicting accounts by investigating whether first-year college women's palatable food intake was adjusted to match researcher-set consumption norms while in groups of two or in two possible alone conditions (videotaped vs. not), and whether the weight status of participants affected adherence to these norms. Fifty-five women were asked to complete a survey on their interests and activities either alone, alone and videotaped or with a partner and were provided cookies purportedly as a snack during the survey. Normative consumption was set by a research assistant who stated how many cookies most participants ate and caloric consumption was measured. While neither norm condition nor BMI/weight status were found to be significant predictors of caloric consumption, participants who were alone but told they were being observed by a video camera decreased their consumption by about 107-116 calories, depending on model, compared to those participants who were alone and unobserved after controlling for hunger, sociability and dietary restraint. Paired individuals also decreased consumption but to a lesser extent than those alone but observed by video camera, by about 65 calories, indicating social evaluative threat may be a factor of importance in addition to the mere presence of others These preliminary findings provide implications for future social eating model evaluations, particularly those comparing eating alone to eating in groups. Future directions and limitations are discussed.

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A-103

EMOTION REGULATION DIFFICULTIES, PERCEIVED STRESS, BINGE EATING, AND BODY IMAGE CONCERNS IN ADULTS SEEKING WEIGHT LOSS TREATMENT

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Previous research has shown that emotion dysregulation and perceived stress have a negative impact on body image and eating behaviors. However, less is known about the specific components of emotion regulation in relation to these factors in treatment-seeking obese adults. The current study examined the relationships between emotion regulation difficulties, perceived stress, binge eating, and body image concerns in an ethnically diverse sample of overweight and obese adults seeking weight loss treatment. Participants were 47 adults aged 20 to 74 (M = 47, SD = 13.72), with a mean body mass of 38.45 (SD = 7.43). Prior to starting treatment, participants completed a battery of self-report questionnaires. Approximately 38% of the participants reported binge eating, on average, at least once a week in the past 4 weeks (M = 2.94, SD = 1.63) which meets diagnostic criteria for binge eating disorder with regards to the frequency of binge eating. Greater impulse control difficulties was associated with greater perceived stress, more binge eating episodes, and greater eating, shape and weight concerns. Similarly, less access to effective emotion regulation strategies was correlated with greater perceived stress, more binge eating episodes, and greater eating and shape concerns. Greater lack of emotional clarity was correlated with greater perceived stress and more binge eating episodes. Additionally, greater nonacceptance of emotional responses and greater difficulties engaging in goal-directed behavior was associated with greater perceived stress. The results indicate that emotion regulation difficulties are linked to perceived stress, disordered eating, and body image concerns. Furthermore, although additional research is warranted, the initial findings suggest that weight loss treatments targeting emotion dysregulation may reduce the risk for post-treatment problems and lead to better long-term outcomes.

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A-104

LONGITUDINAL IMPACT OF FAMILY ECONOMIC DISADVANTAGES ON U.S. ADOLESCENTS' BODY WEIGHT PERCEPTION

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BACKGROUND: Perceived body weight is a stronger determinant of nutritional habits and weight management than actual weight in adolescents. Furthermore, it is associated with depression, suicide ideation, substance abuse and eating disorders.
OBJECTIVE: To examine the longitudinal pathways of family economic disadvantages on adolescents' body weight perception (BWP) through disruptive family process, by extending the Family Stress Model (FSM).
METHOD: Data were drawn from the Early Childhood Longitudinal Study - Kindergarten cohort, a nationally representative study in the United States. 8,994 participants (51.3% boys; 58.0% white; mean age = 5.6 years at wave 1), who have their parents' data at wave 1, wave 2, and wave 4, and their self-reported data at wave 6 were included in the study. Multigroup structural equation modeling (SEM) and one-single group SEM were performed, taking into account the complex stratified cluster sampling design and panel weights.
RESULTS: Twenty-eight percent of the participants perceived of themselves as overweight, 57.3% as normal weight, and 14.5% as underweight. Mutigroup SEM found that there was no sex difference in the longitudinal pathways of family economic disadvantages on adolescents' BWP. One-single group SEM indicated excellent model fit (RMSEA = .02; CFI = .95; TLI = .95). Consistent with the FSM, family economic disadvantages significantly predicted parent's chronic depression, which in turn influenced parents' hostile child-rearing attitude. Hostile parenting attitude predicted lower self-esteem in adolescents, which was negatively associated with adolescents' BWP (all ps < .001).
CONCULSION: These findings suggest that parental depression, hostile parenting attitude and adolescents' self-esteem are all important mediators of adolescents' BWP within the context of disadvantaged family economic status. Parents' and adolescents' psychosocial factors should be considered in future intervention programs that are designed to correct misperception of body weight.

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A-105

YOUTH ADVOCACY FOR OBESITY PREVENTION: MEASURE EVALUATION, MEDIATORS OF READINESS, AND PROCESSES OF POLICY CHANGE

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The obesity epidemic requires new population-wide strategies. Youth advocacy for obesity prevention is a promising community-based intervention with potential for political, environment, social, and individual changes, but hasn't been studied systematically. Youth (n = 92) and adult group leaders (n = 45) completed pre-post surveys to assess experiences with advocacy. Surveys were adapted from theory-based tobacco control advocacy measures. Aims: 1) Create subscales using confirmatory factor analysis. 2) Assess youth pre-post behavior and attitude changes using paired t-tests. 3) Create advocacy readiness/receptivity outcome index. Evaluate roles of group, youth, and leadership factors using GLMM. 4) Assess advocacy policy change success using GLMM. Youth were in 21 groups, ages 9-22, most were female and non-White. Most groups focused on schools and met with a decision maker. The factor structure held for most subscales. 2 of 6 attitudes/beliefs subscales increased following advocacy: self-efficacy (t(90) = 4.22,p < .01) and active participation (t(91) = 2.93,p < .01). 4 of 5 knowledge/skills scores increased: assertiveness (t(89) = 3.23,p < .01), advocacy history (t(90) = 3.52,p < .01), resource knowledge (t(89) = 3.24,p < .01), and social support (t(91) = 3.84,p < .01). Youth increased # days meeting PA guidelines (t(92) = 2.24,p < .05). 4 attitude/behavior subscales were positively associated with advocacy readiness/receptivity: optimism for change (B = 1.46,95% CI = .49, 2.44), sports/PA enjoyment (B = .55,95% CI = .05,1.05), roles/participation (B = 1.81,95% CI = .60,3.02), and personal advocacy (B = 1.49,95% CI = .64,2.32). The only association with policy change was adults' prior experience with nutrition/PA (B = 1.21,95% CI = .295,2.12). This is the first theory-driven, systematic study of measures and outcomes for youth advocacy for obesity prevention. The factor structure was largely upheld and resulting scales can be used. There were few regression results and conclusions are tentative due to limited power. Advocacy is a promising strategy that can influence individual, social, environment, and policy levels.

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A-106

EFFECTS OF SMALL FINANCIAL INCENTIVES ON INTRINSIC AND EXTRINSIC MOTIVATION FOR WEIGHT LOSS

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Worksite wellness programs use financial incentives to promote weight loss. A concern with this approach is that, while incentives may increase extrinsic motivation, they undermine intrinsic motivation. Thus, once incentives end, there is insufficient intrinsic motivation for weight loss maintenance, resulting in substantial weight regain. We examined whether an Internet weight loss program involving financial incentives (IWL + FI) yields higher extrinsic motivation but lower intrinsic motivation compared to an identical program without incentives (IWL) and whether motivation impacts weight regain. Participants (N = 153; BMI = 33.2 kg/m2) were randomized to IWL + FI or IWL. The 3-month IWL program involved weekly multimedia lessons, a self-monitoring platform, and tailored feedback. Those in IWL + FI could earn $1-10/week (max = $45) for submitting self-monitoring data and, those who met weight goals, were entered into a one-time raffle. Intervention and incentives stopped at month 3. Weight was measured at 0, 3, and 12 months. Given that the motivation measure assessed motivation *during* weight loss / *during* maintenance, it was given at months 3 and 12 only. At 3 months, IWL + FI yielded greater weight loss than IWL (-6.3 kg vs. -4.4 kg, p = .02), and IWL + FI had higher levels of both extrinsic and intrinsic motivation compared to IWL (Ex: 24.7 v. 14.7; In: 45.3 v. 41.4, p's < .01). IWL + FI and IWL did not differ on weight regain (+2.9 kg v. +3.4 kg, p = .49), and neither extrinsic nor intrinsic motivation during weight loss predicted regain in either arm (Ex: p's > .33; In: p's > .07). While IWL + FI had greater decreases in extrinsic motivation from months 3 to 12 (-9.8 vs. -1.6, p < .001), the decrease was not associated with regain (p = .62). Changes in intrinsic motivation were similar in the 2 groups (p = .95). Results suggest that *small* financial incentives do not undermine intrinsic motivation for weight loss; in fact, they yield higher levels of both extrinsic and intrinsic motivation. Moreover, small incentives and associated motivation did not adversely impact weight regain.

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A-107

NOVEL APPLICATION OF SELF-CONTROL TRAINING TO WEIGHT LOSS

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Practicing small acts of self-control may improve an individual's capacity to exert self-control and has been shown to improve rates of smoking cessation. However, no one has applied this to weight control. We conducted an innovative pilot study to examine whether practicing small acts of self-control might help in this domain. Obese participants (N = 25; age = 52.4 ± 9.8 yrs; BMI = 33.5 ± 4.1) were randomly assigned to a Self-Control Intervention (SC) or Education Control. Both groups met weekly for 4 weeks prior to starting a 12 week standard behavioral weight loss intervention. SC participants practiced self-control within two domains relevant to weight control: regular eating and sleep. They were instructed to eat only 5 times/day at preset intervals and achieve 8 hours of sleep/night by adhering to consistent bed/wake times (thereby inhibiting the desire to eat or sleep in response to random external cues). To achieve these targets, participants used self-regulation strategies, including goal setting, self-monitoring, and self-reinforcement. The Control group's meetings focused on the science and myths of weight loss. SC participants adhered to practicing some acts of self-control over the 4 weeks; they achieved significant increases in the number of "on schedule" eating episodes (p = .007) and decreases in "off-schedule" episodes (p = .002). However, there were no changes in actigraph-assessed sleep. As per design, neither group lost weight during this initial phase. During the weight loss phase, contrary to our hypothesis, participants in SC lost less weight than controls at 6 weeks (2.4 ± 2.4 vs 4.6 ± 2.7 kg, p = .045) and 12 weeks (3.3 ± 4.5 vs 6.5 ± 5.2 kg, p = .11). SC participants reported feeling overwhelmed by trying to exert self-control over eating and sleep while at the same time trying to reduce caloric intake and increase activity; thus, these "small acts" of self-control may have depleted rather than increased self-control resources. Further study of the effects of self-control training on weight loss is needed.

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A-108

ATTACHMENT ORIENTATION, EATING AND OBESITY: A SYSTEMATIC META-ANALYTIC REVIEW

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Background: Food overconsumption, particularly overconsumption of high caloric foods, is a core cause of obesity. This paper assesses attachment (early internalized patterns of caretaker availability influencing self-views and distress regulation) as a controllable factor affecting food consumption in an effort to help building more effective interventions leading to healthier lifestyles.

Objectives: The present review aimed to address empirically a series of questions pertaining to the role of attachment in eating behaviors and obesity within a context of food ubiquity.

Methods: Data from 69 publications (216 effect sizes) was gathered using *attachment* and *eating* and *obesity* keyword searches in PsycInfo and MedLine and analyzed using meta-analysis.

Results: Results showed significant associations between attachment orientation and unhealthy eating. Particularly high attachment anxiety ($r = .27$), insecurity ($r = .30$), fearfulness ($r = .15$) and avoidance ($r = .13$) were positively linked with unhealthy eating while attachment security ($r = -.22$) was negatively associated with unhealthy eating. The link between attachment anxiety and unhealthy eating was one of the most robust associations across all relationships studied. As expected, this relationship was stronger in clinical versus healthy populations, particularly for attachment avoidance ($r$cl = .24; rh = .08), security ($r$cl = -.31; rh = -.20) and anxiety ($r$cl = .29; rh = .22). Attachment security was consistently related with less unhealthy eating behaviors across the lifespan, while in adulthood attachment anxiety towards significant others played the most determinant role in unhealthy eating. No relationships between attachment and healthy eating could be established due to little available data. Lastly, attachment anxiety and obesity were significantly and positively related, albeit the effect was very small, $r = .06$. Interestingly, this relationship increased in importance when measured longitudinally.

Conclusion: Attachment plays a medium to small, albeit constant, role in unhealthy eating and almost no role in obesity, when examined cross-sectionally.

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A-111

BELIEFS ABOUT MEDICINE, BELIEFS ABOUT CAM, AND CAM USE IN UNDERGRADUATE STUDENTS

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Previous studies have found high use of complementary and alternative medicine (CAM) such as massage, yoga, and herbal supplements by undergraduates in the US, but little is known about beliefs regarding conventional and alternative treatments that may be associated with CAM use in this population. This study investigated CAM use (frequency, type, beliefs) in 293 undergraduate students completing online surveys at an urban northeastern university and the potential association of CAM use with medication beliefs. Results showed that thirty-five percent of undergraduate students identified as CAM users, using an average of 4.89 (SD = 3.5) modalities. The most frequent reason given for CAM use was to promote health (78.4%), followed by preventing illness (42.0%) and treating illness (40.9%). CAM users did not vary from non-users on most demographic variables, with the exceptions that students living with their parents used significantly more CAM modalities than those living on campus (F = 4.49, p = 0.01), and females used more manipulative and body-based treatments (e.g., massage therapy, chiropractics) than males (t = -2.43, p = 0.02). CAM users reported more positive beliefs about CAM than non-users (t = 3.45, p < 0.01) and stronger beliefs about CAM were associated with use of more modalities (r = 0.29, p < 0.01). CAM users had stronger beliefs regarding the overuse of medicines than non-users (t = 2.23, p = 0.03), and this belief was stronger among those using more CAM modalities (r = .31, p < 0.01). There was a positive trend for CAM users who held stronger beliefs about the harmfulness of medications to utilize a greater number of CAM modalities (r = 0.19, p = 0.07). Findings indicate that CAM is utilized by a large percentage of undergraduates to promote health and that use is higher in students who have strong positive beliefs about CAM and hold beliefs that conventional medications are overused and harmful. Higher use of CAM by commuting students may reflect higher disposable income or greater access to CAM treatments compared with students living on campus.

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A-112

ROLE FOR BEHAVIORAL MEDICINE ON PALLIATIVE CARE CONSULT SERVICES: A CASE STUDY OF SERVICES PROVIDED AT ONE INSTITUTION

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Palliative care consult services have emerged as an excellent resource for physicians seeking help with patients' symptoms, including those of a psychiatric nature. However, a recent national survey demonstrated that psychologists are included as a member of palliative care consult services in relatively small numbers (< 20%). The current study was designed to better understand the breadth of the role that psychologists can play on an inpatient palliative care consult service by closely examining the services provided by two psychologists affiliated part-time (< 50%) with a palliative care service at a large academic medical center. Both psychologists completed a brief IRB-approved tracking sheet after each patient encounter. Across a nine-month period, 579 therapeutic visits were made with patients, including 191 new consults and 388 follow-up sessions (range = 1 to 24 follow-up sessions, M = 3.0, SD = 3.6). Sessions ranged from 5 to 90 minutes (M = 27 minutes, SD = 13.1). Patients were all adults (range = 22 to 94 years old, M = 58.7, SD = 14.52; 59% female). The most common reasons for consultation included depressive symptoms (29%), adjustment/difficulty coping (21%), and anxiety symptoms (21%). In almost all cases, supportive therapy was provided (96%). Additional therapeutic techniques utilized in this setting were cognitive-behavioral techniques (41%), mindfulness/relaxation techniques (25%), grief counseling (10%), psychoeducation (13%), assessing patients' mental status (8%), family support (11%), and consultation with the medical team (12%). This study only serves as a case example of how psychologists have been integrated into the palliative care consultation service at one institution; however, it shows that there is a role for psychologists to assist in the care of this patient population.

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A-113

WHAT PARENTS AND ADOLESCENTS WANT IN SCHOOL VACCINATION PROGRAMS

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PURPOSE. Schools are increasingly a part of vaccine provision, due to laws mandating provision of information by schools about vaccination, school entry requirements, and mass vaccination campaigns. We examined preferences for programmatic aspects of voluntary school mass vaccination programs (i.e. "vaccination days").

METHODS. We analyzed data from a national sample of U.S. parents of adolescent males ages 11-19 (n = 308) and their sons (n = 216) who completed an online survey in November 2011.

RESULTS. Sons believed that adolescents should be able to get vaccinated without parental consent at a younger age than parents did ($p < .001$) and were more willing to participate in vaccination days without a parent present ($p = .04$). Parents perceived school vaccination days to be a more convenient way to get their sons recommended vaccines if they were younger parents, had older adolescent sons, supported laws letting schools share vaccination records with health care providers, or had sons who were previously immunized at school (all $p < .05$). Parents of older sons were less likely to want their sons' vaccination records sent home (OR = .47; 95% CI, .29-.77) or to their sons' physicians (OR = .61; 95% CI, .37-.98) as compared with parents of younger sons, but more likely to prefer their sons records be entered in an immunization registry (OR = 1.66; 95% CI, 1.05-2.63).

CONCLUSIONS. Son's age played an important role in support for vaccination days and preferences for sharing vaccination information with health care professionals. Parents and sons had similar beliefs about vaccination in schools, but the sons' responses suggested an interest in greater autonomy.

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THE ROLE OF ACCULTURATION, SKIN TONE IDEALS, AND SOCIOCULTURAL NORMS IN THE SUN-RELATED BEHAVIOURS OF YOUNG-ADULT ASIAN-AUSTRALIANS AND ASIANS LIVING IN AUSTRALIA

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Skin cancer remains the most commonly diagnosed cancer in both the United States and Australia. Recent evidence suggests that although Asians have a lower incidence of skin cancer than Caucasians, their post-diagnosis outcomes are often worse. Thus, it is important to explore sun-related behaviour and determinants in this population. The present study includes n = 402 young adults aged 17-26 (M = 21.20, SD = 2.23) who identify as either Asian-Australian or as an Asian living in Australia. Reporting a paler ideal skin tone was associated with lower Western acculturation, lower tanning behaviour, less sunburns, higher sun-protective behaviour, higher appearance comparisons, and lower endorsement of sociocultural norms reflecting a tanned ideal than those who idealised more tanned skin. Of those who were satisfied with their skin tone or desired fairer skin, less than 10% of the participant pool reported outdoor or fake tanning in recent years. Together, these results suggest that cultural factors associated with body image ideals can be protective in terms of risk-behaviour. However, this group had low levels of skin cancer knowledge compared to their Western counterparts, particularly regarding sun-protective practices and signs of skin cancer. Implications and suggestions for future health promotion relevant to this group are discussed.

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PARENT MEANING MAKING DURING PHYSICIAN-PARENT FOLLOW-UP MEETINGS AFTER THE DEATH OF A CHILD IN THE PICU

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Finding meaning after a traumatic event is associated with better psychological adjustment. To facilitate this process, the Collaborative Pediatric Critical Care Research Network developed a framework for conducting follow-up meetings between physicians and parents after a child's death in a PICU (Eggly 2011). In this study, we identified and described parent meaning-making during follow-up meetings held in the weeks to months after a child's death in the PICU. Thirty-five follow up meetings, including 54 bereaved parents and 23 physicians, were conducted 3.4 +/- 1.5 months after the child's death (Meert in press). Meetings were video recorded and transcribed. Using standard qualitative procedures, an interdisciplinary team analyzed the transcripts to identify and describe themes consistent with extant meaning making theory (e.g., Park 2010). Four major themes were identified, including: 1) sense-making, 2) benefit finding, 3) continuing bonds, and 4) identity reconstruction. Sense making refers to seeking an explanation of the death, including biomedical explanations, parents' role in the death, parents' prior decisions on treatment and end of life care, and blame. Benefit finding refers to exploring positive consequences of the death (i.e., a "silver lining"), including ways to help others, such as donations, feedback, volunteering, and contributing to medical knowledge. Continuing bonds refers to exploring parents' ongoing connection with the deceased child, including reminiscing about the child, personal rituals, and community events to honor the child. Identity reconstruction refers to exploring changes in parents' sense of self, including life changes in relationships, work, or home. Findings suggest follow-up meetings facilitate several types of bereaved parent meaning making processes. Further research should explore the extent to which meaning making during follow-up meetings affects parent health outcomes.

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A-116

WHAT DOES TALKING MORE REFLECT DURING RACIALLY DISCORDANT MEDICAL INTERACTIONS?

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Our previous research has shown that both Black patients and non-Black physicians talked more during racially discordant medical interactions when they held negative racial attitudes and that the relation between patient negative racial attitudes and greater talk time was mediated by less trust in physicians. We concluded, contrary to patient-centered models, greater talk time reflects attempts to exert more control during the interactions and that among Black patients greater talk time in racially discordant medical interactions may reflect negative reactions. However, previous research did not examine valence of speech content. The present study examined whether talking more in racially discordant medical interactions is associated with use of positive or negative emotion words. Participants were 114 Black patients and 14 non-Black physicians whose medical interactions were video-recorded. We computed total word count and percentage of positive and negative emotion words for each patient and physician by using transcripts of interactions and LIWC software. Both patient and physician total word count was negatively associated with their own use of positive emotion words. Neither patient nor physician total word count was associated with use of negative emotion words. Further, patients' trust in physicians was associated with both a lower total word count and the use of positive emotion words. These findings provide evidence that talking more in racially discordant medical interaction is associated with less expression of positive emotion. Particularly for Black patients, talking more in racially discordant medical interactions may reflect their mistrust of physicians rather than a positive response to patient-centeredness. The study highlights the importance of paying attention to subtle changes in the interaction quality (less positivity, as opposed to more negativity) and of considering racial composition when evaluating patient-centered care.

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STRESS MANAGEMENT SKILLS AND ILLNESS BURDEN IN MYALGIC ENCEPHALOMYELTIS/CHRONIC FATIGUE SYNDROME (ME/CFS)

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Background: Symptoms of ME/CFS typically compromise activities of daily living and social interactions. These limitations collectively reflect an "illness burden" that can compromise many aspects of quality of life, including interpersonal and physical functioning. Emotional distress has been linked to increased reported symptoms; while stress management skills have been related to lower fatigue severity in ME/CFS patients. Therefore, ability to manage stress with associated benefits to emotional well being may reduce the extent to which ME/CFS patients feel burdened by the illness independent of the severity of their symptoms.
Purpose: This study aimed to evaluate if perceived stress management skills are associated with illness burden via emotional distress, independent of ME/CFS symptom severity.
Methods: 117 adults with ME/CFS completed measures of perceived stress management skills, emotional distress, ME/CFS symptom severity and illness burden at a single time point.
Results: Perceived stress management skills were associated with emotional distress ($\beta = -.46$, $p < .01$). Emotional distress was related to social-related illness burden ($\beta = .44$, $p < .01$), and fatigue-related illness burden ($\beta = .46$, $p < .01$). Following methods of Preacher and Hayes (2004), support was found for indirect effects models in which greater perceived stress management skills related to less social-related illness burden (95% C.I. = -.08, -.01) and fatigue-related illness burden (95% C.I. = -.41, -.09), via lower emotional distress, independent of levels of symptom severity.
Conclusions: Ability to manage stress is associated with less illness burden for individuals with ME/CFS, independent of symptom severity. Future studies should evaluate the efficacy of psychosocial interventions in lowering illness burden by targeting stress management skills.

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A-118

EXAMINING SELF-COMPASSION AS A BUFFER IN THE LINK BETWEEN CAREGIVER EATING MESSAGES AND DIMENSIONS OF OBJECTIFIED BODY CONSCIOUSNESS IN COLLEGE WOMEN

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Research drawing from sociocultural and developmental models of body image has yet to examine how early parental interactions regarding food intake may specifically contribute to self-objectification processes experienced in emerging adulthood. Accordingly, the present cross-sectional analysis examined the relationships between caregiver eating messages (i.e., restrictive/critical and pressure to eat) and dimensions of body objectification (i.e., body surveillance, appearance control, body shame) in a sample of 322 undergraduate females. Self-compassion as an adaptive self-regulatory style was evaluated as a potential moderator of these associations. Participants completed self-report measures of the variables of interest. Hierarchical linear regression models were computed to assess the contribution of restrictive/critical and pressure to eat caregiver messages, self-compassion and their interaction in the prediction of each of the three components of objectified body consciousness adjusted for body mass index. Restrictive/critical caregiver eating messages were positively correlated with body shame and negatively correlated with self-compassion and appearance control beliefs. Pressure to eat caregiver messages were positively related to body shame and negatively associated with appearance control beliefs. Self-compassion was negatively linked to both reports of body shame and body surveillance. Significant interaction effects indicated that high self-compassion attenuated the positive relation between restrictive/critical caregiver eating messages and both body surveillance and shame. Results suggest that recalled eating attitudes expressed by caregivers are linked with components of objectified body consciousness in young adulthood, although higher self-compassion may be a protective factor. Future directions may involve conducting qualitative and longitudinal research examining the role of caregiver eating messages and self-compassion in the development and/or prevention of body objectification processes.

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FATIGUE REPORTING OF INTERFERENCE RELATIVE TO SEVERITY ASSOCIATED WITH EMOTIONAL DISTRESS IN MYALGIC ENCEPHALOMYELITIS/CHRONIC FATIGUE SYNDROME PATIENTS

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Myalgic Encephalomyelitis/Chronic Fatigue Syndrome (ME/CFS) patients may vary in presentation of fatigue severity and the interference of fatigue in their daily activities. Importantly, ME/CFS patients commonly report high distress (perceived stress and depression). Whether distress is associated with reporting of higher fatigue interference relative to severity is unknown and may elucidate a target for cognitive-behavioral intervention. For this study, 61 women with ME/CFS completed measures of fatigue (Fatigue Symptom Inventory; FSI) and of distress, including perceived stress (Perceived Stress Scale), depression (Beck Depression Inventory-II, BDI-II categorical scores, and continuous scores with and without fatigue-related items) and depressed mood (Profile of Mood States Depression/Dejection Subscale). A ratio of FSI fatigue interference score to the severity score (I:S) was calculated for each participant. Hierarchical regression models tested associations between the I:S ratio and each measure of distress, controlling for relevant demographic covariates. Overall, 13 (21%) participants had at least "moderate" depression scores on the BDI-II. Elevated fatigue I:S ratios were related to having clinically-indicated depression (BDI-II score ≥ 20; $\beta = .37$, $p < .05$). Fatigue I:S ratios were also positively associated with all other measures of distress ($\beta = .34$-$.40$, p's $< .05$). Findings indicate that ME/CFS patients who perceive greater interference given their level of fatigue are more likely to be distressed and depressed. Results have implications for cognitive-behavioral interventions, which could target both patients' perceptions about the impact of fatigue as well as emotional distress to improve patient wellbeing. Future investigation is needed to determine directionality and potential mediators of this association (e.g. illness beliefs or personality factors).

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A-120

HEALTH LOCUS OF CONTROL AND WILLINGNESS TO USE ONLINE TRACKERS AND APPS FOR HEALTH

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Introduction

Many researchers are enthusiastic about health interventions delivered via online trackers and smartphone applications. Beliefs about control over one's health may influence willingness to adopt a technological health intervention.

Purpose

The purpose was to evaluate if types of health locus of control (LOC) predicted self-reported willingness to use health-related online trackers and smartphone applications. We expected that individuals with high internal, low powerful other, and low chance health LoC would be more willing to use health-related online trackers and smartphone applications.

Method

Patients were 277 (17.7% male) predominantly Caucasian (91.7%) college students recruited from a large, public, Midwestern university. Health LoC was assessed with the Multidimensional Health Locus of Control survey (Wallston, Wallston, & DeVellis, 1978). Participants completed surveys of their willingness to use online trackers and smartphone applications targeting health behaviors through a secure-socket layer technology program.

Results

Individuals with internal and powerful other health LoC beliefs were positively correlated with willingness to use apps, $r = .119$, $p = .048$; $r = .211$, $p = .000$. Internal and powerful other health LoC beliefs were positively correlated with willingness to use online trackers, $r = .147$, $p = .014$; $r = .183$, $p = .002$. Chance LoC was not correlated with willingness to use apps, $r = -.009$, $p = .888$, or online trackers, $r = -.060$, $p = .323$.

Conclusion

Individuals with internal and powerful other health LoC beliefs were more willing to use smartphone apps and online trackers to target negative health behaviors. Chance LoC was not associated with willingness. Future technological interventions targeting negative health behaviors in young adults may consider measuring health LoC to determine receptivity to technological interventions.

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BLOOD DONOR IDENTITY QUESTIONNAIRE: A MULTI-DIMENSIONAL MEASURE OF DONOR MOTIVATION BASED ON SELF-DETERMINATION THEORY

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BACKGROUND: Although recency and frequency of blood donation are often used as indices of donor commitment, they are at best imprecise predictors of future behavior because they do not capture individual differences in motivation. To address this limitation, we developed and tested a new measure based on Self-Determination Theory's continuum of six motivational categories.

STUDY DESIGN AND METHODS: A large metropolitan blood center database was used to recruit 582 respondents for an anonymous, online survey of donor motivations. The final sample was 50.8% female, had an average of 29.7 (SD = 39.2) prior donations, and self-reported primarily as White (83%) and non-Hispanic (92%). Respondents completed 36 questions reflecting the hypothesized continuum of six motivational categories ranging from amotivation (no interest in blood donation) to intrinsic motivation behavior (inherent interest and satisfaction in blood donation). Between these extremes were four levels of extrinsic motivation.

RESULTS: Confirmatory factor analyses were conducted to test the hypothesized six factor model. The original model was refined in four steps after excluding items with standardized factor loadings < 0.5 or high residual correlations with other items. The final model provided a good fit to the data (RMSEA = 0.043, CFI = 0.962 and SRMR = 0.040), $\chi 2(104) = 217.81$, $p < 0.001$) and included 17 items reflecting individual factors of 1) amotivation, 2) external regulation, 3) introjected regulation, 4) identified regulation, 5) integrated regulation, and 6) intrinsic regulation.

CONCLUSION: These findings support a multidimensional structure of donor motivations that represent the six factors originally identified by Self-Determination Theory. Future studies are needed to assess the stability of these factors across diverse samples and to determine how they relate to donation behavior in cross-sectional and longitudinal analyses.

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SIBLINGS' PERCEPTIONS OF PEDIATRIC PALLIATIVE CARE IN NEW ZEALAND

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Though siblings are conventionally seen as the recipients of care within the context of the family, they may take on additional roles. The siblings of disabled children may be seen as active contributors to the family and the welfare of their siblings. The experiences of young people who have young siblings with life-limiting illnesses are not well described.

We aimed to identify the concerns of siblings of Pediatric Palliative Care (PPC) patients. Semi-structured interviews were administered to 18 siblings of PPC patients aged 9-22 years living in the Auckland region in New Zealand. The participants' siblings' illnesses included cancers, heart conditions, and dystrophies, and their ethnicities included European New Zealander, Maori, Pacific Island and other European. Themes were generated by analyzing the transcripts using Braun and Clarke's method of inductive thematic analysis.

Though each young person interviewed held different perceptions of their situations, ‘helping' and ‘mortality' themes consistently arose. The siblings of PPC patients held concerns about their siblings' impending death and desires to be involved in their lives and care. Siblings were able to express their concerns and help provide care to PPC patients. Siblings may benefit from opportunities to be involved in conversations about mortality and the care of their ill sibling.

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MIXED METHODS GUIDE MHEALTH APP DEVELOPMENT: THE EXAMPLE OF YOUNG ADULTS' CYSTIC FIBROSIS SELF-MANAGEMENT

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MHealth applications (apps) hold potential to provide automated, tailored support for chronic medical regimen adherence, yet relatively little research has guided their development or evaluated user engagement or efficacy in changing health behaviors. Self-management apps may be particularly useful in conditions like cystic fibrosis (CF) that have complex, demanding regimens. This study's aim was to use mixed-methods research to inform the development of engaging, effective, user-friendly apps for adherence promotion. Young adults with CF (n = 16, age 22-39, 53% male) completed semi-structured interviews and questionnaires about adherence beliefs and behaviors, previous experience using apps, and preferred and unwanted features of CF-related apps. Participants reported high importance (M = 9.6/10) and moderate motivation (M = 7.3/10) for everyday medication adherence. They were heavy smartphone users: 87% said it would be somewhat or very hard to give up smartphone and 53% reported having health apps, all diet/weight-related. Overall, participants wanted apps to have multiple rather than single functions (eg, simple alarms), be specific to CF, and minimize user burden. Common themes for desired CF app features were automating pharmacy processes (eg, authorizations, refill reminders), tracking multiple health behaviors over time, facilitating communication with CF care team, providing CF education, and social networking within the CF community. Opinions were mixed regarding adherence games/competitions, rewards, and family members/CF care team accessing data from the app. Participants emphasized the need to be able to opt-in or out of each feature. Unique capabilities of emerging smartphone technologies (eg, social networking integration, movement and location sensors, integration with external electronic monitors) make many of these wishes possible. Involving users in all stages of mHealth app development may result in apps that maintain engagement and ultimately impact self-management and health outcomes.

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FACTORS AFFECTING WILLINGNESS TO DONATE BLOOD FOR THE PURPOSE OF BIOSPECIMEN RESEARCH AMONG KOREAN-AMERICANS

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Objective: Biorepositories, collections of biological samples, have been a key resource in examining genetically-linked diseases, particularly cancer. A large number of samples by many different researchers have become available since the 1990s. Asian-Americans contribute to biorepositories at lower rates than other racial groups, but the reasons for this are unclear. We hypothesized that attitudes toward biospecimen research mediate the relationship between demographic and healthcare access factors and willingness to donate blood for the research purposes among individuals of Korean heritage.

Methods: Descriptive statistics and bivariate analyses were utilized to characterize the sample with respect to demographic, psychosocial, and behavioral variables. Structural equation modeling with 5000 re-sample bootstrapping was used to assess each component of the proposed simple mediation models.

Results: Attitudes towards biospecimen research fully mediate associations between age, income, number of years lived in the US, and having a regular physician and willingness to donate blood for the purpose of research.

Conclusion: Individuals with more positive attitudes toward biospecimen research reported higher willingness to donate blood for the purpose of research. Participants with higher willingness to donate blood for research purposes were older, had lived in the United States longer, had higher income, and had a regular doctor that they visited. Many of the significant relationships between demographic and health care access factors, attitudes towards biospecimen research, and willingness to donate blood for the purpose of research may be explained by the extent of acculturation of the participants in the United States.

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IMPAIRMENT OF DAILY ACTIVITIES IN YOUNG ADULT WOMEN WITH IRRITABLE BOWEL SYNDROME

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Objective: Young adults with Irritable Bowel Syndrome are a growing population of health care seekers with unique stressors focused around developmental milestones. The current study seeks to characterize impairment of daily activities in young adult women with IBS and to examine the relationship between functional impairment, psychological distress, and symptom severity.

Methods: Women ages 20-35 with ROME-III IBS completed questionnaires measuring symptom severity, quality of life, psychological distress, GI-specific anxiety, and impairment/avoidance of daily activities over the past 2 weeks.

Results: Of 35 participants, 30 (85.7%) were non-Hispanic white, 19 (54.3%) were single/never married and 1 had children. Mean age was 28.0 (SD = 3.5). IBS-D was the most common subtype (37.1%). Rates of impairment in each domain of daily activities were as follows (percent impaired due to IBS is in parentheses): dissatisfied with appearance 91% (62%); work 83% (74%); eating (alone) 77% (71%); social 77% (68%); physical activity 67% (54%); intimacy 57% (45%); household 57% (40%); leisure 54% (40%); eating in groups 45% (43%); and travel 29% (20%). GI-specific anxiety ($B = 0.30$, $p < .05$), depression ($B = 0.51$, $p < .005$), and overall anxiety ($B = -0.44$, $p < .005$) significantly predicted rate of overall avoidance. Symptom severity was not a significant predictor.

Conclusions: Young adult women with IBS report functional impairment in a broad range of activities, which could affect achievement of developmental milestones. Although participants attributed their avoidance to IBS, symptom severity was not a predictor. Rather, GI-specific anxiety, overall anxiety, and depressive symptoms predicted functional impairment, suggesting potential treatment targets for this population.

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WEIGHT MANAGEMENT PRACTICES AMONG COLLEGE FEMALES: RELATION TO PERCEIVED SUCCESS, BMI, AND DIETARY RESTRAINT

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The purpose of this study was to examine dieting habits among college women. Two hundred and twenty participants (N = 220) completed several eating behavior questionnaires. Participants were identified as either "dieters" (those who controlled their weight by managing their food intake) or "non-dieters" (those who did not use any systematic efforts to control their weight or relied on other strategies such as exercise to control their weight). Most participants reported a BMI within the normal weight range (70.9%), although a small percentage were underweight (6.5%) and the remainder were overweight (10.5%) or obese (12.3%). Within the sample, 42% were identified as dieters and 58% as non-dieters. Dieters tended to have higher BMIs and score higher on measures of restrained eating compared to non-dieters. Among self-identified dieters, most participants described their dieting goal as weight loss (73%) and fewer aimed for weight maintenance (27%). Most dieters reported that they dieted episodically (59%), though a number reported being chronic dieters (25%), and a small number described themselves as chronic dieters who also had episodes of more stringent dieting (16%). Dieting style did not predict weight management success, but those who had a goal of weight maintenance reported greater success than those with a goal of weight loss. Perceived success in weight management was inversely related to scores on dietary restraint measures. Implications for future research and practice are discussed.

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ARTHRITIS SELF-EFFICACY MEDIATES THE EFFECTS OF PHYSICAL ACTIVITY ON FUNCTIONAL MEASURES FOR ADULTS IN A SELF-MANAGEMENT INTERVENTION

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BACKGROUND:

Although arthritis is the leading cause of disability in US adults, physical activity (PA) is an important behavior for enhancing physical function. Further, arthritis self-efficacy (ASE) is related to improved physical function and increased PA in observational and intervention studies. This study used sequential mediation analyses to examine the relationship between changes in ASE, PA, and physical function among adults with arthritis participating in a randomized trial.

METHODS:

A randomized trial evaluated the effects of a 12-week, self-directed exercise program (as compared to a nutrition program) for people with arthritis, including a 9-month follow-up visit (n = 401). We investigated changes in ASE, PA, and physical function measures between baseline and 9-months; participants with missing data at any time point were excluded resulting in 275 participants. A sequential mediation analysis was performed to test whether the exercise intervention increased ASE, which in turn increased PA, which in turn improved function in four performance tests (gait speed, chair stands, seated reach, 6-minute walk). Using the test of joint significance, if all three models were significant there was significant mediation.

RESULTS:

Participants (66% married, 88% female, 35% African American), had a mean age of 57.0 ± 9.9 years. Assignment to the exercise intervention was associated with greater increases in ASE ($p = 0.03$). Increases in ASE were associated with greater increases in PA ($p = 0.03$). Increases in PA were associated with greater improvements in gait speed ($\beta = 1.86$, $p = 0.02$), chair stands ($\beta = 0.10$, $p = 0.03$), and 6-minute walk ($\beta = 6.35$, $p = 0.01$), but not seated reach ($\beta = 0.16$, $p = 0.60$).

DISCUSSION:

ASE influenced physical functioning, through increased PA, in most of the physical performance tests examined, suggesting that public health interventions for arthritis self-management would be well-served to include target increased ASE.

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PREDICTORS OF BODY IMAGE RELATED SEXUAL DYSFUNCTION IN INDIVIDUALS WITH MULTIPLE SCLEROSIS

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Sexual dysfunction (SD) is highly prevalent in individuals with multiple sclerosis (MS) and concerns about the attractiveness of one's body may contribute to this problem. The purpose of the current study is to evaluate predictors of body image related SD, including socio-demographics, mental health, help-seeking behaviors for sexual problems, time since diagnosis, and self-reported disease status in a large national sample of men and women with MS. The sample in the current study consists of 4267 respondents to the spring 2006 North American Research Committee on Multiple Sclerosis questionnaire who answered a body image related SD item. Hierarchical multiple regression was used to explore the independent effects of demographics, mental health, and illness variables on body image related SD. Results indicated that people who had higher scores on body image related SD were predominantly less educated, female, with longer disease duration and greater disability. They reported poorer mental health and seeking treatment for sexual problems. In the final model, education level, gender, mental health, time since diagnosis, help seeking behavior for a sexual problem, and disability level were significantly related to body image related SD in MS. Mental health was the most influential predictor of body image related SD, followed by disability level. The results of the study offer evidence that body image related SD in MS is a complex, multi-factorial phenomenon that is related to a variety of demographic, mental health, and disease related variables. Because the largest contributor of body image related SD, mental health, is treatable, the question of whether active interventions on mental health would translate into decreased body image related SD gains practical and clinical significance.

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SOCIAL COMPARISON, NEGATIVE BODY IMAGE, AND DISORDERED EATING BEHAVIOR: THE ROLE OF COPING STYLE

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Comparing one's body to those of individuals perceived as more attractive (e.g., peers, media figures) is common among college women, and has been associated with increases in body dissatisfaction and disordered eating. Not all college women are vulnerable to the negative influence of such "upward" comparisons, however, and little is known about psychological processes that may distinguish more vulnerable women. Coping styles, which represent individuals' responses to negative events, are a key area of opportunity for better understanding the relationship between body-focused comparison and weight-related experiences in this population. College women (N = 628) at a large, private university completed an electronic assessment of upward body-focused comparison, body dissatisfaction, disordered eating behavior, and coping styles. Results indicated that a positive reframing coping style moderated the relationship between upward body-focused comparison and body dissatisfaction (p = 0.02), such that women who engaged in more (vs. less) positive reframing showed a weakened relationship between upward body-focused comparison and body dissatisfaction. Controlling for body dissatisfaction, a self-distracting style also moderated the relationship between upward body-focused comparison and disordered eating behaviors (p = 0.009); women who more (vs. less) strongly endorsed a self-distracting style appeared more susceptible to the negative influence of upward body-focused comparison. These findings underscore the importance of upward body-focused comparison for body dissatisfaction and disordered eating among college women, and introduce coping style as a key factor in these relationships. Increased attention to body-focused comparison and coping style may improve quality of life and contribute to the prevention of disordered eating in this vulnerable population

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VERBAL CORRELATES OF CATASTROPHIZING AMONG CHILDREN AND MOTHERS

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Catastrophizing (CAT), a cognitive appraisal in which pain is perceived as threatening, may amplify patient pain experience and expression. CAT among significant others may affect responses to patients. This study examined verbal correlates of CAT among children with recurrent unexplained abdominal pain and their mothers (35 dyads recruited from a pediatric gastroenterology clinic). Participants completed the Pain Catastrophizing Scale; dyads conversed for 10 minutes about the child's abdominal pain. Conversations were recorded, transcribed and reduced using the Lexical Inquiry and Word Count. Demographic characteristics were: M (SD) age = 9.5 (1.7), 80% female, 71% Caucasian and 15% Hispanic [children]; M (SD) age = 39.7 (8.1), 80% Caucasian and 14% Hispanic [mothers]. Multilevel modeling with restricted maximum likelihood was used to estimate an Actor-Partner Interdependence Model assessing the effects of role (mother or child) and CAT on the percentage of anxiety and cognitive process words uttered during the discussion. Examples of the former include "worried" and "fearful". Examples of the latter include "cause" and "know", thought to indicate a working through process. For the model using anxiety words, results revealed an actor effect of CAT (b = 0.15, p = .049). Participants (both mothers and children) higher in CAT uttered more anxiety words during the discussion than did those lower in CAT. For the model using cognitive process words, results revealed a main effect of role; mothers uttered fewer cognitive process words than did children (b = -0.70, p = .036). This main effect was qualified by a role x CAT interaction (b = -1.15, p = .032). Simple slopes analyses revealed that CAT was inversely associated with the use of cognitive process words among mothers (b = -1.25, p = .04) but not children (b = 1.06, p = .173). Findings suggest that CAT may be associated with more anxious talk, and that CAT among mothers may be maladaptive as it could interfere with processing and resolving negative pain appraisals. Future research is needed to better understand mechanisms by which CAT may affect interactions.

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MEDITATION-BASED TREATMENT YIELDING IMMEDIATE RELIEF FOR MEDITATION-NAïVE MIGRAINEURS

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Meditation is gaining popularity as an effective means of managing and attenuating pain and has been particularly effective for migraines. Meditation also addresses the negative emotional states that co-occur with migraines. The purpose of this study was to evaluate the effectiveness of meditation as an immediate intervention for reducing migraine pain as well as alleviating emotional tension. Twenty-seven migraineurs, with two to ten migraines per month, reported migraine-related pain and emotional tension ratings on a Likert scale (ranging from 0 to 10) before and after exposure to a brief meditation-based treatment. All participants were meditation-naïve, and attended one 20-minute guided meditation session based on the Buddhist “loving kindness" approach. After the session, participants reported a 33% decrease in pain and a 43% decrease in emotional tension, where levels of reported emotional tension accounted for 34% of the variance in pain scores. Of note, 37% percent of participants reported a post-meditation pain rating of 1 or less, and 55.6% reported a post-meditation tension rating of 1 or less. The data suggest that a single exposure to a brief meditative technique can significantly reduce pain and tension. The effectiveness and immediacy of this intervention offers several clinical implications for health care providers who work with individuals with pain.

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IMPACT OF A PAIN PSYCHOEDUCATION GROUP ON ATTITUDES TOWARD PAIN TREATMENT

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While patient psychoeducational groups have been widely used in the context of pain management, most interventions have been lengthy and have focused on improving pain coping. This study evaluated a one-session intervention focused on preparation for participation in a multidisciplinary pain management center by providing information on pain, common effects of pain, and examples of pain treatments. Participants either did or did not participate in the group intervention, then completed questionnaires at the time of their initial clinic visit. Results indicated that patients who attended the group endorsed more interest in a wide variety of treatments, particularly so for complimentary treatments, more commonly reported treatments goals associated with improved quality of life rather than pain elimination, and reported a higher sense of control over their pain ($p < .03$). Overall reactions to the group were quite positive in comments from those participants who attended a group. While additional studies are needed, this appears to be a promising format for improving preparation of patients for participation in multidisciplinary pain management programs.

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A-134

THE AVOIDANCE MODEL IN KNEE AND HIP OSTEOARTHRITIS: A SYSTEMATIC REVIEW OF THE EVIDENCE

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Objective. To review the current scientific evidence for the validity of the avoidance model: a theoretical model that explains how behavioral mechanisms may lead to activity limitations in knee and hip osteoarthritis (OA).

Methods. A systematic literature search in PubMed, PsycINFO, CINAHL and Embase. Selection criteria included: knee or hip OA or pain; examination of at least two consecutive components of the avoidance model; observational study; original research report. The methodological quality of the selected articles was assessed, and a qualitative data synthesis was performed to identify levels of evidence.

Results. A total of 60 studies was included. In knee OA, strong evidence was found that avoidance of activities is associated with activity limitations via muscle weakness (mediation by muscle weakness); strong evidence was found for an association between muscle weakness and activity limitations; and weak evidence was found that pain and psychological distress are associated with muscle weakness via avoidance of activities (mediation by avoidance). In hip OA, weak evidence was found for mediation by muscle weakness; and strong evidence was found for an association between muscle weakness and activity limitations.

Conclusions. In knee OA, the association between avoidance of activities and activity limitations is for a substantial part explained by muscle weakness. In both knee OA and hip OA, muscle weakness is associated with activity limitations. These results emphasize the importance of muscle strength in maintenance of activities. More research is needed on the consecutive associations between pain or psychological distress, avoidance of activities and muscle strength, and to confirm causal relationships.

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PAIN SELF-EFFICACY AND BIOPSYCHOSOCIAL FUNCTIONING IN CHRONIC LOW BACK PAIN PATIENTS

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Chronic low back pain (CLBP) is an extremely disabling and widespread health concern. Poor biopsychosocial functioning has been found to contribute to higher pain severity. Pain self-efficacy has also been found to lead to higher pain severity. The aim of this study was to examine the relationship between biopsychosocial functioning and pain severity, and to evaluate whether pain self-efficacy indirectly affects this relationship. This study used archival data from a multidisciplinary treatment program for individuals with CLBP in Surrey, England. Participants were 99 CLBP (69% female) sufferers who completed measures of biological, psychological, and social functioning, pain severity, and pain self-efficacy at admission. They ranged in age from 16 to 72-years-old ($M = 42.6$, $SD = 12.1$). Structural equation modeling and bootstrapping techniques were used to test the significance of the mediated model. As we predicted, lower biological ($\beta = -.011$; 95% CI = -.019 to -.004, $p = .002$) and social ($\beta = -.009$; 95% CI = -.016 to -.003, $p = .007$) functioning were found to significantly predict higher pain severity, and lower social functioning was found to significantly predict lower pain self-efficacy ($\beta = .196$; 95% CI = -.130 to .273, $p = .002$). Contrary to our meditational hypothesis, pain self-efficacy did not mediate the relationship between biopsychosocial functioning and pain severity, and psychological functioning did not significantly predict pain severity or pain self-efficacy. These findings suggest that biological and social functioning are key contributors to pain severity, and that social functioning, in particular, predicts pain self-efficacy.

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PAIN SELF-EFFICACY MEDIATES THE RELATIONSHIP BETWEEN DEPRESSIVE SYMPTOMS AND PAIN SEVERITY

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Chronic pain is a serious and costly condition that is associated with negative health outcomes and compromised work productivity. Chronic low-back pain (CLBP) is one particularly distressing form of chronic pain that requires complex and comprehensive treatment. Pain self-efficacy, defined as one's confidence to tolerate pain while performing daily activities despite pain, has been shown to predict positive health outcomes in individuals with CLBP. This study examined the relationship between depressive symptoms, pain severity, and pain self-efficacy in CLBP patients. First, we hypothesized that change in depressive symptoms over the course of treatment would significantly influence change in pain severity (i.e. affective, sensory and evaluative pain) and change in pain self-efficacy. Second, we hypothesized that pain self-efficacy would indirectly affect the relationship between depressive symptoms and pain severity (i.e. affective, sensory and evaluative pain). One-hundred and nine CLBP patients in a multidisciplinary rehabilitation program for pain management were studied over the 4 week program. Patients completed self-report questionnaires measuring pain self-efficacy, depression and pain severity at admission and discharge. Higher levels of depressive symptoms were found to significantly predict higher pain severity in affective ($\beta = .358$; 95% CI = .190 to .575, $p = .004$), sensory ($\beta = .384$; 95% CI = .234 to .579, $p = .022$), and evaluative pain ($\beta = .456$; 95% CI = .302 to .618, $p = .002$). Change in pain self-efficacy partially mediated the relationship between change in depressive symptoms and change in sensory ($\beta = .105$; 95% CI = .017 to .250, $p = .022$) and evaluative pain ($\beta = .121$; 95% CI = .004 to .245, $p = .040$). Change in depressive symptoms and change in affective pain was fully mediated by change in pain self-efficacy over the course of treatment ($\beta = .203$; 95% CI = .079 to .368, $p = .001$). These findings imply that pain management programs should target pain self-efficacy.

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ASSESSING PAIN AND FEAR OF PAIN: PSYCHOMETRIC PROPERTIES OF THE SHORT FORM-FEAR OF PAIN QUESTIONNAIRE

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Chronic pain are common and can be associated with the development of depression, anxiety, and decreased quality of life. Accurate assessment of emotional states associated with pain is important in identifying psychosocial issues accompanying pain. A 9-item short form of the Fear of Pain Questionnaire (McNeil & Rainwater, 1998) has been developed for rapid screening, yet limited data exist to support its psychometric utility. A chronic pain sample (N = 60; M age = 54.38; 62.2% female) at the Carolina Pain Institute and an undergraduate student sample (N = 109; M age = 19.8; 73.4% female) at West Virginia University and were recruited and completed the SF-FPQ. The undergraduate sample completed the SF-FPQ twice, separated by one week. The pain sample completed the FPQ-III at a single time period. Reliability analyses revealed high internal consistency in the sub-scales of the SF-FPQ ($.85 < \alpha < .94$) and the total scale ($\alpha = .95$). The SF-FPQ total scale and sub-sales also were found to be highly correlated ($r = .98$) with the original FPQ-III and FPQ-III sub-scales ($.70 < r < .93$). Pearson correlation coefficients also indicated a moderate degree of association of the SF-FPQ with the PASS ($.63 < r < .75$) and the BDI-II ($.42 < r < .57$).

Pearson correlation for the undergraduate sample revealed good test-retest reliability for the SF-FPQ ($r = .79$, $p < .005$). Additionally, good test-retest correspondence was found for each of the SF-FPQ subscales (Minor Pain: $r = .68$, $p < 0.005$; Severe Pain: $r = .78$, $p < .005$; Medical Pain: $r = .81$, $p < .005$). Internal consistency was high for the total scale SF-FPQ at time one ($\alpha = .84$) and at time two ($\alpha = .87$). Reliability analyses revealed moderate to high internal consistency in the sub-scales of the SF-FPQ at time one ($.64 < \alpha < .78$) and time two ($.73 < \alpha < .86$). Findings display evidence of the strong psychometric properties of the SF-FPQ in comparison to the FPQ-III. The findings also suggest that the SF-FPQ has a place of utility in a variety of health-based settings.

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RISK FOR OPIOID MEDICATION MISUSE WITHIN CHRONIC PAIN PATIENTS

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Opioid medications commonly are used to treat pain related conditions and are often misused by patients. The Screener and Opioid Assessment for Patients with Pain-Revised (SOAPP-R) is an assessment that has been utilized in health settings for predicting opioid medication misuse. In this study, the ability of a short form (single item subscales) of the Survey for Pain Attitudes (SOPA) to predict risk for opioid misuse on the SOAPP-R was examined. The single item form of the SOPA was selected as a more useful tool to identify modifiable risk factors for misuse. The sample consisted of chronic pain patients (N = 111, M age = 52.0; SD = 11.4; 53.7% male) referred by physicians to determine if they qualified for long-term opioid treatment. Step-wise regression models were utilized to determine which sub-scale items from the SOPA accounted for the most variance in the SOAPP-R total score. At step 1 of the analyses, sub-scale item ("There is a connection between my emotion and my pain level") entered into the regression equation and was significantly related to the total SOAPP-R total score ($F(1, 109) = 28.68$, $p < .001$). This sub-scale item from the SOPA accounted for approximately 20.8% of the variance in the total score of the SOAPP-R. Sub-scale item ("The pain I feel is a sign that damage is being done") and sub-scale item ("There is little I can do to ease my pain") entered into the regression equation at steps 2 and 3 of the analyses and were significantly related to the total SOAPP-R total score ($F(3, 107) = 17.08$, $p < .001$). Sub-scale item ("The pain I feel is a sign that damage is being done") and sub-scale item ("There is little I can do to ease my pain") from the SOPA accounted for an additional 11.6% variance in the total score of the SOAPP-R. The other 4 sub-scale items from the SOPA did not account for additional variance in the SOAPP-R total score. These findings suggest that specific items from the SOPA can be utilized in health-based settings to predict risk for opioid misuse in chronic pain samples.

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IMPACT OF A RANDOMIZED STRUCTURAL INTERVENTION AND IMPLEMENTATION ON PHYSICAL ACTIVITY IN RESIDENTIAL CHILDREN'S HOMES

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The physical and social environment within organizational settings can facilitate physical activity (PA) behavior when PA opportunities and supportive structures are available, including organizations that provide services to vulnerable youth. ENRICH (Environmental Interventions in Children's Homes) was a randomized structural intervention guided by a structural ecologic framework that targeted the physical and social environment within residential children's homes (RCHs) to increase PA among residential youth (N = 799). Elements of the health-promoting environment included 1) opportunities for enjoyable PA; 2) RCH policies and practices that support PA; 3) media (promotion) and cultural (adult modeling) messages promoting PA; and 4) adult support and encouragement for PA. The intervention was delivered by RCH staff "change-agents" who adapted intervention components to accommodate for inherent contextual differences among RCHs. Eligible RCHs (N = 29) were randomized to Early (n = 17) and Delayed (n = 12) treatment groups between 2004-2006 and 2006-2008, respectively. Self-reported child PA was collected over three cross-sectional assessment visits (2004, 2006, 2008). Intent-to-treat analysis revealed no intervention effect on youth PA. Descriptive analyses subsequently used process evaluation data to classify each RCH level of PA implementation (high vs. low), controlling for assignment to condition. More active youth were observed in RCHs with high PA-promoting environments that included greater PA opportunities, recreation directors, and existing PA policies and practices at baseline. Within the group home setting, implementation does not appear to occur in an orderly process and is likely influenced by contextual factors within organizational environments. Future research should consider a formative assessment of organizational capacity and PA environment to identify organizational barriers to implementing PA or other health promotion programs.

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EFFECTIVE STRATEGIES FOR LONG-TERM MAINTENANCE OF RESISTANCE TRAINING TO IMPROVE HEALTH

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If effectively and safely initiated and then maintained, resistance training (RT) positively impacts numerous health related mechanisms with potential for disease prevention and treatment. However, minimal research has been conducted on longer-term maintenance of RT outside of a supervised context. The Resist-Diabetes study's aim was to assess the impact of 2/wk RT on glucose metabolism for adults 50-69, overweight to obese, who were previously inactive and prediabetic. Participants (N = 159) were first within a 3-month supervised, lab/gym phase and then transitioned to training on their own in community facilities within a theory based, minimally supervised, 12-month follow-up phase with faded, brief personal contact and web-based self-regulation strategies. Near or at the end of follow-up, participants were surveyed to assess which strategies or procedures were most helpful for continued RT, 2/wk, using a 10-point scale, with the adherence rate for workouts in the initial follow-up phase at 79%. From a list of 16 strategies and procedures, specific self-regulation strategies, Workout on Specific Times/Day,7.55 (2.85); Planning Workouts via the web site, 7.79 (2.79), and Recording Workouts via the web site, 7.79 (2.92); self-referent, affective strategies, Seeing How Improving, 8.44 (2.24), Feeling Better Physically, 8.89 (1.57), and Comfort in the Community Facility,8.62 (2.14) were rated as most important for continuing RT 2/wk, while continued personal contact was rated only somewhat helpful, 6.63 (3.12). A similar pattern emerged for strategies helpful to return to RT after missing 5 or more consecutive workouts. A focus on these relatively inexpensive maintenance strategies and procedures, in contrast to simply a higher dose of continued personal contact, may better allocate resources, perhaps even reduce costs, result in a higher degree of adherence, and improve outcomes in subsequent RT interventions.

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RESPONSE VARIATION AND TAILORED, ADAPTIVE INTERVENTIONS ARE CRITICAL FOR PERSONALIZED MEDICINE: EVIDENCE FROM THE RESIST-DIABETES STUDY

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Behavioral health researchers are focused on applying theoretically based interventions to initiate and then maintain adherence for specific behaviors that will reduce risks for chronic diseases as assessed by relevant biomarkers. However, both the fixation on behavioral adherence and changes in group means can draw attention away from response variation on critical biomarker outcomes. For example, the Resist-Diabetes study assessed the efficacy of a whole-body, 2x/wk, resistance training (RT) program with people (50-69 yrs, N = 159) who were previously inactive, overweight or obese and were prediabetic as assessed by fasting blood glucose and 2-hr OGT. The study had a 3-month supervised RT, 2x/wk phase followed by post testing and then randomization to one of two theory based maintenance approaches for RT in community settings. During the supervised phase, adherence for training sessions was 91% and there was a significant reduction (146 (35) to 135 (36) mg/dL, $p < .001$) shown for 2-hr OGT, as well as significant changes on means for strength, lean body mass, body fat, and blood pressure (BP). However, there was considerable response variation with about 22% now normal glucose homeostasis, but with some participants showing large reductions in 2-hr OGT, and some increasing levels; strength increases from 0% to 100%; a range of change in fat kg from a decrease of 5.7 kg to a gain of 3.8 kg; a range of change in lean body mass from a decrease of 4.9 kg to a gain of 8.3 kg, and both increases and decreases in systolic and diastolic BP. These typical patterns of response variation from the same exercise stimulus form a basis for personalized medicine with tailored adaptive interventions after an initial intervention reveals individual responsiveness. Data are presented showing how nutrition changes with a small weight loss and/or brief interval training can be subsequently applied with greater tailoring of each intervention and its maintenance component to optimize disease prevention.

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SUBJECTIVE MEMORY IMPAIRMENT AND WELL-BEING IN COMMUNITY-DWELLING OLDER ADULTS

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Subjective memory impairment (SMI) in older adults is correlated with greater levels of dementia related biomarkers and increased risk of future cognitive decline. Associations between SMI and depression and anxiety have also been identified; however, few studies have investigated the relationship between SMI and measures of well-being. This study examined the relationship of SMI and well-being in a subset of subjects from a 12-month randomized controlled exercise trial for older adults. Participants were assigned to an aerobic walking group or flexibility, strengthening, and balance group. SMI, assessed with the frequency of forgetting (FOF) scale, global self-esteem, assessed with the Rosenberg Self-Esteem scale, global life-satisfaction, assessed with the Satisfaction with Life Scale, and perceived stress, assessed with the Perceived Stress Scale, were measured at baseline, 6 months and 12 months. FOF scores at baseline were used to categorize those with High SMI (lowest tertile FOF score; $n = 50$) and Low SMI (highest tertile FOF score; $n = 31$). Repeated measures ANOVAs compared SMI condition scores on the measures of well-being over time. The High SMI group had significantly lower global life-satisfaction [$F(1,79) = 16.74$, $p < 0.001$, $\eta2 = 0.18$], lower global self-esteem [$F(1,79) = 29.97$,$p < 0.001$, $\eta2 = 0.28$] and higher perceived stress [$F(1,79) = 22.92$, $p < 0.001$, $\eta2 = 0.23$] than the Low SMI group. We also examined the trajectory of overall FOF over time by SMI condition. A significant interaction for time by SMI group [$F(2,78) = 9.82$,$p < 0.001$, $\eta2 = 0.20$] indicated that FOF remained stable across time in the Low SMI group, but significantly improved in the High SMI group. The negative relationship between SMI and overall well-being supports current literature that suggests cognitive impairment may have a negative impact on quality of life. Improvements in subjective memory in those with high SMI are encouraging and suggest yet another way that individuals at increased risk for cognitive decline may benefit from exercise interventions.

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EXERCISE BARRIERS IN CANCER SURVIVORS: A MULTI-DIMENSIONAL APPROACH

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Background: Exercise confers numerous general and cancer-specific benefits, yet many cancer survivors are insufficiently active. Research on perceived exercise barriers in cancer survivors has been limited by methodological and conceptual problems. Recent research suggests barriers may be multi-dimensional, and different types of barriers may be salient depending on a person's level of intention to engage in the behavior. Global (i.e., abstract) barriers may be negatively associated with intention, while practical (i.e., concrete) barriers may be positively associated with intention. This study examined the utility of a multi-dimensional conceptualization of exercise barriers in cancer survivors and evaluated the impact of barriers on exercise intention accounting for relevant demographic and exercise-related variables.

Method: Study participants were 170 breast, prostate, and colorectal cancer survivors [67% female; mean age = 60.15 years (range 33-75)] who had completed treatment for non-metastatic disease 6-36 months prior to the study. Participants completed an online survey that included self-report measures of current exercise behavior, perceived exercise benefits, exercise intention, and exercise barriers.

Results: Total exercise barriers were divided into global, practical, and health factors. Higher reported total and global barriers predicted lower exercise intention ($ps < 0.001$); practical and health barriers did not predict intention ($ps > 0.05$). Accounting for relevant demographic variables and current exercise behavior, total barriers and global barriers contributed significant amounts of unique variance in exercise intention (4% and 7% respectively); however, when perceived benefits were included, only global barriers remained significant in predicting intention.

Conclusion: These findings suggest that multi-dimensional conceptualizations of health behavior barriers are worthy of further study and that global barriers may be an important target for interventions designed to increase intention.

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PSYCHOSOCIAL OUTCOMES OF PEER-MENTORSHIP TO PROMOTE PHYSICAL ACTIVITY AMONG CANCER SURVIVORS

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Physical activity (PA) adoption can reduce some treatment-related sequelae of breast cancer. As a first step towards disseminating a telephone-based PA intervention to cancer survivors, we partnered with the American Cancer Society's Reach to Recovery program (RTR) whose volunteers (breast cancer survivors) provide information and emotional support to breast cancer survivors. This randomized controlled trial compared the effects of PA telephone counseling delivered by RTR volunteers (Reach Plus) vs. a contact control condition (Reach Standard) in 6 New England states. RTR volunteers ($n = 18$; mean age = 54.9 years, mean years since diagnosis = 7.0) delivered a 12-week PA program to help participants adopt 30 minutes of moderate-intensity activity >5 days/week. Breast cancer survivors ($n = 76$; mean age = 55.6 years, mean years since diagnosis = 1.1, Stage 0 = 6.6%, Stage 1 = 38.2%, Stage 2 = 44.7%, Stage 3 = 10.5%) were randomized to Reach Plus or Reach Standard. At pretreatment, posttreatment (12 weeks) and 24 weeks, participants completed the 7 Day Physical Activity Recall interview, and measures of physical functioning (SF-36 PF subscale), fatigue (FACT-F) and QOL (FACT-B and Breast Cancer Subscale). Using a series of generalized linear models, we assessed intervention effects on psychosocial outcomes at 12 and 24 weeks, and whether these effects were moderated by baseline values of the psychosocial outcomes. There was a significant intervention effect on physical functioning at 12 weeks among those with poorer functioning at baseline ($b_{\text{treatment}} = 40.65$, $SE = 15.46$, $p < .01$, $b_{\text{base x treatment}} = -0.50$, $SE = 0.19$, $p < .01$) and a significant effect on the Breast Cancer Subscale at 24 weeks for those with better QOL at baseline ($b_{\text{treatment}} = -8.71$, $SE = 4.75$, $p = 0.06$, $b_{\text{base x treatment}} = 0.40$, $SE = 0.19$, $p = 0.03$). We will discuss the implications of baseline values influencing differential effects on psychosocial outcomes in a peer delivered PA intervention.

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SOCIAL AND PHYSICAL ENVIRONMENTAL INFLUENCES ON ACTIVE TRAVEL AMONG COLLEGE STUDENTS

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Many health behaviors are established during the life-transition time of college, thus this group may be effective targets for active travel interventions, which is associated with health benefits. This study examined the social and physical environmental influences on college students' active travel. Methods: Students at a large northeastern US campus completed an online survey on frequency and mode of travel to campus, and social and physical environmental influences on travel choices. Participants were dichotomized into active traveler(AT) (1+ AT trips/week, n = 354) and non-active traveler (0 AT trips/week, n = 164) categories. Logistic regression predicted the likelihood of being an AT according to social and physical environmental factors. Factors significantly associated with AT status were included in a full model predicting AT status and a Nagelkerke R2 was calculated. Results: Among students (n = 518), 31.7% (n = 164) reported no AT trips/week and 68.3% (n = 354) were classified as AT. For the social environment, living with an AT to campus was associated with being an AT (OR = 2.57, p < .001). For physical environment factors, perceiving campus as pedestrian friendly (OR = 1.33, p = .001), using neighborhood of bike lanes (OR = 6.33, p < .001), and having an available bike rack (OR = 1.49, p = .04) was associated with being an AT. Perceiving difficult terrain (OR = 0.75, p < .001), lack of sidewalks (OR = 0.87, p = .02), heavy traffic (OR = 0.84, p = .004), having a car (OR = 0.33, p < .001) and a parking permit (OR = 0.20, p < .001) and living further from campus (OR = 0.01, p < .001) was associated with being a non-active traveler. The full model resulted in a Nagelkerke R2 of 0.64, with living with an AT, bike rack availability and bike lane use as positive predictors and distance as a negative predictor (ps < .05). Discussion: These findings suggest that social and physical environmental factors are an important influence on the travel habits of college students. Targeting young adults with AT interventions will help establish healthy habits that have the potential to track into adulthood.

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A-147

DO PAIN ANXIETY AND SELF-REGULATORY RESPONSES MATTER IN MEETING THE RECOMMENDED PHYSICAL ACTIVITY LEVEL AMONG ADULTS WITH ARTHRITIS?

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Most adults with arthritis do not meet public health and arthritis organizations' recommendations of 150+ mins/week of moderate-vigorous physical activity (MVPA) for disease self-management. Understanding theory-based process variables associated with self-regulating MVPA is needed. Social cognitive theory suggests that people may differ in self-regulatory responses to challenges such as anxiety related to arthritis pain (maladaptive: stopping plans for MVPA; adaptive: altering type of MVPA). Our SCT-based study examined whether adults with medically-diagnosed arthritis (N = 123; *M*age = 49 ± 14 years) who meet/do not meet the recommended MVPA level differed in their arthritis pain, pain anxiety, and self-regulatory responses. Participants completed online measures of pain, pain anxiety (escape/avoidance; cognitive anxiety) as well as maladaptive and adaptive self-regulatory responses to pain anxiety at study onset. MVPA was assessed two weeks later. Those meeting (n = 71) or not (n = 52) the recommended MVPA level formed comparison groups. Results from a between-groups MANOVA on pain-related variables and self-regulatory responses was significant, ($p < .05$, η^2 partial = .12). Follow-up ANOVAs revealed that the group meeting the recommended MVPA level had significantly lower escape/avoidance and cognitive pain anxiety, and used significantly less maladaptive self-regulatory responses to pain anxiety (*p*'s < .05, η^2 partial = .05 to .10). Adaptive self-regulatory responses and pain did not differ between groups suggesting that pain anxiety and maladaptive responses to that anxiety may be the more important differentiating variables. Findings provide initial evidence that these variables are related to recommended MVPA levels recommended for adults with arthritis. Given the malleability of such variables, makes them possible targets for interventions coupling MVPA with cognitive behavioral strategies to encourage adherence.

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TESTING THE FEASIBILITY OF TRAINING PEERS WITH SPINAL CORD INJURY (SCI) TO LEARN AND IMPLEMENT BRIEF ACTION PLANNING TO PROMOTE PHYSICAL ACTIVITY TO PEOPLE WITH SCI

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Despite the benefits of physical activity (PA) for people with spinal cord injury (SCI), PA promotion initiatives are sparse and PA participation rates are low among the SCI population. Peers with a SCI have been identified as ideal individuals to promote PA within the SCI population. However, research investigating the feasibility and effectiveness of peer interactions for promoting PA to people with SCI has not been conducted. The objective of the present study was to test the feasibility of training peers with SCI to learn and potentially implement Brief Action Planning (BAP), an application of Motivational Interviewing principles, to promote PA to mentees with SCI. In total, 13 peers with a SCI (54% male; Mage = 52.77 ±9.16 years) attended a half-day BAP workshop. Using a one-arm, pre-, post-test design, feasibility to learn and potentially implement BAP was assessed in terms of peers' (1) BAP competence as measured by audio-taped samples of counseling style and self-report questionnaires; (2) training satisfaction; and (3) motivations to use of BAP as measured by the Theory of Planned Behaviour. Measures were taken at baseline, immediately post-training and one month following the training. Results indicated that following the training, participants' BAP competence significantly increased (*p*s < .05, *d*s > 2.27). Training satisfaction was very positive with all means falling above the scale midpoint. Participants' perceived behavioral control to use BAP increased from baseline to post ($p < .05$, $d = .91$) but was not maintained at follow-up ($p > .05$). Peers' attitudes, subjective norms and intentions towards using BAP were very positive at baseline and did not change following the training. Overall findings suggest that training peers with a SCI to learn and potentially use BAP to promote PA to mentees is feasible.

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IMPROVING MOBILITY IN INDIVIDUALS WITH MULTIPLE SCLEROSIS: A PILOT FEASIBILITY STUDY OF A GROUP MEDIATED COGNITIVE BEHAVIOURAL INTERVENTION

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Group-mediated cognitive behavioural interventions (GMCB-IV) based upon social-cognitive theory and group dynamics have been efficacious for improving function and physical activity (PA) adherence among asymptomatic and symptomatic individuals. However, research is limited for individuals with a physical disability. Our purpose was to examine the feasibility of a pilot GMCB-IV for inactive individuals with multiple sclerosis (MS). The IV targeted mobility function and emphasized balance/mobility exercise (BME). Our prospective design consisted of an 8 week intensive training phase and a one month follow-up. The intensive phase entailed twice-weekly 60-minute BME sessions coupled with one 30-minute GMCB session targeting cognitive-behavioral strategies to foster PA adherence. Twelve individuals with EDSS scores between 1.5 and 6 participated. A timed 400 m walk was completed to assess physical function. Social cognitive outcomes included self-efficacy (SE) for community mobility (CME), PA self-management (PA-SM), and MS symptom control. Group dynamics and collaboration measures served as IV checks. Weekly PA volume was assessed to examine changes in PA. Measures were taken at baseline and after 12 weeks. Paired t-tests examined change on functional and social-cognitive outcomes. Relative to physical function and PA adherence, 400 m walk time significantly decreased (p < .05, d = 1.74) and weekly PA volume significantly increased (p < .01, d = -2.39). SE for mobility, self-management, and control also significantly improved (p < .05, effect range: d = -1.98 [CME] to -2.28 [PA-SM]). Group dynamics/collaboration significantly increased (p < .05). Results suggest preliminary feasibility of a mobility training GMCB-IV for people with MS. Efficacy results for this pilot are similar to GMCB-IV studies in chronic disease and physically disabled samples.

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A-150

EXAMINING PREDICTORS OF PHYSICAL ACTIVITY IN UNDERGRADUATE STUDENTS

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Existing research on determinants of exercise participation in adults suggest that previous participation in physical activity (PA) and high self-efficacy predict current exercise participation. Additionally, physician's recommendations to exercise only influence those who have a high BMI. The current study attempts to extend these findings, to better understand the determinants of PA practices in the undergraduate population. Behaviors and habits that are formed in college have been found to have an impact on lifelong health behaviors, which is why identifying the factors which influence PA in a college population is an important area to target.

The present study examined the Sport and Activity Participation Questionnaire and Physical Activity Assessment Inventory among 264 undergraduates. Participants (79.5% female, 64.4% Caucasian) had a mean BMI of 24.43 (±5.6) kg/m2 and age of 19.33 (±1.2) years. Analyses examined the effect of physician's recommendation to exercise, self-efficacy, and high school physical activity participation on current physical activity participation.

Chi-square analysis revealed that a physician's recommendation to exercise was not associated with current exercise participation (χ2 (1) = .35, p = .55). Next, binary logistic regression analysis was conducted in order to determine the influence of self-efficacy and high school physical activity participation on current physical activity participation. The overall model was significant (χ2 (2) = 21.42, p < .001), indicating that both self-efficacy (p < .05) and high school physical activity participation (p < .001) predict current physical activity. Inclusion of physician recommendation to exercise did not improve the predictive ability of the overall model (p = .72).

Together, these results suggest that an individual's history of physical activity and self-efficacy for exercise predict current PA participation, above and beyond the influence of medical advice. Future studies are needed to determine if participation in specific sports or activities early in life are more predictive of adult PA habits.

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IS GUILT ASSOCIATED WITH DECLINES IN PHYSICAL ACTIVITY ACROSS THE TRANSITION INTO PARENTHOOD?

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Previous research has consistently demonstrated that parents are less active than non-parents. One exercise barrier that is frequently reported by parents, but has not been examined empirically, is guilt. The purpose of this study was to examine the relationship between parental guilt and changes in physical activity (PA) across the transition into parenthood, and to determine whether this relationship differs between males and females. Mothers (n = 259) and fathers (n = 81) of children under 16 (M age of youngest = 4.5 years) completed questionnaires online. Current PA was assessed using the Godin Leisure-Time Exercise Questionnaire (GLTEQ). Participants were also asked to retrospectively report their PA before having children using the GLTEQ. Change in PA was calculated by subtracting pre-parenthood activity level from current activity level. Participants also completed the Parental Role Questionnaire, which assesses the extent to which parents feel guilty for taking time to exercise (Guilt) and the extent to which they prioritize the needs of others over themselves (Ethic of Care). A repeated measures ANOVA revealed both mothers and fathers reported significant declines in PA across the transition into parenthood [F(1,346) = 40.16, p < .001]. Correlation analyses revealed that among mothers, decreases in PA were associated with more guilt (r = -.27, p < .001) and a greater ethic of care (r = -.25, p < .001). Among fathers, decreases in PA were associated with a greater ethic of care (r = -.25, p = .02). Guilt was not related to changes in PA among fathers (r = -.06, p = .60). These results suggest that both mothers and fathers who prioritize others' needs over their own may have difficulty fitting in PA, but only mothers' PA levels are negatively impacted by feelings of guilt surrounding prioritizing PA. Future interventions should focus on helping both mothers and fathers view PA as a behavior that enhances, rather than detracts from, their ability to be good parents by emphasizing relevant benefits (e.g., increased energy, reduced stress, positive role model, etc.) to foster intrinsic motivation and alleviate guilt.

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MEETING DISEASE-RELATED PHYSICAL ACTIVITY RECOMMENDATIONS: SELF-REGULATORY AND PAIN-RELATED SOCIAL COGNITIONS DIFFERENTIATE INDIVIDUALS WITH ARTHRITIS

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Moderate to vigorous physical activity (MVPA) is recommended for disease self-management by arthritis agencies. Research based on social cognitive theory has demonstrated that self-regulatory efficacy (SRE) and positive outcome expectations (OEs) differentiate those meeting/not meeting MVPA guidelines (150+ mins/week). Surprisingly, negative OEs relative to performing MVPA have rarely been examined among individuals self-managing chronic disease. Whereas arthritis pain is commonly reported as a barrier, it does not reliably differentiate MVPA levels. Pain acceptance, a willingness to engage in valued activities despite pain, is linked to better engagement. Our purpose was to determine if self-regulatory social cognitions (SRE for MVPA, negative OEs) and pain-related social cognitions (intensity, acceptance) differentiated individuals meeting/not meeting MVPA guidelines. Participants with medically-diagnosed arthritis (N = 122; 84% female; M age = 49.4,) completed online measures of all self-regulatory and pain-related social cognitions at baseline and MVPA two weeks later. Individuals meeting (n = 70) and not meeting (n = 52) MVPA guidelines were compared. MANOVA indicated an omnibus effect between groups (p < .001, η = .25, observed power = .99). Follow-up ANOVAs revealed those meeting PA guidelines had significantly higher SRE for MVPA, lower negative OEs, and greater pain acceptance (p's < .05, η range = .04 to .16). Follow-up discriminant analysis confirmed that this combination of variables best classified individuals into groups (p < .001, 71% of cases correctly classified). Findings add to the literature on theory-based activity and pain-related factors characteristic of individuals with arthritis differing in their PA levels. Our negative OEs results are the first reported in this literature. Implications for intervention are targeting change in key self-regulatory and disease-related beliefs associated with adhering to the MVPA recommended for people with arthritis.

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A-153

QUANTIFYING SEDENTARY BEHAVIOR PATTERNS IN COLLEGE STUDENTS

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Sedentary behavior is a growing health concern. To date, limited information exists regarding sedentary behavior in college students, a population in the process of forming behavior patterns that have the potential to influence both current and future health status. The purpose of this study was to quantify and describe sedentary behavior patterns in college-aged men and women at a public Midwestern University. Forty-five college students (22 men, 23 women) wore an ActiGraph accelerometer during waking hours for a minimum of 5 days and completed the International Physical Activity Questionnaire. Accelerometer data were used to quantify minutes spent in sedentary time per day, minutes spent in sedentary bouts of particular durations (e.g. >60 minutes), and daily and weekly distributions of sedentary time. Self-report (IPAQ) and accelerometer data were compared with paired-samples t-tests. Accelerometer data demonstrated that participants averaged 11 hours (661 ± 79 mins) of sedentary time during their waking hours each day. Of this, nearly 5 hours (295 mins) was accumulated in bouts of ≥ 30 minutes and more than 2 hours (132 mins) was accumulated in bouts ≥ 60 minutes. Participants were most sedentary during the evening (4-8 pm), averaging almost 3 hours (172 ± 20 mins) and least sedentary in the morning (8 am-12 pm), averaging 2 hours (120 ± 38 mins). Sedentary time was similar on weekdays (671 ± 81 mins) and weekends (649 ± 127 mins). Comparisons between IPAQ and accelerometer data demonstrated that participants significantly under-estimated their sedentary time, reporting about 8.5 hours (501 ± 137 mins) of sedentary time per day (p < 0.05). Our results demonstrate that college students have a predominantly sedentary lifestyle. Further, participants may not be able to accurately estimate this behavior, highlighting the importance of using objective measures for future research on sedentary time. Characterizing sedentary behavior is important for determining who may be at increased risk for chronic health conditions and for designing targeted interventions to address this public health concern.

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EXERCISE COUNSELING USING MOTIVATIONAL INTERVIEWING IN A MINORITY SAMPLE WITH HEART FAILURE

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A symptom of heart failure (HF) is exercise intolerance, due to reduced ejection fraction (EF) and impaired flow-mediated dilation (FMD). Exercise has been shown to be safe, but promoting physical activity (PA) is a challenge. The aim of this study was to assess the preliminary efficacy of an exercise counseling intervention using motivational interviewing (MI) on improving PA, functional status (FS) and FMD in a minority sample with HF.

Twenty ethnic minority men and women with stable HF were recruited from an urban HF clinic. One 15-minute exercise counseling session using MI was followed by 12 weekly 5-minute phone calls. Measures were taken at baseline and 12-weeks. FS was assessed using the 6-minute walk test (6MWT) and Duke Activity Status Index (DASI); PA was assessed with the International Physical Activity Questionnaire (IPAQ) and weekly step-counts. FMD % was conducted on 9 of the subjects. Data analyzed using SAS 9.2 include: descriptive statistics; t-tests; Wilcoxon signed rank sum; and Cohen's d to calculate mean effect sizes (ES).

The mean age of the subjects (60% male; 65% Black) was 52 ± 8 years with a HF duration of 4.6 ± 5.4 years. Mean BMI was 31 ± 7 kg/m2 and EF was 33 ± 19%. There was improvement in the 6MWT (38 ± 33 meters; p = .0006) with an ES of 1.1. The DASI score had non-significant improvement (p = .08) from 5 metabolic units (METS) to 6 METS with an ES of .48. The IPAQ walking score (in MET-minutes/week) improved when assessed with Wilcoxon (mean difference: 1,293 ± 3,276; p = .04) with an ES of .39. There was improvement (mean difference: 10,900 ± 16,197; p = .03) in weekly step-counts with an ES of .67. Despite improvements in FS and PA, there was no change in FMD % (3.04 ± 5.3 at baseline; 2.78 ± 4.8 at 12-weeks; p = .82; ES = -.07).

Brief exercise counseling and telephone follow-up using MI has been shown to improve PA and FS with moderate to large ESs, despite no change in FMD in this ethnic minority sample. Results justify a larger randomized trial to further test this intervention.

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A-155

EXPLORING ASSOCIATIONS BETWEEN SEDENTARY BEHAVIOR, PHYSICAL ACTIVITY AND BODY COMPOSITION CHANGE OVER NINE MONTHS

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With associations to unfavorable health, it comes as no surprise that public health efforts, and research alike, aim to reduce sedentary behavior (SB) in an already overweight society. Accumulating sustained physical activity (PA) at an appropriate intensity to meet guidelines does not negate the health effects of prolonged SB. Compensatory behavior, whereby increases in PA is coupled with increases in SB, exacerbates this issue. It is unknown whether the dynamic nature of objectively measured PA and body composition (BC) is linked. Relatives (N = 106, Nmale = 35) of colon cancer patients (Mage = 45.8) participated in a 9-month home-based PA intervention. BMI was calculated and PA was assessed by accelerometry. Percent body fat, fat mass, visceral adipose tissue (VAT), lean mass, and bone mineral density (BMD) were determined by dual x-ray absorptiometry (iDXA). These variables were taken at baseline and 9-months. Paired t-tests showed that the proportion of wear time spent in the following intensities changed: significant increases in light intensity (p = 0.022; $\eta2$ = 0.063), trend increases in moderate intensity (p = 0.085; $\eta2$ = 0.036), and non-significant decreases in SB and vigorous intensities. All BC variables favorably changed (p < 0.05) over time. Bivariate correlations of absolute change scores conveyed that SB was linked to BMD (r = -0.201; p = 0.04) and vigorous PA was linked with lean mass (r = 0.214; p = 0.03). The following relationships for residual change scores were revealed: vigorous PA with BMI (r = -0.287; p = 0.009), percent fat (r = -0.249; p = 0.024), and VAT (r = -0.319; p = 0.004); trend for both SB (r = 0.180; p = 0.074) and moderate-to-vigorous PA (r = -0.200; p = 0.079) with VAT; and a trend for vigorous PA with fat mass (r = -0.208; p = 0.061). These findings show that compensatory behavior did not manifest, and that the changing nature of some objectively measured PA and BC parameters are related. Future research should explore these findings with inclinometry and potential health implications.

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CHANGES IN PHYSICAL ACTIVITY OVER THE FIRST TWO YEARS OF COLLEGE: RELATIONSHIPS WITH BODY SATISFACTION, WEIGHT, AND EATING BEHAVIORS

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Few college women consistently engage in enough physical activity (PA) to garner its health benefits (e.g., weight gain prevention). Within this group, patterns of PA (i.e., stability vs. change) and predictors of change are not well understood. The present study was a longitudinal investigation of PA during the first two years of college; we tested relationships between PA and weight-related experiences such as disinhibited eating and body satisfaction. Women who endorsed risk factors for weight gain at the start of college (N = 294) completed assessments at baseline, 6 weeks, 6 months, 1 year, and 2 years. Assessments included measured weight, body satisfaction, eating behaviors, and PA (pedometer steps). Multilevel models were used to address the resulting nested data structure. Over two years, within-person change accounted for 65% of PA variability (ICC = .35). The average participant took 10,893 (SD = 3370) steps per day at baseline. The average difference between a participant's highest daily PA and her lowest daily PA (per assessment) differed by 4362 (SD = 3385) steps. PA was greatest at times when body satisfaction was lower (p < .04), and when disinhibited eating, hedonic huger, and weight were higher, than an individual's average (ps < .03). Although weight and total calorie intake per day did not show prospective relationships with PA, both disinhibited eating and hedonic hunger demonstrated significant prospective effects (ps < 0.001). Stronger disinhibition and hedonic hunger were associated with greater PA at the subsequent assessment. Findings indicate significant variability in PA over two years, and that weight-conscious college women may increase PA in response to negative eating and weight experiences. These experiences change over time, which may partly explain the inconsistent patterns of PA observed here. Physical activity promotion efforts would benefit from helping college women to identify more lasting, positive motivators for PA, which would facilitate more consistent PA engagement.

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PATH MODELS ON RELATIONSHIP BETWEEN PHYSICAL ACTIVITY AND HEALTH-RELATED QUALITY OF LIFE FOR CANCER PATIENTS AND THEIR FAMILY CAREGIVERS

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Background: Physical activity (PA), stress level, sleep quality and emotional health have been associated with health-related quality of life (HRQOL). Relationship between PA and HRQOL might be indirect and accounted for by other factors. Few studies investigated their relationships for cancer patients and family caregivers.

Objectives: Two path models were developed for both assuming that PA would be indirectly associated with HRQOL through a pathway of stress, sleep quality and emotional health.

Methods: 233 mixed type cancer patient-caregiver dyads completed an online questionnaire consisting of short form-12 health survey (SF-12), international physical activity questionnaire, perceived stress scale, Pittsburg sleep quality index, and hospital anxiety and depression scale. Path analysis was conducted to estimate associations among study variables for patients and caregivers separately.

Results: For patients, PA showed a significant direct effect on stress [unstandardized path coefficient (standard error) = -.55 (.28), p < .05], sleep disturbance [-.60 (.28), p < .05], depression [-.67 (.20), p < .01], and SF-12 physical health [2.29 (.45), p < .01]. PA showed a significant indirect effect on SF-12 physical health [.47 (.19), p < .05] and SF-12 mental health [.58 (.20), p < .01] via depression. For caregivers, PA was significantly associated with stress [-.49 (.25), p < .05], sleep disturbance [-.47(.20), p < .05], depression [-.37 (.15), p < .05], and SF-12 physical health [.82 (.40), p < .05]. PA showed a marginally significant indirect effect on SF-12 physical health [.26 (.14), p = .06] via sleep disturbance and SF-12 mental health [.25 (.13), p = .06] via stress.

Conclusion: This study showed PA might represent an important behavioral, rehabilitation strategy for improving HRQOL by enhancing psychological variables for both cancer patients and family caregivers.

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CAN WE USE SMARTPHONES IN RESEARCH? UTILIZING SMARTPHONE TECHNOLOGY TO CAPTURE OBJECTIVE MEASURES OF PHYSICAL ACTIVITY

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Objective measures are important for accurately assessing physical activity (PA), but are often costly and difficult to use. Smartphone technology is increasingly better at addressing these challenges although relatively little is known about the real-world accuracy of/barriers to smartphone use, which is important information for future research. An ideal smartphone application will: 1) avoid providing unnecessary information that could influence PA, 2) allow for correction by the researcher or participants for optimal accuracy, 3) avoid using too much data or battery life, and 4) allow for easy transmission of data from the smartphone to the researcher or practitioner. Thus, we review MOVES, a free smartphone application used in our lab, in light of these qualifications and examine its association with PA motivation and subjective PA.

All Participants (n = 150) self-reported their T1 PA motivation (BREQ-2) and T2 PA (IPAQ) one week later. 70 participants were assigned to use MOVES during that week. T1 motivation was not significantly related to MOVES (p > .05) but MOVES was related to scores on the IPAQ (r = .29, p < .05).

Next, we analyzed the practicality of MOVES for research. IPAQ scores did not differ between those using and not using MOVES (p > .05) a week later. Additionally, MOVES allows participants to correct the type of PA recorded and it does not display calories, a possible confounder. On average, 22.7% of participants reported at least one time where they did not keep their phones on them during PA. The majority of these missed PA sessions were of moderate or vigorous intensity, suggesting that these are the types of activities that any smartphone application might miss.

Smartphone applications like MOVES may be useful for both researchers and clinicians. However, participants must be willing and able to keeping their phones on them during PA, which may be a limitation for all smartphone applications. Strategies for future use of smartphone technology in the PA domain will be discussed.

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THE POSITIVE ASSOCIATION BETWEEN BODY SATISFACTION AND EXERCISE AND THE MEDIATING ROLE OF INTERNAL AND EXTERNAL MOTIVATION

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Physical activity (PA) is important for both psychological and physical health, especially among young adults. Literature has demonstrated a positive relationship between body satisfaction (BS) and PA, and there is evidence that self-determined motivation (SDM) mediates that relationship. However, the prominent measure of SDM, the Behavioral Regulations in Exercise Questionnaire (BREQ-2), does not address whether the influence of BS on PA operates through an internal or external pathway. This research includes two studies examining the relationship between BS and PA, as well as the mediating role of internal and external motivation. Study 1 used the composite score of SDM to test the robustness of previous findings, and Study 2 both replicated this analysis and assessed internal and external motivations separately.

Participants (study 1 (n = 536), study 2 (n = 146); 70% White, 70% female) self-reported their height, weight, and BS and completed the BREQ-2 and the International Physical Activity Questionnaire (IPAQ) online. Study 1 found that, after adjusting for BMI, BS was associated with more PA (p < .05), and SDM fully mediated this relationship. Study two supported these findings; however SDM only partially mediated this relationship. To test hypothesis 2, SDM was split into internal and external motivation. Results showed that BS was significantly related to internal motivation (p < .01) but only marginally related to external motivation (p < .10). A mediation analysis showed that Internal motivation was significantly related to PA (p < .01) and partially mediated the relationship between BS and PA, such that the strength of this relationship was decreased but still significant (p < .05). External motivation did not mediate this relationship. The current presentation reviews two studies demonstrating that the positive association between BS and PA operates through internal, rather than external, motivation. Implications for research theory and methodology as well as for clinical work will be discussed.

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THE ROLE OF HEALTH SELF-EFFICACY AND HEALTH EDUCATION IN THE HEALTH BEHAVIORS OF ULTRA-ORTHODOX JEWISH FEMALE TEACHERS

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Introduction: The Ultra-Orthodox Jewish (UOJ) community represents 10% of Israel's population. UOJ women engage in lower levels of health behaviors and have higher rates of diabetes and obesity. Barriers are likely cultural, religious and socio-economic (i.e. large families, modesty, restricted exposure to secular media and education, and poverty). Research in this population is limited. This study explored health behaviors (i.e. diet and physical activity (PA)) in UOJ female teachers and investigated the relationship of health self-efficacy (HSE) and health education (HE) to these behaviors.

Methods: 124 female UOJ high school teachers in Israel completed questionnaires as part of a health promotion program. Questions included demographic, health behavior and knowledge items and a HSE scale. HE was defined as self-reported education or training in nutrition, PA, and stress management.

Results: Teachers' age range was 25-71, average number of children was 7 (range = 0-17), 26% were below poverty level and 59% were overweight or obese. 11% of women reported at least 75 minutes/week of vigorous PA, 40% reported at least 150 minutes of moderate PA, 18% reported eating at least 3-4 fruits/day, 23% reported eating at least 3-4 vegetables/day, and 23% reported eating at least 3-4 servings of whole grains/day. Increased parity was associated with decreased minutes of vigorous PA. HSE was associated with whole grain consumption (.263, p = 004) and vigorous PA (.372, p = .000). HE was associated with fruit and vegetable consumption (.232, p = .032; .269, p = .013) and vigorous PA (.364, p = .002).

Conclusions: This study is the first investigating HSE, HE and health behaviors in a UOJ population. UOJ teachers reported engaging in moderate to low levels of PA and healthy eating. Exposure to HE and increased HSE may improve these health behaviors.

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SELF AND PROVIDER RISK ASSESSMENTS DURING PREGNANCY: IMPROVING THE PREDICTION OF ADVERSE BIRTH OUTCOMES

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Measures used by health care providers to identify pregnant women at risk of delivering a low birth weight or preterm infant have performed poorly (Jordan & Murphy, 2009), hindering efforts to reduce the prevalence of these adverse birth outcomes and sometimes directing prenatal interventions to patients who may not have required them. Pregnant women also make appraisals of their risk status, yet these self-perceptions can be inconsistent with a health care provider's risk evaluation (Lee, Ayers, & Holden, 2012) and their accuracy is unknown. The current study examined the value of combining self and provider risk assessments in predicting birth outcomes, a topic which has received almost no attention previously. Hypotheses pertaining to perceived risk, its value in predicting adverse birth outcomes, and its congruency with provider risk assessment were tested in 165 pregnant women at high (n = 34) or low (n = 131) obstetric risk, using well-validated instruments and measures developed for the research. Approximately 40% of the sample perceived their risk status differently than their health care provider. Prenatal stress, poor reproductive history, provider assigned risk, and unhealthful behaviors were independent predictors of perceived risk (Total R2 = .37). The greatest difference in birth weight (p = .003) and gestational age (p = .05) was between women considered at low risk by both self and provider and women considered at high risk by both. Both provider assigned risk (p = .02) and to a lesser extent, perceived risk (p = .06), predicted birth weight. The combination of information from both a woman and her health care provider was superior in predicting birth outcomes. Incorporating women's perceptions into obstetric risk determination may help to reduce the number of women considered by health care providers as high risk who have a normal delivery (false positives), and more importantly, those considered at low risk who ultimately experience an adverse outcome (false negatives).

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MENTORS OFFERING MATERNAL SUPPORT (M.O.M.S.): A MILITARY INTERVENTION PROGRAM FOR DECREASING PRENATAL MATERNAL ANXIETY AND DEPRESSION AND BUILDING RESILIENCE

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In pregnancy, psychosocial anxiety is believed to increase the incidence of preterm birth and low birthweight. Pregnancy anxiety and stress is associated with greater pregnancy complications such as hyperemesis, hypertension and pre-eclampsia. Within the military, pregnancy and its related complications are the top diagnostic codes for outpatient and inpatient care. They account for millions of dollars in healthcare costs. The M.O.M.S. program aims to decrease prenatal maternal anxiety and depression and build coping skills for increased resilience.

Method: Two hundred and twenty pregnant women in their first trimester were consented and randomized to either a stress-intervention treatment (M.O.M.S.) arm or a standard prenatal care control arm. Self report questionnaires included: Sociodemographic information, pregnancy-specific anxiety, depression, family functioning, coping and resilience. Mixed models were used to determine differences in the slopes across pregnancy between the treatment and control groups for each measure.

Results: The M.O.M.S. intervention group versus the control had statistically significant decreases in prenatal anxiety related to maternal identity formation ($\beta = -0.85$, $p \leq 0.02$); preparation for labor ($\beta = -2.04$, $p \leq 0.001$) and depression ($\beta = -0.94$, $p \leq 0.007$) over the course of treatment. The program had statistically significant increases for resilience ($\beta = 0.41$, $p \leq 0.05$).

Conclusions: The M.O.M.S. program, a one-hour intervention every-other week during the first and second trimester of pregnancy was shown to decrease prenatal anxiety and depression and increase resilience. Prenatal anxiety related to maternal identity formation and preparation for labor are predictive of preterm birth and low birth weight The M.O.M.S. appears to auger well for improving birth outcomes.

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IDENTIFYING PATTERNS OF INTIMATE PARTNER VIOLENCE PRIOR TO, DURING, AND AFTER PREGNANCY: A LATENT TRANSITION ANALYSIS

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Intimate partner violence (IPV) against women of reproductive age is a global health problem. However, little is known about patterns of IPV prior to, during, and after pregnancy. For abused women, prenatal care offers an opportune contact point with health care providers for screening and intervention. The present study examined stability and change in self-reported occurrence of IPV across pre-pregnancy, pregnancy, and the postpartum period in a population-based sample of diverse women. A predominantly person-centered methodology (i.e., latent transition analysis) was used to capture the heterogeneity of violence experiences. Latent transition analyses revealed three classes of women based on shared characteristics of IPV experiences: those who experienced No IPV, Predominantly Sexual IPV, or Physical IPV Only. Presence of violence in one period increased the likelihood of violence in subsequent periods. Change in IPV type was explained by individual and contextual factors including pregnancy intendedness of women and of their partners. Physical violence prior to conception was more likely to continue during pregnancy among women with an unintended pregnancy than among those with an intended pregnancy. Women whose partners did not want their pregnancy were at greater risk for initiation of physical violence during pregnancy than those whose partners wanted their pregnancy. Findings underscore the value and necessity of routine violence screening in prenatal care.

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RISK FACTORS FOR VACCINE HESITANCY IN MOTHERS OF NEWBORNS

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BACKGROUND: Vaccine hesitancy in parents has increased and affects adherence to the CDC childhood immunization schedule.
OBJECTIVE: To describe risk factors for vaccine hesitancy in mothers of newborn infants.
POPULATION: Mothers of normal newborns age 2-6 weeks in a single metropolitan area.
METHODS: We conducted a cross-sectional telephone survey in 2012. We measured hesitancy with the Parent Attitudes about Childhood Vaccines (PACV) scale using score thresholds 0-29 (not hesitant), 30-50 (somewhat hesitant), and 51-100 (hesitant). We used proportional odds logistic regression for multivariable analysis.
RESULTS: We approached 700 women in 4 hospital postpartum units. 488 (70%) consented to the study; 391 (56%) completed the survey. Mean age of the sample was 32.2 years; 90% were Caucasian; 91% were married or partnered; 73% college graduate or more; 77% had > $75 k household income; and 46% were first-time parents. Eleven percent (11%) of mothers were vaccine-hesitant; 16% somewhat hesitant, and 75% not hesitant. Hesitant and somewhat hesitant parents were more likely to be Asian; single; to have known their baby's doctor <1 year; report a doctor was not their main source of vaccine information; and to report actively seeking out vaccine information. Age, education, income, and family size were not associated with hesitancy. In adjusted analysis, Asian vs white race (OR 3.0, 95% CI 1.6-5.5); vaccine information-seeking (OR 2.0, CI 1.3-5.8); and internet as main information source (vs baby's doctor) (OR 2.7, CI 1.2-5.8) predicted higher hesitancy. Hesitancy was associated with beliefs that doctors do not have children's best interests at heart (OR 4.8, CI 2.6-8.8); lower perceived threat of vaccine-preventable disease (OR 5.0, CI 2.7-9.5), and lower satisfaction with knowledge of the vaccine schedule (OR 3.6, CI 2.1-6.1). CONCLUSION: Mothers of newborns in our sample have a lower hesitancy rate than has been previously reported in mothers of older children. Several beliefs associated with hesitancy may be amenable to intervention.

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MULTIFACTORIAL BELIEFS ABOUT THE ETIOLOGY OF COMMON DISEASES ARE ASSOCIATED WITH PREVENTIVE AND SCREENING BEHAVIORS

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Many common diseases arise due to a complex combination of genetic factors and lifestyle-related behaviors and exposures. Understanding people's beliefs regarding disease etiology is critical as theoretical and empirical work indicates that such causal beliefs contribute to the adoption of protective health behaviors. Past work has examined effects of holding either genetic or behavioral causal beliefs on people's behavioral engagement; however, behavioral implications of beliefs about the multifactorial nature of disease etiology are largely unknown. To address this gap, we examined relationships between multifactorial beliefs and the performance of health behaviors in the US population. Utilizing nationally-representative cross-sectional data collected in 2012-13 by the National Cancer Institute's Health Information National Trends Survey (HINTS 4 Cycle 2; $n = 3{,}630$), we examined how endorsement of the role of both genetics and health behaviors (i.e., multifactorial beliefs) in determining the development of diabetes, obesity, heart disease, high blood pressure, cancer, and overall health were associated with preventive and screening behaviors. Analyses adjusted for relevant covariates revealed that endorsement of multifactorial beliefs about the etiology of heart disease ($p = .02$), cancer ($p = .04$) and overall health ($p = .03$) were positively associated with sedentary screen time, whereas multifactorial beliefs about high blood pressure were positively associated with adherence to annual primary care visits ($p = .02$). Multifactorial beliefs about the etiology of cancer were also associated with a higher likelihood of ever having colorectal cancer screening ($p = .02$) and PSA testing ($p = .02$), and adherence to mammography ($p = .02$) and Pap screening recommendations ($p = .006$). Results suggest that beliefs about the multifactorial etiology of disease were generally associated with healthful behaviors. Future work should examine the mechanisms by which multifactorial beliefs may contribute to adaptive behavior changes.

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PREDICTING ADHERENCE BEHAVIORAL INTENTIONS FROM ELECTROPHYSIOLOGICAL BIOMARKERS AND INDIVIDUAL DIFFERENCES IN BEHAVIORAL ACTIVATION AND BEHAVIORAL INHIBITION SYSTEMS

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Most effective interventions for treatment adherence target one or more of the innumerable nonadherence factors identified in the health behavior literature. However, studying individual differences in health information perception can uncover invaluable knowledge regarding how patients decide to adhere. Providers can use this knowledge to effectively frame important messages to patients accordingly. People differ in baseline cortical arousal and in immediate electrophysiological responses called event-related potentials (ERPs) to emotional stimuli according to predisposing traits. Since people vary in their interpretations of information at this basic level, they are likely to also vary when receiving a diagnosis and treatment recommendations. Seventy-seven right-handed adults with no significant neurological or psychiatric history were recruited at East Carolina University, and completed trait surveys, engaged in a brief simulation study of receiving a diagnosis and treatment recommendations from a physician, participated in EEG recording procedures, and completed an affective ERP task. Regression analyses were conducted to investigate the influence of predisposing traits, emotion, message framing, and electrophysiological biomarkers on behavioral intentions to adhere to simulated treatment recommendations. A significant negative correlation was found between behavioral inhibition (BIS) and behavioral intentions for adherence to disadvantage-framed recommendations (DisBI), r = -0.263, n = 77, p = 0.021. A significant positive correlation was found between relative right baseline frontal cortical activity and DisBI, r = 0.247, n = 76, p = 0.032. Findings suggest that people who have more BIS trait and more right baseline frontal cortical activity are less likely to adhere to disadvantage-framed treatment recommendations.

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PERCEIVED RISK FOR BREAST CANCER AND ADHERENCE TO BREAST SCREENING AMONG WOMEN: AN EXAMINATION OF AGE AS A MODERATOR

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The American Cancer Society continues to support breast self-examination (BSE) as well as less systematic breast self-monitoring, as screening options, despite recent debates. However, adherence to many cancer screening recommendations is low. Perceived risk for breast cancer is an inconsistent predictor of adherence to BSE, with age emerging as a variable that may explain differential response to risk, although research is mixed. The objective of the present study was to examine age as a moderator of the relationship between risk perception and BSE adherence, with age hypothesized to strengthen this relationship. Participants were 120 women from a public Midwestern university (M age = 24.14, SD = 4.78, Range 21-40; M BMI = 24.73, SD = 5.75). Participants completed a demographic questionnaire as well as items assessing perceived breast cancer risk and self-reported BSE frequency within the past year. Hierarchical linear regression was used to evaluate the effects of risk perception, age, and their interaction on BSE outcome. Simple slopes analyses were used to probe the significance of the interaction. The interaction term for risk perception and age was statistically significant (p = .035). The simple slopes were significantly different from zero for older, t(114) = 2.39, p = .018, but not younger women, t(114) = -.685, p = .495. Age moderated the relationship between risk perception and BSE in a younger and more appropriate sample for studying BSE behaviors than was utilized in previous research. For older women, higher risk perception was associated with more frequent screenings, but for younger women, there was no significant relationship. Given that risk perception is a more salient predictor of screening behaviors with increasing age, interventions to promote cancer screenings in young women might be more effective when targeting age-specific barriers (e.g., self-efficacy, perceived norms, health literacy) rather than risk education.

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SEXUAL HEALTH DISCUSSIONS WITH OLDER ADULT PATIENTS DURING PERIODIC HEALTH EXAMS

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Sexual health is an integral part of overall health across the lifespan. In order to address sexual health issues such as sexually transmitted infections (STIs) the sexual history of adult patients should be incorporated as a routine part of the medical history throughout life. Healthcare professionals cite many barriers to attending to and assessing the sexual health needs of older adult patients, underscoring the importance of additional research aimed at improving sexual history taking among older patients. The purpose of this report is to explore the content and context of physician-patient sexual health discussions during periodic health exams (PHEs) with adults aged 50-80 years. Patients completed a pre-visit telephone survey and attended a scheduled PHE with their permission to audio-record the exam. Transcribed audio recordings of 484 PHEs were analyzed according to the principles of qualitative content analysis and frequency of sexual history taking components were noted. Physician characteristics were obtained from health system records and patient characteristics were obtained from the pre-visit survey. Analyses revealed that approximately one-half of the PHEs included some discussion about sexual health, with the majority of those conversations being initiated by the physicians. A hierarchical linear model revealed that patient-physician gender concordance, race discordance and physicians' age (increasing) were significantly associated with sexual health discussions. Results support the need for physician interventions focused on increasing physician self-efficacy for assessing sexual health in gender discordant and racial concordant patient interactions. Moreover, interventions for older adults should focus on efforts to increase education about sexual health and sexual risk behaviors, as well as empower individuals to seek information from their health care providers.

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KNOWLEDGE AND STD TESTING BEHAVIOR AMONG SEXUAL MINORITY YOUTH

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Sexual minority youth (who identify as gay, lesbian, bisexual or engage in sexual contact with persons of the same or both sexes) are at increased risk of sexually transmitted diseases (STDs) including HIV. Before adapting an existing social marketing program promoting STD testing in this population, a survey was conducted. A total of 121 youth age 15-25 completed an anonymous self-administered survey on tablet computers. The participants were predominantly Black or African American (49%) and Hispanic (43%). While 36% identified as straight or heterosexual, 31% identified as gay or lesbian, 17% bisexual, 7% pansexual, and 3% queer. Gender identities were diverse: 46% identified as male, 29% female, 17% transfemale, 4% transmale, and 3% as gender nonconforming. In total, 29% were unstably housed. Participants were at high risk for STD acquisition: 23% had 4 or more sexual partners in the last year, and 26% had ever been diagnosed with an STD. Overall, 64% had been tested in the last 3 months. Testing behavior did not differ significantly by age, race, ethnicity, housing status, gender identity, or sexual orientation identity. Among youth with 4+ sex partners in the last year (n = 28), 86% had an HIV or STD test in the last 3 months, compared to 45% among youth with no partner in the last year (n = 15) (Chi-square 12.29, p = .03). Youth who had been tested in the last 3 months (n = 78) were more likely than those not recently tested (n = 43) to express correct knowledge about STDs: 86% affirmed that half of new STDs occur among youth age 15-24, compared to 63% among those not recently tested (Chi-square 8.54, p = .006), and 87% affirmed that most STDs are asymptomatic (compared to 79%, Chi-square 1.39, p = .298). CDC recommends at least annual testing for high-risk youth populations, including females and young men who have sex with men. STD testing is common in this population and reflects youths' actual STD risk and knowledge. More research is needed to explore whether increasing knowledge would have an impact on testing.

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CHILDHOOD FAMILY ADVERSITY AND TIMING OF FIRST SEX AMONG ADOLESCENTS IN TAIWAN: USING TAIWAN EDUCATION PANEL SURVEY

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Considerable attention has been paid in the literature to effects of childhood family adversity on later outcomes; however, studies identifying different impacts of various critical periods and different types of family adversities have emerged in a more scattered way.
This study aims to assess concurrent and long-term influences of childhood family adversity on the timing of first sex among adolescents aged 18 in Taiwan.
Data in this study were from the Taiwan Education Panel Survey (TEPS), which used a multi-stage cluster sampling design to provide a nationwide representative sample. Only data on a representative sample of the 1988/9 birth cohorts in the 12th Grade in 2007 were used for analysis in this study. In 2007, 18,995 students (age 18) completed the survey. Students were asked to retrospectively report whether they experienced seven kinds of childhood family adversities. The timing of first sex was self-reported and defined as never, age < 12, age 12-15 and age 15-18. Multinomial logistic regression models were used to examine the association with the timing of first sex, adjusting for all control variables.
Among seven childhood family adversities, children who experience parental decease and mental illness episodes before age 12 have significantly higher odds to have first sex before age 12 (decease: OR = 4.15, 95%CI = 2.16-7.98; mental illness: OR = 3.86, 95%CI = 1.77-8.43). The effect of both adversities before age 12 has less impact on having first sex at age 12-15 and 15-18. When experiencing parental decease in an elder age (age 12-15), the effect size decreased but remained significant. None of the other childhood family adversities showed similar significant or decreasing patterns. For example, having any parents being severely ill or having family financial crisis before age 12 does not have significant association on having first sex before age 17 (vs. never).
This study identified that there might be critical periods for different types of childhood family adversities on the timing of first sex among adolescents in Taiwan.

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SMART GIRLS MAY CARRY CONDOMS BUT THEY ARE JUDGED PROMISCUOUS. DO PUBLIC SERVICE ANNOUNCEMENTS REDUCE STIGMA?

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Women are encouraged to take responsibility for their sexual health by carrying condoms, yet women who do so are viewed as promiscuous. The efficacy of public service announcements (PSAs), available on the Internet, to reduce stigma have yet to be fully evaluated. In the present study, university students viewed a brief web PSA video on women carrying condoms. Participants watched the PSA video, examined a purse belonging to a hypothetical woman with 0, 1, or 3 condoms, and rated the woman on 3 DVs: Risk Behaviors (e.g. frequency drunk and sexual experience), Health Behaviors (care about health, get HIV tested), and Disease (Had HIV or STD). The study design was: 2 (believable/neutral or not believable) by 3 (0, 1, or 3 condoms). Fifty-five percent agreed that the video was believable. The sample (N = 249) had a mean age of 20.41 (SD = 3.45) years, was predominantly non-Hispanic white (91.9%) and female (65%). No differences were found in the outcome variables across gender. Three univariate ANOVAs were used and there were no interaction effects. The women whose purses contained 1 or 3 condoms were rated as more likely to engage in Risk Behaviors (F (2,243) = 41.52, p < .000) as well as to engage in more Health Behaviors (F (2,243) = 2.81, p < .06). The owner of the purse with 3 condoms was rated more likely to have had an STD/HIV than a women with one or none (F (2,243) = 4.18, p < .02). Those who rated the video as believable rated the woman as more likely to engage in Health behaviors (F (1,429) = 4,30, p < .04), regardless of number of condoms. In summary, women who carrying condoms continue to be stigmatized by men and women, even though 78.3% of the sample stated that either the man or woman should provide condoms. A believable PSA video did not affect negative stereotypes and increased positive attitude, regardless of condom number. More research is needed to identify useful components of PSAs.

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THE CONTRIBUTION OF SLEEP, STRESS, AND PHYSICAL SYMPTOMS TO PERCEIVED HEALTH

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Background: Poor sleep and increased stress contribute to health by altering physiological systems. Unexplained physical symptoms may act as early indicators of allostatic load prior to the onset of disease. This study examined whether self-reported physical symptoms partially mediated the effects of sleep and stress on perceived health.
Participants: 475 undergraduate students from diverse backgrounds (65.8% White); 74.9% female; age range 17-51 years (M = 20.1, SD = 4.03).
Procedure: Electronic measures included: demographics, perceived stress (PSS- Cohen & Williamson, 1988), sleep quality (PSQI- Buysee et al., 1989), perceived physical symptoms (HSCL-25- Derogatis et al., 1974), and perceived health.
Results: Poor sleep quality was reported by 20.8% of the sample; participants reported moderate levels of perceived stress (M = 18.18, SD = 7.17); 92.3% reported being bothered by at least one physical symptom over the past two weeks; 9.5% reported being in fair or poor health; and 37% reported having a diagnosed medical condition.
Poorer sleep quality was associated with increased perceived stress, higher reports of physical symptoms, and poorer perceived health. Perceived stress was associated with higher reports of physical symptoms and poorer perceived health. Regression analyses indicated that sleep quality and perceived stress had positive direct effects on physical symptoms (b = .20, p < .01; b = .38, p < .01) and perceived health (b = .12, p < .01; b = .24, p < .01). The adjusted R2 of the model was 0.35. Self-reported physical symptoms partially mediated the effects of sleep quality and perceived stress on health perception (b = .11, p < .05).
Conclusions: Our findings are consistent with theoretical models (i.e., Benham, 2010; Eriksen & Ursin, 2002) that suggest that allostatic load in the form of somatic sensitization may explain the presence of unexplained physical symptoms prior to the onset of illness. Our ability to make causal conclusions is limited by the study's design. These findings have implications for efforts to manage health and physical symptoms.

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SEASONAL SLEEP CHANGE AS A RISK FACTOR FOR INDOOR TANNING

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Intro: Sleep change is an important marker of seasonal affective disorder (SAD), which has been associated with indoor tanning (IT). However, the relationship between sleep and IT is unexplored. We sought to investigate whether seasonal sleep changers may have engaged in IT for mood-regulation. We hypothesized that individuals with high degrees of seasonal sleep change would be more likely than others to indoor tan during the winter and to endorse tanning to improve mood and to relax.
Methods: Participants (N = 306) completed self-report measures. The Seasonal Scale Index was utilized to assess presence of SAD and degree of seasonal sleep change. Individuals were divided into high sleep changers and low sleep changers. Tanning to improve mood and to relax were assessed and dichotomized into those who agreed versus those who did not agree with tanning for said purpose. Frequency of IT in winter was assessed and dichotomized by those who did vs. did not tan in winter. Last the Tanning Pathology Scale (TAPS) was used to assess dependence on tanning. A median split dichotomized TAPS scores.
Results: HSC were more likely to tan in the winter months (OR 2.074; 95% CI 1.05 - 4.09), tan to improve mood (OR 1.798; 95% CI 1.07 - 3.03) and have higher levels of tanning dependence (OR 1.898; 95% CI 1.202 - 2.998) than LSC. Similarly, those with SAD were more likely to tan to improve mood (OR 2.05; 95% CI 1.22 - 3.44) and have higher levels of tanning dependence (OR 1.56; 95% CI 1.00 - 2.45) than those without SAD.
Discussion: These data expand knowledge about the relationship between SAD and IT and provide preliminary evidence that seasonal sleep change may be related to IT. Sleep and circadian desynchrony may be pertinent to explore as modifiable risk factors of IT. For instance, if circadian misalignment leads to both SAD and sleep changes, then bright light therapy may ameliorate both seasonal sleep change and winter IT.

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PERCEIVED STRESS, DEPRESSION, AND DAYTIME SLEEPINESS IN HISPANIC AMERICANS

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Higher levels of perceived stress have been associated with more sleep disruption and daytime consequences of increased sleepiness. Additionally, more daytime sleepiness has been associated with increased levels of depression. Few studies have explored the relationships among stress, depression, and sleepiness in community-dwelling Hispanic Americans (HAs). The present study examined the relationship between perceived stress and daytime sleepiness in HA adults, and explored the potential impact of depressive symptoms on this relationship. A community-based sample (N = 421) of 211 men and 210 women completed the Epworth Sleepiness Scale, an eight-item measure of daytime sleepiness. Self-perceived levels of stress were measured by the Perceived Stress Scale-10, and depressive symptoms were measured by the Personal Health Questionniare-9. MacKinnon's product of coefficients method was used to determine if perceived stress was predictive of daytime sleepiness and if depression mediated this relationship. First, a linear regression, controlling for age, income, education, and gender demonstrated a significant main effect for perceived stress ($\beta = .617$, $p < .001$) as a predictor of depression. Second, after controlling for perceived stress, a multiple linear regression revealed depression significantly predicted daytime sleepiness ($\beta = .275$ $p < .001$). Third, the RMediation program was used to evaluate the indirect effect of perceived stress on daytime sleepiness, as mediated by depression. Results revealed an indirect effect of .115 (95% CI: .061, .172), indicating a significant mediation at $\alpha = .05$. These findings suggest that the relationship between perceived stress and daytime sleepiness in HAs might be attributable to depression. Because this study used cross-sectional data, future studies should investigate these relationships longitudinally to examine temporal and causal relationships.

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THE ROLE OF SMOKING CUES ON SPEED AND ACCURACY IN SMOKERS AND NON-SMOKERS

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Research has repeatedly demonstrated that addicts show an attentional bias toward drug-related cues (Franken, 2003). Autonomic dysregulation, as indexed by reduced heart rate variability (HRV), has been linked to poor attention regulation and performance on cognitive tasks (Thayer & Brosschot, 2005). However, these measures have not been used together to assess smokers' responses to smoking related visual cues. In the current study, smokers and non-smokers (N = 55, 29 smokers) participated in a reaction time task (match vs. mismatch), which consisted of three types of images (smoking-related, neutral and appetitive), presented in 40 trial counterbalanced blocks. Measures of HRV and self-reported craving (using the Tobacco Craving Questionnaire-Short Form) were collected at baseline and throughout the experimental session. Results suggested that those with higher baseline HF-HRV responded faster during the smoking condition than those with lower HF-HRV ($p < .05$). Likewise, those with higher (vs. lower) baseline HF-HRV also showed differential accuracy across conditions ($p < .05$). Accuracy during each condition also varied between the smokers and non-smokers ($p < .05$); indicating smokers were less accurate during the smoking condition than non-smokers ($p < .05$). There was a moderate negative correlation between accuracy during the smoking condition and craving at baseline ($r = -.35$, $p < .01$), immediately after the smoking condition ($r = -0.33$, $p < .05$), and after recovery from the smoking condition ($r = -0.30$, $p < .05$). These results suggest that smokers' decreased accuracy during the smoking condition compared to non-smokers may be related to their increased craving, which interfered with their ability to respond accurately. Speed and accuracy differences between those with higher and lower resting HRV suggested a trade-off between faster responses and accuracy, particularly during the smoking condition. It appears then that both HF-HRV and smoking status influence performance on a reaction time task that includes visual smoking-related information.

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SOURCE OF REFERRAL TO A SMOKING CESSATION INTERVENTION PREDICTS MOTIVATION TO QUIT

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As scientists develop behavior interventions, many have turned to new technologies for intervention implementation and study logistics such as participant recruitment. As we turn to Internet-based recruitment, however, a crucial but insufficiently-explored avenue for inquiry involves human-Internet engagement as a recruitment constraint. Among key questions is whether search result promotion strategies yield differently motivated participants than banner advertisements in social media sites such as Facebook.

In conjunction with the National Cancer Institute, we recruited young adult participants to a text-message intervention intended to facilitate smoking cessation. We recruited participants by ensuring the study URL appeared in search engine results and by using banner advertisements on Facebook. We then tracked referral source. That allowed us to predict motivation to quit as a function of referral source.

On a baseline survey, we presented a slider response tool that allowed a participant to select a 1, 10, or any integer in between to report their motivation to quit smoking at that moment. We tracked whether participants reached the study via a "search" avenue or an "ad click" avenue. Those characterized as search-routed participants reached the study URL via the Google, Craiglist or Bing/Yahoo search site. Those recorded as having clicked on a Facebook advertisement or having reported e-mail, an online ad, or Facebook as the referring source were deemed ad click participants. We then assessed an ordinary least squares model predicting cessation motivation as a function of referral source. Source significantly predicted motivation: smoking cessation motivation among search engine referrals was higher than among ad click referrals, $p < .01$, model $F = 8.24$, R-squared = .03, n = 271. Results have implications for intervention recruitment, especially for substance use, suggesting broadcast advertisements generally will draw less motivated participants than strategies to optimize search results.

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USING A COMMUNITY-BASED APPROACH (CBPR) TO REDUCE TOBACCO USE IN HOMELESS SHELTERS

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Background: The epidemiology of tobacco use involving people who are homeless indicates continued high rates of tobacco use (>65%), despite years of statewide tobacco control programs. Providing smoking reduction programs using a CBPR approach tailored for transitional shelters for the homeless may help reduce tobacco use among staff and residents.

Methods: A comprehensive peer-to-peer smoking reduction program featuring 8 weekly one-hour smoking reduction support group sessions with an onsite trained facilitator was implemented in 26 randomly selected shelters in Los Angeles County. Each session featured motivational interviewing, incentives, nicotine patches/gum, and carbon monoxide (CO) testing. Following completion of the support group sessions, study investigators met with the facilitators at each shelter to conduct "mutual learning dialogues", a CBPR strategy for eliciting challenges, benefits, and suggested improvements to the program.

Results: Content analyses of the dialogues identified 7 main topics: changes to the curriculum, CO testing, use of pharmacotherapy, length of the group sessions, use of incentives, facilitator characteristics, and shelter-level tobacco control policies. There was unanimous support for continuing the smoking reduction program but with specific suggestions for improving its user-friendliness and likely effectiveness.

Conclusions: Transitional shelter staff enthusiastically endorsed investing tobacco control resources to help their clients but suggested ways to improve on what they viewed uniformly as a helpful program for reducing tobacco-related disparities faced by the homeless.

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Meritorious Poster
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SMOKERS' AND NON-SMOKERS' BELIEFS ABOUT HARMFUL TOBACCO CONSTITUENTS: IMPLICATIONS FOR FDA COMMUNICATION EFFORTS

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Objective
Most of the harms from smoking come from constituents that are naturally present in tobacco and tobacco smoke. Legislation requires the US Food and Drug Administration (FDA) to release information to the public about the constituents in tobacco and tobacco smoke. To inform these efforts, we sought to better understand how smokers and non-smokers think about harmful tobacco constituents.
Methods
In October 2012, 300 US adults ages 18-66 completed a cross-sectional internet survey. The questions focused on 20 harmful tobacco constituents that FDA has prioritized for communicating with the public.
Results
Most participants had heard of seven tobacco constituents (ammonia, arsenic, benzene, cadmium, carbon monoxide, formaldehyde, and nicotine), but few participants had heard of the others (e.g., acrolein). Few participants correctly understood that many constituents were naturally present in tobacco. Four constituents with highest awareness (ammonia, arsenic, carbon monoxide, and formaldehyde) elicited the most discouragement from smoking. Substances that respondents believed companies add to cigarette tobacco discouraged people from wanting to smoke more than substances that naturally occur in cigarette smoke ($p < .001$). Constituents elicited greater discouragement from wanting to smoke if respondents were non-smokers ($\beta = -.34$, $p < .01$), had negative images of smokers (prototypes) ($\beta = .19$, $p < .01$), believed constituents are added to tobacco ($\beta = .14$, $p < .01$), or were older ($\beta = .16$, $p < .01$).
Conclusions
Our study found low awareness of most tobacco constituents, with greater concern elicited by additives. Efforts to communicate health risks of tobacco constituents should consider focusing on ones that elicited the most discouragement from smoking.

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A PILOT STUDY OF NOVEL METHODS TO DETERMINE THE IMPACT OF PICTORIAL CIGARETTE WARNING LABELS ON SMOKING BEHAVIOR

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The 2009 Family Smoking Prevention and Tobacco Control Act required new pictorial health warning labels for US cigarette packs, but tobacco industry lawsuits have delayed their implementation. Science to determine the impact of pictorial warnings on smokers' behaviors is urgently needed to inform regulatory action and foster their implementation. In this pilot study, we assessed feasibility of an innovative approach to determine the impact of pictorial cigarette warning labels combining biochemical verification of cigarette smoking and mobile phone-based assessments of smoking behavior. On day 1, smokers ages 18-30 ($n = 10$) completed a baseline interview with expired carbon monoxide (eCO) and placed a pictorial warning label on the front and back of their cigarette packs. On day 2, participants completed mobile phone text message assessments of smoking behavior, and on day 3 participants completed a follow-up interview similar to the baseline. Participants reported smoking fewer cigarettes/day on day 2 mobile phone assessments than at baseline (M 1.5, SD 1.7 vs M 5.6, SD 3.5, $p = .004$). Compared with assessments of existing text only warnings administered at baseline, on day 3 participants were more likely to report that pictorial warnings were noticeable (M 4.1, SD 1.3 vs M 2.7, SD 1.2, $p = .013$), stopped them from smoking (M 1.6, SD 0.8 vs M 1.1, SD 0.3, $p = .052$), and conveyed the health risks of smoking (M 3.5 SD 1.3 vs M 2.2, SD 1.1, $p = .006$). We achieved 100% adherence with all procedures, including eCO and text message assessments. Using a validated research experience scale, participants endorsed highly favorable views on study participation (M 37.3, SD 3.4, range 8-40). These findings support the feasibility of a novel research approach to inform US tobacco regulation by capturing the impact of pictorial warning labels on young adult smokers' behaviors.

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ASSOCIATION BETWEEN ATTENTION DEFICIT HYPERACTIVITY DISORDER SYMPTOMS AND ILLICIT DRUG USE IN ADD HEALTH SAMPLE

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Like nicotine use and dependence, the extent to which ADHD symptoms confer risk on non-nicotine substance use outcomes, such as illicit drugs, has also been investigated, but the findings are less consistent. Studies of ADHD and illicit drug use have failed to control for the effect of smoking during adolescence, which is also an important risk factor in this association. Thus, it is not known if ADHD symptoms and early smoking are independent risk factors for illicit drug use or if this risk is heightened among individuals with ADHD who also smoke during adolescence. The study examined regular smoking during adolescence and ADHD symptom severity as predictors of illicit drug use initiation and adult dependence in a large population-based US cohort.
The study drew from 20,774 adolescents in the National Longitudinal Study of Adolescent Health (Add Health), a nationally representative longitudinal cohort. Participants completed four waves of data collection and available sampling weights were limited to 9,421. Discrete survival mixture analyses were used to examine the degree to which latent classes of ADHD symptoms related to the risk of experimenting with illicit drugs. Also, multivariate logistic regression was used to predict the probability of adulthood illicit drug dependence based on ADHD severity and early smoking. In both models, product terms (ADHD x regular smoking during adolescence) were added to evaluate the moderating effects among those with greater ADHD symptoms.
The results of the survival model indicated that even after controlling for conduct problems, the class with greater ADHD symptoms (27.7%) and regular smoking ($b = .39$; $p < .001$) were significantly and independently related to subsequent illicit drug use ($b = .19$, $p < .0001$). The hazard ratio of illicit drug dependence was 1.51 for early smoking and 1.19 for greater ADHD symptoms. There was no interaction effect of ADHD symptoms x regular smoking. Clinical implications: Working with youth who display ADHD symptoms may be at risk for illicit drug use despite smoking status during adolescence.

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REFER, GO, QUIT: HOW DO OLDER SMOKERS FARE?

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Older adult smokers may be less likely to be interested in cessation, and healthcare providers less likely to advise older smokers to quit. Web-assisted tobacco interventions (WATIs) allow quit information and support to be easily tailored to the individual which improves likelihood of cessation. Yet, older adults are less likely to be computer literate than their younger counterparts which may discourage use of WATIs. We investigated whether older smokers are less likely to be referred to a WATI, less likely to register to the WATI website, and less likely to quit smoking than younger smokers. 174 primary care practices from the QUIT-PRIMO trial were categorized as "younger" if less than 30% of the practice's patients were over 65 years ($N = 86$) or "older" ($N = 88$) if more than 30% were over 65 years. Wilcoxon signed-ranks tests determined WATI referral, registration, and cessation differences between practices serving predominantly "younger" and "older" patient groups. Least square means were adjusted by total number of patients, percent of patients with Medicaid, and type of practice (internal medicine vs. family practice). "Younger" and "older" practices were equally likely to refer smokers to the WATI (*Myounger* =21.82 vs. *Molder* = 25.97, $p = 0.36$), their patients were equally likely to register (*Myounger* =2.85 vs. *Molder* = 2.65, $p = 0.80$), and those registered were equally likely to have quit smoking after six months (*Myounger* =0.26 vs. *Molder* = 0.35, $p = 0.40$). Our findings suggest that no matter what the age composition of a practice, providers seem willing to refer older smokers to web-based cessation treatments, and both younger and older patient groups are interested in using a WATI and able to quit with its help. As older smokers seem willing and able to utilize WATIs, future work may want to tailor systems especially for older smokers in order to increase quit success.

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RELIGIOSITY AND HEALTH PREFERENCES IN HAITIAN PRIMARY CARE PATIENTS

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Haitians are one of the fastest growing Caribbean immigrant populations in the US and tend to have lower rates of cancer screening than other groups. Given common cultural and religious beliefs in this population, we examined the relationship between religiosity, medical mistrust, and health information seeking preferences among Haitian primary care patients. Participants completed a 20-minute survey in English or Haitian-Creole. The survey included demographics and the Duke University Religion Index, a 5-item scale assessing 3 major dimensions of religiosity. Items about trust and health information seeking from the 2007 Health Information National Trends Survey and questions about preferences for cancer related information were also included. 85 of 94 Haitian participants (90.4% response rate) were recruited from Queens Hospital Center Ambulatory Care Center. Participants were on average age 51 (range = 23-80); 74% were female. 93% were born in Haiti, 81% completed the questionnaire in Haitian-Creole, and 35% completed some high school or received a HS diploma. 41% reported an annual income from $10,000- $29,000. The mean DUREL score for intrinsic religiosity was 14.3 out of 15 (range = 7-15). Of those who scored high on religiosity (n = 82), 68% said they would call their doctor and 17% would ask a friend or family member if they had a health concern; no one endorsed asking a religious leader. 95% said they would prefer to hear information about cancer from their doctor; 72% reported high levels of trust in their doctor for health information. In this sample, Haitian patients were highly religious, but also trusted their physicians. These results are not unexpected, given that this is a primary care sample. However, this is reassuring, as the medical setting might be a reasonable place to implement health education and interventions. Future studies could be conducted in community based settings to assess the external validity of these findings.

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CYTOKINE LEVELS AND COGNITIVE DEFICITS IN CHILDREN WITH SICKLE CELL DISEASE

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Children with sickle cell disease (SCD) are at increased risk for cognitive deficits that may contribute to difficulties in academic and social functioning. Physical and psychological stressors are common among individuals with SCD and may contribute to inflammatory processes. Cytokines mediating inflammatory and other biologic processes may influence cognition. The purpose of this study was therefore to examine the relationship between plasma cytokine levels and cognitive functioning in 25 children (mean age 11.4 years) with SCD and a normal MRI of the brain. Pearson correlations indicated significant negative relations between cytokines (MCP-1, IL-4, IL-5, IL-8, and IL-13) and tests of executive function on the Delis-Kaplan Executive Function System (r = -.54 to -.74, p < .05). In addition, significant positive relations between cytokines and chemokines (TNFa, MCP-1) and measures of cognitive ability and executive function on the Wechsler Abbreviated Scale of Intelligence and Delis-Kaplan Executive Function System (r = .45 to .62, p < .05) were found. Preliminary evidence suggests an association between selective cytokines levels and cognitive function in children with SCD. Results suggest that mental health interventions may be indicated to improve patients' abilities to cope with the stress of chronic illness and psychosocial difficulties common to this population.

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POLICE WORK ABSENCE: AN ANALYSIS OF POLICE-SPECIFIC STRESS

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Police work is a high stress occupation and stress has been implicated in work absence. The present study examined (1) associations between police stress and absences, (2) distinctions between "voluntary" (1-day) and "involuntary" (> 3-days) absences; (3) modifying effect of hardiness and coping. Officers (n = 337) from the Buffalo Cardio-Metabolic Occupational Police Stress study were included in the present study. The sample was 72% males, 77% Caucasian, 73% married, and 75% patrol officers. Mean age was 41 years (SD = 6.4). Measures included: the Spielberger Police Stress Scale, 1-year payroll absence data, the Dispositional Resilience Scale, and the Brief COPE. Negative binomial regression was used to estimate rate ratios (RR) of 1-day and >3-day work absences with increasing stress scores. Models were adjusted for age, race, rank, smoking status, and alcohol intake. For one-unit increase in stress scores, the covariate adjusted RRs for one-day work absences were: total stress score (RR = 1.19, 95% CI: 1.04-1.36); administrative stress (RR = 1.52, 95% CI: 1.05-2.18); physical/psychological stress (RR = 1.54, 95% CI: 1.14-2.07); lack of support (RR = 1.75, 95% CI: 1.01-3.05). Among officers high in hardiness (above median score), the RRs were: total stress score (1.43, 95% CI: 1.15 - 1.80); administrative/professional stress (2.30, 95% CI: 1.23 - 4.31); physical/psychological stress (2.17, 95% CI: 1.35 - 3.47); lack of support stress score (4.00, 95% CI: 1.56 - 10.3). Results suggest that officers were more likely to take voluntary 1-day absences due to various types of stress at work. Stress was not significantly associated with ≥3 day physician documented absences suggesting they were due to illness. Hardy individuals including those with high scores on the challenge sub-score may use 1-day absences as a positive coping strategy.

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DOES STRESS MEDIATE THE RELATIONSHIP BETWEEN SEXUAL ORIENTATION AND BEHAVIORAL RISK DISPARITIES?

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Purpose: Compared to heterosexuals, a larger proportion of sexual-minorities report tobacco, marijuana, substance use, and binge drinking. Among sexual-minority women, a larger proportion is obese (34%) and overweight (30-35%), relative to heterosexual women. These disparities may be driven by minority stressors. Stress alters how individuals think, feel, and behave and may be a key driver in disparities among sexual minorities. Testing indicators of stress is needed to clarify the drivers of disparities among sexual-minorities.
Methods: Data were from the 2005-2010 National Health and Nutrition Examination Survey. Associations between sexual orientation and tobacco, alcohol, substance, and marijuana use, and body mass index, were tested using the chi-square test. Stress, indicated by depressive symptoms and C-reactive protein, was tested as mediators between sexual orientation and behavioral risks.
Results: Gays/lesbians and bisexuals were more likely to report current smoking (p < .001), lifetime history of substance use (p < .001), lifetime history of marijuana use (p < .001), and period of binge drinking (p = .0061). The largest disparities were observed among bisexuals. Depressive symptoms partially mediated the association between sexual orientation and smoking (aOR 2.04, 95% CI 1.59, 2.63), substance use (aOR 3.30 95% CI 2.20, 4.96), and marijuana use (aOR 2.90, 95% CI 2.02, 4.16), among bisexuals only. C-reactive protein did not mediate the sexual orientation/behavior relationship.
Conclusion: Depressive symptoms accounted for only 0.9-3% of the reduction in the association between sexual orientation and smoking, substance use, and marijuana use among bisexuals. Stress could be a mediator; however comprehensive assessments of stress are needed to better inform explanations for disparities in behavioral risk among sexual minorities.

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INVESTIGATING THE RELATIONSHIP BETWEEN CHILDHOOD TRAUMA AND ANXIETY SYMPTOMS: ARE THERE DIFFERENCES BY TRAUMA TYPE?

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Background: Childhood trauma involves exposure to early life stress or maltreatment, often classified as sexual, physical, and emotional abuse as well as neglect. Childhood trauma increases risk for the development of mood disorders and is thereby a significant public health problem. Few investigations, however, have examined the relationships between trauma types and specific indices of anxiety. Examining the relationship between childhood trauma and anxiety in young adults can help inform the development of more targeted preventive interventions. This study investigated the following: (1) are young adults with history of childhood trauma at greater risk for anxiety symptoms as compared to those without history of trauma; and, (2) what are the relationships between types of childhood trauma and specific clusters of anxiety symptoms?
Methods: The sample was composed of young adults (N = 103) between the ages of 18-22 years. All participants completed the Childhood Trauma Questionnaire (CTQ) and the Beck Anxiety Inventory (BAI).
Results: Findings from independent samples t-tests indicated that those participants who endorsed history of childhood trauma (58%) had significantly greater overall anxiety [t(98) = -2.11, p = .04], including neurophysiological [t(98) = -2.51, p = .01] and panic symptoms [t(97) = -2.37, p = .02], as compared to those with no history of childhood trauma (42%). Linear regression analyses revealed that the majority of childhood trauma types significantly predicted total anxiety - with the exception being physical abuse. Bivariate correlations indicated varying patterns of relationships between specific clusters of anxiety symptoms and types of childhood trauma, with emotional abuse, sexual abuse, and physical neglect associated with multiple subscales of the BAI.
Conclusions: Findings suggest that young adults with history of childhood trauma experience greater anxiety than those without history of trauma. Specific clusters of anxiety symptoms vary across types of childhood trauma exposure and provide potential avenues for targeting intervention.

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THE ASSOCIATIONS BETWEEN DIURNAL CORTISOL SLOPE, PERCEIVED HEALTH, PERCEIVED STRESS, AND QUALITY OF LIFE AMONG BREAST CANCER PATIENTS

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Background: Breast cancer patients are prone to experience psychological distress, disturbed circadian cortisol rhythm, and poorer quality of life. This study attempted to investigate the HPA-axis functioning in terms of the diurnal cortisol slope and its associations with perceived health, perceived stress, and quality of life among breast cancer patients.
Methods: Participants were 162 Chinese breast cancer patients (mean age = 49.2 years, SD = 8.1; average cancer duration = 23.0 months, SD = 7.8). They completed the Perceived Stress Scale, Hospital Anxiety and Depression Scale, and Functional Assessment of Cancer Therapy - Breast Cancer and provided 5 salivary cortisol samples upon awakening, at 45 minutes post-awakening, 1200, 1700, and 2100. Latent growth modelling with a latent time basis was used to model the cortisol trajectory and derive the diurnal slope.
Results: The latent growth model with latent time basis fitted the data well (χ2(6) = 3.86, CFI = 1.00, TLI = 1.05, RMSEA = .00, SRMR = .035). The participants reported an initial cortisol mean of 7.45 nmol/L and a diurnal decrease of 5.92 nmol/L. Significant interindividual variations existed in the initial level (SD = 2.87) and the diurnal decrease (SD = 2.83). Controlling for age, cancer duration, and awakening time, the diurnal slope was significantly associated with perceived health (β = .48, SE = .21, p < .05), perceived stress (β = .20, SE = .10, p < .05). The diurnal slope was not significantly associated with anxiety (β = -.11, SE = .14, p = .45), depression (β = -.08, SE = .13, p = .54) and quality of life (β = .01, SE = .03, p = .96).
Conclusion: Breast cancer patients with poorer perceived health and greater perceived stress showed a flatter diurnal cortisol slope, suggesting a manifestation of anomalous HPA axis activity.

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A-195

EXPLORING THE FEASIBILITY OF MOBILE TEXTING FOR RECOVERY SUPPORT AMONG SUBSTANCE ABUSING YOUTH

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The purpose of this qualitative study was to understand perceptions about mobile-based continuing care among substance abusing youth (12-24 years old) in treatment. Eight focus groups were conducted in outpatient and residential publicly funded treatment programs in Los Angeles County, California. Thematic data analysis revealed that roughly 70% of youth positively endorsed text messaging as a viable method for continuing care, 20% expressed ambivalent feelings, and 10% conveyed dislike. Seven major themes emerged from focus groups related to the types of text message areas youth consider important for a continuing care program to include: appraisal (90%), lifestyle (85%), motivation (80%), coping (75%), confidence (65%), inspiration (55%), and resources (50%). Youth views about logistical application of a mobile continuing care intervention are also discussed. These findings suggest that text messaging to may serve as a viable engaging opportunity that is appropriate and sensitive to the needs of youth with substance use problems.

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A-196

ALCOHOL, ATHLETIC IDENTITY, AND AFFECT: A COMPARISON OF COLLEGIATE VARSITY AND CLUB SPORT ATHLETES

Alexandra Gee, MA and Susan Kenford, PhD

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Studies assessing problematic alcohol use on college campuses have identified student-athletes as a population that is drinking more than their non-athlete peers, and doing so in a dangerous manner (Anderson et al., 1991; Leichliter et al., 1998). Past research has suggested that a stronger athletic identity is associated with increased alcohol use (Brewer, et al., 1993). However, few studies have compared different types of athletes on college campuses: varsity, club and intramural. The current study compared varsity athletes' (VAs) and club sport athletes' (CSAs) alcohol use patterns, athletic identity, and global affect to better understand relations among and between these two populations. Participants were 265 college athletes (n = 109 VAs; n = 146 CSAs) at a medium university. Majority (53%) of the full sample was female; with a mean age of 19. Significant differences emerged between VAs and CSAs in alcohol use patterns, with VAs endorsing more problematic use. VAs' total AUDIT scores were significantly higher than CSAs', F(1, 253) = 1.15, p = .001; additionally, significant differences emerged on the AUDIT subdomains of alcohol dependence and alcohol related negative consequences. VAs reported a significantly higher athletic identity, F(1, 253) = 5.14, p = .001. No significant difference in affect emerged. Among VAs, athletic identity was not related to alcohol use patterns. Among CSAs, a significant, positive relation emerged between athletic identity and problematic alcohol use (β = .20, t(1) = 2.42, p = .02). Affect was not related to alcohol use in either group. VAs and CSAs showed clear differences in alcohol use patterns, with VAs showing more problematic use. Also, as CSA's athletic identity increased, their alcohol use became more problematic. Results suggest that the processes underlying alcohol use are different for the two groups and interventions should be tailored accordingly. Among CSAs, those who identified more strongly as an athlete approximated the drinking patterns of VAs more closely than did their peers who placed less emphasis on being an athlete.

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A-197

A MULTIGROUP CONFIRMATORY FACTOR ANALYSIS OF ADOLESCENT ALCOHOL-RELATED BEHAVIORS ACROSS ETHNIC GROUPS

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Alcohol-related behaviors are often examined using national and state surveys assessing participants' self report of attitudes and actions. However, few studies have examined the psychometric properties and the factorial invariance of various alcohol-related behaviors across ethnic group. Past research has revealed ethnic differences in scale construction and evaluation. Also, surveys that evaluate alcohol behaviors have been found to lack invariance across different ethnic groups. Because the conclusions made from state and national surveys can affect various prevention, policy, and intervention programs, valid conclusions should be made concerning all ethnic groups. The present study examined the factor structure of 3 alcohol-related items: "Have you ever, even once, had a drink of any type of alcoholic beverage?", "During the past 30 days, on how many days did you drink one or more drinks of an alcoholic beverage?", and "On the days that you drank, how many drinks did you usually have?" administered as part of the 2011 National Survey on Drug Use and Health (NSDUH). Factorial invariance was examined across 12 to 17 year old Caucasian Americans (N = 11,235), African Americans (N = 2,640), Asian Americans (N = 598), and Latin Americans (N = 3535). A multigroup confirmatory factor analysis was conducted to statistically determine whether the factor structure was invariant across all four ethnic groups. All of the baseline models were good fits to the NSDUH data (all factor loadings were significant: $p < .001$). However, only the Asian American and Latin American metric invariance model was a good fit to the data ($p > .05$). The analyses revealed the alcohol scale administered as part of the NSDUH to lack invariance across all ethnic groups. The findings from this study accentuate the significance of evaluating psychometric properties of scales assessing alcohol-related behaviors generalized across ethnic groups.

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A-199

RACE AS A PREDICTOR OF KNOWLEDGE RELATED TO KIDNEY TRANSPLANTATION

Tanya Vishnevsky, PhD, Didier Mandelbrot, MD, Martha Pavlakis, MD and James R. Rodrigue, PhD

Transplant Institute, Beth Israel Deaconess Medical Center, Boston, MA.

The prevalence rates for end-stage renal disease (ESRD) are more than four times higher for African Americans than for Whites. Yet, African Americans are far less likely to receive a kidney transplant than Whites, particularly a living donor kidney transplant (LDKT). One factor contributing to this inequity may be the amount of education ESRD patients are receiving regarding therapeutic options.

Study participants were patients of BIDMC who were active on the kidney transplant waiting list from 2011-2013. Approximately 250 patients were mailed the study materials (study participation rate = 42%; N = 104). Participants completed the following: (1) Demographic Questionnaire, (2) Stage of Readiness Questionnaire, (3) Knowledge of Living Donor Kidney Transplant Questionnaire. The mean age was 54.9 (SD = 12.3); 63% were White, 21% were African American, and 16% were of other race; 44% of the sample reported having a college or professional degree.

Regression analysis was used to determine predictors of patient knowledge related to LDKT. Stage of readiness, education level (high school or less vs. some college or more), and race (white vs. non-white) were entered into the model. Stage of readiness accounted for 9.6% of the total variance in patient knowledge ($R = .31$, $SE = 1.93$, $p = .001$). Education level accounted for an additional 5.5% of the variance in patient knowledge ($R = .39$, $SE = 1.89$, $p = .01$), with patients who had a high school education scoring an average of 0.8 points lower on the patient knowledge questionnaire. Race accounted for an additional 5.5% of the variance in patient knowledge ($R = .45$, $SE = 1.83$, $p = .01$), with non-White patients scoring 1 point lower on average.

These results indicate that even when controlling for patient's stage of readiness and education level, race significantly predicted patient's knowledge of LDKT. These findings highlight an important area for intervention - providing targeted education regarding LDKT may help to increase knowledge among non-White patients and may address a major barrier to the receipt of transplantation for minority patients.

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A-200

EMERGENCY MEDICAL SERVICES KNOWLEDGE AND ATTITUDES ABOUT NON-HEART-BEATING DONORS: EFFECT OF AN EDUCATIONAL INTERVENTION

Daria S. Ebneter, PhD,[1] Eileen Burker, PhD[2] and Thomas Egan, MD[3]

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Over 750,000 people die each year from sudden death and are potential non-heart-beating donors (NHBDs) for lung transplant. Though critical, the role of Emergency Medical Services (EMS) personnel in assisting with recovery of NHBD lungs has not been studied. We sought to assess knowledge of and attitudes about NHBDs among EMS personnel, evaluate the extent to which knowledge and personal experience with organ donation is associated with attitude; and ascertain effectiveness of an intervention designed to teach EMS professionals about NHBDs. EMS professionals (n = 361) completed measures of knowledge of and attitudes about NHBDs, then watched a presentation. Three months later, participants completed the measures again. EMS professionals had a high rate of personal experience with organ donation and positive attitudes toward traditional organ donation. However, they showed lack of knowledge about NHBDs and felt less skilled in being part of the NHBD process, consistent with knowledge scores. The educational intervention was somewhat effective in improving knowledge about NHBDs. Scores improved significantly on 5 of 13 items. Lung recovery from NHBDs offers potential of an unlimited supply for transplantation. This research suggests EMS professionals may be willing to be part of the NHBD recovery team with additional training.

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Thursday
April 24, 2014
8:40 AM-10:00 AM

Symposium 01 8:40 AM-10:00 AM 2001

MENTAL HEALTH MATTERS: SCREENING, PARTICIPATION AND OUTCOMES OF WEIGHT MANAGEMENT PROGRAMS FOR VETERANS WITH MENTAL HEALTH CONDITIONS

David E. Goodrich, EdD,[1] Alyson J. Littman, PhD,[2] Laura J. Damschroder, MS, MPH,[1] Richard Goldberg, PhD[3] and Kenneth R. Jones, PhD[4]

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Individuals with mental disorders are at greater risk for obesity than the general population and experience higher morbidity and mortality from obesity-related diseases. Weight issues are often overlooked during mental health encounters. Hence, the US National Institute of Mental Health and the Medical Directors Council of the National Association of Mental Health Program Directors have called for increased efforts to address obesity. As the largest US provider of mental health and obesity treatment services, the Veterans Health Administration (VA) has committed to delivering personalized care for all Veterans through its MOVE!® weight management program. This symposium will present how operational leaders and researchers partnered to understand the influence of mental health diagnoses on access and use of MOVE! services, weight loss outcomes, and the implications for program customization. Alyson Littman will compare screening rates, program participation, and clinical outcomes among Veterans with and without mental disorders over a 5-year period using the RE-AIM evaluation framework. Laura Damschroder* will discuss the influence of mental health diagnosis on behavioral outcomes in the ASPIRE-VA randomized controlled trial which tested a "small change" weight loss approach among 481 Veterans. Richard Goldberg will present formative findings from a study to tailor MOVE! for Veterans with serious mental illness, highlighting implementation barriers and tailoring considerations. Finally, Kenneth Jones will lead a discussion of the benefits and challenges of partnership-based research to iteratively improve VA weight management programming to better serve individuals with psychiatric comorbidity.

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Symposium 01A 2002

NATIONAL EVALUATION OF MOVE! OUTCOMES FOR VETERANS WITH AND WITHOUT MENTAL HEALTH DIAGNOSES: A RE-AIM ANALYSIS

Alyson J. Littman, PhD, MPH,[1] Laura Damschroder, MS,[2] Lilia Verchinia, PhD,[2] Zongshan Lai, PhD,[2] Katherine Hoerster, PhD,[1] Richard Owen, MD[3] and David Goodrich, EdD[2]

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People with mental health disorders have disproportionately high rates of obesity and obesity-related conditions due to myriad reasons, including physical inactivity, unhealthy diets, and treatment with psychotropic medications, some of which cause weight gain. The Veterans Health Administration (VHA) has attempted to address the problem of obesity in Veterans by mandating obesity screening and offering a weight management program (MOVE!) to those who are interested. It is unknown whether there are disparities in obesity-related services for Veterans with serious mental illness (SMI) and depressive disorders (DD), who may face unique barriers to screening and treatment. Using national VHA administrative data from 2008-2012, we assessed reach, effectiveness, and maintenance of obesity screening and treatment (guided by the RE-AIM framework), in Veterans with SMI and DD, compared to those with neither condition. Individuals with SMI (but not DD) were less likely to be appropriately screened for obesity than people with neither condition ($p < 0.01$). Patients with SMI and DD had higher MOVE! participation rates compared to those with neither condition based on the number and frequency of visits ($p < 0.01$ for difference across groups). Despite greater participation, mean weight losses at 6 and 12 months were significantly lower in people with SMI (-2.0 and -2.5 pounds) or DD (-2.4 and -2.1 pounds) than in people with no SMI/DD (-3.6 and -3.0 pounds), $p < 0.01$ for difference across groups. In summary, Veterans with mental health disorders were less likely to be screened for obesity, but in those seeking treatment, they received a greater "dose" of treatment. Despite greater participation, weight loss outcomes were poorer in patients with SMI and DD than in patients without such disorders. Future research is needed to address these disparities.

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Symposium 01B 2003

ASSOCIATION OF MENTAL HEALTH DIAGNOSES WITH WEIGHT LOSS IN THE ASPIRE TRIAL

Laura Damschroder, MS, MPH,[1] David Goodrich, EdD,[1] Rob Holleman, MPH,[1] H. Myra Kim, PhD[1,3] and Caroline Richardson, MD[1,2]

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Prevalence of obesity is high for people with mental health (MH) disorders. This population often experiences lower benefit from weight management interventions. The ASPIRE randomized control trial enrolled 481 Veterans who were predominantly white (59%), male (85%), and mean age was 55 years. Participants were randomized into 2 versions of the ASPIRE 12-month program - coaching by phone or in groups with an intensive phase (13 weekly sessions) and then a less intensive phase (15 bi-weekly sessions) - or to the MOVE! usual care weight management program. At 12 months all study participants exhibited statistically significant, though small mean weight loss. Our aim in this analysis was to determine the impact of MH status on weight loss. Participants were classified into 3 groups: presence of serious mental illness (7%; SMI: bipolar, schizophrenia, other psychoses), depression (30%), or neither condition (63%); eligibility criteria did not include MH status. Linear mixed-effects modeling was used to assess weight outcomes at 3 and 12 months. At 3 months, all MH groups lost a comparable and significant amount of weight compared to baseline (-1.5 kg; 95% CI: -2.5 to -0.5). However, participants with SMI had significant weight gain between 3 and 12 months (+2.4 kg; 95% CI: 0.2-4.5) compared to the other two MH groups who continued to lose a small but insignificant amount of weight. By 12 months, the SMI group had a net gain of a small but insignificant amount of weight gain compared to baseline (+0.7 kg; $p = .77$) in contrast to the two non-SMI groups which had significant cumulative weight loss at 12 months (-2.2 and -1.7 kg for depression and neither, respectively). Findings suggest that individuals with MH disorders can lose significant weight through a behavioral lifestyle intervention in the short-term but individuals with SMI may require an intensified approach to help maintain weight loss over the longer term.

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Symposium 01C 2004

OPTIMIZING THE MOVE! WEIGHT MANAGEMENT PROGRAM FOR VETERANS WITH SERIOUS MENTAL ILLNESS

Richard Goldberg, PhD

VISN 5 Mental Illness Research Education and Clinical Center, Baltimore, MD.

Veterans with serious mental illness are at increased risk of obesity and a host of related chronic diseases. This presentation describes modifications and tailoring strategies used to manulaize a VA weight management program for veterans with serious mental illness and reports findings from a randomized controlled trial (N = 109) of the new intervention. Participants were randomly assigned to a six-month trial of MOVE! (n = 53), that included both individual and group sessions, or to control condition that offered basic information about diet and exercise during once monthly brief meetings. Weight and metabolic, attitudinal, behavioral and functional outcomes were measured at baseline and six months. There were no significant group by time differences in any metabolic, dietary, physical activity, attitudinal, or functional outcomes. Despite the negative findings, much was learned regarding challenges and considerations associated with engaging this clinical population in weight management programming. This presentation includes review and discussion of how to best address a host of environmental, Veteran, and service system barriers and offers suggestions for innovative strategies to improve future programming.

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Symposium 02 8:40 AM-10:00 AM 2005

NURSING IMPACT ON BEHAVIOR CHANGE ACROSS THE LIFE COURSE

Laura L. Hayman, PhD,MSN,[1] Lorraine O. Walker, RN,EdD, MPH,[2] Mary E. Cooley, PhD,CRNP,FAAN,[3,1] Kathleen Michael, PhD, RN, CRRN,[4] Barbara Resnick, PhD,CRNP,FAAN,FAANP,[4] Elizabeth Galik, PhD, CRNP[4] and Regine Paul, BS[1]

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Behavior change is currently a critical aspect of public health and focus of care nationally and internationally. Behavior change generally addresses behaviors that can prevent and manage illness and disease such as immunizations, abstaining from smoking and excessive alcohol intake, eating heart healthy diets and exercising. Although challenging to engage individuals in healthy behaviors it is possible when interventions are implemented that address specific age related issues as well as cultural concerns. Individual and group or community based behavior change programs utilize behavioral change theories which provide direction for how to best change behavior. Commonly used theories include the Theory of Self-Efficacy, the Transtheoretical (Stages of Change) Model of Behavior Change, the Theory of Reasoned Action, the Health Belief Model and the Health Action Process Approach. Different theoretical approaches have been found to facilitate behavior change among different groups of individuals. For example, older adults with mild cognitive impairment respond well to theoretically driven interventions based on the Theory of Self-efficacy. Nurses are generally well positioned to help translate theoretically based interventions into real world clinical settings at the individual or community level. The purpose of this presentation is to review multiple innovative ways in which nurses have successfully implemented behavior change interventions across the life course. Presentations will include not only theoretical support for the interventions but tools to be utilized and translated to relevant settings. Specifically, we will address behavior change among post-partal women, children, middle age adults and older adults.

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Symposium 02A 2006

BEHAVIOR CHANGE IN POST-PARTAL WOMEN AND CHILDREN

Laura L. Hayman, PhD,MSN[1] and Lorriane O. Walker, RN,EdD,MPH[2]

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Each year 4,000,000 women give birth in the US. For them, motherhood is a key life transition. While many women may thrive after childbirth, nearly half (45%) of all low-income women report 2 to 5 areas of poor behavioral health and demonstrate smoking relapse, engage in sedentary lifestyles and poor diets. These challenges influence maternal well-being, parenting, infant health, and chronic disease development. Few health care providers address behavioral health with these individuals. Nursing interventions that strengthen positive health behaviors among low-income women postpartum are greatly needed. Examples of such approaches will be delineated across multiple health behaviors. For children, data from the National Health and Nutrition Examination Survey (NHANES) indicate obesity remains high among all children and adolescents in the U.S. Viewed within a socio-ecological life course framework, patterns of dietary intake and physical activity develop early in life and are influenced over time by potentially modifiable contexts including family, school, and community factors. Recent research, guided by concepts from social-ecological frameworks, focuses on food and physical activity environments/contexts and the policies that influence those contexts. This section of the presentation will focus on theoretically-guided strategies that effectively modified behaviors central to both prevention and management of overweight and obesity in children and adolescents from diverse populations/backgrounds .

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Symposium 02B 2007

BEHAVIOR CHANGE IN ADULTS ASSOCIATED WITH MANAGEMENT OF CANCER AND STROKE

Mary E. Cooley, PhD, CRNP,FAAN[1] and Kathleen Michael, PhD, RN, CRRN[2]

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Smoking cessation after the diagnosis of cancer is associated with increased survival and decreased cancer recurrence. This section of the presentation provides a review of smoking cessation interventions in the context of cancer care, identifies issues for improvement, and provides suggestions for future research. A review of 20 studies revealed that high intensity interventions, targeting multiple behaviors, and/or using a multicomponent intervention that included pharmacotherapy, behavioral counseling, and social support were characteristics of successful interventions. More than half of the interventions tested the efficacy of nurse-directed interventions and were conducted in adults with smoking-related malignancies during acute phases of illness. Using theoretical frameworks to specify how the intervention affects outcomes, ensuring adequate sample sizes, using biochemical verification, and standardized measures of abstinence are issues that can be improved in future studies.

It is well established that regular physical activity is beneficial post- stroke; however, the majority of these adults have sedentary lifestyles. We have successfully implemented an applied nurse run exercise program, The Adaptive Physical Activity in Stroke (TAPAS) intervention. TAPAS is a progressive program of music-accompanied walking, weight-shifting, leg lifts, foot placement routines, partial squats, marching, chair exercises, and obstacle course navigation in a supervised gym environment to increase physical activity among adults post stroke. Although there are benefits associated with this group exercise program, significant barriers to participation exist. Focus groups identified five themes describing the effects of group exercise on participation. These will be shared and examples of how they can help guide future research will be provided.

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Symposium 02C 2008

BEHAVIOR CHANGE FOR OLDER ADULTS

Barbara Resnick, PhD, CRNP, FAAN[1] and Elizabeth Galik, PhD, CRNP[2]

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Engaging older adults in functional tasks and physical activity is challenging across all settings. We developed the Function Focused Care approach to overcome these challenges and engage older adults in functional tasks and physical activity throughout their routine daily activities. Function Focused Care (FFC) involves teaching and motivating nurses, patients, and other members of the health care team to focus on and optimizing function and physical activity during all care interactions rather than simply providing care to the older individual. In this session we provide the theoretical support for FFC, findings from multiple studies demonstrating efficacy of this approach and describe the successful ways in which to implement FFC in a variety of clinical settings. In addition we will demonstrate and describe how FFC is applied to those with moderate to severe cognitive impairment and delineate the techniques needed to engage these individuals in functional and physical activity across all settings.

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Symposium 03 8:40 AM-10:00 AM 2009

HOW ECOLOGICAL MOMENTARY METHODS ARE ADVANCING THEORY, ASSESSMENT, AND INTERVENTION DEVELOPMENT FOR PHYSICAL ACTIVITY

David Conroy, PhD and Bonnie J. Spring, PhD

Kinesiology, The Pennsylvania State University, University Park, PA.

Many health behaviors, including physical activity, are dynamic and fluctuate over time in response to the social calendar, seasonal changes, and time-varying motivational antecedents. Ecological momentary methods hold great promise for advancing the science of health behavior change because they permit researchers to assess behavior in the context of daily life and to align the sampling schedule to the natural timescale of the behavior. Advances in mobile technology have also made repeated and intensive assessments and intervention delivery in context more feasible than many ever imagined. This symposium will address how these methods are stimulating advances in theory, assessment, and intervention with respect to physical activity. The first presenter will report findings from a measurement-burst daily diary study of daily physical activity and life satisfaction to illustrate how intensive assessment and lifespan sampling reconciled discrepant findings in the literature and revealed both age-related and age-invariant processes linking behavior and well-being. The second presenter will describe an integrated physical activity assessment method that capitalizes on the sensors embedded in smartphones and the ability to use sensor feedback to prompt self-report questionnaires which capture real-time behavior in the context of people's lives. The third presenter will provide an overview and example of how smartphones can be integrated with external sensors to deliver innovative behavior change interventions. Collectively, these presentations reveal both the promise and reward of ecological momentary methods for advancing theory, assessment, and intervention development. The discussant will address both the specific contributions of these presentations and the broader role of ecological momentary methods in advancing the science of health behavior change.

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Symposium 03A 2010

DEVELOPMENT OF A SMARTPHONE APPLICATION TO MEASURE PHYSICAL ACTIVITY USING SENSOR-DRIVEN CONTEXT-SENSITIVE ECOLOGICAL MOMENTARY ASSESSMENT

Genevieve F. Dunton, PhD, MPH,[1] Eldin Dzubur, MA,[1] Keito Kawabata, MPA,[1] Bin Bo, BS[2] and Stephen Intille, PhD[2]

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Despite the known advantages of objective physical activity monitors (e.g., accelerometers), these devices have high rates of non-wear, which leads to missing data. Objective activity monitors are also unable to capture valuable contextual information such as activity type and purpose, mood, and social and physical milieu. To address these limitations, the current presentation will describe the development of a smartphone application ("app") that combines objective and self-report assessment strategies through sensor-driven context-sensitive Ecological Momentary Assessment (CS-EMA). Adolescents recruited into physical activity surveillance and intervention studies will increasingly have smartphones, which are miniature computers with built-in motion sensors. The phones are rarely far from the adolescents, and adolescent affinity for the phones creates new opportunities for activity monitoring. Our new smartphone app uses the mobile phone's built-in motion sensor to automatically detect periods of (1) phone non-wear or sedentary activity (60+ min. of low intensity activity followed by 2+ min. of moderate intensity activity) and (2) physical activity (30+ min. of high intensity activity followed by 10+ min. of low intensity activity). The app then uses these sensor-informed movement transition cues to trigger real-time CS-EMA self-report surveys measuring the type and purpose of activity previously performed; mood during that activity; and social and physical features of the activity setting. The self-report information can be used to augment objective physical activity data collected by the built-in sensor, particularly for device non-wear periods. Data can also be used to examine real-time environmental, social, and emotional correlates of physical and sedentary activity. This presentation will discuss the strengths and challenges of sensor-driven CS-EMA apps in physical activity research including potential for deployment in large scale epidemiological and intervention studies.

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Symposium 03B 2011

DAILY PHYSICAL ACTIVITY AND LIFE SATISFACTION: AGE-VARYING AND AGE-INVARIANT PROCESSES REVEALED BY INTENSIVE SAMPLING

Jaclyn P. Maher, MS, Aaron L. Pincus, PhD, Nilam Ram, PhD and David E. Conroy, PhD

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Physical activity (PA) is considered a valuable tool for enhancing life satisfaction (LS) but the processes which link these constructs appear to vary at different points in the adult lifespan. In younger samples of adults the association between PA and LS has consistently been based on daily PA whereas in older adults the association appears to involve the usual level of PA over time. To resolve this inconsistency in the literature, a daily diary study was conducted with a lifespan sample of adults (age 18- 89 years; N = 150) over three 21-day measurement bursts. Employing a measurement-burst design (1) allows for the separation and simultaneous evaluation of the influence of PA on LS, through age-varying and age-invariant processes, via intensive sampling and (2) accounts for temporal intervals (e.g., age, seasonal changes, social calendar) that may impact both behavior and evaluative processes. LS varied as a cubic function of age: low during emerging adulthood, high through midlife, and low again during older adulthood. In middle and older adulthood, usual PA levels were positively associated with LS; however, this association was not present in young adulthood. The between-person association between PA and LS was mediated by physical and mental health in middle and older adulthood. A within-person association between PA and LS was also present and did not vary as a function of age: on days when people were more physically active than was typical for them, they experienced greater LS. This study reconciled conflicting findings about relations between PA and LS across the lifespan. Daily deviations in PA have important implications for overall health and well-being at any age, and regular PA becomes increasingly important for well-being as age-related declines increasingly exact a toll on people's physical and mental health. This study demonstrates how intensive sampling of time-varying phenomena in the context of peoples' daily lives informs the selection of strategies aimed at improving LS across the adult lifespan.

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Symposium 03C 2012

THE DEVELOPMENT AND EVALUATION OF A MOBILE REAL-TIME PHYSICAL ACTIVITY INTERVENTION

Kristin Heron, PhD, Joshua Smyth, PhD, David Conroy, PhD, Christopher Sciamanna, MD and Liza Rovniak, PhD, MPH

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Researchers are increasingly interested in using mobile technology (e.g., smartphones, wearable sensors) to monitor people's activities, health, and well-being as they go about their daily lives. With these technological advances there is also a growing field of mobile health (mHealth) that allows for interventions to be delivered in natural settings. By integrating real-time assessment and intervention capabilities of mobile technology, there are many new opportunities for providing tailored treatments at specific times (in real time) and in specific settings (in the real world) when people are most in need of intervention. Physical activity interventions are particularly amenable to this approach because of the availability of accelerometers and pedometers to objectively and unobtrusively measure activity in in daily life, which can in turn be used to inform real-time interventions. Although these methods offer new possibilities for intervention delivery, they also present practical and technical challenges for researchers. To illustrate these opportunities and challenges in physical activity research we will present the design and development of an intervention that integrates wearable sensors with smartphones to increase people's activity as they conduct their daily lives. As part of a 3-arm randomized controlled trial with overweight/obese adults who are insufficiently active, we are using a Bluetooth-enabled accelerometer to assess activity level and provide real-time feedback throughout the day on a smartphone. In contrast to other real-time activity assessment devices, our procedures not only assess physical activity, but also provide feedback on activity levels and personalized step goals. Outcome measures include objectively assessed physical activity and physical and mental health indicators. Preliminary feasibility and efficacy data from this trial will be presented. The findings from this study will inform our understanding of how to design and develop tailored, real-time physical activity and health behavior change interventions among diverse populations.

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Symposium 04 8:40 AM-10:00 AM 2013

MULTIPHASE OPTIMIZATION STRATEGY (MOST) FOR SMOKING INTERVENTION

Michael C. Fiore, MD, MPH, MBA,[1] Timothy B. Baker, PhD,[1] Linda M. Collins, PhD,[2] Robin J. Mermelstein, PhD,[3] Megan E. Piper, PhD[1] and William Riley, PhD[4]

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The goal for this research is to use the Multiphase Optimization Strategy (MOST) to engineer and disseminate effective smoking interventions. Tobacco dependence has been defined as a chronic disease, but there are no comprehensive chronic care treatments that address all phases of smoking cessation. Delivering chronic care treatment to all smokers in primary care settings requires treatment for every phase of cessation and that every smoker be engaged in treatment seamlessly and cost-effectively. This symposium will focus on the use of the cutting edge MOST framework and the Phase-Based Model of Cessation to engineer effective treatments for smokers who are and are not ready to quit at the time of their primary care visit. We will discuss how such treatments can be seamlessly implemented, using electronic health records (EHR), in primary care settings to identify and engage smokers into treatment. These findings represent an advance in both treatment development and translation for all smokers. Drs. Fiore and Baker (Co-Chairs) will provide background on the goals of the research. Dr. Colins will discuss treatment optimization and the MOST framework. Dr. Mermelstein will discuss the Phase-Based Model of Cessation and how it identifies key opportunities for intervention at each phase of the cessation process: Motivation, Preparation, Cessation, Maintenance, and Relapse Recovery. Dr. Piper will discuss the results of a series of MOST screening experiments that identified effective treatment components for smokers motivated to quit. Finally, Dr. Riley* will provide a synthesis and further discussion of these findings.

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Symposium 04A 2014

INTRODUCTION TO THE MULTIPHASE OPTIMIZATION STRATEGY (MOST)

Linda M. Collins, PhD,[1] Robin J. Mermelstein, PhD,[2] Michael C. Fiore, MD, MPH, MBA[3] and Timothy B. Baker, PhD[3]

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This presentation will briefly introduce the Multiphase Optimization Strategy (MOST), which is a framework for building, optimizing, and evaluating behavioral interventions, including smoking interventions for healthcare settings. MOST consists of three phases. The first phase, Preparation, includes identification of a theoretical model that will guide development of the intervention; selection of intervention components; pilot work as necessary; and identification of an optimization criterion. The second phase, Optimization, includes highly efficient randomized experimentation to assess the individual and combined effects of intervention components, and assembly of the optimized behavioral intervention. Assembly of the optimized intervention is directly informed by the results of the experimentation. In the third phase, Evaluation, the optimized intervention is evaluated in a standard randomized controlled trial (RCT). Advantages of MOST and challenges associated with it will be discussed.

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Symposium 04B 2015

A PHASE-BASED MODEL FOR SMOKING CESSATION TREATMENT

Robin J. Mermelstein, PhD,[1] Michael C. Fiore, MD, MPH, MBA,[2] Linda M. Collins, PhD[3] and Timothy B. Baker, PhD[2]

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Clinicians and researchers have an increasing menu of treatment options to offer smokers. But challenges remain in choosing optimal treatment components for a patient based on individual difference factors. One important factor is where a smoker fits along the continuum of progress with smoking cessation. The Phase-Based Model is a framework that allows the clinician or investigator to use theory and evidence to determine how and when different interventions should be applied and assessed. Specifically, the Phase-Based Model maintains that the process of smoking cessation comprises multiple phases: motivation, preparation, cessation, maintenance, and relapse recovery. The model integrates existing research and theory on smoking motivation and cessation to identify three factors that are critical to a phase-based approach: 1) challenges that smokers face at each phase of the smoking cessation process; 2) interventions that are likely to address those challenges successfully; and 3) measures that will sensitively index therapeutic benefits of treatment. Thus, this model guides selection of interventions as well as intervention timing and evaluation. Although the Phase-Based Model shares features with other stage or phase-based models, it has unique elements and strategies. This presentation will describe the phases, characteristics, treatment options, and appropriate outcome measures, and how consideration of this framework can further our development of a comprehensive smoking cessation treatment that reflects a chronic care approach.

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Symposium 04C 2016

IDENTIFYING OPTIMAL SMOKING CESSATION INTERVENTION COMPONENTS FOR SMOKING CESSATION

Megan E. Piper, PhD,[1] Tanya R. Schlam, PhD,[1] Jessica W. Cook, PhD,[1] Stevens S. Smith, PhD,[1] Douglas E. Jorenby, PhD,[1] Robin J. Mermelstein, PhD,[2] Linda M. Collins, PhD,[3] Michael C. Fiore, MD, MPH, MBA[1] and Timothy B. Baker, PhD[1]

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We used the Multiphase Optimization Strategy (MOST) to identify effective smoking cessation interventions that can be combined to produce an optimized treatment package that significantly improves treatment outcomes. We selected intervention components using the Phase-Based Model of Cessation. Smokers willing to quit were recruited from 11 primary care clinics in Wisconsin. Study 1 ($N = 637$) used a fractional factorial design to assess 6 interventions that focused on the Preparation and Cessation phases: 1) Pre-quit Patch vs No Patch, 2) Pre-quit Gum vs No Gum, 3) Pre-quit Counseling vs None, 4) 8 vs 16 Weeks of patch + gum, 5) Intensive In-person Counseling vs Minimal, and 6) Intensive Phone Counseling vs Minimal. Intensive In-person Counseling produced significantly higher initial cessation rates ($p < .05$) and somewhat higher 8-week cessation rates ($p = .07$). Study 2 ($N = 544$) used a full factorial design to assess 5 interventions that focused on the Maintenance phase and medication adherence: 1) 8 vs. 26 weeks of medication, 2) Intensive Maintenance Counseling vs. None, 3) Cognitive Medication Adherence Counseling (CAM-C) vs. None, 4) Electronic Monitoring Adherence Intervention vs. None, and 5) Automated Phone Adherence Intervention vs. None. 26 weeks of combination NRT significantly increased 26-week abstinence rates relative to 8 weeks ($p < .05$). Maintenance counseling combined with CAM-C produced the highest patch and gum adherence rates from Weeks 3-6 ($p < .05$). Taken together, these results can be used to develop an optimized smoking cessation treatment package with that includes only active treatment components that work well together in real-world healthcare settings.

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Symposium 05 8:40 AM-10:00 AM 2017

PAIN AND SUICIDE IN THE VETERAN POPULATION: THE INTERFACE OF SCIENCE AND POLICY

Martin Cheatle, PhD,[1] Mark Ilgen, PhD,[4] Amy Bohnert, PhD,[4] Joseph L. Goulet, PhD MS[2,3] and Robert D. Kerns, PhD[3,2]

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Suicide is ranked as the 10th most common cause of death in the United States and military veterans are more likely to commit suicide than nonveterans. Various risk factors for suicide have been identified in the general population including suffering from chronic pain. Patients with chronic pain often present with multiple medical and psychological comorbidities including depression and suicidal ideation. Prevailing literature indicates that between 20 to 50% of pain patients experience suicidal ideation as a direct result of their pain. The veteran with chronic pain may be especially vulnerable to suicidal ideation and behavior.

This symposium will review the epidemiology of suicide in the population of veterans with chronic pain, the relationship between type of pain condition and suicide, opioid use and risk of suicide, and the role of depression screening in mitigating risk of suicide. The evolving policy of pain and suicide screening and early intervention in the Veterans Health Administration will be discussed.

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Symposium 05A 2018

OPIOID DOSE AND RISK OF SUICIDE AND OVERDOSE DEATH AMONG VETERANS WITH CHRONIC PAIN

Amy S. Bohnert, PhD, Mark A. Ilgen, PhD, Dara Ganoczy, MPH and Frederic C. Blow, PhD

University of Michigan & Ann Arbor VA, Ann Arbor, MI.

Background: Opioid therapy is a common modality of chronic pain treatment both in and outside of the Veterans Health Administration (VHA). Patients prescribed higher opioid doses may be at greater risk for suicide and unintentional overdose; there is also concern that patients whose pain relief is insufficient may engage in risky or suicidal behavior. This study examined the association between prescribed opioid dose and risk of unintentional overdose death and suicide among patients receiving treatment in the VHA.

Methods: This was a case-cohort study of patients in fiscal years (FY) 2004 or 2005 with chronic pain who were prescribed an opioid. Opioid prescribing and patient characteristics were determined from medical records and cause of death was ascertained from National Death Index files. Cases were patients who died of an unintentional opioid overdose or by suicide. Random sampling methods defined the cohort. Cox proportional hazards regression models adjusted for clinical and demographic factors.

Results: The rate of suicide death was higher than the rate of unintentional overdose death. Being prescribed 100 morphine milligram equivalents (MME) or more was associated with a hazard ratio (HR) of 7.2 (95% CI: 4.9-10.7) for risk of unintentional overdose death compared to being prescribed 1 to < 20 MME. The HR of suicide death for the same comparison was 2.3 (95% CI: 1.7-3.0). There was a dose-response relationship such that the risk of death increased as prescribed opioid dose increased.

Conclusions: VHA patients receiving higher doses of opioids are at greater risk for both unintentional overdose and suicide. Although this may be explained by selection effects, the results do not suggest that those patients prescribed lower doses of opioids are more likely to experience these outcomes. Patients receiving greater quantities of opioids may have more opportunity to intentionally or unintentionally consume a fatal dose, or consuming higher doses of opioids may have a disinhibiting effect on risky and suicidal behavior.

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Symposium 05B 2019

PAIN AND SUICIDE AMONG VETERANS

Mark A. Ilgen, PhD,[1,2] Amy Bohnert, PhD[1,2] and Frederic Blow, PhD[1,2]

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Background: Suicide is a leading cause of premature mortality in the United States. A small, but growing, body of literature suggests that chronic pain is associated with suicidal behaviors. However, most of this research has relied on smaller samples of and has not allowed for the examination of the impact of pain above and beyond co-occurring psychopathology. This study included two separate analyses of large samples of patients who utilized Veterans Health Administration treatment services in order to: (1) examine the impact of self-report pain level on suicide risk; and (2) examine the impact of specific pain conditions on suicide risk.

Methods: Both analyses utilized a combination of VHA data on treatment utilization and clinical diagnoses combined with data on timing and cause of death from the National Death Index. The first study also combines these data sources with data from the Large Health Survey on self-report pain level. The second study provides greater details about the relationship between specific pain conditions and suicide.

Results: In the first study, veterans with severe pain were more likely to die by suicide than patients experiencing none, mild, or moderate pain (HR: 1.33; 95% CI: 1.15, 1.54), after controlling for demographic and psychiatric characteristics. The second study found, after controlling for similar demographic and psychiatric covariates, significant associations for back pain (1.13; 99% CI: 1.03, 1.24), migraine (1.34; 99% CI: 1.02, 1.77), and psychogenic pain (1.58; 99% CI: 1.11, 2.26) with suicide.

Conclusions: These results indicate that pain may plan an important role in influencing risk of suicide among Veterans. In particular, Veterans with back pain, migraine as well as those who have been diagnosed with psychogenic pain may be at particularly elevated risk for suicide.

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Symposium 05C 2020

PAIN AND SUICIDE RISK SCREENING AMONG VETERANS IN VA CARE

Joseph L. Goulet, PhD, MS

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In VA, depression screening is performed annually for patients without diagnosed depression. Further assessment is recommended if the screen is positive. Pain screening is conducted independent of depression screening during most clinical encounters using the 0 to 10 pain numeric rating scale (NRS). We examined whether pain screening results are associated with depression and suicide risk assessment completion and findings.

We used VA Connecticut administrative data to identify all Veterans in primary care with positive PHQ-2 depression screens (n = 1,117 of 36,229 screened) in 2009. We selected all female (n = 88) and a random sample of male Veterans (n = 250), and conducted a structured electronic medical record review on the day of the screen. The reviewer determined if a PHQ-9 was conducted, and whether: depression assessment (e.g. " denies depression"); suicide risk assessment (e.g. "thoughts about taking her life"); and, a determination of suicide risk (e.g. "denies suicidal ideation") was documented.

Sample characteristics: mean age 58.2; 92% male; and 68% Caucasian. All patients had an NRS; 43% reported moderate-severe pain (NRS 4+). Twenty-four percent had a PHQ-9, 81% a depression assessment, 82% a suicide risk assessment, and 8.4% had suicide ideation. Pain was associated with a positive PHQ-9 (OR = 1.96) and with SI (OR = 1.64). Pain was not associated with the conduct of a PHQ-9 (OR = 1.27, 95% CI = 0.96/1.68), nor depression assessment (OR = 1.03, 95% CI = 0.78/1.39). Patients reporting pain 4+ were less likely to have a suicide risk assessment (OR = 0.67, 95%CI = 0.49/0.91).

Veterans reporting moderate to severe pain were equally unlikely to have a PHQ-9 after a positive PHQ-2 screen, and were less likely to be assessed for suicide risk. This may be a missed opportunity to identify Veterans at increased suicide risk.

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Symposium 06 8:40 AM-10:00 AM 2021

THE ROLE OF PERSONAL, ENVIRONMENTAL, AND PROVIDER FACTORS IN HEALTH AND HEALTH CARE DISPARITIES IN ADULTS WITH SPINAL CORD INJURY

Larissa Myaskovsky, PhD,[1,2] Denise Fyffe, PhD,[3,4] Amanda Botticello, PhD, MPH[3,4] and Michelle Meade, PhD[5]

[1]University of Pittsburgh, School of Medicine, Pittsburgh, PA; [2]VA Pittsburgh Healthcare System, Pittsburgh, PA; [3]Kessler Foundation Research Center, West Orange, NJ; [4]New Jersey Medical School, Rutgers University, West Orange, NJ and [5]University of Michigan, Ann Arbor, MI.

This symposium will focus on personal, environmental, and provider factors associated with health and healthcare disparities in adults with spinal cord injury (SCI), recognizing the role that the health care system may unwittingly play in creating or perpetuating them.

The first part of the presentation will focus on personal factors which are associated with disparities in quality of life outcomes for adults with SCI. Presenters will discuss how differences in exposure to advantages and disadvantages among persons with SCI living in the community leads to disparities in outcomes. Factors explored include race, cultural and psychosocial factors, community-level variables, and employment, and how those factors are related to functional, rehabilitative and quality of life outcomes.

The second part of the presentation will focus on provider education, experience and attitudes, and how they impact the health, access to and use of health care services by individuals with SCI. Qualitative and quantitative data will be presented and recommendations provided on how clinicians might be able to address these disparities.

Finally, the last section will focus on the health care system, exploring the systemic factors that influence disparities in health outcomes and health care services among individuals with SCI, including how policy, economic and geographical issues impact access to primary and preventative care.

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Symposium 06A 2022

SELF-CARE AND MOBILITY FUNCTIONING DISPARITIES BY RACE/ETHNICITY IN SPINAL CORD INJURY

Denise Fyffe, PhD

SCI/Outcomes & Assessment, Kessler Foundation Research Center, West Orange, NJ.

Objective: To examine race/ethnicity differences in change in functional independence for persons with a motor complete traumatic spinal cord injury (SCI).

Design: Retrospective cohort study.

Setting: 16 rehabilitation centers contributing to the National Spinal Cord Injury Model Systems (SCIMS) Database.

Participants: 1,766 adults with traumatic, motor complete SCI (American Spinal Association Impairment Scale [AIS] grade A or B) enrolled in the SCIMS between 2000-2011. Selected cases had complete self-reported data on race/ethnicity (Non-Hispanic White (NHW), Non-Hispanic Black (NHB) or Hispanic) and motor FIM scores assessed at acute rehabilitation admission, discharge and 1-year follow-up.

Main Outcome Measures: Change in FIM self-care and mobility domains of the motor Functional Independence Measure (FIM) on a 1 to 7 rating scale observed during rehabilitation and at 1 year follow-up.

Results: Multivariate regression models assessed racial/ethnic group differences, stratified by neurologic category and adjusted for sociodemographic and injury characteristics, for change in self-care and mobility FIM domains. For participants with tetraplegia, NHB participants had significantly less improvement in self-care and mobility relative to NHW and Hispanics demonstrated significantly more improvement in self-care relative to NHW during rehabilitation. NHB participants with paraplegia had significantly lower self-care ratings during rehabilitation relative to NHW. Among Hispanic participants with paraplegia, self-care change scores at 1 year follow up were significantly lower relative to NHW.

Conclusions: Race/ethnicity group differences in functional independence suggest that there may be barriers to meeting and sustaining self-care and mobility functional levels during and after rehabilitation for NHB and Hispanic groups with SCI.

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Symposium 06B 2023

ASSOCIATION OF RACE, CULTURAL AND PSYCHOSOCIAL FACTORS, AND QUALITY OF LIFE IN VETERANS AND NON-VETERANS WITH SPINAL CORD INJURY

Larissa Myaskovsky, PhD

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Objective: To examine and compare the association of race, cultural and psychosocial factors with quality of life (QOL) factors (participation, life satisfaction, perceived health status) in Veterans and non-Veterans with spinal cord injury (SCI).

Design: Two cross-sectional multi-site studies using structured questionnaires.

Setting: Three VA Spinal Cord Injury centers and six national Spinal Cord Injury Model Systems (SCIMS) centers.

Participants: 395 Veterans and 373 non-Veterans with SCI were interviewed. Eligible participants (1) were age >16 years, (2) had SCI with discernable neurological impairments, (3) used a power or manual wheelchair >1 year as their primary means of mobility, and (4) were non-ambulatory except for exercise purposes.

Main Outcome Measures: Participation (Craig Handicap Assessment and Reporting Technique Short Form); satisfaction (Satisfaction with Life Scale); and, perceived health status.

Results: In both groups, African Americans (n = 168 Veterans & 139 non-Veterans) with SCI reported more experiences of discrimination in healthcare, greater perceived racism, more healthcare system distrust, and lower health literacy than did Whites (n = 227 Veterans & n = 234 non-Veterans, ps range < .001 to < .05). However, consistent significant race differences in QOL outcomes were only found in non-Veterans. Further, the relationship of cultural and psychosocial factors with outcomes differed by racial group and Veteran status.

Conclusions: Although consistent race differences were found in Veterans and non-Veterans in cultural factors, AA non-Veterans reported several more outcome deficits than did AA Veterans. Thus, it may be something about Veteran status or the Veteran healthcare system which yields differences in outcomes for people with spinal cord injury.

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Symposium 06C 2024

BUILT ENVIRONMENT PREDICTORS OF QUALITY OF LIFE AFTER SCI

Amanda L. Botticello, PhD, MPH

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This study investigates the relationship between the built environment and quality of life among adults aged 17 and older with spinal cord injury (SCI). Data are from participants from the New Jersey site (N = 504) of the Spinal Cord Injury Model Systems (SCIMS) database, a longitudinal study of persons with traumatic SCI living in the community, surveyed between 2000 and 2012. Quality of life is measured by self-reported mood, life satisfaction, and perceived health status. Covariates include impairment-related, health status, and background (i.e., socioeconomic and demographic) characteristics as well as assistive technology use. Geographic information systems (GIS) data was used to construct measures of the built environment for a 5-mile buffer area around each individual's residence and included housing density, land use mix, proportion of open space, and a count of destinations. Logistic regression models were analyzed for each domain of QOL. Contrary to expectations, preliminary analysis indicated that differences in the built environment did not predict emotional well-being and life satisfaction. Persons living in communities characterized by more open space and a greater number of destinations were more likely to report good (versus poor) health. Overall, these findings provide support for the role of the built environment in the disabling process and may be used to help target interventions intended to improve quality of life for persons with SCI and other disabilities.

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Symposium 06D 2025

PROVIDER AND SYSTEM-LEVEL FACTORS THE CREATE AND PERPETUATE HEALTHCARE DISPARITIES FOR INDIVIDUALS WITH SPINAL CORD INJURY (SCI)

Michelle A. Meade, PhD

Physical Medicine & Rehabilitation, University of Michigan, Ann Arbor, MI.

This presentation will present data from focus groups conducted with traditionally underrepresented groups with spinal cord injury (SCI), specifically women and African American men. The narratives provide first-hand accounts of encounters with the healthcare system and providers, and offer insights into how the delivery and quality of health care and the subsequent health outcomes can be compromised by the interactions between patients and providers. Included among the factors that were articulated as important are provider knowledge about spinal cord injury; perceived provider attitudes, and particularly a provider's ability and willingness to collaborate toward shared goals and perceived discrimination; and the quality of provider-patient communication. Participants' views on and suggestions for improved provider-patient interactions and healthcare delivery will be included. These findings will then be interpreted an discussed with regard to existing models of health, healthcare access and healthcare disparities in order to illuminate the modifiable factor that can be addressed to reduce healthcare disparities and promote better health outcomes among this underserved population.

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Symposium 07 8:40 AM-10:00 AM 2026

TRANSLATING HEALTH DECISION MAKING THEORIES TO BEHAVIOR CHANGE INTERVENTIONS: CHALLENGES AND OPPORTUNITIES

Marc T. Kiviniemi, PhD,[1] Erika A. Waters, PhD[2] and Alexander J. Rothman, PhD[3]

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"Theory-based interventions" are frequently discussed in the behavioral medicine literature and are often encouraged to optimize behavior change from interventions. However, the evidence to support the idea that behavior change interventions grounded in a theoretical model are more effective is decidedly mixed. The mixed evidence may stem, at least in part, from the fact that there is substantial conceptual and empirical complexity involved in linking theory and intervention. This symposium session, co-sponsored by the Health Decision Making and the Theories and Techniques of Behavioral Change Interventions SIGs, explores what it means to ground an intervention in a theoretical model and addresses how to understand and address the complexities that shape how to develop a theory-based intervention and determine whether it will be effective. The first speaker will present a conceptual framework for understanding what aspects of a theoretical model need to be considered in determining whether and how the model might translate to an intervention approach. Uses of the framework for both developing and assessing impact of interventions will be described. The second speaker will discuss a program of research examining how interventions change health cognitions specified by theoretical models and how changes in those cognitions in turn shape behavior change. The third speaker will present work examining the relative effectiveness of intervention approaches derived from different decision-making models and the complexity of understanding when and how theoretical constructs shape behaviors in interventions. Consideration of how the perspectives offered by the three speakers fit together to inform health decision making and behavior change interventions will be provided by a discussant."

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Symposium 07A 2027

THEORY TO INTERVENTION: A CONCEPTUAL MODEL FOR ADDRESSING ISSUES IN DEVELOPING THEORY-BASED HEALTH DECISION MAKING INTERVENTIONS

Marc T. Kiviniemi, PhD

Community Health and Health Behavior, University at Buffalo, SUNY, Buffalo, NY.

The value of theory-based interventions is often discussed, but there is relatively little consideration of what is actually involved in using a health decision making theory to guide development of an effective behavior change intervention. This talk introduces a conceptual model for identifying theory-based constructs to utilize in behavior change interventions. Four sets of considerations are explicated: a) Malleability of the Construct: it is necessary that the construct in question be changeable. An intervention to change behavior by changing a given construct can only be effective if the construct can be successfully changed. b) Nature of the Causal Relations: in addition to having a causal effect on behavior, the causal relation must be consistent across different stages in the time course of the behavior (e.g., not just involved in initiation) and the time lag from changing the construct to a change in behavior occurring must be sufficiently short for the intervention to have efficacy. c) Nature of the Interplay of Constructs: the causal relation between the construct and behavior must not be constrained by main effect or moderator effects of other constructs on behavior, unless those other constructs can also be successfully addressed by the intervention; d) Mechanisms of Change: there must be an understanding of mechanisms through which one can change the construct and those mechanisms must be amenable to a feasible intervention approach. Three uses of the conceptual model will be discussed: 1) descriptive use: better explicate the steps that are actually involved in taking a health decision making theory and applying knowledge from that theory to effectively create a shift in behavior; 2) prescriptive use: provide a roadmap of steps that interventionists should take to effectively implement the notion of theory-based intervention development; and 3) explanatory use: provide an accounting for why the overall summary of the findings of even good theory-based interventions is of only moderate success at behavioral change.

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Symposium 07B 2028

DOES CHANGING THEORY-BASED HEALTH COGNITIONS CHANGE INTENTIONS AND BEHAVIOR?

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There is great confidence among behavioral scientists that theory-based interventions to change health behavior are more successful than those that are not theory-based. Much remains to be learned, however, about why and how theory-based interventions produce changes in health behavior. The Theory of Planned Behavior posit that changing attitudes, norms, or self-efficacy should elicit meaningful changes in both intentions and behavior. The current meta-analysis set out to test this theoretical proposition, by considering the extent to which interventions that elicit significant changes in attitudes, norms, or self-efficacy lead to meaningful changes in intentions and behavior. We included 129 studies that met stringent inclusion criteria. Interventions were only modestly successful in changing attitudes, norms, and self-efficacy; in each case, effect sizes were of small magnitude. However, when changes were seen, they translated into increases in intentions and behavior Changing attitudes and self-efficacy produced small-to-medium changes in intention (range of d + = .34 - .37). Changing norms had a small effect on intention (d + = .20) and a very small effect on behavior (d + = .08). Attitude change had a small effect on behavior (d + = .20) whereas strengthening perceptions of self-efficacy had a small-to-medium effect on behavior (d + = .39). We explore the moderating effect of the type of behavior (frequently performed preventive behavior versus infrequently performed preventive behavior versus disease management behavior) as well as whether it appears advantageous to target multiple theoretical constructs simultaneously. Our findings lay the groundwork for a new generation of research exploring the role of theory in behavior change intervention.

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Symposium 07C 2029

THEORY-BASED CONDOM PROMOTION INTERVENTIONS: COMPARING THE HEALTH BELIEF MODEL AND THE THEORY OF PLANNED BEHAVIOR

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This study manipulated the core constructs of the Health Belief Model (HBM) and the Theory of Planned Behavior (TPB) in order to compare the success of condom use interventions based on these theories. 258 participants were randomly assigned to one of three computer-based interventions (HBM, TPB, or information-only control). 204 participants completed a one-month follow-up assessment. Regression analyses revealed that the TPB accounted for more variance (32.8%) in risky sexual behavior at baseline while the HBM only explained 1.6% of the variance. Mediational analyses revealed the interventions had differential effects on perceived susceptibility, perceived benefits, and attitudes. Attitudes and self-efficacy were associated with intentions, which then predicted preparatory condom use behavior at follow-up. The interventions successfully manipulated some of the constructs in the TPB and the HBM. However, except for attitudes, these were not the same constructs that predicted intentions, and subsequently behavior change. Perhaps the constructs that explain behavior are not the same constructs that produce behavior change.

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Symposium 08 8:40 AM-10:00 AM 2030

THE STEAK IS MORE THAN SIZZLE: BEHAVIOR CHANGE MODELS IN EHEALTH APPLICATIONS

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Background: eHealth, defined by the WHO as the use of information and communication technologies for health, can deliver behavioral interventions via a range of modalities including web, mobile and telephonic media. Studies have begun to demonstrate the efficacy of eHealth interventions in influencing a range of health behavior outcomes. Equally as critical, researchers have started to analyze the behavior change theories that inform or guide design, effective strategies for delivering health behavior interventions via features, and the key components of tailoring approaches. In addition, eHealth can benefit from recent efforts to improve the standardization of behavior change interventions through the development of a behavior change technique taxonomy that identifies the "active ingredients" of interventions. Each of these efforts can contribute to the systematic operationalization of eHealth intervention design in a way that facilitates replicability and evaluation of effectiveness.

Presentations: The symposium highlights three different eHealth modalities and the ways in which behavior change models were implemented in their design. One presentation demonstrates how an automated, interactive, telephone intervention was designed to improve Type 2 diabetes management outcomes. The second illustrates how interactive media was used to improve adolescent sexual health life skills. The third shows how an integrated clinical/behavioral framework was operationalized in a mHealth product to support chronic illness self-management outcomes.

Discussion: The discussion will include fundamental issues to consider when designing eHealth interventions. Topics may include the comparative advantage of various modalities for achieving different program objectives, how behavioral models are modified as a result of eHealth technology, and considerations for real world implementation including quality assurance and scalability.

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Symposium 08A 2031

DEFINING AN INTEGRATED CLINICAL/BEHAVIORAL FRAMEWORK TO TRANSLATE RESEARCH INTO EVIDENCE-BASED MHEALTH INTERVENTIONS THAT SUPPORT CHRONIC ILLNESS MANAGEMENT

Calvin C. Wilhide, PhD, Malinda Peeples, RN, MS, CDE and Robin Anthony Kouyate, PhD

WellDoc, Baltimore, MD.

Background: Of smartphone users, 19% have at least one health application and just under 10% use health applications for illness management. Yet, a person with chronic illness spends about 8,760 hours per year managing their condition(s) outside of the healthcare system. Cell phone use for health information increased from 17% - 31% (2010-2012). The increasing use of mobile technology for health, and the hours of self-care outside of a medical setting yield an opportunity to provide effective tools to support patient self-management. mHealth technology can deliver interventions via a range of mechanisms. This begs the question how to translate theory and research into practical and effective mobile healthcare interventions.

Process: In order to replicate and scale outcomes of effective interventions across multiple conditions, a clinical/behavioral framework was defined. A process was developed, which utilizes each component of the framework to inform mHealth application product design. The process was applied to multiple conditions in the context of different health programs (e.g. diabetes, epilepsy, lupus and low back pain), resulting in a refined integrated clinical/behavioral framework that serves as the basis for the intervention strategy for our mHealth program solutions.

Discussion: Core components of the framework will be discussed. An automated real-time feedback coaching intervention delivered to Type 2 diabetes patients based on self-recorded blood glucose data will be used to demonstrate how the framework is operationalized to develop a product feature. This approach facilitated the mapping of messages that enabled tailoring and contextualization of content for delivery of the appropriate messages at an actionable moment. The implications of this approach for translating research into practice will be discussed in relation to scalable and replicable design.

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Symposium 08B 2032

CONVERSING WITH A COMPUTER TO IMPROVE SELF-MANAGEMENT OF DIABETES: HOW DOES IT WORK?

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We have developed an automated interactive telephone system, Australian Diabetes Telephone Linked Care (TLC), to improve diabetes self-management. It involves participants uploading blood glucose levels to a database via a cellphone, prior to phoning the system to "converse" on pre-scripted topics such as blood glucose monitoring, nutrition, physical activity and medication taking. A randomized study (n = 120) of adults with sub-optimally controlled type 2 diabetes in Australia has demonstrated improved glycaemic control (mean HbA1c decrease from 8.7% to 7.9% for TLC condition vs 8.9% to 8.7% in usual care arm, p = 0.002). The program also improved mental health functioning. Program use was very high with average call duration of 11 minutes with completion of an average of 76% of expected calls. Satisfaction with the system was very high and results also indicate that medication costs for the intervention group were lower. A process evaluation shows how this program influences people to change complex diabetes self-care behaviors.It provides people with very valuable information ("I thought I knew a lot but I still had a lot to learn"), it enhances motivation ("Good to know someone is motivating me each week"), it teaches new strategies ("Gave me the know how") and it help establish routines ("I became more disciplined"). Related to behaviours, it leads to increase in blood glucose testing, improved eating ("more aware of the food I eat") and increases in other actions related related to improving health ("I joined a gym"; "I now visit my GP more often"). It also had some important psychosocial effects ("I am socializing more"; "I was depressed before the program, but I am now doing OK"). The program also enhances self-control and self-efficacy ("Speaking with a computer is good because it reminds you that you are managing diabetes for yourself"). The presentation will discuss wider applications and potential scalability.

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Symposium 08C 2033

IT'S YOUR GAME: A CASE STUDY IN REALIZING LONG-TERM VALUE VIA STRUCTURED DEVELOPMENT PROCESSES

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It's Your Game…Keep It Real (IYG) is a suite of HIV/STI and pregnancy prevention intervention programs for middle school youth. IYG was evaluated in two randomized controlled trials conducted in a large southern urban school district (n = 907, n = 1742), and demonstrated significant impact on sexual health behavior. IYG is listed as an effective program by the US DHHS Office of Adolescent Health. The conceptual framework for IYG is founded in social cognitive theory, social influence models, and the theory of triadic influence. The computer-based components of IYG employ interactive and rich media extensively to model social norms, support experiential learning, promote skills practice and rehearsal, and to provide evaluation and tailored feedback to the user throughout the intervention.

The program was developed utilizing a structured stepwise protocol, Intervention Mapping, which clearly links theory and intervention methods to practical implementation strategies. Intervention Mapping promotes reuse and adaptation of program components. The foundational work of It's Your Game has contributed to the development of a standalone computer-based version of the program ("IYG Tech"), a program for HIV + teens (" + Click"), and a risk avoidance version of the curriculum. Ongoing IYG projects include dissemination of the program to 10 school districts (n = 80 middle schools), development of a curriculum for High School students, and development of new program components to address the issue of dating violence. In addition, the presenters are currently undertaking a project to translate IYG from a school-based setting to the home environment ("It's Your Game Family").

The presentation will explore structured program development processes and related issues of modality and context when planning eHealth intervention programs that incorporate interactive media.

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Symposium 09 8:40 AM-10:00 AM 2034

CHALLENGES TO SUCCESSFUL PSYCHOSOCIAL ADAPTATION TO HEMATOLOGIC MALIGNANCIES

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Survival rates for patients diagnosed with blood cancers, including leukemia, lymphoma, and myeloma, have dramatically improved in the past decades, according to the National Cancer Institute's SEER (Surveillance, Epidemiology and End Results) Cancer Statistics Review. With better therapies and survival rates, patients living with or in remission from hematologic malignancies face a number of challenges to successful psychosocial and health care adaptation. This symposium brings together new perspectives and research approaches for better understanding the needs of this patient population and their co-survivors. In turn, improved understanding of their needs can lead to development of behavioral and psychosocial interventions that have a greater impact on patient outcomes. The first presenter identifies the specific challenges survivors of hematologic malignancies face in maintaining close relationships and obtaining adequate support. The second and third presenters focus on a commonly used treatment option for hematologic malignancies - hematopoietic cell transplants, also known as bone marrow transplants. The second presenter looks closely at challenges to treatment adherence when patients after transplant transition from in-patient care to self-care at home. The third presenter takes a longitudinal perspective as well, linking the effectiveness of support from caregivers to patients' ability to cope with the challenges of transplant and post-transplant adjustment. The discussant will draw on her decades-long experience with this patient population to discuss what survivors of hematologic malignancies have in common with other cancer patients and what sets them apart and how to best address the challenges these patients face through research and clinical practice.

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Symposium 09A 2035

CHALLENGES TO MAINTAINING ADEQUATE SUPPORT AMONG ADULTS WITH HEMATOLOGIC MALIGNANCIES

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Cancer patients need both practical help and emotional support during all phases of the illness and it is well accepted that intimate relationships play a key role in adaptation. Open disclosure about emotions has been linked to better relationship adjustment, better adaptation to cancer-related role changes, and less distress. In contrast social constraints (avoidance of discussion of cancer or discomfort talking about cancer) have been associated with greater distress. Hematologic cancer (HC) patients often endure long and arduous treatments, including stem cell transplantation and/or long-term chemotherapy that make the need for support continuous. Garnering support may be particularly difficult for younger adults, as many have to relinquish newfound autonomy and social roles (parenting, career). Using mixed methods data, we identify the challenges to maintaining support among 30 patients under 50 with HC (43% female, 52% partnered) and examine gender differences in disclosure, support, and social constraints. Patients participated in a 1-hour semi-structured interview and completed standard psychosocial measures of support, constraints, and adjustment. Interviews were analyzed using thematic analysis. We found that almost all patients felt strongly supported by their families, during the diagnosis, initial treatment, and transition to survivorship phases. At the same time, they reported social constraints with specific network members. Women disclosed more than men, and more often to women. Married participants turned to their partners for support, but with costs to self-worth. Single participants, particularly men, preemptively closed off intimate relationships, for fear of appearing weak. Nearly every participant engaged in protective buffering with partners, parent, and children. The findings indicate that the relationship challenges for HC patients are gendered and change from the 20s to 40s.

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Symposium 09B 2036

CHALLENGES TO TREATMENT ADHERENCE IN PATIENTS AFTER ALLOGENEIC HEMATOPOIETIC CELL TRANSPLANT

Gertraud Stadler, PhD,[1] Carolien Swann, BA,[1] Laura Patino, BA,[1] Matthew Riccio, BA,[1] Rita Jakubowski, RN,[2] Shakira Riley, RN,[2] Sara Kim, PharmD,[2] Eileen Scigliano, MD,[2] Luis Isola, MD,[2] Suzanne Bakken, RN, PhD[1] and William Redd, PhD[2]

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The aim of the current study was to describe the challenges to treatment adherence in cancer patients after allogeneic hematopoietic cell transplant. Patients after transplant depend on a rigorous self-care regimen to ensure optimal treatment outcomes. However, it is likely that patients face similar challenges as patients after solid organ transplant and with other chronic conditions where treatment adherence is suboptimal.
This longitudinal observational study used multiple approaches to assess adherence. Patients were recruited at an urban transplant center (N = 20) and followed for the first 6 months after first discharge from in-patient care. Patients repeatedly reported their adherence. Serum levels for immunosuppressants were abstracted from patients' medical records. The research team conducted in-depth interviews at 3 and 6 months to elicit patients' descriptions of adherence challenges.
The varying adherence indicators point to adherence problems across the treatment period. We found suboptimal adherence in serum level data and self-reports. About half of the patients (57%) with at least 3 months of serum level data showed subtherapeutic immunosuppressant levels at least once, and even more patients (78%) reported skipping medications. Patients identified two time periods presenting particular challenges to adherence: Some patients described the transition from in-patient care at the hospital to self-care at home as daunting and difficult. Other patients reported adherence lapses later when they started feeling better, indicating problems maintaining motivation to perform elaborate self-care regimen.
Suboptimal adherence levels occur in patients after allogeneic hematopoietic cell transplant. Our findings indicate a need to assess adherence and develop adherence interventions for this population to address these challenges and ensure optimal treatment outcomes.

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Symposium 09C 2037

CHALLENGES TO SURVIVORS' EXPERIENCE OF STEM CELL TRANSPLANT AND THEIR LINKS TO CAREGIVERS' SUPPORT EFFECTIVENESS

Christine Rini, PhD,[1] Dane Emmerling, MPH,[1] Jane Austin, PhD,[2] Lisa Wu, PhD,[3] Heiddis Valdimarsdottir, PhD,[4] William H. Redd, PhD[3] and Rebecca Woodruff, MPH[5]

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We investigated whether hematologic cancer survivors' experiences of stem cell transplant (SCT)—as indicated by linguistic features of their written narratives—varied according to the effectiveness of their caregiver's social support. Caregiver support may influence their experience by affecting SCT-related stressors (e.g., through provision of critical coping resources) and outcomes of survivors' attempts to cognitively process their experience. Survivors (n = 182) completed a measure of the effectiveness of their primary caregiver's support, then in the next three weeks completed three brief writing exercises about the time before, during, and after SCT. Linguistic text analyses on the narratives characterized patterns of natural language use in word categories relevant to SCT and caregiver support: negative and positive emotion words, cognitive mechanism words related to insight and causation, and words related to work and money. Analyses showed that the effectiveness of different functional types of caregiver support had unique associations with word categories. Effective informational caregiver support predicted less use of causation words (e.g., "because," "reason"; p = .04), especially in narratives about the time after SCT. Effective caregiver emotional support predicted less use of negative emotion words (p = .01), especially in narratives about the time before SCT and for anxiety-related words. And effective caregiver instrumental support predicted less use of money words (p = .003), especially in narratives about the time during and after SCT. Given that survivors' narratives reveal enduring interpretations of the SCT experience that can affect survivors' present and future psychosocial functioning, findings suggest that the effectiveness of caregiver support may have lasting repercussions for hematologic cancer survivors recovering from this lengthy and arduous treatment.

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Symposium 10 8:40 AM-10:00 AM 2038

IT TAKES TWO TO CARE: INNOVATIVE DYADIC APPROACH TO CANCER CARE

Jennifer Steel, PhD,[2] Youngmee Kim, PhD,[1] Kelly M. Shaffer, MS[1] and Julia H. Rowland, PhD[3]

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Cancer patients and their family caregivers often report elevated levels of psychological distress. Yet, many unanswered questions remain, including whether such distress is mutually acknowledged and has spill-over effects between the patients and family caregivers. This symposium addresses these concerns from three different angles, examining additional key psychosocial and medical factors across different cancers, different phases in survivorship trajectory, and diverse analytic approaches. One angle investigates the dyadic processes among patients with hepatobiliary cancer and their family caregivers at the time of first treatment and follow-ups by 4-month post-diagnosis. Results from time-lagged analyses support the spill-over effects of the individual's stress on the partner's subsequent depressive symptoms, which was more prominent among couples who had poorer relationship quality. A second angle extends these findings from treatment to transition to the survivorship phase and further examine the role of gender and types of cancer (colorectal and lung). Findings from actor-partner interdependence modeling (APIM) provide refined evidence that female patients' depressive symptoms are related to their caregivers' poorer physical health, whereas male patients' depressive symptoms are related to their caregivers' poorer mental health, which were the case for both types of cancers. The final angle further extends the investigation to long-term survivorship and highlights the significant role of age. The results of multiple-group comparison APIM revealed the beneficial impact of support from friends in younger adult patients' mental health and that of support from spouse in older adult patients' mental health. Dr. Rowland, in her discussion, highlights directions for future research as well as psychosocial interventions for improving quality of life among cancer patients/survivors and their family caregivers, during both early and long-term phases of survivorship.

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Symposium 10A 2039

PATIENT RELATED PREDICTORS OF CAREGIVER STRESS AND DEPRESSION

Jennifer L. Steel, PhD,[1] Kevin Kim, PhD,[4] David Geller, MD,[2] Michael Antoni, PhD,[3] Wallis Marsh, MD[2] and Allan Tsung, MD[2]

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Background: By 2030, it is expected that over 24 million people will be living with cancer. Caregiving has been shown to be associated with increased risk of mortality. Although predictors of stress in caregivers have been examined, few studies have assessed the role of the patients' quality of life, mood, or relationship quality.
Methods: A total of 120 patients diagnosed with advanced cancer and their caregivers were interviewed using the Center for Epidemiological Studies-Depression scale (CES-D), the Functional Assessment of Cancer Therarpy-Hepatobiliary, Caregiver Quality of Life Questionnaire, and the Patient Relationship Quality questionnaire prior to the patients' first treatment, and at 2-, and 4-months follow-up. Descriptive statistics, Cohen kappa's, structural equation modeling, and Analysis of Variance (ANOVA) were employed to test the association between these constructs.
Results: At baseline, 33% of patients and 42% of family caregiver reported symptoms of depression in the clinical. Patient quality of life and mood predicted the caregivers' stress and mood and the caregivers' stress predicted higher levels of patient reported depressive symptoms at subsequent time points. The agreement between the patient and caregiver with regard to relationship quality was low (kappa = 0.023). In 37% of dyads, that dyad did not agree with regard to the quality of the relationship and regardless of those caregivers who reported a good relationship, lack of agreement resulted in higher levels of caregiver stress (p = 0.007) and depression (p = 0.007).
Conclusions: The patient and caregiver status, prior to the initiation of treatment, was predictive of their partners' functioning over the course of treatment. A lack of agreement between the patient and caregiver with regard to the relationship quality also resulted in higher levels of caregiver stress and depression. Psychosocial interventions for caregivers should be designed to address the patient-caregiver relationship quality to reduce stress and/or depression.

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Symposium 10B 2040

DYADIC EFFECTS OF PERCEIVED SOCIAL SUPPORT ON QUALITY OF LIFE OF CANCER SURVIVORS AND THEIR CAREGIVERS

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Salutary effects of perceived social support on one's quality of life (QOL) through adversity have been widely reported. However, little is known as to whether support from one's spouse compared to one's friends may be differentially associated with QOL in cancer survivors and caregivers, or if these effects are moderated by age.

Survivors ($N = 499$; 45% female; age $M = 60$) and their heterosexual spousal caregivers (age $M = 59$) participated in a nationwide study at two years post-diagnosis. Participants reported perceived social support from their spouse and from friends using the Multiple Sources of Perceived Social Support scale, and physical and mental QOL (PQOL and MQOL) were assessed using the MOS SF-36 .

Actor partner interdependence modeling revealed that perceived friend support was positively related to one's own PQOL ($Bs = 1.36$, $ps < .001$), and perceived support from spouse and friends were both equally positively related with one's own MQOL ($Bs = 1.51$, $ps < .001$). These effects were equal for survivors and caregivers. In addition, older age was related to poorer PQOL ($Bs < -0.20$, $ps < .001$) but better MQOL ($Bs = 0.21$, $ps < .001$) for both survivors and caregivers. Furthermore, age moderated the dyadic relation between survivors' different sources of social support and caregivers' MQOL, and vice versa ($ps < .02$). One's own spousal support was related to better MQOL of one's partner among older participants, whereas one's own friend support was related to better MQOL of one's partner among younger participants.

Results showed that social support from spouses compared to support from friends are differentially related to physical health, whereas these two sources of support are equally beneficial for mental health. Dyadic age interaction effects indicate that the importance of one's partner receiving adequate social support differs by age. This suggests that for younger couples facing cancer, interventions should encourage fostering supportive friendships, whereas for older couples, interventions should fortify effective dyadic coping.

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Symposium 10C 2041

DYADIC EFFECTS OF GENDER AND DEPRESSIVE SYMPTOMS ON QUALITY OF LIFE

Youngmee Kim, PhD,[1] MIchelle van Ryn, PhD,[2] Roxanne Jensen, PhD,[3] Joan Griffin, PhD,[4] Arnold Potosky, PhD[3] and Julia Rowland, PhD[5]

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Cancer patients and their family caregivers often report elevated levels of depressive symptoms, along with poorer mental and physical health (quality of life: QOL). Although the similarity in such experiences is relatively well known, unknown is the degree to which caregivers' depressive symptoms have an independent effect on their patient's QOL, and vice versa. In addition, the role of gender in this relation remains unclear. A total of 398 patient-caregiver (257 male, 141 female patient) dyads participating in the CanCORS provided complete data for study variables. Patients' depressive symptoms and QOL were measured at 4 (T1) and 12 months (T2) post-diagnosis. Caregivers' depressive symptoms and QOL were measured at 6 months post-diagnosis. The Actor Partner Interdependence Model confirmed that each person's depressive symptom level was uniquely associated with his/her own QOL (actor effects). Furthermore, female patients' depressive symptoms were related to their caregivers' poorer physical health; male patients' depressive symptoms were related to their caregivers' poorer mental health (partner effects). Female patients' elevated depressive symptoms similar to their caregivers' were related to her caregivers' better physical health, but poorer mental health (similarity effects). Findings suggest that QOL among patients and their family caregivers is interdependent as patients' and caregivers' depressive symptoms spillover to their family members' QOL, which was distinct from one's depression affecting one's own QOL. Findings highlight the need for psychosocial interventions for managing depressive symptoms provided to both patients and their family caregivers. The differential role of gender in individual and dyadic effects of depressive symptom on QOL, whereby women's dysphoric mood influence on their family members' poorer physical functioning, also warrants future studies for investigating interpersonal contextual factors.

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Symposium 11 8:40 AM-10:00 AM 2042

RELIGION, SPIRITUALITY AND HEALTH OUTCOMES IN CANCER: THREE META-ANALYSES

John M. Salsman, PhD,[1] George Fitchett, DMin, PhD,[2] Heather S. Jim, PhD,[3] Thomas V. Merluzzi, PhD,[4] Alexis R. Munoz, MPH,[5] Mallory A. Snyder, MPH,[1] Mark Berendsen, MLIS[1] and Crystal L. Park, PhD[6]

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An estimated 12.7 million new cases of cancer were diagnosed worldwide in 2008. Based on a burgeoning body of research, a majority of individuals with cancer report having religious or spiritual (R/S) beliefs, engaging in R/S behaviors, or deriving comfort from R/S experiences across the disease continuum from diagnosis through treatment and palliative care or survivorship. Several papers have reviewed these topics, but a meta-analytic approach is needed to synthesize this literature to better understand the relations between R/S and health in the context of cancer. Through a series of meta-analyses we sought to identify the extent to which measures of R/S were differentially associated with health and the conditions under which these relationships were strengthened or attenuated. We anticipated that relations between R/S and health might vary as a function of gender, age, race, cancer type, stage, and continuum phase, as well as dimensions of R/S (affective, behavioral, cognitive) and health outcome (physical, mental, social). In a series of presentations we will describe the results of three meta-analyses of the relationship between measures of R/S and health. First, we will focus on physical health outcomes such as fatigue, pain, and physical well-being. Second, we will focus on mental health outcomes such as depression, anxiety, and emotional well-being. Third, we will focus on social health outcomes such as social support, social isolation, and social well-being. All three presentations will examine the role of potential moderators. Finally, we will end with a discussion of similarities and differences among the presentations. We expect the results of this methodologically rigorous effort will focus future work in this area by identifying key measures for inclusion in studies of R/S and cancer and highlighting particular subgroups who may benefit from R/S-oriented interventions.

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Symposium 11A 2043

A META-ANALYTIC APPROACH TO EXAMINE THE RELATIONSHIP BETWEEN RELIGION/SPIRITUALITY AND MENTAL HEALTH IN CANCER

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Religion and spirituality (R/S) are patient-centered factors that are often resources for managing the emotional sequelae of the cancer experience. Research to date on the relationship between R/S (e.g., beliefs, spiritual well-being, coping) and mental health in cancer (e.g., depression, anxiety, well-being) has used very heterogeneous measures, with correspondingly inconsistent results. A meaningful synthesis of these findings has been lacking. Four electronic databases were systematically reviewed and 1,784 abstracts met initial selection criteria. Reviewer pairs applied standardized coding schemes to extract correlational indices of the relationship between R/S and mental health. Effect sizes were calculated and pooled from eligible studies ($k = 129$) using random effects meta-analysis; subgroup analyses were performed using meta-regression to examine moderators of effects. The estimated mean correlation coefficient (r) was 0.25 (95% CI 0.21-0.29) and this varied as a function of type of R/S measure: affective, $r = .40$, $p < .0001$; behavioral, $r = .10$, $p = .002$; and cognitive, $r = .14$, $p < .0001$. Additional significant moderators were gender, sample origin, cancer type and stage (all $ps < .05$). The full model accounted for a total R^2 of 68% of initial between-study variability. Although the relationship between R/S and mental health is generally a positive one, the strength of that relationship is affected by a number of important clinical, demographic, and measurement characteristics. Identification of optimal R/S measures and more sophisticated methodological approaches are needed to advance research in this field.

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Symposium 11B 2044

A META-ANALYSIS OF THE RELATIONSHIP BETWEEN RELIGION/SPIRITUALITY AND PHYSICAL HEALTH IN CANCER SURVIVORS

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Many cancer survivors rely on religion and spirituality (R/S) to cope with the existential threat of diagnosis and treatment. Previous research examining the relationship between R/S and physical health in cancer survivors is characterized by heterogeneous methodology and findings. The current study used meta-analysis to reconcile previous findings regarding the relationship between R/S and physical health. A search of electronic databases yielded 1,784 abstracts which were independently evaluated by rater pairs. Original studies of R/S and physical health in adult cancer patients were included ($k = 77$). Meta-analysis focused on univariate cross-sectional or longitudinal relationships between R/S and physical health at a later time point. R/S included affective (e.g., spiritual well-being), behavioral (e.g., prayer), and cognitive (e.g., image of God) dimensions. Physical health comprised measures of physical functioning, symptomatology, and health behaviors. Random effects meta-analysis indicated affective R/S was positively correlated with physical health (average Pearson $r = 0.25$, 95% CI = [0.20,0.30]), but behavioral and cognitive R/S were not. In a pooled meta-regression controlling for R/S dimension, sample average age, gender composition, sample country of origin, cancer type, phase, and stage, significant moderators were R/S dimension, average age, and gender. The full model accounted for 59% of initial between-study variability in correlations. Results suggest affective R/S is associated with better physical health among cancer patients. Future studies should examine the directionality of the relationship and determine whether interventions to increase affective R/S result in improved physical health.

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Symposium 11C 2045

A META-ANALYTIC REVIEW OF RELIGION/SPIRITUALITY AND SOCIAL QOL AMONG CANCER PATIENTS

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Introduction: For persons with cancer, studies indicate that R/S may foster social functioning and social support; however, there have been no meta-analytic studies. The current project used state-of-the-art meta-analysis to compile data across studies on the relationship between R/S and social QOL. Method: In a systematic meta-analysis drawing from 4 electronic databases, 1,784 abstracts were identified, evaluated, and coded by reviewer pairs. 53 correlational studies were included in the meta-analysis. Results: Using a random-effects model, the estimated mean correlation coefficient (r) between the R/S construct and social QOL was .19 (95% CI .14- .25), a small effect size (ES). However, the R/S - Social QOL relationship was significantly moderated by the type of R/S measure used; it was much stronger for affective R/S (ES = .29), than behavioral (ES = .11), or cognitive (ES = .07) R/S. Other significant moderators were patient's age ($r = -.013$, $p < .02$) and phase of illness (survivorship, $r = .012$, $p < .02$). The full model accounted for 82% of initial between-study variability. Discussion: Results suggest that R/S is modestly positively associated with social QOL among cancer patients and survivors. Future studies should examine the importance of moderators and determine specific qualities that are responsible for the larger ES for affective R/S. This may lead to creative interventions based on specific types of R/S.

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Citation Paper
Panel Discussion 01 11:40 AM-12:40 PM 2046

LEVERAGING MEANINGFUL USE REGULATIONS TO ACCELERATE PATIENT EMPOWERMENT AND HEALTH BEHAVIOR CHANGE

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Through applications like Electronic Health Records (EHR), Personal Health Records (PHRs) and Patient Portals, health information technology (HIT) has the potential to empower patients and help them get more involved in their health and manage their health conditions. However, the adoption of these technologies and their utilization to improve care has been slowed by many factors such as concerns about data security, interoperability, local policies, and the inability to connect PHRs to EHRs. Leveraging the Center for Medicare & Medicaid Services' Meaningful Use (MU) regulations and EHR incentive program, the U.S. is at a pivotal point in history where the use of HIT to empower patients and improve care can be accelerated. There are parts of MU that are highly relevant to behavioral medicine such as the objectives focused on engaging patients and caregivers as a care team and increasing communication between patients and health care providers. The nation is now in Stage 2 of MU which requires that patients are given access to data from their electronic health record and the ability to communicate with their providers using secure eMessaging. These requirements may provide behavioral medicine with more opportunities to reach patients who need help using technology to improve patient self-management and shared decision making. In this session, experts in consumer health informatics and industry leaders in HIT will outline MU policies and discuss the current status of MU Stage 2 implementation, along with specific challenges in the real world such as patients' lack awareness of PHRs/Portals and healthcare professional concerns about adoption. The panel will also discuss potential solutions, opportunities for behavioral medicine, and finish by taking questions from the audience.

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Panel Discussion 02 11:40 AM-12:40 PM 2047

THE EVOLUTION OF MHEALTH

Wendy Nilsen, PhD,[1] Christopher Bonafide, MD,[3] Eric Hekler, PhD[4] and Paulina Socklow, DrPH, MS, MBA[2]

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Mobile and wireless health (mHealth) has garnered a significant amount of attention both in the popular press (Collins, 2013) and in the scientific literature (e.g., Free et al., 2013; Kaplan and Stone, 2013). In the area of mHealth for behavior change, this interest has spawned new areas of research and brought in scientific disciplines (e.g., Human-Computer Interaction) that have not been heavily involved in health research before. mHealth has also highlighted challenges of adapting and expanding previous scientific knowledge with technology. This panel will highlight the adaptation and evolution of mHealth over the last five years to identify areas of promise and continued challenge. The panel includes four presenters targeting different aspects of this evolution. Paulina Sockolow, DrPH will highlight the challenges of adapting clinical guidelines into technology. This presentation will focus on lessons learned from this work in electronic health records and includes demonstration of current research developed to provide support to young adults living in highly stressful environments. The second presentation by Christopher Bonafide, MD will highlight some of the developmental process that technology has brought to behavior change research, using his work with young adults with inflammatory bowel diseases as an example. Eric Hekler, PhD will then talk about the changes that technology has brought to design methodology and analytics using his current work on models of behavior change in diet for weight loss using mobile technology. Finally, Wendy Nilsen, PhD will discuss current efforts in mHealth at the National Institutes of Health, including her work in mHealth evidence generation.

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Panel Discussion 03 11:40 AM-12:40 PM 2048

HOW CAN ‘BIG DATA' IN THE FEDERAL GOVERNMENT INFLUENCE THE IMPACT AND REACH OF BEHAVIORAL MEDICINE?

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Big Data are defined in many ways, but typically there is a focus on; 1) volume (vary large datasets), 2) variety (many different types of data from myriad sources); and 3) velocity (data that are collected in real time). The ability to access, share, manage, and analyze Big Data has the potential to improve behavioral medicine research and outcomes.

Presenter 1 will provide an overview of Big Data and how it's being tackled at the National Institutes of Health. These include BD2K (Big Data to Knowledge), an initiative which aims to develop new approaches, standards, methods, tools, software, and competencies that will enhance the use of biomedical Big Data, and efforts by the National Library of Medicine to promote the use of common data elements to support sharing of Big Data.

Presenter 2 will explain integrative data analysis (the pooling of independent data sets that can be analyzed as one), how it can be applied, and advantages and disadvantages to using this technique in behavioral medicine. She will also discuss the importance of measurement including the use of common data elements and comparability when combining data.

Presenter 3 will talk about linking national health surveys (e.g. NHIS, NHANES, LSOA II, NNHA) to large administrative data sets, such as the National Death Index, Medicare and Medicaid enrollment claims, and Social Security Administration Retirement and Disability data. She will review linkage methodologies and discuss the strengths and the challenges encountered when using the data files for analytic research projects.

The goal of the panel is to: 1) Explain to participants about Big Data efforts at the NIH and NCHS; 2) instruct participants about integrative data analysis as it relates to behavioral medicine; 3) explain how unique data sets may be linked together to examine issues like health status, health conditions, health care, and health behaviors.

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Panel Discussion 04 11:40 AM-12:40 PM 2049

BEHAVIORAL MEDICINE CAREERS IN THE VA HEALTH CARE SYSTEM

Karen Oliver, PhD,[1] Michael G. Goldstein, MD,[2] Mark Ilgen, PhD,[3,4] Sara J. Knight, PhD[5] and David Goodrich, EdD[3]

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The Veterans Affairs (VA) Health Care System is the largest provider of behavioral medicine training and clinical career paths within the United States. This panel discussion will focus on the opportunities and challenges of developing a behavioral medicine career within the VA's national system of hospitals and clinics. Panelists will discuss the trajectories and development of their careers, including conducting research, clinical work, and teaching/training within the VA. They will provide the audience with information and guidance on how to develop and maintain satisfying and productive careers focused on improving the health and quality of life of Veterans. Topics of discussion will include information about research tracks and funding mechanisms, clinical educator positions, post-doctoral fellowships, and educational/training opportunities. There will be ample time for discussion and audience participation.
This panel discussion is co-sponsored by the Education, Training, and Career Development Council and the Military and Veterans' Health SIG.

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Panel Discussion 05 11:40 AM-12:40 PM 2050

FUNDING OPPORTUNITIES AND STRATEGIES FOR DIET, PHYSICAL ACTIVITY, AND OBESITY PREVENTION

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The purpose of this panel is to inform participants about both federal and non-federal funding opportunities for research and evaluation related to the areas of diet, physical activity, and obesity prevention and intervention. Two speakers representing federal agencies, the National Institutes of Health (NIH) and the Centers for Disease Control and Prevention (CDC), will discuss relevant program announcements (PAs), request for applications (RFAs) and other funding mechanisms, as well as strategies in applying for funding from these federal agencies. The third speaker will discuss funding opportunities and strategies outside the federal government, such as funding from local and national foundations, especially in light of the current tough funding climate. After the presentations, the panel will be moderated through a discussion and Q&A with panelists and attendees.

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Panel Discussion 06 11:40 AM-12:40 PM 2051

A CONCEPTUAL MODEL OF TRANSDISCIPLINARY TEAM RESEARCH: PLANNING, MANAGING, AND ENHANCING COLLABORATIVE SCIENCE

Kara L. Hall, PhD,[1] Amanda L. Vogel, PhD MPH[2] and Sarah Gehlert, PhD[3]

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Transdisciplinary (TD) team research has emerged as a promising approach to answer complex scientific questions and develop solutions to pressing public health problems. TD research teams bring together collaborators from multiple disciplines, fields and professions who engage in an integrative process to synthesize and extend their perspectives, theories, methods and translational strategies to create novel findings and translational applications. Complexity in TD research teams - e.g., the number of collaborators and the range of expertise represented on the team - contributes to the potential added value of this approach, but may also introduce challenges such as difficulties with group communication and management and conflicts related to epistemological and methodological differences. A conceptual model for the TD team research process can help to guide effective TD team collaboration and ultimately support achievement of scientific and translational goals. This session will present a four-phase model of the TD team research process that identifies key team processes and scientific benchmarks in each phase, such as creating shared goals, externalizing group cognition, developing shared mental models and managing conflict. The experiences of the Center for Interdisciplinary Health Disparities Research (CIHDR) at the University of Chicago, a TD research initiative, will be discussed through the lens of the model, highlighting strategies for success and examples of scientific products of each phase. Practical tools and strategies to support key team processes and scientific benchmarks will also be shared. Examples include collaboration agreements, training modules in team science competencies and team diagnostic surveys.

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Panel Discussion 07 11:40 AM-12:40 PM 2052

TO EVALUATE EFFICACY, WE NEED TO REACH: HOW DO WE RECRUIT CANCER SURVIVORS AND FAMILY MEMBERS TO PSYCHOSOCIAL RESEARCH STUDIES?

Michelle Y. Martin, PhD,[1] Maria Pisu, PhD,[2] Sharon Manne, PhD,[3] Karen Basen-Engquist, PhD[4] and Catherine Alfano, PhD[5]

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Engaging targeted populations in research is necessary for successful behavioral medicine research. While this research will greatly benefit the millions of cancer survivors worldwide, the recruitment of this population is particularly complex. The first speaker will describe the factors that influence recruitment. These include, but are not limited to, cancer type and prevalence, type of intervention, study requirements, and intervention level (e.g., individual, couples, and families). The second presenter will highlight the challenges and lessons learned recruiting survivors of different cancers during and post-treatment, as well as survivors with treatment induced co-morbidities. The third presentation will compare and contrast recruitment approaches and yield for studies recruiting survivors and their significant others to different types of couple-focused interventions including couple-based counseling and health promotion interventions, particularly studies where a distress screening criteria exists. The fourth presentation will highlight the successes and challenges in recruiting different demographic groups into intervention research. In a concluding presentation, a Program Officer from the NCI Office of Cancer Survivorship will provide a broader perspective based on her experience learning firsthand about the recruitment challenges of NCI funded investigators across the country. The audience should be ready to share their experience and to discuss the most successful and potentially evidence-based approaches to identifying and enrolling cancer survivors and their family members to our research studies.

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Panel Discussion 08 11:40 AM-12:40 PM 2053

DEFINING CHRONIC DISEASE IN BEHAVIORAL MEDICINE RESEARCH

Ryan Demmer, PhD, Shakira Suglia, ScD, Rachel Shelton, PhD and Thelma Mielenz, PhD

Ryan Demmer, Columbia University, New York, NY.

We propose a forum to discuss research limitations of current chronic disease definitions and why it is important to have a standard measurement framework.

Definitions of "chronic disease" vary greatly. This is true when considering the broad definition of chronic disease or more focused definitions of specific clinical entities (e.g., diabetes, heart disease, cancer). One or several of the following characteristics are often used to define chronic diseases: i) duration of symptomatology; ii) duration of induction periods; iii) age of onset; iv) communicability; v) underlying pathology; vi) risk factors; vii) organ(s) affected. Definitional variation can both help and hinder the conduct and application of science. Consistent definitions are foundational for replication of findings and secular trend surveillance. However, in an era of multifactorial risk in which distinct clinical entities (e.g., cancer, heart disease, respiratory disease) often share common risk factors (e.g., tobacco) or underlying pathology (e.g., inflammation) there are advantages to flexible definitions enabling classification along a different set of axes depending on the scientific goals. A more robust and standardized framework to measure multiple chronic conditions has been put forth by the National Quality Forum: Persons having two or more concurrent chronic conditions that collectively have an adverse effect on health status, function, or quality of life and that require complex healthcare management, decision-making or coordination. We would like to discuss and debate why it is important to implement a standard definition and framework. To frame the debate, we will draw on examples from our own research to outline challenges presented by current definitions including but not limited to the following: i) HIV, certain cancers and the era of microbiomics have blurred the lines between acute vs. chronic and communicable vs. noncommunicable; ii) the obesity epidemic has created the potential for rising type 2 diabetes among youth but surveillance efforts are hindered by limitations of traditional case-definitions.

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Panel Discussion 09 11:40 AM-12:40 PM 2054

THE INCLUSION CHALLENGE: HOW CAN GENERAL WEIGHT LOSS PROGRAMS ACCOMMODATE THE NEEDS OF WOMEN WITH MOBILITY IMPAIRMENTS?

Margaret A. Nosek, PhD,[1,3] Rebecca E. Lee, PhD,[2] Susan Robinson-Whelen, PhD,[1] Tracey A. Ledoux, PhD,[3] Rosemary B. Hughes, PhD,[4] Daniel P. O'Connor, PhD,[3] Rebecca Goe, MA[4] and Thomas M. Nosek, PhD[5]

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Obesity prevalence is double among women with mobility impairments compared to women with no limitations. Weight loss programs, however, fail to offer information and strategies that address their specific biological, psychosocial, and ecological circumstances. This panel will present preliminary findings of the GoWoman program, which has updated and adapted the Diabetes Prevention Program Lifestyle Change curriculum so that it accommodates the needs of women with mobility impairments. The first speaker will explain behavioral sequences behind the cycle of disability and weight gain. The second speaker will frame the discussion of obesity and disabilities within an ecologic systems framework and introduce the concept of the obesogenic environment as it is related to disability considerations. She will present examples of micro- and macro-environment factors along with meso- and exo-macro-environment linkages that may contribute to obesity in women with disabilities. The first speaker will return to describe four categories of informational and strategic adaptations that were required to make the curriculum responsive to the needs of this population: nutritional physiology, physical activity, psychology, and environment. This will include metabolic changes and medications associated with certain disability types, attitudes that disability exempts individuals from weight and physical activity concerns, kitchen and cooking adaptations, communication with those who assist with shopping and food preparation, and adapted physical activity. The audience will then be challenged to address the question of how weight loss programs designed for the general public can be made more inclusive to respond to people who represent the full range of physical abilities.

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Panel Discussion 10 11:40 AM-12:40 PM 2055

KEY ISSUES RELATED TO DESIGN, DISSEMINATION AND EVALUATION OF TEXT MESSAGING PROGRAMS FOR BEHAVIOR CHANGE

Lorien Abroms, ScD, Doug Evans, PhD and Melissa Napolitano, PhD

Dept. of Prevention & Community Health, GWU, Washington, DC.

A growing body of evidence indicates that SMS-based programs on mobile phones can help people modify health behaviors (Free et al. 2013; Whittaker et al. 2012). Most of these interventions have consisted of a series of automated and, sometimes, interactive text messages that guide a person through the process of behavior change.

These interventions may be effective for several reasons. SMS-based program messages generally provide health advice and information in a proactive format. Additionally, programs can be designed to mirror the elements of in-person counseling, and offer advice and feedback that is tailored and interactive. Programs may also be effective because they are uniquely suited to offer help or support in-the-moment of decision making and can offer the help to users over long periods of time.

This panel explores key issues and lessons learned related to the design, dissemination and evaluation of successful programs that include text messaging components.

Each of the panel members will briefly provide an overview of an SMS-based program (i.e. text4baby, Text2Quit, HealthyOwls), describe the results of a randomized trial conducted on the program, and offer insights based on their experiences for program design, dissemination and evaluation. With over 600,000 enrolled subscribers to date, text4baby is the largest public health text messaging program in the US. It is aimed at improving maternal and infant health. Text2Quit is a prominent text messaging program for smoking cessation and has been integrated into phone counseling services at the Alere Wellbeing Inc. quitline. HealthyOwls is a novel integrated Facebook and text messaging program aimed at weight loss among overweight/obese college students.

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Panel Discussion 11 11:40 AM-12:40 PM 2056

RESOLVING THE TOWER OF BABEL PROBLEM IN BEHAVIORAL THEORIES: BENEFITS OF AND DEVELOPMENTS IN BEHAVIORAL ONTOLOGIES TO SUPPORT INTERVENTIONS

Eric B. Hekler, PhD,[1] Lawrence C. An, MD,[2] Susan Michie, DPhil,[3] Kai R. Larsen, PhD[4] and Timothy W. Bickmore, PhD[5]

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There is increasing recognition that we are facing a "Tower of Babel" problem within behavioral science. Like the ancient story of Babel, in which a lack of a common language halts progress, we have a wide range of different behavioral theories that often discuss similar constructs but with different terms (e.g., self-efficacy and perceived behavioral control), postulate different interrelationships between constructs, or even use the same term but with different meanings. This problem is only compounded with increased interaction with other disciplines, such as computer scientists. While progress has been made in improving definition and standardization of terms (e.g., Behavior Change Techniques Taxonomy or NCI's Grid-Enabled Measures database project), a great deal more work is required. This panel focuses on work that provides an essential foundation for standardization, interoperability, and information sharing in behavioral medicine, through the development of computer-based "ontologies". An ontology is a formal definition of the concepts in an area of expertise and the relationships among them; in behavioral medicine these comprise definitions of such concepts as psychological constructs, behaviors, and behavior change techniques and how they interrelate. Because the process of developing an ontology requires an explicit and formally expressed model of the domain, creation of an ontology requires resolution of ambiguities of definitions and terms. During last year's SBM meeting, a working group was formed to create a behavioral ontology that builds on Dr. Susan Michie et al's work. In addition to presenting an overview of this work, we will discuss the potential opportunities a behavior ontology affords to behavioral science. This panel is co-sponsored by the SBM Technology and the Theories and Techniques of Behavior Change SIGs.

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Panel Discussion 22 11:40 AM-12:40 PM 2057

WORKING TOGETHER: AN INTERACTIVE DISCUSSION WITH DIVERSE, SUCCESSFUL, BASIC AND APPLIED RESEARCH COLLABORATORS

Sarah Kobrin, PhD, MPH and Jerry Suls, PhD

Behavioral Research Program, National Cancer Institute, Bethesda, MD.

Increasingly, behavioral science is practiced as a team sport. Health behaviors are complex; therefore, understanding and changing them require complex, cross-disciplinary approaches that include insights from both basic and applied behavioral research. For example, oncologists need psycho-oncologists; public health interventionists need neuroscientists. At their best, crossing these scientific boundaries has produced exciting new research questions (e.g., experimental pharmacological approaches to drug abuse to study smoking behavior) and innovative approaches to old, intractable problems (e.g., FMRI to study affect). However, working with people trained in other disciplines requires new skills - learning a common language, collectively defining a research question, and maximizing each other's strengths without getting in each other's way. New teams of basic and applied behavioral researchers can learn from the successes of others. The goal of this symposium is to highlight the presenters' accomplishments and provide strategies for others to anticipate and overcome challenges for future work. The session will take the form of a "talk show," during which pairs of cross-disciplinary collaborators will describe their work together. Three pairs of presenters will represent crossing different types of scientific boundaries - for example, from anesthesiology to social psychology; from public health to neuroscience; and from clinical oncology to psycho-oncology. Each pair will briefly present the issues that brought them together, how their collaborations extended their scientific achievements, and the challenges they faced. Each will also address the impact of collaboration on their career trajectories. This interactive session will be in a moderated discussion format, during which audience members and panelists will discuss their experiences with the challenges and solutions for successful collaboration.

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Thursday
April 24, 2014
2:25 PM-3:45 PM

Symposium 12 2:25 PM-3:45 PM 2058

NEW DIRECTIONS IN EXPRESSIVE WRITING RESEARCH

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One way to increase the impact of behavioral medicine is to extend efficacious interventions in new directions—e.g., an intervention's methods and mechanisms may be appropriated to form the basis for new interventions or an intervention may be tested in new populations with distinctive features that extend its applicability. We present 3 such extensions of Pennebaker's expressive writing (EW) paradigm. In EW, people write about a past trauma in brief, guided writing sessions. Health benefits of EW are shown by meta-analyses. First, Dr. Tracey Revenson will present a meta-analysis of EW in adolescents. Improved cognitive processing is theorized to underlie benefits of EW. Yet, adolescents have less sophisticated cognitive processes than adults, so they may be less likely to benefit from EW. Based on the findings, Dr. Revenson will discuss limitations of EW for adolescents and how its benefits may be strengthened. Second, Dr. Heiddis Valdimarsdottir will discuss research on EW in newly diagnosed prostate cancer patients. Most EW research has addressed past medical events, but arguments have been made for and against the hypothesis that EW may benefit people currently undergoing major medical stressors. EW reduced distress in these newly diagnosed patients, supporting a notable extension of EW. Third, Dr. Christine Rini will describe benefits shown in a trial testing an expressive helping (EH) intervention for distressed stem cell transplant survivors. In EH, survivors complete EW to process their transplant experience and transform it into language. Next, they use their EW writing as the basis for writing a narrative that describes their experience, to be shared with people preparing for transplant, leveraging demonstrated benefits of helping others. Our discussant, Dr. Annette Stanton, will offer commentary on the individual studies and place the current investigations in the broader context of research on expressive disclosure.

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Symposium 12A 2059

A RANDOMIZED CONTROLLED TRIAL OF AN EXPRESSIVE HELPING INTERVENTION TO IMPROVE SURVIVORSHIP PROBLEMS AFTER HEMATOPOIETIC STEM CELL TRANSPLANT

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This randomized controlled trial evaluated an innovative, theoretically-based intervention called expressive helping (EH) that targeted distress, physical symptoms, and poor health-related quality of life (HRQOL) after hematopoietic stem cell transplant. EH included 2 components: 1) emotionally expressive writing (EW; writing one's deepest thoughts and feelings about one's transplant in brief, structured writing sessions) followed by 2) peer helping (PH; helping others prepare for transplant by sharing one's own experiences through a written narrative). The EW component was theorized to help survivors cognitively process their experience and transform it into language in preparation for completing the PH component. EH (EW + PH) was compared to 3 conditions: neutral writing (NW), EW (without PH), and PH (without EW). Survivors ($n = 264$) with at least mild survivorship problems completed measures of distress, physical symptoms, and HRQOL at baseline and 3-months post-intervention. After baseline, they completed 4 weekly writing sessions, with writing instructions appropriate to their random assignment. Severity of survivorship problems at screening was examined as a moderator based on a cluster analysis differentiating survivors with mild vs moderate/severe problems. Analyses of covariance showed that survivors with mild survivorship problems did not benefit. However, for those with moderate/severe problems, EH improved distress (compared to NW and PH; $ps < .05$), physical symptoms (compared to NW, PH, and EW; $ps < .002$), and HRQOL (compared to NW; $p = .02$). Neither PH alone nor EH alone produced benefits, suggesting unique benefits of combining EW and PH. Thus, peer helping through writing benefited survivors with moderate/severe survivorship problems, but only if they first completed expressive writing.

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Symposium 12B 2060

EFFECTIVENESS OF EXPRESSIVE WRITING INTERVENTIONS WITH ADOLESCENTS: A META-ANALYSIS AND EXPLORATION OF MECHANISMS

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Expressive Writing (EW) is a brief, minimal cost intervention designed to improve health and psychological well being through cognitive and emotional elaboration of stressful experiences. EW involves writing about one's deepest thoughts and feelings several times for a short period. Writing repeatedly in an emotional way may affect health cognitive reappraisal and completion of a narrative. These mechanisms are hypothesized to lead to less rumination, a greater sense of meaning, and physiological changes, e.g., immune system improvements. Most studies of EW have been conducted with adults, but its simplicity suggests that it might help adolescents facing major stress.

We present a meta-analysis of EW studies with adolescents that examined whether EW is effective for adolescents. We examined six outcome domains and conducted analyses for the whole sample and for specific subgroups (e.g., gender; those with high depressive symptoms). Combining 22 studies (25 effect sizes) of adolescents aged 10-18, we found a positive but small effect size adjusted for publication bias ($g = 0.126$, $p <. 01$). Students with high levels of emotional problems benefitted more; EW was most effective in outcome domains that required emotional regulation. A small study of 20 adolescents who wrote expressively for three days after the sudden death of a classmate provides additional evidence for this emotional regulation process. However, adolescents may not have the cognitive processes necessary to create narratives on their own and emotional issues may be left open. Although our findings are encouraging, we conclude that EW alone is not an effective intervention for adolescents, as they may need scaffolding from parents or counselors to aid them in cognitively processing stressful or traumatic events. More generally, our data suggest that EW may operate differently with vulnerable or younger populations.

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Symposium 12C 2061

IS EXPRESSIVE WRITING INTERVENTION BENEFICIAL FOR INDIVIDUALS CURRENTLY UNDERGOING A MAJOR MEDICAL STRESSOR?

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Expressive writing interventions (EWI) have been shown to be beneficial for individuals who have undergone major medical stressors in the past, but it is not yet known if EWI is also beneficial for individuals who are currently undergoing a major medical stressor. In the present study we tested the hypothesis that providing EWI to newly diagnosed prostate cancer patients would result in lasting reductions in psychological distress.

Newly diagnosed prostate cancer patients (n = 106) were randomly assigned to EWI (writing about their deepest thoughts and feelings regarding their cancer) or active control group (writing about a neutral topics). Both groups wrote at home for 20 min on three consecutive days. Intrusive thoughts about their cancer, depressive symptoms, and anxiety were assessed with well-validated self-report measures before the intervention and three and six months following the intervention. Repeated measures ANCOVAs (controlling for baseline) revealed that compared to the control group, patients randomized to EWI had significantly lower levels of depression, anxiety, and intrusive thoughts about their cancer at both follow-up assessments (ps < .04).

The results are in the expected direction: Newly diagnosed prostate cancer patients writing about their cancer-related concerns reported less distress three and six months following their cancer diagnosis than patients writing about neutral topics. Home-based expressive writing can assist newly diagnosed prostate cancer patients in adapting to their cancer diagnosis and reduce distress, making it a promising and useful extension of EWI, which has previously been tested in people writing about a past major stressor. Moreover, this home-based expressive writing intervention can easily be implemented and disseminated, adding to its promise.

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Symposium 13 2:25 PM-3:45 PM 2062

SYSTEMATIC FIDELITY ASSESSMENT TO DEVELOP MORE EFFECTIVE BEHAVIORAL INTERVENTIONS FOR ROUTINE CARE SETTINGS

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Many behavioral interventions experience a significant drop in effectiveness when translated from research to routine care settings. Comprehensive fidelity monitoring in clinical trials allows us to examine the extent to which implementation was as intended and the impact of contextual factors on fidelity. Understanding this process can improve program uptake, identify "active ingredients" for maximum treatment effectiveness and identify components that can be readily adapted to local settings without loss of effect. Symposium speakers will present the benefits of using a comprehensive fidelity framework developed by the NIH Behavioral Change Consortium to monitor treatment fidelity in behavioral intervention trials and review how fidelity has been assessed in two routine care settings. Belinda Borrelli will provide an overview of the framework, summarize recent framework updates, and describe specific strategies to help researchers monitor fidelity. Susan Michie will describe how fidelity of delivery of evidence-based behavioral support for smoking cessation was assessed by reliably coding intervention protocols, treatment manuals and session transcripts into component behavior change techniques. This allowed assessment of fidelity of quantity and quality of delivered techniques. David Goodrich will summarize how the NIH framework was used to develop a protocol and monitor fidelity in ASPIRE-VA, a randomized controlled trial that evaluated a small change weight loss program in Veterans. Results highlight correlation of fidelity measures with behavior change outcomes. Finally, Laura Damschroder will comment on present findings and facilitate a discussion of the utility and challenges of including comprehensive fidelity measurement when implementing or evaluating behavior change interventions.

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Symposium 13A 2063

TREATMENT FIDELITY: ASSESSMENT, PROGRESS, AND CHALLENGES IN PUBLIC HEALTH TRIALS

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Treatment fidelity refers to the methodological strategies used to monitor and assess the reliability and validity of interventions. High levels of treatment fidelity: 1) increase confidence that changes in the dependent variable can be attributed to the independent variable, 2) increases statistical power and effect size by reducing random and unintended variability, and 3) facilitates the dissemination of effective interventions. The Treatment Fidelity Workgroup was formed as part of the NIH Behavior Change Consortium with the goal of advancing the definition, methodology, and measurement of treatment fidelity. The Workgroup developed recommendations for best practices in treatment fidelity across 5 areas: Study design, Training of providers, Delivery of treatment, Receipt of treatment, and Enactment of treatment skills. Using this framework, Borrelli and colleagues developed a measure of treatment fidelity and used this assessment tool to evaluate fidelity in studies published in five high impact journals over 10 years. They found that treatment fidelity varied widely across the five areas, with only 16% of studies achieving a proportion of .8 or higher in adherence to treatment fidelity components. This presentation will present a revised version of the treatment fidelity assessment tool that includes new items on theory testing, selecting providers, additional confounding issues, and consideration of multicultural issues. We will explain how the assessment tool can be used to design studies, monitor ongoing fidelity, and determine why an intervention was not successful, highlighting both the practical benefits and challenges of monitoring treatment fidelity. Furthermore, practical difficulties in measuring and controlling for these moderators in community settings will be reviewed with attention to implications for research proposals and manuscript submission reviews. In summary, the revised NIH fidelity framework provides a starting point to guide researchers, but also for sponsors, reviewers, and publishers of behavioral intervention research.

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Symposium 13B 2064

FROM EVIDENCE TO PRACTICE: USING BEHAVIOR CHANGE TECHNIQUE IDENTIFICATION TO ASSESS THE FIDELITY OF BEHAVIORAL SUPPORT FOR SMOKING CESSATION

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Behavioral support for smoking cessation is based on extensive trial evidence and forms the basis of stop smoking services in many countries. However, there is little information about the extent to which evidence is translated into practice. A method is needed for assessing the quantity and quality of delivery in practice. A taxonomy of behavior change techniques (BCTs), developed to specify the content of interventions in guidelines, published reports and treatment manuals, was adapted for transcripts of sessions. The resulting reliable 40-item measure was used to assess the fidelity of delivery in 43 face-to-face sessions and 64 telephone quitline sessions in the UK. A method for assessing the quality of delivery was developed for a key BCT, setting a quit date, and the association with initiation of quit attempts was investigated. Fidelity of delivery was consistently found to be low to moderate, with a third of the recommended service content not delivered in face-to-face sessions and more than a half not delivered in quitline sessions. Fidelity varied across both practitioner and BCT. The quality of implementation of the BCT ‘setting a quit date' was associated with increased likelihood of a quit attempt being initiated but on average was low. Specifying behavioral support by BCTs provides a reliable method for investigating the translation of trial evidence into guidelines, treatment manuals and practice. Applying it has suggested moderate fidelity for delivery of stop smoking support in practice and that higher quality implementation can lead to improved outcomes.

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Symposium 13C 2065

APPLICATION OF THE NIH FIDELITY FRAMEWORK TO THE ASPIRE RANDOMIZED CLINICAL TRIAL FOR WEIGHT

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Researchers have struggled to successfully translate behavioral weight loss protocols into effective programs that can be delivered with fidelity across populations and settings. The absence of rigorous fidelity assessment during clinical trials may perpetuate this research-to-practice gap. We used the NIH Behavioral Change Consortium fidelity framework in the ASPIRE randomized trial that tested a "small changes" (SC) approach for weight loss in 481 Veterans. Participants were randomized to SC phone-coaching, SC in-person groups, or usual VA weight management. The NIH framework assesses fidelity for treatment design, provider training, delivery of treatment, and participant receipt and enactment of treatment. Standardized intervention materials and process measures were used to monitor fidelity over 28 SC sessions for the 12-month intervention. Four non-clinical coaches received an average 96 hr/yr of training and supervision. Treatment delivery was low, with participants engaging in 46% and 54% of planned sessions for group and phone arms, respectively. A validated checklist was used to rate a sample of audio-recorded sessions. On a 10-pt scale, receipt of core treatment elements of Goal-setting & Self-monitoring Review averaged high at 8.2 (2.6), Skill-building & Action Planning at 7.3 (2.6). Quality of Coaching Delivery also rated highly at 8.5 (2.0). Three-month weight loss outcomes were significantly associated with fidelity ratings of the first 12 sessions for core behavioral strategies and non-specific coach qualities ($p > .001$). Overall enactment of treatment by participants was mixed as reflected by the proportion of sessions with self-reported dietary (57%) and physical activity (72%) attainment. Fidelity was positively associated with outcomes but fidelity ratings showed room for improvement in this positive trial, underscoring the practical challenge of affecting behavior changes in a medically complex population.

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Symposium 14 2:25 PM-3:45 PM 2066

A LIFE COURSE PERSPECTIVE ON STIGMA AND DISCRIMINATION: PATTERNS OF CHANGE AND CONSEQUENCES FOR MENTAL AND PHYSICAL HEALTH

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Ample research demonstrates that stigma and discrimination have adverse consequences for mental and physical health. The majority of this work has focused on between-subjects differences in stigma and discrimination. However, recent research and theory suggest experiences with stigma and discrimination are not static but rather change over time with critical periods in the life course. Thus, to fully understand the effects they have on health, we must examine within-subjects patterns of change. This symposium includes three presentations of cutting-edge empirical studies that use repeated measurements across time points to examine patterns of change in stigma and discrimination, and consequences for mental and physical health. Dr. Rosenthal will present results demonstrating that among pregnant women in New York, everyday discrimination changes across pregnancy and postpartum differently depending on age, and those changes predict future changes in depressive and anxiety symptoms. Dr. Pachankis will present results finding that sexual minority stigma decreases over time and that those decreases are associated with decreases in depression and alcohol use problems among young gay and bisexual men across the U.S. Dr. Earnshaw will present results finding that changes over time in HIV stigma predict future changes in unprotected sex with both HIV-positive and HIV-negative partners and that depressive symptoms and condom use efficacy mediate those relationships among people living with HIV in South Africa. Dr. Brondolo will discuss the presentations' contributions to understanding associations of stigma and discrimination with health, and the importance of future research adopting a life course perspective. Overall, this symposium helps move the field forward in developing a deeper understanding of how stigma and discrimination affect mental and physical health through patterns of change across the life course.

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Symposium 14A 2067

AGE DIFFERENCES AND MENTAL HEALTH CONSEQUENCES OF DISCRIMINATION CHANGING ACROSS PREGNANCY AND POSTPARTUM

Lisa Rosenthal, PhD,[1] Valerie A. Earnshaw, PhD,[2] Tené T. Lewis, PhD,[3] Allecia E. Reid, PhD,[4] Jessica B. Lewis, MFT,[2] Emily C. Stasko, BA,[2] Jonathan N. Tobin, PhD[5] and Jeannette R. Ickovics, PhD[2]

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Recent theory calls for research examining changes over time in discrimination during critical periods to fully understand the health effects of discrimination. Pregnancy is a critical period that is important to examine, as women's experiences with discrimination during pregnancy are associated with depression and stress, and increased risk of adverse birth outcomes. In a sample of 623 predominantly Black and Latina teens and young women receiving prenatal care in New York City, we examined change in experiences with everyday discrimination across pregnancy and one year postpartum, and whether those changes predict subsequent changes in depressive and anxiety symptoms. Participants completed measures during 2nd and 3rd trimesters, and 6 months and 1 year postpartum. Hierarchical linear modeling was used for analyses. Age moderated the pattern of change in discrimination (interaction of age with curvilinear change: $t = 2.33$, $p = .02$): it increased from 2nd to 3rd trimester and decreased to lower than baseline by 1 year postpartum for the youngest women, but decreased from 2nd to 3rd trimester and returned to similar levels as baseline by 1 year postpartum. Lagged analyses revealed that within-subjects changes over time in discrimination predicted subsequent changes in depressive ($t = 3.41$, $p < .001$) and anxiety symptoms ($t = 4.10$, $p < .0001$). Results support a life course perspective to understand discrimination's effects on health and when to intervene, and the importance of pregnancy as a critical period for women. Intervening to decrease pregnant women's experiences with discrimination should lead to decreases in their depressive and anxiety symptoms over time. Interventions could be most needed and effective during pregnancy and other critical time periods when exposure to discrimination is changing and consequences for health are significant.

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Symposium 14B 2068

A LONGITUDINAL STUDY OF YOUNG GAY AND BISEXUAL MEN'S STIGMA AND HEALTH

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Gay and bisexual men typically become aware of and disclose their sexual identity in adolescence. While several emotional and behavioral health difficulties are associated with the stress of forming and disclosing a stigmatized sexual identity during adolescence, the persistence of sexual minority stigma and related adverse health consequences has not been explored over time. The present study, therefore, followed 140 young gay and bisexual men (M age = 20.68) across five years upon entering early adulthood and included near-annual assessments of experienced, anticipated, and internalized stigma and emotional and physical health outcomes (e.g., depression, alcohol use problems). Participants were recruited from college campus groups across the US and followed from 2008 to 2013. Results revealed significant reductions in experienced ($F = 2.68$, $p < .05$), anticipated ($F = 18.88$, $p < .001$), and internalized ($F = 18.01$, $p < .001$) stigma across the course of the study. Reductions in experienced stigma predicted reductions in depression ($\beta = .22$, $p < .05$), while reductions in internalized stigma predicted reductions in both depression ($\beta = .24$, $p < .05$) and alcohol use problems ($\beta = .29$, $p < .05$). These reductions in multiple forms of stigma cohere with the rapid social attitudinal and policy changes surrounding sexual minority individuals since 2008 and with evidence of sexual minority individuals' personal resilience against stigma. Parallel reductions in depression and alcohol use problems suggest the public health importance of continued efforts to address all forms of sexual minority stigma. To our knowledge, this study represents one of the longest longitudinal investigations of young gay and bisexual men's experiences with stigma and health. Future research that includes wider age variation across multiple cohorts can disentangle the relative influence of personal maturation and generational effects on sexual minority individuals' stigma experiences and health.

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Symposium 14C 2069

HIV STIGMA AND SEXUAL RISK AMONG PLWH: A LONGITUDINAL EXPLORATION OF MEDIATING MECHANISMS

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Emerging evidence suggests that stigma is associated with unprotected sex among people at risk of and living with HIV, however much is based on cross-sectional studies that do not explore why associations exist. The current work draws on longitudinal data to examine whether depressive symptoms, disclosure of HIV status to sex partners, and/or condom use efficacy mediate associations between HIV stigma and sexual risk among people living with HIV (PLWH). Data were drawn from the control condition of Options for Health, a prevention-with-positives intervention tested in KwaZulu-Natal, South Africa. Participants, including 924 PLWH, completed interviews at 4 time points over 18 months. Data were analyzed in lagged format using within-subjects analyses in SAS. Results demonstrate that HIV stigma was associated with greater likelihood of unprotected sex with both HIV-negative and HIV-positive partners. Stigma was directly associated with increased likelihood of unprotected sex with HIV-negative partners [B(SE) = 0.02(0.01), $p < .05$]. Depressive symptoms was a marginally significant mediator [Sobel(SE) = 1.56(0.01), $p < .10$]. Stigma was indirectly associated with increased likelihood of unprotected sex with HIV-positive partners. Depressive symptoms [Sobel(SE) = 1.86(0.01), $p < .05$] and condom use efficacy [Sobel(SE) = 1.89(0.01), $p < .05$] were mediators. HIV stigma was not associated with disclosure of HIV status to sex partners and was therefore not a mediator of either association; however, disclosure was associated with lower likelihood of unprotected sex with HIV-negative partners [B(SE) = -0.03(0.02), $p < .10$] and greater likelihood of unprotected sex with HIV-positive partners [B(SE) = 0.05(0.02), $p < .05$]. This work contributes to knowledge on the association between stigma and unprotected sex among PLWH by drawing on longitudinal data, employing within-subjects analyses, and identifying mediators.

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Symposium 15 2:25 PM-3:45 PM 2070

PROMOTING WOMEN'S BEHAVIORAL WELLNESS DURING PREGNANCY AND POSTPARTUM ACROSS MEDICAL SETTINGS

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Promoting women's behavioral wellness remains a critical area of emphasis in both medicine and psychology; yet, integration of psychological assessment and treatment across medical settings remains understudied. Four ongoing projects that integrate medical and psychological science within women's reproductive health will be presented. While distinct in terms of sample, setting, methodology, and primary aims, each project offers a contemporary perspective on influencing women's behavioral wellness during the perinatal period and describes a unique approach to providing mental health services in diverse medical settings. The first presentation will describe the Maternal Wellness Initiative of the Penn Center for Women's Behavioral Wellness, an integrated, co-located prenatal care-mental health program. The second presentation will describe a pilot study of interpersonal psychotherapy for women with postpartum depression, utilizing a novel interdisciplinary approach. The third presentation will discuss screening, assessment, and mental health referrals among mothers of infants in the NICU, within the context of conducting clinical research. The final presentation will report the results of an empirical research study investigating how to support the mental health and psychosocial needs of mothers of NICU infants from a systems-level perspective. Together, these studies emphasize current challenges and opportunities for integrating psychological services in medical settings for women during the perinatal period. Offering novel perspectives on the persistent challenges to behavioral health and forward-thinking approaches to the delivery of psychological support, this symposium will address the changing landscape of women's health psychology and suggest new directions for psychosocial, behavioral and translational research.

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Symposium 15A 2071

THE MATERNAL WELLNESS INITIATIVE: PHILADELPHIA'S FIRST INTEGRATED AND CO-LOCATED PRENATAL CARE-MENTAL HEALTH PROGRAM

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The Maternal Wellness Initiative is a division of the Penn Center for Women's Behavioral Wellness (PCWBW) and provides clinical evaluation and treatment, as well as education, to obstetrical patients of the Helen O. Dickens Center. This is the first integrated, co-located prenatal care-mental health clinic in Philadelphia.

The initiative takes a public health approach to maternal behavioral wellness for the following reasons: 1. It is well documented that untreated mental health problems during pregnancy and the postpartum period can have harmful long-term effects on the well-being of the infant and child as well as the parents. 2. Untreated mental health problems during pregnancy and the postpartum period are particularly significant for low-income women and women of color who are both at higher risk for negative birth outcomes such as preterm delivery or low-birth weight newborns. 3. A growing body of literature focusing on ways to improve the mental health of mothers and their children will add to knowledge gained from previous mental health research and may ultimately provide even more promising strategies to achieve equal health care for all mothers.

Our unique procedures for universal mental health screening of all new clinic patients, behavioral health referrals, and evidence-based treatments will be discussed. Benefits of this program will be identified and plans will be discussed for an expansion and dissemination of the primary care-mental health model into other women's health specific medical practices. Lastly, we will identify patient preferences for prenatal behavioral health care which drives our patient-centered model.

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Symposium 15B 2072

NURSE MIDWIFE COUNSELING FOR POSTPARTUM DEPRESSION

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Purpose: In the United States, only 20 to 25% of postpartum women suffering from postpartum depression (PPD) receive treatment. Barriers to treatment may include mental illness stigma, competing childcare responsibilities, financial constraints, lack of an adequate pool of qualified providers knowledgeable in both women's and mental health, and fragmentation of services between primary women's care and psychiatric services. The purpose of the current study was to address these barriers to care by training nurse midwives to administer Interpersonal Psychotherapy (IPT) via telephone to women who might not otherwise receive care. The rationale for this intervention was that women with postpartum depression may feel more comfortable initiating psychiatric care with a nurse midwife, with whom they developed a long term relationship over the course of prenatal care. Methods: This non-randomized controlled pilot study assessed the feasibility, acceptability, safety, and efficacy of eight 50 minute weekly sessions of telephone administered nurse midwife IPT in collaboration with a team leader psychiatrist and psychologist or licensed social worker among women 16 years and older who scored ≥10 on the Edinburgh Postnatal Depression Scale and met diagnostic criteria for major depression. The control group received treatment as usual from mental health providers. Measures included the EPDS, HAM-D, MINI, DAS, SSQ, MIBS and CSQ. Results: Findings suggest that nurse midwife administered IPT improved depression symptoms and psychosocial functioning among women with PPD. Conclusions: Nurse midwife administered IPT may be a viable option to reduce depressive symptoms, improve psychosocial functioning, improve access to care, and reduce fragmentation of services among depressed postpartum women who might not otherwise receive care.

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Symposium 15C 2073

INTEGRATING MATERNAL MENTAL HEALTH NEEDS IN A NEONATAL INTENSIVE CARE UNIT: A CLINICAL RESEARCH APPROACH

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Currently, in the United States, approximately 10-15% of infants born each year are treated in a neonatal intensive care unit (NICU). NICU admission often presents significant practical and emotional challenges for parents, including potential loss of parental identity, limitations on holding or feeding the infant, worries about the infant's health, stress regarding other family or occupational demands, and even coping with the possibility of neonatal death. Moreover, mothers must continue to simultaneously manage their own physical and psychological well-being in the postpartum period as they recover from childbirth and transition to this new role. Given these challenges, mothers of NICU infants undergo a very different experience from that which they had hoped for and planned to have. The perceived loss of these deeply valued hopes and expectations may affect women's adjustment, psychological functioning, and overall well-being in the postpartum period, a time during which they may already be at increased risk for adverse psychological symptoms, such as depression and anxiety. Mothers of infants in the NICU have been found to have high levels of distress when compared to other postpartum mothers; yet the experience of parenting an infant in the NICU and the associated psychological effects remain understudied. Additionally, many mothers of infants in the NICU do not pursue mental health treatment, even when it is indicated, and it remains unclear what barriers or facilitators to engagement in mental health care exist for mothers during this time. This presentation will discuss the integration of screening, assessment, and mental health referrals among mothers of infants in the NICU, and will explore barriers and facilitators to engagement in mental health treatment in the postpartum period for these women.

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Symposium 15D 2074

SUPPORTING THE MENTAL HEALTH NEEDS OF MOTHERS IN THE NICU: RESULTS FROM A QUANTITATIVE STUDY

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One in ten infants born in the United States is admitted to a Neonatal Intensive Care Unit (NICU) due to preterm birth, early birth complications, birth defect, or other critical medical condition. In addition to providing medical care and 24-hour monitoring for hospitalized infants, NICU professionals recognize the need to involve and support the mothers of these infants.

Over the past three decades, interventions in the NICU have shifted from an exclusive focus on the child to a more ecologically-based model, with family systems as integral to the delivery of care. NICU admittance is often accompanied by a set of overwhelming experiences for mothers that contribute to neurodevelopmental outcomes for babies as well as ongoing family functioning. Mothers in the NICU experience a range of emotions including sadness, anger, fear, helplessness, grief, depression, and anxiety, that can impact maternal-infant attachment. Understanding the experience and psychosocial needs of mothers is vital for providing comprehensive care in the NICU, and ultimately, for enhancing the health and development of the infant.

Literature in nursing, medicine, and psychology has identified multiple mental health needs for mothers in the NICU. These needs encompass both normative post-partum milestones that require special considerations as well as clinical issues resulting from the NICU experience. The literature is not conclusive on the amount or type of support commonly available. This presentation features data from a quantitative study of 321 NICU professionals representing hospitals in 39 states and 16 countries. Study results provide information about the scope of mental health services currently offered in NICUs and insight into how existing theoretical and empirical literature relates to actual practice.

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Symposium 16 2:25 PM-3:45 PM 2075

PAIN AND ADDICTION: BIOLOGY IS IMPORTANT BUT BEHAVIOR MATTERS

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The prevalence of chronic pain continues to rise in the United States causing individual suffering and contributing to higher rates of morbidity, mortality and disability, as well as burgeoning economic and societal costs. It is estimated that over 100 million Americans suffer from chronic pain. A recent Institute of Medicine report estimated that the annual cost of chronic pain in the United States approaches $600 billion. The IOM report concluded that effective pain management is a "moral imperative;" pain should be considered a disease with distinct pathology, with a need for interdisciplinary treatment approaches and there is a "serious problem of diversion and abuse of opioid drugs".

Clinicians are confronted daily with the fundamental responsibility to alleviate suffering in their patients, which often includes prescribing opioids. All physicians are aware of the abuse liability of prescription opioids and thus, these practitioners are increasingly being asked to balance their primary effort to relieve pain against competing concerns of exposing potentially vulnerable pain patients to the risks of opioid addiction and exposing the community to greater availability of diverted opioids. There is a need to accurately and efficiently assess risk of addiction in patients with chronic pain receiving opioids.

Addiction is the result of a confluence of biological, psychological and social factors. This symposium will provide an overview of a biopsychosocial model of addiction in pain patients and novel research on potential risk factors and mitigation strategies.

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Symposium 16A 2076

PAIN AND ADDICTION: PHENOTYPIC AND GENOTYPIC CHARACTERISTICS

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Clinicians managing patients with chronic non-cancer pain (CNCP) are typically faced with the dilemma of providing the appropriate standard of care to alleviate suffering including the use of opioids, while not complicating recovery by exposing the vulnerable patient to the potential of opioid abuse and addiction. It has been considered the standard of care to provide patients suffering from CNCP with opioids, even on a long-term basis. However, there is ongoing debate regarding this policy of responsible opioid prescribing in chronic pain patients given the rising prevalence of prescription opioid abuse and addiction in the country. Numerous studies have identified high prevalence rates of substance use disorder in chronic pain patients. Reported prevalence of opioid abuse in chronic pain patients ranges from 3-40%.

Diagnosing abuse and addiction in patients with chronic pain on opioids is an arduous task. It is difficult to ascertain who will become problematic users of prescription opioids when initiating therapy. There have been attempts at mitigating this problem of predicting which patients are at risk for opioid addiction (OA), with the utilization of questionnaires and interview protocols which have been promising, but not well validated.

This presentation will review the literature on the behavioral and genotypic characteristics of patients with chronic pain who develop OA. There is a growing body of evidence indicating that risk for OA has substantial genetic origins. There has been considerable evidence from clinical and animal studies regarding the mu opioid receptor (MOR) gene (OPRM1) as critical to the rewarding and analgesic properties of opioid analgesics. However any genetic predisposition is strongly influenced by psychosocial factors. A model of risk profiling based on specific psychosocial factors and genetic biomarkers will be discussed. Implications for preserving patients access to pharmacologic agents to improve pain and quality of life while identifying patients at risk for addiction will be examined.

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Symposium 16B 2077

TOBACCO DEPENDENCE AS A RISK FACTOR FOR OPIOID USE DISORDER: AN EXPLANATORY PSYCHOSOCIAL MODEL

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Smoking rates among persistent pain patients are high. Recent studies indicate that cigarette smoking may be a risk factor for problematic drug-taking behavior (PDRB) among opioid-treated pain patients. These studies are few in number and most have not focused specifically on the smoking—PDRB connection. Further, there are few data on the characteristics of smoking behavior in opioid-treated patients and limited understanding of smoking patterns. Prior studies have not controlled for confounding risk factors—psychological, behavioral, and socioenvironmental—when examining the smoking—PDRB relationship. These studies also have not proposed an explanation for the observed link between smoking and PDRB.

This presentation will propose an explanatory model for understanding empirical linkages between smoking and PDRB and critically evaluate the clinical significance of smoking when treating patients with persistent pain. While biological risk factors are likely to influence PDRB, the propensity to develop abuse behaviors involves multiple psychosocial risk factors. Thus, this model includes key psychological, behavioral, and socioenvironmental influences that are associated with the development of PDRB. According to this model, specific subgroups who appear to be at relatively increased risk may include: patients who have a personal or family history of substance use disorders; active mood disorders; poor coping resources; personality dysfunction, and family dysfunction or vulnerabilities related to the social environment. Smoking is a poorly understood risk factor for PDRB.

Future studies should clarify the association between smoking and PDRB and specific psychosocial risk factors to identify subgroups of smokers who are at risk for abuse. This may guide clinicians in the use of specific psychological strategies that address relevant comorbidities (e.g., in smokers with substance abuse histories, untreated mood disorders, poor coping resources or problematic social influences) and increase the likelihood of achieving more successful pain management and addiction outcomes.

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Symposium 16C 2078

PAIN, ADDICTION, & SPIRITUALITY: A NEW MODEL FOR RESEARCH AND TREATMENT

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Pain management research and addiction research have individually highlighted the critical importance of spirituality in treating these health issues. In both clinical and research areas spirituality has gained recognition as having the ability to influence the progression of these chronic diseases at both the physiological and behavioral levels. While much of popular research still relies on the assumption that spirituality is a uniform, positive influence on patients, newer research contradicts this idea. Newer research suggests that spirituality is a much more complicated phenomenon that includes factors such as unique phsyiological pathways, actions vs. beliefs, dynamic vs. static, internal vs. external driven, positive vs. negative aspects of spirituality, adulthood beliefs vs. childhood beliefs. Further, while there has been a great deal of discussion in the literature regarding the need to address the growing problem of co-morbid pain and addiction, there has been little research as to the role of addressing spiritual issues and unique spiritual skills, resources, and challenges in the context of this co-morbidity.

In this talk, the physiolgoical and psychological research identifying the role of spirituality in the individual areas of pain and addiction will be reviewed. While these areas have been individually studied, there have been few studies to examine the role of spirituality in the context of co-morbid pain and addiction. I will propose a novel integrated bio-psycho-social-spiritual model for individuals with co-morbid pain and addiction. This model will include aspects of spirituality that are known to affect either addiction or pain, and that have a theoretical validity to be included in the co-morbid model. This model can serve as a basis for research, to provide initial direction for empirical research on pain, addiction, and spirituality. This model may also assist clinicians with understanding the possible benefits, and challenges of addressing multi-dimensional spirituality in the context of treating patients with co-morbid pain and addiction.

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Symposium 17 2:25 PM-3:45 PM 2079

INTERPROFESSIONAL TEAM-BASED PRIMARY CARE BEHAVIORAL MEDICINE IN UNDERSERVED COMMUNITIES

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The Patient-Centered Medical Home (PCMH) provides flexible, evidence based team care to engage individuals in healthy lives. This symposium highlights the importance of interprofessional team-based care using a population approach to better improve the health and patient experience in underserved communities. A series of presenters and a discussant, representing nursing, social work, psychology, and law, will describe and comment on novel team-based programs in the PCMH. One presentation will report on the development of a team-based approach to improving the behavioral health of the population of patients in an academically affiliated PCMH based in an urban underserved community. A second presentation will describe a peer support program for diabetes management, Compañeros en Salud, that links PCMH and behavioral health among Latino adults served through a Federally Qualified Health Center in Chicago. A third presentation, from among affiliates of the National Council of La Raza,will describe how peer support, promotora, are incorporated into the primary care team to improve patient satisfaction and health outcomes for Latino patients. The discussant, an attorney, will comment on interprofessional team-based primary care in the context of ongoing health care reform as part of the Affordable Care Act.-

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Symposium 17A 2080

THE IMPORTANCE OF TEAM AND POPULATION MANAGEMENT IN INTEGRATED CARE IN THE PCMH

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The structure of the Patient Centered Medical Home is providing some promise in better improving health, enhancing patient experience, and working to control costs. The PCMH takes a population-based and team-based approach to care. The PCMH also recognizes that integrating behavioral medicine into primary care is an essential element of better addressing mental illness and managing chronic disease. Integration efforts vary widely, with some including clinicians being co-located in primary care practices, while others having clinicians more fully integrated in their work with other primary care health professionals. In the patient-centered medical home (PCMH), care is expected to be population-based and team-based. In this presentation, we highlight the importance of behavioral health care being population-based and team-based. We present our model of behavioral health care that creates a team of behavioral health and other primary care professionals. The team uses a population-based approach, with the focus on understanding addressing the behavioral health needs of the population of patients in the PCMH. The importance of population focus and team care is particularly relevant in a PCMH that is based in an urban underserved community. We describe the lessons learned in building an integrated behavioral medicine team-based practice in a PCMH. We use depression management as an example of how the model of population-focused, team-based care works in the PCMH, and how the process of care is driven by a structured quality improvement process.

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Symposium 17B 2081

INTEGRATION OF COMPAñEROS EN SALUD WITH PATIENT-CENTERED MEDICAL HOME IN A FEDERALLY QUALIFIED HEALTH CENTER

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"Mi Salud es Primero/My Health Comes First" illustrates a range of strategic and practical steps to link peer support with a Patient-Centered Medical Home (PCMH) to improve care among adults with diabetes. It is implemented through Alivio Medical Center, a federally-qualified health center serving a predominantly Latino population in Chicago. Strategically, 8 Compañeros en Salud (CES) are organized separately from but with close ties to clinical staff in order to preserve "peerness" while achieving integration. CES link with clinicians at a supervisory level through the head of the CES program being part of Alivio senior leadership along with the medical director, and at the staff level through individual CES being assigned to specific clinical sites. Instead of focusing on a few hundred patients selected to participate in a demonstration project, CES serve the entire population of 4,000+ adults with diabetes served by Alivio. They do this through a tiered program in which all patients with diabetes receive Regular CES Care that includes quarterly contacts, group classes, activities, "point of care marketing" by which CES are present in waiting rooms and at clinic visits, all promoting setting/pursuing self-management goals as well as regular clinical care. A High Need group ($n = 471$; HbA1 > 8%, elevated psychosocial needs, and/or physician referral) receives biweekly and then monthly contacts until they no longer meet criteria or progress has stabilized. A detailed encounter form, database and program monitoring reports assist the CES in tracking contacts and individuals' needs/progress as well as, through EMR, linking with medical records and being available to clinicians. Lessons learned and pros/cons surrounding all of these will be discussed.

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Symposium 17C 2082

BEST PRACTICES OF INTEGRATING PROMOTORES DE SALUD IN THE PRIMARY CARE SETTING: EXAMPLES FROM THE NATIONAL COUNCIL OF LA RAZA

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Promotores de salud (lay health educators) are natural helpers who share a vision for promoting their community's health by working with individuals, families, and the environment to change behaviors associated with poor health conditions. They also serve as important sources of practical, emotional, and social support during care transitions. A key outreach model for many years, Affiliates of the National Council of La Raza (NCLR) are being more intentional about integrating promotores de salud into teams in primary care and managed care settings. This presentation will include examples of how several NCLR Affiliates incorporated promotores de salud into their comprehensive community health promotion models. The promotores de salud build social capital in the primary care setting to improve quality of care for Latino patients. The presentation will include the example of how Migrant Health Promotion in Peekskill, NY developed a mobile application used by promotores to help assess the needs of patients. This information was then relayed to clinical staff, which improved efficiency, patient satisfaction, and overall health outcomes. Gateway Community Health Center in Laredo, TX developed a detailed protocol for promotres to conduct depression assessments using the Patient Health Questionnaire (PHQ9) and based on the results, followed-up directly (walking patient to nurses' station if suicidal) or indirectly (placing form in physician box if normal). These and other examples of integration of promotores in team based care will be described in detail.

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Symposium 18 2:25 PM-3:45 PM 2083

SOCIAL, AFFECTIVE, AND COGNITIVE NEUROSCIENCE IN HEALTH DECISION MAKING

Erika A. Waters, PhD, MPH,[1] Charles F. Geier, PhD,[2] Joseph W. Kable, PhD,[3] Valerie Reyna, PhD[4] and Jennifer L. Hay, PhD[5]

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Understanding the cognitive, affective, and social processes that underlie decisions will advance the science of health decision making by informing the development and refinement of theory and interventions.Effective health decision making depends on a complex foundation of cognitive processes that include memory, attention, and inhibitory control (i.e., the ability to self-regulate health behaviors), as well as affective and social responses to experiencing rewarding and aversive consequences of behavior. These processes change over the developmental lifespan and enable decision makers to identify and attend to pertinent information, ignore irrelevant information, evaluate choices, and implement and maintain the desired behavior. This symposium, sponsored by the Health Decision Making SIG, will explore the ways in which several of these processes influence health decisions. Charles Geier will describe how adolescents and adults differ in the extent to which rewards and losses impact the ability to exhibit inhibitory control in risky situations (tobacco use). Joseph Kable will highlight psychological and neural mechanisms that influence persistence in goal-oriented behavior when there is uncertainty about when a goal will be reached (cancer prevention behaviors). The types of uncertainty that most strongly reduce persistence will also be discussed. Valerie Reyna will discuss how developmental differences and neurobiological changes in information processing lead to decisions that correspond with decision strategies predicted by Fuzzy Trace Theory. She will also highlight developmental reversals in the complexity of decision making that are associated with autism. Jennifer Hay (Discussant) will consider the relevance of neuroscience for the development of theory-based clinical and community interventions. Understanding the cognitive, affective, and social processes that underlie decisions will advance the science of health decision making by informing the development and refinement of theory and interventions.

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Symposium 18A 2084

THE INFLUENCE OF INCENTIVES ON INHIBITORY CONTROL DURING ADOLESCENCE: IMPLICATIONS FOR RISKY BEHAVIORS

Charles Geier, PhD

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Characterization of the interaction of incentive and cognitive control processing across adolescence may provide critical insight on the basic mechanisms contributing to the complex behavioral phenomenon of risk taking, including risky choices to initiate drug use. In this talk, I will present our on-going work examining the effects of incentives on inhibitory control (i.e., the ability to withhold an action or response), highlighting developmental differences in reactivity of the neural circuitry underlying inhibitory control as a function of the context in which the incentive is provided. Methods that enable assessment of different stages of reward processing and minimizing age-related differences in subjective reward valuation will also be discussed. Overall, results suggest that adolescents demonstrate persistent differences in the integration of incentives and inhibitory control that may contribute to differential adolescent decision-making and risk taking when compared to adults.

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Symposium 18B 2085

ADOLESCENCE, AGING, AUTISM, AND ALZHEIMER'S DISEASE: A UNIFYING FRAMEWORK FOR UNDERSTANDING THE BRAIN AND ITS BIASES

Valerie Reyna, PhD, Christina Chick, MA, Rebecca Weldon, PhD, Jonathan Corbin, MA and Evan Wilhelms, MS

Human Neuroscience Institute, Cornell University, Ithaca, NY.

Drawing on research on cognitive neuroscience and decision making, we illustrate how the same small set of theoretical principles apply to typical neurodevelopment, encompassing childhood, adolescence, and adulthood, and to neurological conditions such as autism and Alzheimer's disease. For example, despite improvements in memory and in computational ability, judgment-and-decision-making biases emerge in early adolescence, as gist-based intuition develops. In autistic individuals, who rely less on gist-based intuition and more on verbatim-based analysis, such biases are attenuated (i.e., they outperform typically developing control subjects). In adults, simple manipulations based on fuzzy-trace theory can make these biases appear and disappear depending on whether gist-based intuition or verbatim-based analysis is induced. In aging, gist-based intuition supports biases, but it nevertheless compensates for the loss of verbatim memory. In adolescents, gist-based intuition (as opposed to verbatim-based analysis) supports biases that are associated with healthy decision making. These findings, and the theoretical principles that predict them, are summarized and integrated in a new model of neurodevelopment that specifies how dual modes of reasoning combine to produce predictable variability in risky decision making. The model provides a preliminary account of the neural substrates of representation (i.e., construal of risk using gist vs. verbatim representations) and reward sensitivity, which differentiates separate contributors to risk-taking behavior and identifies levers of behavioral change that can be used to prevent unhealthy decisions.

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Symposium 18C 2086

THE CRITICAL ROLE OF UNCERTAINTY IN PERSISTENCE: BEHAVIORAL AND NEURAL EVIDENCE

Joseph W. Kable, PhD

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People are often observed to begin pursuing a delayed goal, only to abandon this pursuit before the goal is reached. Examples include starting a diet to lose weight only to abandon the diet, quitting smoking to improve your health only to relapse, and joining a gym to begin exercising only to rarely use that membership. Such behavior is often taken as evidence for an unreliable self-control mechanism. This interpretation overlooks the fact that there is usually uncertainty about the timing of the larger, delayed reward (e.g., when the dieter will reach their weight loss goal). When there is uncertainty, a decision maker's task is to calibrate, not to maximize, persistence. When outcome timing is uncertain, the value of continued persistence hinges critically on the decision-maker's prior expectations regarding the temporal uncertainty.

We show that a rational decision-maker will exhibit failures to persist if their prior expectations about the delayed reward's arrival time are characterized by a heavy-tailed distribution (i.e., the reward could arrive very soon or very far in the future). Next, we show that self-reported temporal expectations are heavy-tailed in several situations where decision-makers exhibit a failure to persist. Then, we demonstrate that people adapt their degree of persistence depending on their previous experience in a given environment, waiting longer for delayed rewards when persistence is profitable, and exhibiting a reduced willingness to wait when only limited persistence is merited. Finally, we show fMRI data from when individuals wait for delayed rewards that support our predictions about the relationship between a reward's temporal uncertainty and goal persistence.

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Symposium 19 2:25 PM-3:45 PM 2087

WEIGHT LOSS IN THE AGE OF SOCIAL MEDIA: TWITTER, FACEBOOK, AND BLOGGING

Sherry Pagoto, PhD,[1] Gabrielle Turner-McGrievy, PhD, MS, RD,[2] Martinus Evans, BA,[3] Cameron Sepah, PhD[4,5] and Wendy Nilson, PhD[6]

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Patients are increasingly going online to find others who share their health problems, a phenomenon coined "peer-to-peer healthcare." Online social networks are being used by people who are trying to lose weight, with commercial websites now routinely providing communities for users of their programs. Research using social networks as part of a weight loss intervention show fairly low rates of engagement, however engagement does appear to be associated with better outcomes. In this symposium, 4 studies will be presented that increase our understanding of the barriers and facilitators to engaging in various forms of social media including Facebook, Twitter, and blogs. Dr. Brie Turner-McGrievy will present data on participant engagement in Facebook groups that were adjunctive to a weight loss intervention and the types of posts that elicited the highest and lowest rates of engagement. Dr. Pagoto will be presenting data on participant engagement in a Twitter social network in participants, including the usability and feasibility of using Twitter for the social network. Mr. Martinus Evans will be discussing two studies. In the first, he describing the characteristics of weight loss bloggers including the benefits they experience from blogging and reasons they blog. The second study focuses on readers of weight loss blogs, aiming to understand their characteristics and what they get out of reading about other people's weight loss journeys. One of the main challenges to leveraging social media in health behavior change interventions is engagement. The purpose of the symposium is to further our understanding of the characteristics and motivators of people who engage in social networks for weight loss, predictors of engagement, as well as barriers and facilitators to engagement.

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Symposium 19A 2088

USABILITY AND FEASIBILITY OF A TWITTER SOCIAL NETWORK FOR WEIGHT LOSS

Sherry Pagoto, PhD,[1] Kristin Schneider, PhD,[2] Martinus Evans, BA[3] and Sally Gore, MS, MS, LIS[1]

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Online social networking has been increasingly explored as an adjunct to weight loss interventions. We understand little about the barriers and facilitators of engagement. The purpose of the present study was to evaluate the usability and feasibility of a Twitter-based social network as part of a behavioral weight loss intervention. Eleven obese women with no previous experience using Twitter were enrolled in a 12-week lifestyle intervention and given access to a social network on Twitter where they could interact with each other, study staff, and any other accounts they wished. Surveys and a focus group evaluated the facilitators and barriers to using the social network. We examined the association between tweets and weight loss, whether lower baseline social support for weight loss (as measured by the Weight Management Support Inventory) was associated with greater engagement, whether social support for weight loss experienced from Twitter follows was different from that experienced from friends and family, and barriers and facilitators to the social network. The mean number of tweets per participant was 129.45 (sd = 130.76; range = 2-394). Two participants (18%) were inactive, i.e., tweeted less than 5 times. Tweets significantly predicted weight loss ($r = -.58$; $p < .05$). Baseline social support scores were not associated with more frequent tweeting. Participants rated their friends and family as providers of more instrumental ($p < .01$) and appraisal support ($p < .01$) compared to their Twitter follows, but rated all equally in terms of emotional and informational support. Barriers included difficulty understanding the Twitter interface, too time consuming to tweet, and not knowing what to tweet. Facilitators included receiving supportive tweets, seeing others tweet about their struggles and victories, recipes/tips, and accountability. Some but not all people experience value in engaging in a social network as part of a weight loss program.

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Symposium 19B 2089

SOCIAL MEDIA MESSAGE TYPE, ENGAGEMENT, AND WEIGHT CHANGE IN A 6-MONTH BEHAVIORAL WEIGHT LOSS INTERVENTION

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The aim of this study was to examine what types of messages promote engagement in the context of optional Facebook (FB) support groups during a 6-mo behavioral weight loss intervention. Participants (n = 63) were offered access to a private FB group for their diet group when face-to-face meetings went from weekly to monthly. Study counselors posted 1 message/weekday to each FB group for 16 wks. Monday FB posts asked participants to share their weekly weight loss or gain. Day of the week for posting the remaining 4 message types was randomly selected. These message types included recipes, nutrition information (news article on nutrition study), FB polls, and requests for suggestions from the group (suggest a quick lunch idea). Message types reflected the content covered in face-to-face group sessions. Number of posts each day was calculated. Half of the participants (n = 30) joined the FB groups. There was no difference in demographics, baseline BMI, or group assignment between FB joiners and non-joiners. Engagement was highest for poll messages (14.6 ± 3.4 votes/comments per message) as compared to the other 4 types (P's <0.001). Weight-related posts (7.4 ± 3.1 comments/message) and posts asking participants to suggest a tip (9.1 ± 2.7 comments/message) were both greater than recipes (2.8 ± 1.2 comments/ message) or nutrition information (3.7 ± 0.9 comments/ message) (P's < 0.01). There was no difference in %weight loss at 6 months between FB joiners (-4.4 ± 5.6%) and non-joiners (-4.0 ± 4.4%; P = 0.7). However, among those who joined FB, %weight loss was significantly correlated (P's all <0.01) with all measures of engagement, including user initiated posts (r = -0.7), views (r = -0.5), comments and poll votes (r = -0.7), and likes (r = -0.5). Results of this study suggest that engagement in a social network group during a behavioral weight loss intervention is associated with greater weight loss and that messages using a polling feature are the most engaging, followed by posts which ask users to post information about weight loss or suggest tips to other users.

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Symposium 19C 2090

WHO READS WEIGHT LOSS BLOGS AND WHY? AN ONLINE SURVEY

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In 2006, 57 million American adults read blogs, yet little is known about why people read blogs, specifically weight loss blogs, and whether it impacts their own weight loss experiences. This study aims to characterize readers of weight loss blogs. Weight loss blog readers were recruited via Twitter, Facebook, and blogger networks to complete an online survey that assessed demographics, body mass index (BMI), reasons they read blogs, types of blog posts they are likely to read, and how they discovered the blogs they follow. Participants (N = 105) were 94% female with mean age of 36 (SD = 9.8) years and mean BMI of 30.9 (SD = 9.1) kg/m2. Majority of the respondents were white (88%), educated (71% with a bachelor's degrees or higher), and currently trying to lose weight (80%). Readers spent an average of 3.5 hours (SD = 4.4, range = 0.2-40) a week reading weight loss blogs and had read weight loss blogs on average for 29.2 months (SD = 22.4). Participants reported an average weight loss of 18.6 lbs. (SD = 22.8, range = -10-94) since they began reading weight loss blogs. Major reasons for reading weight loss blogs were: seeing others share their challenges (76%), receiving ideas and information (67%) and inspiration for their own weight loss experiences (61%). Readers were most likely to read posts that display the blogger's before and after pictures (71%), weight loss struggles (67%), experience with achieving a major weight loss goal (63%), and tips, recipes, and/or information (63%). Most participants discovered weight loss blogs through Facebook (57%), Twitter (51%), and while searching the Internet (51%). This study furthers our understanding of who reads weight loss blogs and how reading blogs may play a role in facilitating weight loss and weight loss motivation. Future research should explore whether reading weight loss blogs could improve weight loss outcomes in structured programs.

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Symposium 19D 2091

BLOGGING IT OFF: CHARACTERISTICS AND MOTIVATIONS OF WEIGHT LOSS BLOGGERS

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Conversations about health are expanding from face-to-face to virtual exchanges on social networking sites. The term "peer-to-peer health care" describes the phenomenon where individuals use social media to find others with similar health conditions for support, information and encouragement. Blogging is a form of online journaling that has been increasingly used to document a health condition. Though blogging is becoming increasingly popular, little is known about blogs or their creators, specifically those who use blogs to document and discuss their weight loss. This study aimed to examine characteristics of weight loss bloggers and their blogs . Weight loss bloggers were recruited via Twitter, Facebook, and blogger networks and asked to complete an online survey that assessed demographics, body mass Index (BMI), blogging duration, and motivators for blogging. Participants (N = 193) were 93% female with mean age of 35 (SD = 7.2) years and mean BMI of 33.7 (SD = 9.3) kg/m2. The majority were white (91%), and 66% had a bachelor's degree or higher education. Half of the respondents (50%) had been blogging for a year or less, 30% blogged for 2-3 years, and 19% had been blogging for 4 or more years. Participants reported an average weight loss of 42.5 lbs. (SD = 39.6, range = 30 lbs. gain to 215 lbs. loss) since starting to blog about their weight loss. Major motivations for blogging were that it helps them stay focused on weight loss goal (75%), support (65%) and accountability (59%) received from readers, and the desire to tell their story (52%). Findings show that bloggers are generally successful with weight loss and are driven by the focus, support, and accountability blogging provides. Future research should explore what determines weight loss success and/or failure in weight loss bloggers and whether people desiring to lose weight would benefit from blogging.

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Symposium 19E 2092

DOES USER ENGAGEMENT PROMOTE WEIGHT LOSS IN AN ONLINE DIABETES PREVENTION PROGRAM? VALIDATION OF USER METRICS IN THE PREVENT PLATFORM

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Objective: The current study investigated the association between participants' online engagement and their weight loss results from using Prevent, an online social network-based version of the Diabetes Prevention Program (DPP) lifestyle intervention.
Research Design and Methods: 187 participants were recruited online and met inclusion criteria for the ‘core' phase (16-week intensive intervention), and 144 participants met inclusion criteria for the ‘post-core' phase (12-month maintenance) of the study. Participants' engagement was tracked via an online website and body weight was tracked via a cellular-enabled weight scale.
Results: Core participants achieved 5.0% and 4.7% weight loss at 16 weeks and 12 months. Post-core participants had a weight loss of 5.5% and 5.2% at 16 weeks and 12 months. For both groups at both time points, weight loss was significantly correlated with the participants' number of weigh-ins, lessons completed, private messages to health coaches, group comments posted, and comments ‘liked' or 'understood' during the core program.
Conclusions: Results indicate that participants' online engagement is associated with their weight loss results. Considering contemporary interest in creating technological adaptations of evidence-based treatments, these results suggest that carefully designing online programs to increase user engagement may enhance clinical efficacy.

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Symposium 20 2:25 PM-3:45 PM 2093

PHYSICAL ACTIVITY THROUGH THE LENS OF A SMARTPHONE

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The purpose of this symposium is to provide an overview of smartphone use in physical activity (PA) research, with a focus on smartphone apps as a tool for capturing PA behavior, their use in PA promotion to date, and insights into future uses for behavior change and health promotion. The proliferation of smartphone use has given way to technologies such as motion sensors, global positioning systems, and apps that offer novel opportunities for the measurement and promotion of physical activity (PA) in a cost-effective and scalable manner. However, methodological and theoretical limitations, such as the rapid turnover of phones and the largely atheoretical design of PA promotion apps, have been recognized. The overarching goal of this symposium is to present cutting-edge uses of smartphone technologies for the measurement and promotion of PA, and the strengths and limitations inherent in their use. The first presentation in this symposium will describe the development of a new app that gathers both objective (i.e., motions sensors) and subjective (i.e., end of the day recall) physical activity data. The second presentation will describe conceptual frameworks used in app-based PA interventions, with a focus on individual-level, social-environmental, and stealth approaches. The third presentation will offer a perspective on the future of app-based PA interventions and the integration of smartphone technology in PA behavior change efforts in public health settings. Themes of focus throughout these presentations will be 1) the opportunities and challenges involved in app-based monitoring of PA/ implementation of PA interventions, and 2) considerations required for research to adopt and keep pace with technological advancements.

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Symposium 20A 2094

HARNESSING THE POTENTIAL OF MOBILE DEVICES IN PROMOTING HEALTHY LIFESTYLES: HIGHLIGHTING CURRENT EVIDENCE AND PERSPECTIVES

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The explosion of smartphones and other mobile device technologies offer unparalleled potential for changing key health behaviors, either alone or in tandem. Among those health behaviors that have received increasing attention are physical activity, sedentary activity, dietary patterns, and weight loss behaviors. The current literature in the field will be discussed in relation to three different conceptual domains: the "me" domain (e.g., individually-adapted mobile device interventions that utilize different motivational frames, including those emanating from the quantified-self field); the "we" domain (e.g., applications that tap into social motives and environments); and the "stealth" domain (e.g., applications that engage non-health oriented motives, with health behavior change as a side-effect). Applications aimed at specific target audiences (youth, parents, patients, older adults) and utilizing different mobile device-based communication channels (virtual advisors, SMS, avatars) will be highlighted. The importance of continuing to broaden behavior change perspectives in the field to more directly engage person-environment interactions and contexts will be discussed, along with other current challenges in the field. Such challenges include the development and dissemination of effective applications aimed at diminishing the "digital divide"; investigation of the most efficient and effective ways of targeting change in multiple health behaviors; applications of innovative iterative design and evaluation processes that will allow research to keep pace with technology innovations; exploration of diverse funding models and partnerships that support scientific innovation and continuity in a challenging funding climate; and diffusion of the most promising applications in an increasingly congested health promotion "marketplace".

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Symposium 20B 2095

DEVELOPMENT OF A SMARTPHONE APPLICATION TO MEASURE PHYSICAL ACTIVITY USING SENSOR-INFORMED END OF DAY RECALL

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Retrospective self-report measures of physical activity are highly vulnerable to recall errors and biases, especially for youth. Although objective physical activity monitors (e.g., accelerometers), have a number of advantages, these devices have high rates of non-wear and are also fairly unreliable at differentiating activity types (particularly those of low to light intensity). To address these limitations, the current presentation will describe the development of a smartphone application ("app") that combines objective and self-report strategies to measure physical activity through sensor-informed end of the day recall. Adolescents recruited into physical activity surveillance and intervention studies will increasingly have smartphones, which are miniature computers with built-in motion sensors. The phones are rarely far from the adolescents, and adolescent affinity for the phones creates new opportunities for activity monitoring. Our new smartphone app allows users to interactively review and label their own physical activity data at the end of the day using visual cues from automatically-detected major activity transitions from the phone's built-in motions sensors. Major activity transitions (i.e., change from low to high intensity activity) are identified by the app, which cues the user to label that "chunk" of time using one of 43 activity categories (e.g., eating/drinking, reading/doing homework, watching shows/ movies). Users may merge or split automatically-identified "chunks" to more appropriately label activities. The self-report information can be used to augment objective physical activity data collected by the built-in sensor, particularly for device non-wear and low-to-light activity periods. This presentation will discuss the strengths and challenges of sensor-informed end of day recall apps in physical activity research including potential for deployment in large scale epidemiological and intervention studies.

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Symposium 20C 2096

USE AND FUTURE DIRECTIONS OF SMARTPHONES FOR PHYSICAL ACTIVITY INTERVENTIONS

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The ultimate physical activity (PA) intervention would be ubiquitous, cost-effective, and scalable; not require additional effort or burden to the user; and integrate seamlessly into one's lifestyle and routines. A smartphone app as a PA intervention tool has the potential to fit these specifications. Technological advancements such as video streaming, faster computer processing power, wireless connectivity, extended battery life, and greater storage capacity are key contributors in the development of smartphones as viable intervention tools. Using smartphones to deliver PA interventions is a rapidly evolving field in both academic and commercial settings. However, it is a challenge for researchers and practitioners to keep up with the pace of smartphone technology advancements. Ideally, the science and evidence should drive the application of this technology. Adaptive interventions can not only accommodate the pace of technology and new industry products, but also can provide a platform for better tailoring and a more engaging experience for the participant. Smartphones can be used to create persuasive intervention programs by closely following tenets of behavior change theory such as providing cues to action, reinforcement, goal setting, goal reminders, and feedback. An integrated smartphone intervention offers features that allow users to interact with their data, interact with other users, and receive expert knowledge. There is some evidence that mobile phones coupled with Internet services can promote increased PA. However, few studies have explored if smartphone features can be used to promote PA. This presentation will review the state of the science of smartphones for PA interventions and highlight potential future directions, the development process, desired features, and pitfalls of integrating this technology into public health programs.

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Symposium 21 2:25 PM-3:45 PM 2097

NOVEL APPROACHES TO ADDRESSING SEXUAL CONCERNS FOR CANCER SURVIVORS

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PURPOSE: Sexual morbidity and disruptions in intimate relationships are common, distressing, and persistent for many individuals diagnosed and treated for cancer. Novel approaches are needed to advance the care of survivors in this important domain of QOL. Unfortunately sexual health is a domain for which there has been little progress beyond documentation of its prevalence (high), clinical magnitude (moderate to severe), and course (permanent, no change) among cancer survivors. The purpose of this symposium is to present data from several intervention studies utilizing novel approaches to addressing sexual concerns for individuals and couples across groups with a range of cancer diagnoses.
METHOD: Data from four trials will be presented: (1) Dr. Reese will discuss results of a pilot trial of a telephone-based intervention addressing sexual concerns of colorectal cancer patients and their partners (N = 23; Intimacy Enhancement; IE); (2) Dr. Carpenter will discuss results from a randomized controlled trial (RCT) of a psychological intervention (vs. Enhanced Standard Care; N = 69) for patients coping with adverse sexual sequelae of gynecologic cancer diagnosis and treatment; (3) Dr. Nelson will present results of an RCT of Acceptance and Commitment Therapy for Adherence to an Erectile Rehabilitation Program after Radical Prostatectomy; (4) Dr. Boder will present results of a psychosexual intervention addressing sexual problems for BRCA + women.
RESULTS: Results of the intervention studies showed positive effects across a variety of sexual and relationship outcomes.
CONCLUSION: Challenges to the current research and possible solutions, as well as important areas for future research will be discussed by the presenters and Dr. *******, who will comment on all four studies.

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Symposium 21A 2098

SEXUAL HEALTH AND RELATIONSHIP ENHANCEMENT (SHARE)© FOR GYNECOLOGIC CANCER SURVIVORS: RESULTS FROM A RCT

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We developed and tested a manualized group intervention for sexual morbidity among gynecologic cancer survivors. Our conceptualization recognizes sexual self-schema (SSS) - an individual difference variable instrumental in the manifestation of sexual behavior, affect, and cognition - as a central theoretical construct; thus, SSS-enhancement strategies were integrated into the cognitive-behavioral, sex therapy, and vaginal health components of the intervention. Method: In Phase I, the intervention was offered on an individual basis (n = 8) and evaluated for feasibility, content, and session timing/spacing. In Phase II, an experimental design with repeated measures (baseline; 6-months) was used. Participants (n = 61) were randomized to a 12-session group intervention (SHARE) or control (Enhanced Standard Care, ESC: relaxation training & sexuality education). Outcomes were sexual behavior, response, distress, and satisfaction; secondary outcomes included depression and mood. Results: Participants (N = 69) were a mean of 18 months post-diagnosis at study entry (range 0-7 yrs). Mean age was 50 (range 26-67); 82% were partnered. At baseline, 78% scored in the clinical range for sexual response (FSFI) and 65% for distress related to sexuality (FSDS). Intervention effects were tested using repeated measures analysis of variance (GLM), with effects indicated by significant ($p < .05$) group X time interactions. Intent-to-treat analyses included data from all randomized participants and controlled for age. Compared to ESC, SHARE participants reported significantly less distress related to sexuality, better overall sexual response, increased desire, improved lubrication response, and decreased sexual pain at 6-months. SHARE participants also reported significantly fewer depressive symptoms (CES-D) and better mood (POMS) than ESC at 6-months. Implications: The SHARE intervention shows promise for addressing significant sexual morbidity in a population for whom it is common, persistent, and distressing. Methodological considerations and future directions will be discussed.

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Symposium 21B 2099

A RANDOMIZED PILOT TRIAL OF A TELEPHONE-BASED COUPLES INTERVENTION FOR PHYSICAL INTIMACY AND SEXUAL CONCERNS IN COLORECTAL CANCER

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PURPOSE: We previously developed and piloted a telephone-based Intimacy Enhancement (IE) intervention addressing sexual concerns of colorectal cancer patients and their partners. In this randomized trial, we compared the IE intervention to a Wait List control (WLC).
METHOD: Twenty-three couples were randomized to either four 50-minute IE sessions or the WLC. Patient sand partners completed surveys assessing a range of sexual and relationship outcomes. Post-treatment program evaluations were also completed. Between-group effect sizes were calculated (group-wise difference in mean change scores/pooled change score SD) for study completers (n = 18).
RESULTS: Completers had lower baseline intimacy, dyadic adjustment, and self-efficacy than non-completers (p's $\leq .03$; n = 5). Compared to WLC patients, IE patients reported greater improvements in female ($d = .58$) and male sexual function ($d = .85$), medical impact on sexual function ($d = -.66$), and self-efficacy for enjoying intimacy despite physical limitations ($d = .66$). Compared to WLC partners, IE partners reported greater improvements in all outcomes; the largest effects were for sexual distress ($d = -.69$), sexual communication ($d = .97$), male sexual function ($d = 1.76$), self-efficacy for communicating about intimacy and for dealing with sexual difficulties ($d \geq .87$). Effect sizes using intent-to-treat (last observation carried forward) were similar. Program evaluations were favorable; behavioral and communication skills were seen as most helpful and easiest to use.
CONCLUSION: The Intimacy Enhancement intervention shows promise for couples facing colorectal cancer. Study implications and future research directions will be discussed.

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Symposium 21C 2100

ACCEPTANCE AND COMMITMENT THERAPY FOR ADHERENCE TO AN ERECTILE REHABILITATION PROGRAM

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PURPOSE: This pilot study tests a novel intervention based on Acceptance and Commitment Therapy (ACT) to help men overcome the barriers to using erectile dysfunction (ED) treatments and commit to an erectile rehabilitation program following prostate cancer surgery.
METHOD: Men starting an erectile rehabilitation program (ERP) were randomized to either the ERP + ACT (ACT) group or ERP + Enhanced Monitoring (EM) group. Subjects in the ACT group received the ERP plus 4 ACT Sessions (30 min) and 3 ACT Booster Sessions (10 min). Subjects in EM group received the ERP plus 7 phone calls (5-10 min) from a nurse practitioner. The interventions were delivered over a 4 month period. Subjects were assessed at entry, 4 months (m) and 8 m. The primary outcomes were feasibility and number of penile injections/week. Secondary outcomes were: ED treatment satisfaction, sexual self-esteem, sexual bother, and prostate cancer treatment regret. Considering the low sample size and pilot nature of the data, if differences were not significant, effect sizes (d) were reported.
RESULTS: 63 subjects were randomized. The acceptance rate was 72% (63 out of 87). Five subjects dropped out prior to knowing group assignment, leaving the effective acceptance rate at 67%. Four subjects dropped out of the ACT group; however these were due to medical/financial reasons as opposed to difficulty with the ACT intervention. At 4 m, the ACT group (n = 21) utilized more penile injections/week (1.6) compared to the EM group (n = 23, injections/week = 1.1, $p < 0.01$). The ACT group, as compared to the EM group, reported greater ED treatment satisfaction ($d = 0.32$), greater sexual-self esteem ($d = 0.30$) and sexual confidence ($d = 0.47$), lower sexual bother ($d = 1.08$), and lower prostate cancer treatment regret ($d = 0.55$). The 8 m data will be presented.
CONCLUSION: These pilot data suggest the ACT intervention is feasible and significantly increases the use of penile injections, while also improving related psychosocial variables.

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Symposium 21D 2101

ADDRESSING SEXUAL DYSFUNCTION AFTER OOPHORECTOMY

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Background: Women at high risk for ovarian cancer due to BRCA1/2 mutations are advised to undergo prophylactic bilateral salpingo-oophorectomy (PBSO) after age 35. This potentially life-saving surgery frequently results in profound and distressing sexual dysfunction. We piloted the first psychoeducational intervention for managing sexual dysfunction in women after PBSO.
Methods: This multi-modal intervention study included education regarding symptom management, relaxation training, and cognitive behavioral therapy (CBT) skills training, followed by tailored telephone counseling. Self-report assessments, including the Female Sexual Function Index (FSFI), the Brief Symptom Inventory (BSI-18), and a Sexual Attitude Scale were completed at baseline and 2 months post-intervention.
Results: 37 women enrolled and completed pre- and post-assessments. Participants had a median age of 44.33 (range, 36.08-49.58) years and a median time since PBSO of 3.33 (range, 0.75-12.33) years. FSFI scores improved significantly from baseline to post-intervention for the desire ($p = 0.002$), arousal ($p = 0.001$), satisfaction ($p = 0.038$), and pain ($p = 0.014$) domains, as well as on full scale score ($p = 0.003$). On the BSI-18, there were significant improvements for the somatization ($p = 0.043$) and anxiety ($p = 0.001$) domains, and overall global severity index ($p = 0.001$). The overall scores measuring self-efficacy improved significantly from pre- to post-intervention ($p = 0.001$)
Conclusions: To date, no effective interventions for addressing sexual dysfunction after PBSO are available. Results from this pilot intervention provide compelling preliminary data to move toward conducting a randomized clinical trial. Reducing post-PBSO distress may also improve uptake of this potentially life-saving procedure, as loss of sexual functioning is one of the reasons mutation carriers give for rejecting surgical risk-reduction.

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Symposium 22 2:25 PM-3:45 PM 2102

LUNG CANCER SCREENING: A NEW FRONTIER FOR BEHAVIORAL MEDICINE RESEARCH, PRACTICE, AND POLICY

Margaret Byrne, PhD,[1] Jamie Studts, PhD,[2] Heidi Hamaan, PhD,[3] Elyse Park, PhD,[4] Pamela Marcus, PhD[5] and Paul Han, MD[6]

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Recent results from the National Lung Screening Trial (NLST) have demonstrated that low-dose computed tomography leads to a 20% reduction in lung cancer specific mortality and a 7% reduction in overall mortality. These results have led to dramatic changes in lung cancer screening (LCS) recommendations by authoritative organizations, including the US Preventive Services Task Force. However, decisions on the individual, institutional, and policy levels about LCS are challenging for many reasons, including uncertainty about potential benefits and harms, lack of evidence-based models for implementing screening, and questions about appropriate follow up of screening results. This interdisciplinary panel will provide an overview of this new frontier based on their recent and ongoing LCS research. It is imperative that patients, health care providers, and policy decision-makers develop a comprehensive understanding of the potential benefits and harms of LCS as screening programs are developed and disseminated.
As symposium chair, Dr. Byrne will provide a brief overview of LCS and the panel topics. Dr. Park will describe risk perception and behavioral outcome data from the NLST study. Dr. Studts will address decision making aspects of LCS as well as the impact of a continuing education intervention on provider knowledge and attitudes toward LCS. Dr. Hamann will discuss the central role of patient navigation in implementing LCS. Dr. Marcus will discuss translating results from the NLST results to clinical practice, including policy and economic considerations. Dr. Han will close the symposium by offering a summary and critique of current LCS research and policy efforts, and conclude by leading a Q&A period.-

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Symposium 22A 2103

LUNG SCREENING'S EFFECT ON PERCEIVED RISK: IMPLICATIONS FOR TOBACCO TREATMENT

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Introduction: The USPTF released draft guidelines recommending annual lung screening for individuals with a heavy smoking history. To guide development of a screening-based cessation intervention, we examine risk perceptions and smoking behaviors of NLST participants.
Methods: A mixed methods study was conducted with 430 participants at 8 ACRIN/NLST sites. It consisted of a risk perceptions survey, prior to initial and 1-year follow-up screens, and a post-screening in-depth interview ($n = 35$). To quantify risk perceptions of lung cancer (LC) and smoking-related diseases (SRD), a 10-item Smoking Risk Perceptions Scale (SRPS), was developed and validated among white and black NLST participants ($\alpha = 0.92, 0.95$).
Results: SRPS baseline results indicated that smokers overestimated their personal risk but attenuated their risk compared to other smokers. At pre-screen, perceived risk was related to intentions to quit ($p < .002$). At 1-year follow-up, perceived risk and associated cognitive and emotional behavior change determinants (e.g., worry, perceived benefits of quitting) had not changed. At pre-screen, smokers had low confidence to quit smoking (avg = 2.7/ 5); at 1-year only 9.7% reported abstinence. Qualitative data indicated that although most participants endorsed high risk perceptions and high perceived severity of LC and SRDs, they expressed low levels of worry about LC and SRD and few made behavior changes. These disconnects were illustrated by expressions of cognitive and emotional dissonance, as well as avoidance strategies.
Conclusions: Lung screening did not influence perceived risk for LC or SRD or resultant behavior change. To optimize the benefit of lung screening, an accompanying risk-based motivational tobacco cessation intervention, targeting smokers' avoidance and dissonance, is recommended.

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Symposium 22B 2104

MOVING TOWARD SHARED DECISION MAKING FOR LUNG CANCER SCREENING

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New evidence-based guidelines for lung cancer screening (LCS) have the potential to reduce lung cancer mortality. However, LCS is a unique and complex screening modality due to high false positive rates, invasive follow-up, and other potential harms. Shared decision making (SDM) can facilitate implementation of LCS programs by helping patients and providers discuss potential benefits and harms of LCS and achieve informed choices consistent with patient preferences. We have conducted two studies exploring patient and provider LCS decision making. To examine potential influences on LCS uptake, a conjoint survey was conducted with a nationally-representative sample of individuals at high-risk of lung cancer ($N = 210$). The mean likelihood rating for screening participation was 3.63 ± 1.64 on a scale of 1-9, suggesting a moderately unfavorable attitude toward LCS uptake. Relative importance scores showed that provider recommendation (28.3 ± 15.6) and out-of-pocket cost (26.2 ± 21.4) substantially influenced patient decisions. Access to screening was moderately influential (18.7 ± 9.7), while mortality reduction (13.9 ± 11.86) and rates of false positive scans (12.9 ± 12.8) had relatively less influence. To address providers, we developed a continuing education (CE) program to inform primary care providers about changes in LCS recommendations and enhance SDM skills. Participants ($N = 18$) in a pilot study experienced increased knowledge of LCS ($p < .01$) and SDM ($p < .001$), and enhanced self-efficacy regarding implementing SDM in the context of LCS ($p < .001$). Given the sea change in recommendations, a unique opportunity exists to build strong LCS models that integrate SDM in the manner recommended by the USPSTF, the ACS, and the IOM. Future research efforts should address screening awareness among high-risk patients, educate health care providers about LCS, and facilitate efforts to engage patients and providers in informed and shared decision making regarding LCS.

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Symposium 22C 2105

LUNG CANCER SCREENING IN THE "REAL WORLD": THE IMPORTANCE OF PATIENT NAVIGATION

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The recent USPSTF recommendation, along with potential insurance coverage for eligible individuals, expands the reach of lung cancer screening programs. Lung cancer screening (LCS) represents a complex, multi-step process, entailing at minimum three annual CT scans, as well as additional imaging and/or biopsies for the projected 40% of individuals with suspicious radiographic findings. Its optimal delivery also involves evidence-based smoking cessation and education about lung cancer risk reduction. Given this complexity, characteristics of the target population, and experience in other cancer screening modalities, the unique skills of patient navigators may be a promising way to guide patients through the screening protocol and address psychosocial and behavioral needs.

Across all aspects of the cancer care continuum, patient navigators provide instrumental and emotional support, address barriers to patient care, coordinate referrals, and strengthen patient-provider relationships. Navigation strategies have improved adherence to established screening processes for other malignancies, with greatest impact among underserved populations. These established, evidence-based models could also be used in LCS, along with components specific to lung cancer screening. Navigators could not only help patients coordinate CT scans and follow-up services, but also provide behavioral and psychosocial education and patient referrals.

"Real world" LCS challenges, including nonadherence, fragmented care, and lack of behavioral risk interventions, threaten to undermine the mortality reduction achieved in the highly controlled NLST. While it took decades after widespread implementation of other cancer screening programs to investigate the role of navigation, it is not only reasonable but imperative to consider and evaluate this approach early in the implementation of lung cancer screening.

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Symposium 22D 2106

THE NATIONAL LUNG SCREENING TRIAL (NLST): ANSWERS AND QUESTIONS

Pamela Marcus, PhD

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NLST was a large multi-site randomized controlled trial of lung cancer screening in heavy and/or long-term ever smokers conducted from 2002-2010. The nearly 54,000 participants (ages 55-74 at randomization with at least 30 pack-years of cigarette smoking history) were randomized to receive three annual low-dose computed tomography (LDCT) (intervention) or single-view chest x-ray (control arm) exams. The LDCT arm experienced a statistically significant 20% lung cancer mortality reduction (95% confidence interval (CI): 6.8-26.7) relative to the chest x-ray arm, as well as a significant 7% all-cause mortality reduction (95% CI: 1.2-13.6). While NLST provided information about the efficacy of screening with LDCT, many questions, including a number that are of importance to behavioral scientists, were raised by its primary and secondary findings. Dr. Marcus will present NLST results as well as aspects of the study design and experience that are important to consider as the United States moves toward implementation of mass LDCT screening for those at elevated risk of lung cancer. She also will present and discuss questions that NLST findings have raised, including: whether screening will be effective outside of an experimental setting; whether to screen individuals who do not meet the NLST eligibility criteria; uncertainties surrounding the screening exam itself, the definition of a positive screen, and diagnostic evaluation for small non-calcified nodules; potential harms associated with screening individuals with cardiac and pulmonary co-morbidities; financial considerations of screening and benefits; and availability of health care providers and facilities that have the required equipment, expertise and experience to carry out the entire screening process (recruitment through referral for treatment) appropriately. These issues have implications for behavioral medicine and present opportunities for behavioral research and interventions.

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Thursday
April 24, 2014
4:00 PM-5:30 PM

Paper Session 01 4:00 PM-4:18 PM 2107

CORRESPONDENCE OF EXERCISE AND DIET AMONG PROSTATE CANCER SURVIVORS AND PARTNERS

Shannon Myers Virtue, PsyD,[1] Sharon Manne, PhD,[1] Debby Kashy, PhD,[2] Talia Zaider, PhD,[3] David Kissane, MD[3] and Carolyn Heckman, PhD[4]

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Exercise and diet behaviors are important for prostate cancer survivors. Partners may influence these behaviors. An indicator of partner influence is the degree of correspondence between partners, both positive (both engaging in the behavior) and negative (both not engaging). The study examined level of correspondence of couples' physical activity (PA) and fruit/vegetable consumption (FV). Eighty-eight localized prostate cancer survivors and their partners completed measures of PA, FV, discussions about exercise and diet, and perceived importance of partner's exercise and diet. Based on recommended PA guidelines (150 min. moderate or 75 min. vigorous activity/week), results indicated that 40% of patients and 31% of partners met guidelines. Correspondence was moderate ($r = .29$, $p = .009$). Among 18% of couples both partners met guidelines, 42% neither did, and 40% one partner met guidelines. Greater correspondence was associated with longer relationship ($r = -.19$, $p = .09$), and more frequent discussion of exercise and diet ($r = -.22$, $p = .049$). Based on recommended dietary guidelines (5 servings of fruits and vegetables/day), 80% of patients and 71% of partners met guidelines. Correspondence was high ($r = .40$, $p < .001$). Among 67% of couples both partners met guidelines, 6% neither did, and 26% one partner met guidelines. Greater correspondence was associated with greater perceived importance of partner's exercise and diet ($r = -.20$, $p = .09$). Lower correspondence was associated with longer relationship ($r = .20$, $p = .09$). For PA and FV, correspondence was not related to time from diagnosis, disease stage, patient BMI, or income. In summary, the majority of prostate cancer survivors and partners met recommended FV guidelines, but not PA guidelines. Relationship factors may play a role in partners' influence on exercise and diet behaviors. A couple-based approach to promoting healthy exercise and diet may be considered.

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Paper Session 01 4:18 PM-4:36 PM 2108

EXERCISE-INDUCED ANTI-INFLAMMATORY EFFECT AND IMPROVED MUSCULAR FUNCTION AND FATIGUE AMONG OLDER PROSTATE CANCER PATIENTS

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Background: Radiation therapy (RT) and androgen deprivation therapy (ADT) result in chronic over-expression of pro-inflammatory cytokines, impaired muscular function, and cancer-related fatigue (CRF) among prostate cancer patients. We investigated the influence of an individually-tailored, home-based exercise intervention (EXCAP©®), including progressive resistance and aerobic training, on inflammation, muscular function, and CRF.
Methods: In this phase II randomized clinical trial, older prostate cancer patients ($N = 58$; mean age = 67), receiving RT (47%) or ADT (53%), were randomized to 6 wks of EXCAP©® (7 days/wk) or standard care (RT or ADT with no exercise). Inflammatory markers were assessed via multiplex. Muscular function (i.e., strength) was assessed using multiple repetition maximum testing (chest press and leg extension). CRF was assessed via valid self-report questionnaires (BFI, POMS-FI, MFSI). All assessments were pre- and post-intervention.
Results: ANCOVAs revealed significant increases in pro-inflammatory cytokines (IL-8 and IFNg; all $p < 0.05$), but not in anti-inflammatory markers, in the control group; whereas, there were significant increases in the anti-inflammatory cytokine receptor sTNFr1 ($p < 0.05$), with no significant increases in pro-inflammatory markers, in the exercise group. ANCOVAs revealed a trend toward differences between groups in muscular function (all $p < 0.10$): exercisers improved, while controls declined, in strength. ANCOVAs also revealed significant differences between groups in CRF on the BFI and POMS-FI (all $p < 0.05$), and a trend toward differences on the MFSI ($p < 0.10$) post-intervention: exercisers reported decreased CRF while controls reported increased CRF.
Conclusions: Results suggest exercise produces an anti-inflammatory effect and improves muscular function and CRF among older men with prostate cancer receiving RT and ADT. Future phase III RCTs are needed to confirm these findings. Funding: DOD W81XWH-07-1-0341, NCI K07CA120025, NCI 1R25CA102618.

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Paper Session 01 4:36 PM-4:54 PM 2109

EXAMINING MEDIATING RELATIONSHIPS IN A STUDY OF PHYSICAL ACTIVITY AMONG ENDOMETRIAL CANCER SURVIVORS

Matthew Cox, PhD,[1] Cindy Carmack, PhD,[1] Daniel Hughes, PhD,[2] George Baum, MS,[1] Jubilee Brown, MD,[1] Anuja Jhingran, MD,[1] Karen Lu, MD[1] and Karen Basen-Engquist, PhD[1]

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Research shows that physical activity (PA) improves physical functioning and quality of life in cancer survivors. Theory-based PA interventions have shown that self-efficacy (SE) may act as a mediator in the relationship between interventions and PA behaviors. This study attempts to examine SE as a mediator of the theoretical antecedents of SE (mastery experiences, somatic sensations, social support, and modeling) and PA in and observational study of endometrial cancer survivors. METHOD: Participants were 98 women with Stage I, II, or IIIa endometrial cancer ≥ 6 months post-treatment with no evidence of disease. Longitudinal data were collected over 6 months at 4 time points using ecological momentary assessment for at home self-report measures of SE antecedents, SE, and PA, as well as accelerometry data for PA. After the initial baseline assessment, participants were given tailored exercise recommendations with the ultimate goal of engaging in moderate-intensity PA for > 30 min/day, 5 days/week. Data were analyzed using path analysis in an autoregressive model using the SE antecedents at baseline and 2 months to predict SE at 2 months and 4 months, and SE at 2 months and 4 months to predict PA minutes at 4 months and 6 months respectively.
RESULTS: Specifically, somatic sensations at 2 months significantly predicted SE at 4 months ($B = -0.050$, $p = .027$) and SE at 4 months significantly predicted PA minutes at 6 months ($B = 3.326$, $p = .035$), resulting in significant mediation ($B = -0.161$, $p < .05$).
CONCLUSIONS: Results suggest that PA interventions that are attempting to target SE as a mediator of PA may do so through somatic sensations and these predictors are more important at later time points. Individuals with cancer may require special attention during PA interventions so that somatic cues are properly appraised and addressed so as not to become barriers.

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Paper Session 01 4:54 PM-5:12 PM 2110

NUTRITION AND PHYSICAL ACTIVITY BEHAVIORS AMONG BREAST AND COLORECTAL CANCER SURVIVORS RECRUITED THROUGH THE LOS ANGELES COUNTY CANCER SURVEILLANCE PROGRAM

Beth A. Glenn, PhD,[1] Ann S. Hamilton, PhD, MA,[2] Tiffany Lin, BS,[1] L. C. Chang, MS,[1] Dennis M. Deapen, DrPH[2] and Roshan Bastani, PhD[1]

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Cancer survivors are now living longer and are at greater risk for cancer recurrence and second cancers. This goal of this study, a collaboration between UCLA and the Los Angeles County Cancer Surveillance Program (CSP), is to understand the health behaviors among breast and colorectal cancer survivors. Survivors identified through the CSP, who were diagnosed between 1999-2009, were invited to participate in a survey via web, mail, or telephone. Data were collected from an ethnically diverse sample of survivors (n = 156; 24% Latino, 29% Asian, 15% African American; Mean age 49.6 years, time since diagnosis = 8.8 years). Surveys assessed a wide range of health topics relevant for survivors including self-reported height and weight, typical eating patterns, and physical activity level. A high proportion of survivors were overweight (31%; BMI > 25) or obese (24%; BMI > 30). Similar to the population at large, survivors reported low levels of adherence to physical activity recommendations. For example, only 19% of breast cancer survivors and 24% of colorectal cancer survivors reported engaging in moderate/strenuous exercise five or more days per week. Daily fruit and vegetable consumption was also suboptimal (3.8 daily servings for breast cancer survivors, 3.5 for colorectal cancer survivors). Meanwhile, 29% of survivors reported eating fast food meals three or more times a week and 48% consumed at least one sugar-sweetened beverage per day. Education level was positively associated with fruit and vegetable consumption but inversely related to physical activity level. Age was also positively related to physical activity level. No other demographic factors were related to these outcomes. Our results reveal that efforts are needed to improve diet and physical activity levels for cancer survivors.

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Paper Session 01 5:12 PM-5:30 PM 2111

LESSONS LEARNED FROM A COMMUNITY-BASED PARTNERSHIP TO PROMOTE PHYSICAL ACTIVITY AMONG CANCER SURVIVORS

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Physical activity (PA) adoption can reduce some treatment-related sequelae of breast cancer. There is a need to implement PA interventions outside research settings. As a first step towards implementation of a telephone-based PA intervention to cancer survivors, we partnered with the American Cancer Society's Reach to Recovery program (RTR) whose volunteers provide information and emotional support to breast cancer patients. This randomized controlled trial compared the effects of PA telephone counseling delivered by RTR volunteers (Reach Plus) vs. a contact control condition (Reach Standard) in 6 New England states. The PA intervention delivered by the RTR volunteers at the community-based organization (CBO) was effective in increasing PA among breast cancer survivors. To prepare for further program implementation, we obtained input from key stakeholders at the CBO at the end of the trial. Structured telephone interviews were conducted with 10 stakeholders (8 women, 2 men) at various job levels at the CBO (5 regional Vice-Presidents, 2 Community Executives and 3 Senior Executives). The questions focused on factors influencing the decision to collaborate, facilitators and challenges during the trial and recommendations for program marketing. Using framework analysis, interview notes were summarized and then coded and themes extracted independently by two study members. Five themes were identified: 1) benefits of the partnership, 2) its costs, 3) importance of communication between the researchers and CBO and within the CBO, 4) match of the trial goals with the CBO's mission and 5) achieving a balance between research and job tasks at the CBO. We will present techniques relevant to these themes to guide implementation of evidence-based programs in partnerships with CBOs. Such implementation can help extend the reach of PA interventions beyond research settings and build capacity to improve patients' recovery from cancer.

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Citation Paper
Paper Session 02 4:00 PM-4:18 PM 2112

POSTTRAUMATIC STRESS DISORDER SYMPTOMS AND MIGRAINE HEADACHE: EXAMINING GENETIC CONFOUNDING IN MALE AND FEMALE TWINS

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A growing body of literature has established a consistent association between posttraumatic stress disorder (PTSD) and migraine headache (MH) symptoms. Gender differences in the link between PTSD and MH symptoms have also been documented. However, the potential role of genetic and familial factors in the link between PTSD and MH is unclear. Therefore, the aims of this study were to: a) replicate the relationship between PTSD and MH symptoms in male and female twins from a large community-based twin registry; and b) examine genetic confounding in those associations. A total of 3,173 twin pairs (6,346 individuals) from the University of Washington Twin Registry who completed an initial survey were included. The Impact of Events scale and Migraine Screen Questionnaire were used to measure PTSD and MH symptoms. Twins had a mean age of 41 years; 70% were monozygotic (MZ), and 63% were female. Mixed effects linear regression adjusting for age was used to examine the relationship between PTSD and MH symptoms in overall models accounting for the non-independence of twins and then within-pair models adjusting for the confounding effects of genetic and familial factors.. The overall models found that greater PTSD symptoms were significantly related to greater MH symptoms in both men (B = .018, p < .001) and women (B = .021, p < .001). The within-pair associations remained significant for male (MZ B = .026, p < .001; dizygotic [DZ] B = .027, p < .001) and female (MZ B = .032, p < .001; DZ B = .039, p < .001) pairs. These findings suggest that the relationship between PTSD and MH symptoms is not confounded by genetic or shared familial factors in either gender, and may hint at causal dynamics. Future research is needed to determine environmental factors that may influence the relationship between PTSD and MH symptoms to understand the development of these frequently co-occurring conditions.

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Meritorious Paper
Paper Session 02 4:18 PM-4:36 PM 2113

DEXAMETHASONE-SUPPRESSED SALIVARY CORTISOL AND COLD PAIN SENSITIVITY IN FEMALE TWINS

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Dysregulation of the hypothalamic-pituitary-adrenal axis has been linked to chronic pain conditions. Studying pain sensitivity may inform the specific mechanisms involved in pain perception. The aims of this study were to: a) examine pain sensitivity during dexamethasone (dex) suppression and b) explore genetic confounding in those associations. The 99 community-based twin pairs had a mean age of 29 years; 75% were monozygotic (MZ). Salivary cortisol was collected across 4 days: after .25 mg dex; two-day baseline period; and after .5 mg dex. Pain ratings at threshold and tolerance (tol) measured pain sensitivity during a cold pressor test. Generalized estimating equations models adjusted for baseline pain rating, pain latency, and age were used. Cortisol response to .25 mg dex was not associated with pain sensitivity. After .5 mg dex, higher percent dex response in evening cortisol (B = .01, p < .01) was related to higher pain ratings at tol. The within-pair association was diminished in MZ pairs (B = .005, p = .73) but remained in dizygotic (DZ) pairs (B = .02, p < .01), suggesting genetic confounding. Lower baseline diurnal variation of cortisol was associated with higher tol pain ratings (B = -9.23, p = .01), which was influenced by genetics (MZ B = .07, p = .99; DZ B = -24.53, p = .01). Elucidating the dex suppressed cortisol and pain sensitivity relationship could contribute to understanding, treating, and preventing the development of chronic pain conditions.

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Paper Session 02 4:36 PM-4:54 PM 2114

BEHAVIORAL ANGER REGULATION AMONG PATIENTS WITH CHRONIC LOW BACK PAIN (CLBP) AND SPOUSE CRITICISM AND SUPPORT: A WITHIN-COUPLE DAILY DIARY STUDY

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Anger and anger regulation by chronic pain patients may adversely affect relationships with spouses. Findings suggest that when patients are angry, they may alienate spouses, especially when anger is expressed toward the spouse, thus increasing negative spouse responses and reducing supportive ones. We tested the degree to which patient behavioral anger regulation (expression; inhibition) was related to patient perceptions of, and spouse reports of spousal criticism, hostility and support toward the patient. Patients with CLBP (n = 103) and their spouses (n = 103) were given Personal Data Assistants (PDAs) for 14 days, and were prompted 5x/day to respond about their own behavior and the behavior of their spouse. Concurrent (i.e, at same time point) effects showed that (a) greater patient-reported behavioral anger expression was related significantly to greater patient perceptions of spousal criticism and hostility but lower support; (b) greater behavioral anger expression was related significantly to greater spouse-reported criticism and hostility directed at the patient and less support; (c) greater patient-reported behavioral anger inhibition was related significantly to less spouse-reported criticism. Lagged effects (e.g, 9 am to 12 pm) were nonsignificant. Findings complement other research implicating patient anger expression in worsening their pain and function. Here, findings suggest that elevated patient anger expression was related to both greater patient perceptions of spouse negative responses to them AND greater spouse reports of their own negative responses. Insofar as social support is an important element in successful adaptation to chronic pain, patient adjustment and well-being may suffer from frequent expressed anger due to alienated, hostile and critical spouses.

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Paper Session 02 4:54 PM-5:12 PM 2115

EFFECTS OF CHRONIC PAIN AND SMOKING DEPRIVATION ON NICOTINE WITHDRAWAL AND ACUTE PAIN INTENSITY

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Chronic pain may pose a barrier to smoking cessation, nicotine withdrawal may amplify pain, and situational pain has been shown to be a potent motivator of smoking. The goal of the current study was to test relations between pain and withdrawal severity, in the context of a nicotine deprivation manipulation. We hypothesized: (1) that chronic pain status would predict greater withdrawal scores, and (2) that greater withdrawal would be associated with greater acute pain. METHOD: Participants were 128 daily smokers, who were randomized to either 12-hour nicotine deprivation or satiated experimental conditions. Measures included chronic pain status (e.g., pain on >90 of past 180 days), nicotine withdrawal, and acute pain intensity. RESULTS: (1) As expected, we observed a main effect for the deprivation manipulation on withdrawal ($p < .01$). Interestingly, chronic pain was also observed to predict scores on the withdrawal measure ($p < .01$), even after controlling for FTND and gender. The chronic pain x deprivation interaction was not significant ($p = .90$), indicating that smokers who endorsed chronic pain also scored higher on the withdrawal measure, regardless of deprivation condition. (2) We further observed a significant indirect effect of the deprivation manipulation on acute pain via withdrawal (BC 95% CI = .09-.87), such that nicotine deprivation increased withdrawal severity ($p < .01$), which, in turn, was associated with greater acute pain intensity ($p < .01$). CONCLUSIONS: Chronic pain status may predict greater endorsement of withdrawal symptoms. In addition, nicotine deprivation may serve to exacerbate acute pain, possibly as a function of increased withdrawal severity. These data provide support for the notion that relations between pain and smoking are likely complex and bidirectional. Discussion will address the differential effects of chronic pain on specific withdrawal symptoms (craving and negative affect), along with clinical implications of these and related findings.

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Paper Session 02 5:12 PM-5:30 PM 2116

IMPACT OF SUSTAINED ATTENTION ON PAIN INTENSITY AND PAIN INTERFERENCE IN YOUTH WITH NEUROFIBROMATOSIS TYPE 1 (NF1) AND PLEXIFORM NEUROFIBROMAS (PNS)

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While current literature suggests pain and cognitive function are inversely related, the exact nature of this relationship remains unclear. The present study further examined the association between cognitive function, pain interference, and pain intensity in children and adolescents with NF1 and PNs.

Youth rated their average pain intensity in the past week on a Visual Analogue Scale (0-100); parents rated their child's pain interference on an item (1-5) from the Impact of Pediatric Illness scale. Participants were 74 patients (64% male; MAge = 13.46, range: 5-25 yrs) enrolled in an NF1 natural history study who completed neuropsychological assessment at baseline (T1) and 3 years later (T2). Cognitive tests assessed attention, working memory, and executive skills. There were no significant changes over time in pain intensity, pain interference, or cognitive skills. More pain interference correlated with worse sustained attention on the Conners' CPT-II Omissions T-score ($r = .35$, $p < .01$). In a cross-lagged panel design regression, T1 sustained attention predicted T1 pain interference ($F = 4.38$, $p < .05$), as well as at T2, even when controlling for T1 pain interference and age ($F = 7.63$, $p < .01$). T1 pain intensity did not predict pain interference at T2 ($F = 1.28$, $p = .27$); however, when sustained attention was included, the model predicted pain interference at T2 ($F = 8.32$, $p < .01$), and pain intensity was a significant predictor ($\beta = .44$, $p < .05$).

Findings suggest that poorer sustained attention predicts greater long-term pain interference. Youth with poorer sustained attention may be more susceptible to distractions from pain. Additionally, pain intensity influences the degree of pain interference, but this relationship is suppressed by sustained attention; poorer sustained attention increases the impact of pain intensity on pain interference. Findings have implications for pain and cognitive interventions, and suggests that improving sustained attention can reduce the impact of pain, regardless of pain severity.

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Paper Session 03 4:00 PM-4:18 PM 2117

ACCULTURATIVE STRESS AND INFLAMMATION AMONG CHINESE IMMIGRANT WOMEN: PATHWAYS TO HEALTH DISPARITIES?

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Asian Americans are the fastest growing racial group in the United States, and Chinese Americans represent the largest subgroup of US Asians. Among Chinese immigrant populations, increasing duration of US residence is associated with elevated risk for various diseases including type 2 diabetes, cancer, and cardiovascular disease. Although lifestyle changes following migration have been extensively studied, less understood is the psychosocial impact of acculturation and the immigration experience upon biomarkers of health. Indeed, migration and acculturation can involve significant cultural instability and social isolation. Thus, the purpose of the present study is to examine associations between acculturative stress and inflammatory markers among Chinese immigrants. Study participants (n = 421 foreign-born Chinese American women) completed questionnaires assessing levels of stress, including acculturative stress and positive and negative life events. Blood samples were drawn for assessment of circulating serum levels of C-reactive protein (CRP) and soluble tumor necrosis factor receptor 2 (sTNFR2). In regression analyses, higher levels of acculturative stress were significantly associated with higher levels of CRP ($\beta = 0.14$, $p < 0.05$) and sTNFR2 ($\beta = 0.13$, $p = 0.05$), whereas life events were not associated with CRP or sTNFR2. In sum, this is one of the first studies to demonstrate that greater acculturative stress is associated with higher levels of circulating inflammatory markers in a cohort of foreign-born women, which may have implications for the increased disease risk observed among immigrant populations following migration. As such, these findings contribute to our understanding of how migration to the US may influence disease risk via social, behavioral, and biologic pathways.

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Citation Paper
Paper Session 03 4:18 PM-4:36 PM 2118

PATHWAYS BETWEEN ACCULTURATION AND HEALTH BEHAVIORS AMONG LOW-INCOME HOUSING RESIDENTS: THE MEDIATING ROLE OF SOCIAL/CONTEXTUAL FACTORS

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Objectives: Acculturation is thought to influence health behaviors, yet mechanisms of this relationship have not been fully explored. Our aim is to describe relationships between acculturation and health behaviors, and to evaluate the extent to which these relationships are mediated by social/contextual factors.
Methods: Residents of 20 low-income housing sites in the greater-Boston area were interviewed about acculturative characteristics, social/contextual factors, and health behaviors. A composite acculturation scale was developed using latent class analysis, resulting in four distinct acculturative groups (very low, low, moderate, and referent/U.S. born). Path analysis was used to examine interrelationships between acculturation, health behaviors, and social/contextual factors (material hardship, stress, social networks/support and discrimination).
Results: Of the 828 residents who responded, 69% were born outside of the US. Individuals in "very low" and "low" acculturative groups ate healthier diets (coefficients 0.6, p = 0.004; 0.7, p = 0.01, respectively). Less acculturated groups ("very low", "low", and "moderate") were less likely to smoke (coefficients -0.7, p = 0.0006; -0.5, p = 0.0001; -0.02, p = 0.005, respectively). Acculturation was indirectly associated with diet through its relationship with material hardship ("very low" and "low" coefficients 0.2, p = 0.0009; 0.02 p = 0.0008, respectively).
Conclusions: Findings suggest the need for interventions to preserve "traditional" health habits and prevent uptake of "mainstream" harmful behaviors among immigrant populations. Social/contextual factors (e.g. material hardship) may be possible mechanisms through which acculturation influences some health behaviors. Additional research is needed to explore such mediators in larger, population-based samples.

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Paper Session 03 4:36 PM-4:54 PM 2119

SOCIAL, CULTURAL, AND HEALTH CARE DETERMINANTS OF BREAST CANCER SCREENING AMONG DOMINICAN LATINAS

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Despite growing research interest and debate concerning the roles of fatalism and acculturation in breast cancer screening among Latinas, very few studies assess the mechanisms that mediate the associations between acculturation and screening. This study tests a theoretical model of structural factors (socioeconomic status and health care) and cultural factors (acculturation and fatalism) as predictors of mammography screening among a sample of Dominican Latinas, an understudied population. Potential mediators included fatalism and access to health care, including having a regular healthcare provider and barriers to mammography. Interviews were conducted with 329 Latinas from the Dominican Republic aged 40 years or over. Mediation was assessed by examining the indirect effects in reduced form equations, where each variable is entered in order of causal priority. Higher levels of acculturation (as assessed by the ARSMA questionnaire) were associated with decreased screening (b = -.15, t(327) = -2.31, p < 0.05), while greater years lived in the US (often used as a proxy for acculturation) was associated with increased screening (b = 0.13, t(327) = 1.97, p = 0.05). Additionally, greater mammography barriers were associated with decreased screening (b = -.21, t(327) = -3.64, p < 0.001). There were no significant effects of fatalism, having a regular healthcare provider, income, or education level on screening. These results highlight the importance of structural factors, such as barriers to screening. Additionally, the difference between the results obtained from the ARSMA and years lived in the US underscores the importance of measurement in acculturation research. Possible avenues for health education interventions include intensifying campaigns and other public health approaches to eliminate barriers to mammography, as well as informing women of the importance of screening and survival benefits of early detection.

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Paper Session 03 4:54 PM-5:12 PM 2120

HEALTH-RELATED QUALITY OF LIFE DIFFERENCES BETWEEN LATINA AND NON-LATINA BREAST CANCER SURVIVORS

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The purpose of this study was to compare health-related quality of life (HRQOL) in Latina and non-Latina breast cancer survivors from a US population-based sample. We recruited breast cancer survivors from 4 SEER cancer registries for the MY-Health Study. The study included 290 Latina and 1295 non-Latina survivors [Non-Hispanic White (NHW), n = 579; Non-Hispanic Black/African American (NHB), n = 297; Asian/Pacific Islander (API), n = 376; Other, n = 43]. Customized short-forms from the PROMIS® item banks for Physical Function, Satisfaction with Social Roles, Emotional Distress-Anxiety and Emotional Distress-Depression were administered 6-12 months post diagnosis. PROMIS® domains are standardized (M = 50, SD = 10). We also assessed clinical (treatment, co-morbidity, stage, performance status) and patient variables (age at diagnosis, years in the US, education, employment, insurance, spirituality and social support).
Bivariate analyses (analyses of variance) showed Latina survivors reported statistically and clinically-meaningful lower functioning in each domain compared to subgroups of non-Latina survivors. Compared to NHW, Latinas scored lower on Physical Function (4.6 points), Satisfaction with Social Roles (3.6 points), Emotional Distress-Anxiety (5.2 points) and Emotional Distress-Depression (4.4 points). Latinas also scored significantly lower than API survivors on Physical Function and Satisfaction with Social Roles. No differences were noted between Latina and NHB survivors. In multivariate linear regression analyses controlling for clinical and demograpahic variables, Latinas continued to have significantly (p <0.05) lower scores on Physical Function (2 points), Satisfaction with Social Roles (1.4 points), Emotional Distress-Anxiety (2.4 points) and Emotional Distress-Depression (2.5 points) than non-Latinas. Culturally-appropriate efforts to reduce these disparate HRQOL outcomes in Latinas are warranted.

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Paper Session 03 5:12 PM-5:30 PM 2121

UNDERSTANDING BARRIERS AND INFLUENCES OF CANCER SCREENING AMONG ORTHODOX JEWISH WOMEN

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Background:Limited data among Orthodox Jewish women, who are at increased risk for cancer-related genetic mutations, indicate higher rates of breast cancer and lower rates of cancer screening as compared to other groups. This study explores the cancer related attitudes of Orthodox Jewish women and their screening practices. This information will be used to develop culturally appropriate cancer education materials.
Method: Using a community-based-participatory-research approach, women from a local Orthodox Jewish community were recruited for focus group discussions designed to elicit knowledge about and attitudes towards cancer, cancer risk, and cancer screening. Five focus groups consisting of 3-5 members per group, stratified by age and family history of cancer, were audio and video recorded and transcribed. Discussion of the following topics were identified in the transcripts and extracted for further analysis: perceived social pressure, screening practices, barriers to screening, and religious interpretations of cancer and screening. Thematic analysis was then conducted on each topic to determine salient patterns and variations in discussions of these topics.
Results: Two themes relevant to cancer screening practices were present across topics. The first theme was the religious concept of "hiddenness." Participants described believing that when things are hidden, there is a greater possibility for God's miracles, and thus, looking for cancer may revoke this hiddenness. The second theme was participants' belief that women may not engage in cancer screening practices, despite knowing about screening guidelines, due to issues affecting access to care, fear, low self-efficacy, and lack of culturally appropriate information.
Discussion: Preliminary analyses indicate that culturally appropriate education that includes religious perspectives and influences on screening behaviors may be an effective tool to educate the community on cancer screening.

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Citation Paper
Paper Session 04 4:00 PM-4:18 PM 2122

ACCEPTABILITY AND FEASIBILITY OF A MOBILE-PHONE INTERVENTION TO PROMOTE SUN SAFE BEHAVIORS AMONGST HOLIDAYMAKERS: FINDINGS FROM THE INTERNAL PILOT OF THE MISKIN RANDOMIZED TRIAL

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Background: Intermittent UV-exposure is a risk factor for melanoma. Recreational sun-exposure (e.g. holiday settings) has been associated with melanoma prevalence. Effective, affordable and locally available interventions to promote sun-protective behaviors are needed. This study aims to assess the acceptability and feasibility of an evidence-informed and user-centered designed mobile-phone intervention (mISkin app) in reducing excess UV-exposure amongst holidaymakers.
Methods: Holidaymakers owning an Android smartphone and travelling for up to 2-weeks to sunny destinations participated in a 2 (mISkin vs. control) x 2 (SPF15 vs. SPF30) assessor-blinded randomized controlled trial (RCT) with internal pilot (trial registration: ISRCT N63943558). Main outcomes for this trial were assessed at baseline and shortly after holidays and included: mitochondrial DNA skin-damage (using skin swabs), sunscreen use (residual weight and movement patterns of provided bottles with built-in accelerometers) and self-reported sun safe behaviors. Main analyses were conducted on acceptability and feasibility of trial procedures as part of an internal pilot of the initial 45 participants.
Results: Out of 141 assessed for eligibility, 45 participants were randomized (76% female; mean-age = 35.7 (SD = 9.8)). High participant retention, qualitative and quantitative feedback suggested good acceptance and feasibility of intervention and trial procedures. Baseline and follow up assessments (including skin swabs) were completed by all participants who provided consent to participate. Sunscreen weight was obtained for 42 participants (93%) and online questionnaires were completed by 86% (N = 39) at baseline and 80% (N = 36) at follow up.
Conclusions: The mISkin trial is the first RCT to evaluate a mobile-phone app designed to protect holidaymakers from excess UV-exposure. The intervention procedures were found to be acceptable and feasible and the full RCT is ongoing.

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Paper Session 04 4:18 PM-4:36 PM 2123

A RANDOMIZED CONTROLLED TRIAL OF A MOTHER-DAUGHTER INTERVENTION TO REDUCE TEEN SKIN CANCER RISK

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Indoor tanning (IT) before age 35 increases one's risk for melanoma by 75%; data show a 6.1% annual increase in melanoma incidence in white women under age 44 in the US. Studies reveal that 15% of adolescents and 8 to 14% of their caregivers have engaged in past-year IT, with the highest rates among older adolescent females and mothers ages 27 to 45. Past year IT use increases to 30-55% in adolescents whose mother indoor tans. This study evaluated an intervention designed to prevent skin cancer in teen girls by using mothers as change agents to effectively communicate IT risks and to encourage teens to avoid high risk IT behaviors. A regional sample of mother-daughter dyads was recruited over the telephone, randomly assigned to the intervention or control group, and surveyed on validated IT risk constructs. Forty-one mothers (mean age = 45.2 yrs) and their daughters (mean age = 15.8 yrs) completed baseline surveys in summer 2012. Intervention group mothers were given a handbook educating them on the dangers of IT and how to convey skin cancer prevention messages to their daughters and then encouraged to talk with their daughters about IT over a 1-month period. Dyads completed follow-up assessments in October 2012. At follow-up, intervention teens exhibited significantly higher scores on a knowledge quiz (t = -3.11, df = 39, p < .01), indicating that mothers did read, understand and deliver the intervention messages. Intervention teens were more likely to report having discussed the importance of not being pressured to IT to fit in (X2 = 5.33, p = .02) and the appearance damaging effects of IT (X2 = 4.06, p = .04) with their mothers in the past 3 months. Repeated measures ANOVA analyses revealed that intervention teens indicated significantly higher perceived susceptibility to appearance damage from IT (F = 4.57, p = .039). These results indicate that a gender-specific parent-based intervention is feasible and shows promise in reducing skin cancer risk among teens.

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Paper Session 04 4:36 PM-4:54 PM 2124

TRANSTHEORETICAL PRINCIPLES AND PROCESSES FOR SUN PROTECTION: A 24-MONTH COMPARISON OF SUCCESSFUL CHANGERS, RELAPSERS, AND NON-CHANGERS

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Skin cancer is the most common type of cancer. Nearly 90% of skin cancer cases could be prevented by reducing sun exposure. Sun exposure also causes premature aging, skin damage, cataracts, and immune system suppression. The Transtheoretical Model (TTM) has been widely used to promote various health behaviors, including sun protective behaviors (reducing exposure, using sunscreen, and wearing protective clothing). This study pooled longitudinal data from four TTM-tailored randomized trials to examine use of four TTM constructs for sun protection (i.e., Pros, Cons, Self-efficacy, and Processes of Change) across three groups (N = 4,210): successful changers, relapsers, and stable non-changers. The sample was 44.56 years old (SD = 11.06) , 94.6% White, 70.7% married, and 63.7% female. One trial intervened on sun protection only, while the other 3 trials intervened on smoking, diet, and sun protection. Constructs were measured at baseline, 6, 12, and 24 months. Analyses included a series of MANOVAs, with Tukey follow-up tests, assessing differences in the use of TTM constructs across the three outcome-based groups at each timepoint. At baseline, the successful changers and relapsers were performing significantly better than the non-changers on all TTM constructs. At 24 months, successful changers were performing significantly better than both other groups on all TTM constructs. Over 24 months, relapsers' use of TTM variables initially paralleled that of successful changers and then ended up in between the successful changers and non-changers. These findings suggest that even though relapsers reverted to unhealthy sun behaviors, their overall greater use of TTM constructs remain better compared to that of the stable non-changer group. Intervention implications for both relapsers and stable non-changers in population-based interventions will be discussed.

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Paper Session 04 4:54 PM-5:12 PM 2125

INDOOR TANNING ADDICTION TENDENCIES: ROLE OF POSITIVE TANNING BELIEFS, PERCEIVED VULNERABILITY, AND TANNING RISK KNOWLEDGE

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Recent evidence suggests that excessive indoor tanning may be an affective disorder, similar to substance-use disorder. Tanning dependence has been investigated using varied assessment criteria: the modified CAGE (mCAGE) Questionnaire, the American Psychiatric Association Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision (DSMIV-TR), and The Structured Interview for Tanning Abuse and Dependence (SITAD)t. In the absence of a gold standard of tanning dependence diagnosis measure, the objective for the study was to replicate prior studies, further explore the utility of mCAGE in identifying individuals who display tanning addiction tendencies, and to examine its multiple correlates including demographic variables, use patterns and future intentions, and attitudinal and knowledge constructs in a young adult college going sample. Five hundred eighty seven undergraduates at a large university in north-eastern United States participated in a cross-sectional survey (mean age = 19.98 years, 63.9% females, 61.3% Caucasians. Among ever indoor tanners, 33% of participants met the mCAGE criteria for indoor tanning addiction. Logistic regression indicated the following significant predictors: age (Wald = 5.41,OR = .68,p < .05) sex (Wald = 3.79,OR = 2.79,p < .05), frequency of past tanning bed use (Wald = 7.99,OR = 1.37,p < .01), indoor tanning intention in 3-months (Wald = 13.35,OR = 2.11,p < .001), sunbathing intentions in 3-months (Wald = 3.95,OR = .52,p < .05), and positive tanning beliefs (Wald = 7.30,OR = 2.15,p < .01). Overall, higher indoor tanning addiction tendencies were found for females and younger participants; participants reporting higher frequency of past indoor tanning and future intentions, but lower 3-month intentions of sunbathing; and participants reporting positive tanning beliefs. These findings indicate a need for clinical identification of indoor tanning addiction and a move towards establishing counseling and/or pharmacological interventions for cessation, particularly on college campuses.

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Paper Session 04 5:12 PM-5:30 PM 2126

VALIDATION OF THE PROTECTION-ADJUSTED LENGTH OF EXPOSURE (PALE) INDEX - A NEW SELF-REPORT MEASURE OF UVR EXPOSURE

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Valid measurement is critical for assessing outcomes of interventions to reduce UVR exposure. Many self-report measures assess the frequency of specific sun behaviors which are then analyzed separately. These measures do not account for the potential of photoprotection methods (i.e., sunscreen, protective clothing, UVR avoidance) to overlap, complicating interpretation. For example, someone who reports sometimes wearing hats and sometimes wearing sunscreen may be either 1) changing type of photoprotection based on the activity but always using some method, or 2) sometimes using both methods together and sometimes using neither. The computerized PALE Index accounts for multiple photoprotection methods by asking about behaviors (i.e., time outside, sunscreen use, degree of coverage by clothing) during specific activities done on typical weekdays and weekend days in the past month. The PALE Index produces a single score representing how much of the body was exposed and for how long.

In this study, 67 (mean age = 38) members of melanoma-prone families completed 3 assessments as part of an ongoing risk counseling study. They completed the PALE Index and a comparison measure: the Sun Habits Survey. L* skin reflectance values, an objective UVR exposure measure, were taken on the forehead, cheek, nose, and wrist and formed a reliable scale. Controlling for time of year, self-reported tanning response, and age, lower PALE scores predicted greater L* values, indicating less tanning (rs = -.43 - -.53, p < .01, for each assessment). Sun Habits items assessing time outdoors and shade use predicted L* values, but sunscreen and protective clothing items did not. In sum, both the PALE Index and some Sun Habits items corresponded well to L* values. The PALE index may be especially useful because this single score accounts for the degree to which skin was protected by any method, enabling researchers to compare UVR exposure among individuals who use different photoprotection methods or change methods following interventions.

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Citation and Meritorious Paper
Paper Session 05 4:00 PM-4:18 PM 2127

LIVING SITUATION IS ASSOCIATED WITH ANTIRETROVIRAL DOSE TIMING AMONG PERSONS WITH HIV AND BIPOLAR DISORDER

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Objective: Persons living with HIV and bipolar disorder (HIV/BD) evidence poor adherence to antiretroviral (ARV) therapy, which is associated with psychosocial variables such as environmental social support. The present study evaluated the efficacy of an individualized texting for adherence building (iTAB) intervention to improve ARV adherence in the context of living situation (e.g., living alone vs. with others).

Methods: ARV medications of 49 HIV/BD participants were tracked for 30 days using electronic Medication Event Monitoring Systems. Participants were randomized to iTAB (n = 25) or an active comparison intervention (CTRL; n = 24). Both groups received psychoeducation and a daily text message to track mood; the iTAB group also received personalized medication reminder texts. Dose timing (i.e., mean absolute value of time from planned dose time) was calculated.

Results: Demographic, psychiatric, neurocognitive, and living arrangement variables did not differ by treatment arm (p > .05). A multivariable model including treatment arm (iTAB vs. CTRL), current living situation (alone vs. with others), and the interaction between these factors accounted for 11% of the variance in ARV dose timing (p < .05). The interaction was significant (p = .02), such that iTAB participants who lived with others achieved better ARV dose timing (M = 69 mins from target dose time) compared to iTAB participants who lived alone (M = 138 mins) and CTRL participants who lived with others (M = 184 mins).

Conclusions: External social support appears to impact the efficacy of a text messaging intervention by additively improving ARV dose timing for HIV/BD persons living with others. Living with others without receiving reminder texts resulted in poorer ARV dose timing. Future texting interventions targeting those with less stable social support may be warranted in order to reach comparable therapeutic outcomes.

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Citation Paper
Paper Session 05 4:18 PM-4:36 PM 2128

SOCIAL NETWORK CHARACTERISTICS ARE ASSOCIATED WITH ANTIRETROVIRAL TREATMENT USE AND CARE RETENTION AMONG AFRICAN AMERICANS WITH HIV

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African Americans with HIV are less likely to be taking antiretroviral treatment (ART) and to be retained in care than are Whites, potentially contributing to disparities in survival. Although individual-level factors such as lower income have been related to worse treatment behaviors, few studies have examined structural factors that may contribute to disparities. We examined whether social network and individual-level factors contribute to use of ART and care retention among 242 African Americans living with HIV (74% male). Participants listed up to 20 network member (alters) in their social network, indicated alters' relationship to them and to each other, and reported alters' socio-demographic and other characteristics (e.g., age, serostatus, whether they used substances together). Participants documented whether they were on ART and reported the number of HIV care visits in the past 6 months; retention was defined as at least two HIV primary care visits in the last 6 mos. Multivariate logistic regression results indicated that lower-income individuals were less likely to be on ART (OR = 0.19, 95%CI = 0.06-0.63, p < .01). Participants in social networks with greater percentages of alters who were drug partners were less likely to be on ART (OR = 0.13, 95%CI = 0.02-0.73, p < .05) and to be retained in care (OR = 0.21, 95%CI = 0.05-0.95, p < .05); participants in social networks with greater percentages of HIV-positive alters who were on ART (suggesting favorable network norms for ART use) were more likely to be taking ART themselves (OR = 15.70, 95%CI = 2.72-90.75, p < .01) and retained in care (OR = 17.66, 95%CI = 2.84-109.70, p < .01). Social networks can exert powerful positive and negative influences on individual-level treatment behaviors, beyond the effects of drug use and socio-demographic factors known to be associated with disparities.

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Paper Session 05 4:36 PM-4:54 PM 2129

COPA: ENHANCING ADHERENCE, ENGAGEMENT AND RETENTION IN HIV CARE IN ARGENTINA

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Background. Treatment engagement, retention and adherence to care are required for optimal HIV outcomes. This study examined the most challenging patients, those not engaged in care in public and private HIV health care settings in Buenos Aires, Argentina. Methods. Men and women (n = 60) prescribed antiretrovirals (ARVs) that had disengaged from treatment in the last 3 to 6 months were enrolled and completed a baseline assessment of adherence, knowledge, motivation and attitudes regarding ARVs and were randomized to an intervention or control condition. Results. Participants were similar between clinics (age, x = 39.22 SD + 7.92) and drug/alcohol use (33%); more than 52% of public clinic participants reported mild to moderate depression and 60% had discontinued ARVs (p < .005); private patients reported higher adherence (85%) than public patients (52%). Those (35%) who did not understand their health status were more likely to not know their CD4/VL count (X2 = 7.67, p = .005) and to have questions (X2 = 14.81, p = .002); overall, 52% were taking their ARVs less than 80% of the time. Treatment motivation was similar between clinics and nearly half of all patients had deficits in motivation. Patients not engaged in care following diagnosis were less likely to be currently taking their ARVs; those who were confused about their health status (67%) were more likely to have discontinued treatment for 3 months (p = .03); self-reported adherence to medication was associated with VL (r = .35, p = .01). Preliminary outcomes indicate that session attendance was higher in the intervention condition (p = .02), though one third of participants failed to attend any sessions. Discussion. Results provide a variety of opportunities for intervention, e.g., education, mental health support, motivation. Preliminary data highlight continued challenges in engagement and retention, and differences in health among public and private clinic patients.

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Paper Session 05 4:54 PM-5:12 PM 2130

PSYCHOSOCIAL BURDENS NEGATIVELY IMPACT HIV ANTIRETROVIRAL ADHERENCE IN GAY, BISEXUAL, AND OTHER MSM AGES 50 AND OLDER

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Objective: To characterize HIV antiretroviral (ART) adherence and psychosocial correlates of adherence in a sample of gay, bisexual, and other MSM ages 50 and over.
Methods: A community-based sample of 199 men was assessed on their adherence to their current ART medications treatments along four domains: 1) missing doses in the past 4 days, 2) taking doses on the specified schedule in the past 4 days, 3) following instructions about how to take the medications (i.e. to take medications with food), and 4) missing doses in the last weekend. A total adherence score was also computed. Using bivariable analyses and multivariable analyses in the form of binary and ordinal logistic regressions, we examined the extent to which psychosocial factors explain adherence patterns.
Results: Bivariable analyses indicated negative associations between depression, sexual compulsivity, and HIV-related stigma with each of the individual adherence variables and the composite adherence score, while an older age was found to be protective. In multivariable analyses, controlling for age, a higher likelihood of missing doses and failing to follow instruction were related to higher levels of HIV-related stigma, while dosing off- schedule was associated with higher levels of depression and sexual compulsivity. Sexual compulsivity was also significant in predicting total adherence score.
Conclusions: Psychosocial burdens undermine the adherence behaviors of older HIV-positive sexual minority men. Programing and services to address this compromising health behavior must embrace a holistic approach to health as informed by syndemics theory and attend to the developmental needs of older men.

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Paper Session 05 5:12 PM-5:30 PM 2131

CAREGIVER CHARACTERISTICS PREDICTIVE OF VIRAL LOAD AMONG CURRENT OR FORMER INJECTION DRUG USERS LIVING WITH HIV/AIDS

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Extant research on correlates of viral suppression among persons living with HIV/AIDS (PLHAs) on HIV treatment has focused largely on associations with individual level factors, while few studies have investigated the role of caregivers in PLHAs' HIV treatment adherence and viral load. The current study examines the effect of caregivers' individual and social network characteristics on care recipients' UVL. Data came from the BEACON study, which included caregivers and their HIV seropositive care recipients, who were urban disadvantaged African Americans and former or current drug users (N = 258 dyads). Using adjusted logistic regression, we found that among caregivers having few family members to turn to with a problem (Adjusted Odds Ratio (AOR) = .32, 95% Confidence Interval (CI) = .14, .72), a greater number of network members who used drugs in the past year (AOR = .46, CI = .25, .85), and poorer perceptions of care recipients' mental health (AOR = .69, CI = .50, .89), had reduced odds of caring for recipients having an undetectable viral load, while caregivers with greater physical functioning limitations had greater odds of caring for recipients with an undetectable viral load (AOR = 1.13, CI = 1.02, 1.24), after controlling for caregiver sex and age. Study findings further the understanding of dyadic relationships between caregivers and their HIV seropositive care recipients, and suggest foci for intervention to reduce care recipients' viral loads.

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Paper Session 06 4:00 PM-4:18 PM 2132

DIFFUSION OF A CONTROVERSIAL INNOVATION: CORRELATES OF E-CIGARETTE AWARENESS AMONG U.S. ADULTS

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Background: Electronic cigarettes (e-cigarettes) are battery-powered nicotine delivery systems that have become increasingly popular in the U.S. in spite of inconsistent safety data. We sought to understand U.S. adults' awareness of e-cigarettes and whether correlates of awareness vary by smoking status. We also examined whether, consistent with diffusion of innovation theory, younger adults and those with higher education were more likely to have heard of e-cigarettes.
Methods: A U.S. national sample of 17,522 adults completed an online survey in March 2013.
Results: Most respondents (86%) had heard of e-cigarettes. Among those who were aware of e-cigarettes, 17% had tried them. In multivariate analyses, males, younger adults, those with more education, and non-Hispanic Whites were more likely to be aware than their counterparts. Compared to never smokers (80% awareness), former smokers (90% awareness; OR 2.50, 95% CI 2.07, 3.03) and current smokers (95% awareness; OR 4.93, 95% CI 3.93, 6.20) were more likely to have heard of e-cigarettes. When demographic correlates of awareness were assessed in three separate multivariate models (current, former, and never smokers), non-Hispanic whites were more likely to have heard of e-cigarettes than other racial/ethnic groups, but other demographic correlates varied by smoking status.
Conclusions: Nearly all U.S. adults have heard of e-cigarettes. Demographic groups with higher smoking rates in the general population (e.g., men and non-Hispanic Whites) were often more likely to be aware. Consistent with diffusion of innovation theory, younger, well-educated adults were more likely to have heard of this novel nicotine product. As research about e-cigarettes' safety and use continues to evolve, the public health community should work to deliver timely, accurate messages about e-cigarettes to groups who are more likely to be aware, and thus to use, e-cigarettes.

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Paper Session 06 4:18 PM-4:36 PM 2133

READY OR NOT? PREVENTIVE COUNSELING FOR ADOLESCENTS ABOUT ELECTRONIC CIGARETTES

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Background: Electronic cigarettes (e-cigarettes) are battery-powered nicotine delivery systems that may serve as a "gateway" to tobacco use by adolescents. Use of e-cigarettes by U.S. adolescents rose from 3% in 2011 to 7% in 2012. We sought to describe health care providers' beliefs about the safety of e-cigarettes, as well as their awareness of and comfort discussing e-cigarettes with adolescent patients and their parents.
Methods: A statewide sample (n = 561) of Minnesota health care providers (36% family physicians, 20% pediatricians, and 34% nurse practitioners) who treat adolescents completed an online survey in April 2013.
Results: Nearly all providers (92%) were aware of e-cigarettes, and 11% reported having treated an adolescent patient who had used them. Respondents most often learned about e-cigarettes from patients, news stories, and advertisements, rather than professional sources. Providers expressed moderately low levels of knowledge about and comfort discussing e-cigarettes with patients and their parents. While many providers believed that e-cigarettes are at least somewhat less harmful than regular cigarettes (66%) or smokeless tobacco (64%), most (75%) felt that e-cigarettes could be a gateway to tobacco use. Respondents who were more concerned about e-cigarettes being a gateway to tobacco use were more likely to feel it was important to discuss e-cigarettes with adolescent patients ($r = .29$, $p < .001$) and parents ($r = .31$, $p < .001$). Nearly all respondents (92%) wanted to learn more about e-cigarettes.
Conclusions: Given the dramatic increase in e-cigarette use, health care providers who treat adolescents are faced with the task of incorporating screening and counseling about these novel nicotine delivery devices into routine preventive care. At present, low levels of knowledge about and comfort discussing e-cigarettes could be barriers to providing such guidance. Provider education about e-cigarettes is critical for addressing this emerging public health concern.

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Paper Session 06 4:36 PM-4:54 PM 2134

YOUTH DESCRIPTIONS OF ELECTRONIC CIGARETTES: A QUALITATIVE STUDY

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Electronic (e-)cigarettes have been gaining popularity, yet, the lack of product regulation may lead to misperceptions among youth regarding different features of the device. Through structured focus groups, we were able to better assess young people's understanding and identification of the product elements, such as its purpose, its method of use, its cost, and its appearance.

We conducted 18 focus groups with 2 middle schools, 2 high schools, and 2 colleges. All groups were separated by gender; the high school and college groups were also separated by smoking status. Transcripts of the focus groups were examined by independent raters using thematic analysis.

The discussion revealed that most participants were aware of e-cigarettes. Those that had prior knowledge of the product, regardless of gender, age, and smoking status, described an e-cigarette as different than a traditional cigarette because it produces a water vapor and it has electronic components, such as lights and rechargeable parts. Middle school students expressed interest in the light-up attribute of the product, whereas older participants varied in their perceptions of the device (e.g., "ugly" or "sleek"). A majority of participants were aware that e-cigarettes contained adjustable levels of nicotine, and college smokers expressed interest in adjustable nicotine levels as a way to quit smoking. College and high school males described e-cigarettes as having the potential to be smoked more frequently than traditional cigarettes. All groups estimated the cost of e-cigarettes to be high initially, but costing less over time. Lower long-term cost was described by college smokers as an appealing quality; however, steep initial prices deterred many from investing in e-cigarettes. High school and college smokers commented on differences in quality and features based on price.

This qualitative study suggests age and gender differences in descriptions of e-cigarettes by smokers and nonsmokers, as well as universal knowledge of other components.

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Paper Session 06 4:54 PM-5:12 PM 2135

HOOKAH TOBACCO SMOKING DURING THE TRANSITION TO COLLEGE: PREVALENCE OF OTHER SUBSTANCE USE AND PREDICTORS OF INITIATION

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Accumulating evidence suggests that hookah (waterpipe) tobacco smoking has harmful health effects. The transition to college may be a vulnerable time for initiating hookah use. Hookah use is associated with other substance use, but little prospective research has explored temporal patterns or predictors of use. We examined the prevalence of other substance use among hookah users and predictors of initiating hookah use during the transition to college. Participants were first-year college students (N = 936, 50% female, 85% white, M age = 18.1 years) who participated in an alcohol prevention program trial. Participants completed a baseline survey before the Fall 2011 semester, and 817 (87%) completed a follow-up survey 30 days after the semester began. Participants reported the frequency of alcohol (number of drinking days) and other substance use (hookah, cigarettes, cigars, smokeless tobacco, marijuana, illegal drugs) in the past 30 days (0:never, 1: not in the last 30 days, 2:1-2 days, up to 8:used daily). Current (past 30 day) prevalence of hookah use was 9% at baseline (lifetime 23%) and 13% at one-month follow-up (lifetime 26%). In the first month of college, other substance use was common among current hookah users: 95% used alcohol, 36% marijuana, 33% cigarettes, 32% cigars/clove cigarettes, 13% smokeless tobacco, and 10% illegal drugs. Notably, 14% of baseline never hookah users initiated hookah use during the first month of college. Controlling for demographics and intervention condition, current marijuana (adjusted odds ratio [AOR] 1.30, 95% confidence interval [CI] 1.03, 1.65, p = .03) and alcohol use (AOR 1.11, 95% CI 1.05, 1.17, p < .001) predicted hookah initiation, χ^2 (df = 9) = 57.93, p < .0001. Results indicate that hookah use increases during the first month of college, and hookah prevention programs for incoming college students are needed, especially for those who use alcohol and marijuana.

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Paper Session 06 5:12 PM-5:30 PM 2136

MODELING TRANSITIONS IN YOUNG ADULT TOBACCO USE BEHAVIOR IN A RAPIDLY CHANGING TOBACCO LANDSCAPE

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In recent years, there has been a proliferation of novel tobacco products, particularly noncombustible products (NCPs) like electronic nicotine delivery systems (ENDS). Little is known about how these new products will affect tobacco use patterns at the population level. NCPs may reduce population harms by displacing combustible tobacco products or increase harms by prolonging combustible use through poly use of combustibles and NCPs. The purpose of this study was to examine transitions in tobacco use behaviors over a one-year period in a nationally representative sample of U.S. young adults and project likely changes in tobacco use over a five-year period using a simulation model. Past 30-day tobacco use was assessed for a range of combustibles (cigarette, cigar, pipe, little cigar/cigarillo) and NCPs (smokeless, snus, dissolvable, ENDS). Five categories of tobacco users were identified: Never users, Combustible users, NCP users, Poly users, and Quitters. Transition probabilities across these categories were estimated from 824 participants aged 18-24 with complete data on tobacco use across three waves of the Legacy Young Adult Cohort Study. From 2011-2012, 16% of never users became tobacco product users . Combustible use rose from 14% to 20%; NCP use doubled from <1% to 2% and poly use remained constant at 2%. Six percent of participants quit at the end of the 1-year period. Projections from a Markov model indicate that never use drops from 84% to 34% over a five-year period, with combustible use rising to 38%, NCP use to 6%, poly use to 3%, and quitting to 19%. While the projections likely overestimate actual patterns, the combination of empirical data and simulation modeling demonstrate rapid changes in tobacco use behaviors occurring in U.S. young adults. Prevention and cessation interventions that move beyond the traditional focus on cigarettes are needed to reduce progression to long-term tobacco use in this vulnerable group.

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Citation Paper
Paper Session 07 4:00 PM-4:18 PM 2137

USING EGOCENTRIC SOCIAL NETWORK MEASURES TO PREDICT SMOKING AMONG YOUNG ADULT BAR GOERS

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Background: Young adult bar goers smoke tobacco at disproportionately high rates, and quitting smoking by age 30 significantly reduces the risk of tobacco-related diseases. Social networks may be associated with tobacco use behavior in this population, which may inform tobacco cessation interventions. We hypothesized that peer smoking behavior would be more strongly associated with smoking than behavior among other social networks.

Data: Survey data (N = 179) were collected in San Francisco, CA, San Diego, CA,Oklahoma City, OK, Nashville, TN, Tuscon, AZ and Los Angeles, CA. We compared responses on two separate social network questions, one of people with whom they "discuss important matters" and another with people they "socialize with outside of work" and associations with packs smoked per week.

Analysis and Results: A series of negative binomial regressions (NBR) with robust standard errors were completed with variables that improved model fit being retained. When controlling for site-based differences (non-significant) and age (β = .004, p < .001) the proportion of smokers in the "important matters" social network (β = 1.28, p < .0001) was significantly associated with smoking more packs per week. Contrary to our hypothesis, the proportion of smokers in the "socialize outside of work" network was not significantly associated with smoking behavior, controlling for demographics. There was no significant effect of network density (the level of connectedness of people within the network) for either social network question on smoking behavior.

Conclusion: Proportion of smokers in the "important matters" network, which often included family, had a stronger influence on smoking behavior than the peer-only network. Future research on social networks and smoking among young adults should focus on the "important matters" network.

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Paper Session 07 4:18 PM-4:36 PM 2138

THE INFLUENCE OF SMOKER PROTOTYPE PERCEPTIONS ON HAVING A SMOKER IDENTITY

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Among those who have smoked cigarettes, those with acquired self-identities as smokers are more likely to escalate the frequency with which they smoke, be regular smokers, and fail to quit smoking. Undermining a smoker identity could reduce smoking, but little is known about the mechanisms underlying its acquisition and subsequent influence on behavior. We experimentally investigated factors that contribute to the acquisition of a smoker identity. We recruited young adults (ages 18-24) who had smoked at least one cigarette in the past 30 days ($n = 198$; age $M = 21.89$, $SD = 1.78$; 54.5% male; 77.3% non-Hispanic white; 50.5% last smoked in past 24 hours, 25.8% in last week, 23.7% in last month) through an online micro-task market (Amazon Mechanical Turk) to complete an online study. Half of the participants were randomly directed to generate a positive description of a typical young adult smoker using only positive trait adjectives (vs. no description control). In addition, half of the participants were randomly presented with information that only 20% of young adults smoke cigarettes and thus that smoking cigarettes is non-normative among young adults (vs. no information control). All analyses controlled for the time frame within which the participant last smoked a cigarette. Participants' smoker identities were strongest when they generated a positive description of the typical young adult smoker and in combination subsequently processed that smoking is non-normative among young adults [$\beta = 0.60$, $t(193) = 2.29$, $p < .05$; adjusted $R2 = .31$, $F(4,193) = 23.58$, $p < .05$]. The same pattern emerged for perceptions of being similar to the typical young adult smoker [$\beta = 0.82$, $t(192) = 2.36$, $p < .05$; adjusted $R2 = .17$, $F(4,192) = 10.97$, $p < .05$]. We speculate that smoker identity was a function of perceptions of similarity to the typical young adult smoker. Efforts to undermine smoker identity and thereby reduce smoking could include altering perceptions of being like the typical smoker. Such interventions may also focus on positively reinforcing personal and distinct non-normative non-smoking behaviors.

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Paper Session 07 4:36 PM-4:54 PM 2139

THE EFFECTS OF NEIGHBORHOOD CONTEXTS ON PERCEIVED SMOKING NORMS AMONG YOUNG KOREAN AMERICANS

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Background: Little research is available on the effect of residing in ethnic enclaves on internalized social norms of health behaviors among Korean-Americans, 260,000 of whom reside in Southern California. The Collective Socialization Model posits that neighborhoods provide a social context that reaffirms health-related behaviors and reinforces these health norms upon individuals residing in such areas via group interactions. This study examined the effect of neighborhood contexts characterized by ethnic composition on perceived smoking norms among young Korean Americans. Methods: Four hundred seven Korean-American emerging adults ($Mage = 20.9$, $SDage = 2.1$; 58% female, 23% current smokers) participated in an online survey in 2012. The ethnic composition of the neighborhood was determined by geocoding reported home addresses; the proportion of Asian residence associated with the census tract was obtained through 2010 US Census data. The obtained proportion was used as a proxy for neighborhood contexts representing "ethnic enclave". We developed a regression model to assess the influence of neighborhood context in terms of ethnic composition of place of residence on social norms (i.e., perceived number of smoker friends), adjusting for relevant covariates. Results: We found that the proportion of Asians in the neighborhood of residence significantly predicted the perceived number of smoker friends ($beta = .10$, $p = .02$). This positive association remained significant after controlling for demographic, smoking status, levels of acculturation to the U.S. culture and familiarity to the Korean culture, attitudes to involuntary tobacco exposure and frequency of visits to Korean businesses. Conclusions: Our findings underscore the importance of studying neighborhood contextual information (i.e., place of residence) in relation to health behavior. It is necessary to take these macro-level neighborhood characteristics into account when considering intervention components for modifying perceived norms of smoking prevalent in the Korean American community.

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Paper Session 07 4:54 PM-5:12 PM 2140

BEING WITH FRIENDS AND MOMENTARY NEGATIVE AFFECT PREDICT SMOKING AMONG YOUNG KOREAN AMERICAN SMOKERS

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Background: The objective of this study was to investigate ecological contexts of smoking among Korean American emerging adults (KAEA) in their daily lives, using mobile technologies. Real-time, psychological, and social contexts of smoking among KAEA were explored using smartphones. We hypothesized that 1) moods and subjective states 15 minutes immediately preceding would predict smoking and 2) KAEA would be more likely to smoke in the presence of peers than when alone or with family/others, controlling for moods and subjective states. Methods: Twenty-three KAEA smokers carried around Android smartphones with a customized mobile app for 7 consecutive days and responded to a total of 1,219 prompts across all participants. At each random (signal-contingent) prompt (4-5 times a day), a short survey was administered. The participants also initiated event-contingent surveys each time they smoked by touching a customized "widget" button on the smartphones, resulting in 501 signal-contingent and 718 event-contingent prompts. Generalized linear mixed models were conducted to examine the effects of momentary contextual variables in predicting the probability of smoking. Results: Negative affect ($p = .04$) and smoking urges ($p = .02$), but not positive affect ($p = .26$) or perceived stress ($p = .30$), in the 15 minutes preceding the prompts significantly predicted the probability of smoking. Further, KAEA were significantly more likely to smoke in the presence of friends ($p < .01$), others smoking ($p < .01$), and when smoking was permitted ($p < .01$), controlling for affect and subjective states. Further, the effects of momentary negative affect on smoking were amplified when KAEA were with friends ($p < .01$). Conclusions: Negative mood and urges—but not positive mood or stress (the antecedents often documented in the literature), predicted smoking for KAEA. Social contexts independently predicted smoking, over and beyond inner states. These findings imply that smoking mechanisms may operate differently for KAEA young smokers than young adult smokers with other ethnic backgrounds.

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Paper Session 07 5:12 PM-5:30 PM 2141

EXTENDING SMOKEFREE BAR LAWS TO OUTDOORS: ATTITUDES AMONG YOUNG ADULT BAR PATRONS IN SAN FRANCISCO

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Objective: California has had smokefree bar policies since 1998, but outdoor areas are currently not included in the policy. Bar patrons can easily step out of the bars or clubs to smoke, and the secondhand smoke exposure rate is high. To help close the loopholes in smokefree bar policies and reduce smoking rate and secondhand smoke exposure at bars, we examined young adult bar patrons' attitudes toward extending the policies to include outdoor areas at bars and clubs in San Francisco. Methods: Cross-sectional survey of bar patrons aged 21-26 using randomized time location sampling ($N = 704$, response rate: 77%). We used multivariate logistic regression models to examine factors associated with support for extending smokefree bar policies to outdoor areas in San Francisco. We also asked if patrons would change their frequency of going to bars if outdoor areas were smokefree, controlling for demographics and smoking status. Results: 39% of participants supported extending smokefree bar policies to outdoors, and 85% reported they would go to bars at a same/higher frequency if such a policy was implemented. Among smokers, 24% supported the law and 78% reported the same/higher bar-going frequency if outdoor areas were smokefree. Nonsmokers, females, and patrons with strong anti-tobacco industry attitudes were more likely to support the law. Nonsmokers, patrons reporting straight sexual orientation, and college graduates were more likely to report they would go out with the same/higher frequency with smokefree outdoor policies. Among smokers, strong anti-tobacco industry attitudes and occasional smoking were associated with the support for smokefree outdoor policies. Discussions: While a minority voiced support for smokefree outdoor policies, most young adult bar patrons reported they would maintain the same bar-going frequency if such a law were implemented, including smokers. Messages denormalizing the tobacco industry may help increase support for closing the loopholes in smokefree bar laws.

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Paper Session 08 4:00 PM-4:18 PM 2142

GETTING PEOPLE IN SYNC: USING VIDEOS TO FACILITATE PRE-DIABETES MANAGEMENT IN AFRICAN AMERICAN CHURCHES IN PHILADELPHIA

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Seventy-nine million people have prediabetes in the U.S. The Diabetes Prevention Program (DPP) trial demonstrated that some individuals with prediabetes move on to diabetes within 3 years. Studies have shown that individuals with prediabetes who lose weight and increase their physical activity can prevent or delay the onset of type 2 diabetes. In Philadelphia, diabetes is one of the top 10 leading causes of death. African Americans are at increased risk for prediabetes as well as developing the disease. Project NOT ME (PNM), designed by United Health Group & Comcast, developed an award winning novel reality television series for individuals with prediabetes based on the DPP. The Getting People in Sync (GPS) research study used the PNM video as a part of a larger community based participatory research project to engage church members in a 16-week intervention across 2 phases. Church facilitators led the intervention providing group leadership and social support. The first phase was completed with 45 participants and data on weight, BMI, waist circumference were collected at pre, mid & post-treatment (i.e., 16 weeks). Program acceptability data were also collected on overall program evaluation metrics, episode engagement, as well as attendance. Average age was 51.2 yrs (SD = 12.02) and mean baseline weight was 200.59 (SD = 27.39). T-tests revealed that participants lost weight across the program (t (34) = -7.59, p < .001), a mean weight loss of 7.45 lbs (SD = 5.64), and on average BMI dropped by 1.24 points (t (32) = -7.45, p < .001). Also, median attendance was 13.00 with over half of the participants attended 13 of 16 sessions and rating the program and episodes highly. This study demonstrates that lay facilitators with support, minimal training and materials can run effective weight loss programs. Dissemination and implementation research that evaluates evidence-based yet low cost ways to support weight change for populations at risk are needed to prevent conversion to Type II diabetes.

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Paper Session 08 4:18 PM-4:36 PM 2143

PREDICTORS OF ATTENDANCE TO A COMMUNITY-BASED DIABETES PREVENTION PROGRAM: HEALTHY LIVING PARTNERSHIPS TO PREVENT DIABETES (HELP PD)

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The purpose of this study was to examine the predictors of attendance to a translation of the DPP lifestyle weight loss intervention (LWL). The Healthy Living Partnerships to Prevent Diabetes (HELP PD) study randomized 301 pre-diabetic individuals into an enhanced usual care condition or an LWL (n = 151). The LWL sought to induce 7% weight loss through alterations in energy balance and included group sessions led by community health workers weekly for 6 months (Intensive Phase) and monthly for months 7-24 (Maintenance Phase). During the intensive phase, participants attended 72.2% of sessions; made up 15.5%; and missed 12.4%. During the maintenance phase, participants attended 40.4% of sessions, made up 22.9%, and missed 36.7%. Averaged across 24-months, participants attended 58.6% of sessions, made up 18.7%, and missed 22.8%. Two forward stepwise regression models were performed to examine predictors of intensive and maintenance phase attendance. In the intensive phase, baseline blood glucose levels, satisfaction with life, and age accounted for about 20% (adj R2 = 0.202; p < 0.05) of the variance in percentage attendance. Age, 6-month weight, and 6-month change in satisfaction with physical appearance and desire to perform physical activity accounted for 27.8% (adj R2 = 0.278; p < 0.05) variance in maintenance phase attendance. Understanding predictors of attendance can help scientists design interventions that can be tailored to individuals' unique needs and result in increased attendance and, potentially, greater effectiveness.

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Paper Session 08 4:36 PM-4:54 PM 2144

TRAINING A NATIONWIDE WORKFORCE OF LIFESTYLE COACHES TO DELIVER A DIABETES PREVENTION PROGRAM

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The National Diabetes Prevention Program's facilitated, group-based lifestyle change program designed to reduce the risk of developing type 2 diabetes among people with prediabetes. Emory University's Diabetes Training and Technical Assistance Center (DTTAC) was funded by the CDC to develop a training infrastructure to support the rapid diffusion and delivery of the lifestyle change program. Essential to scaling the program is building a sustainable workforce of Lifestyle Coaches (LCs) to facilitate the program in organizations nationwide. To achieve this, DTTAC trained and deployed Master Trainers to train organizational LCs. From September 2012 through August 2013, DTTAC conducted 38 trainings with 531 LCs. Evaluation results from 502 (94%) participants indicate that the majority of LCs are: degreed, licensed, or certified health professionals (58%); paid by their organization in their role as LC (77%); female (87%); Caucasian (70%); and between 35 and 64 years of age (69%; median = 50 years). Overall response to the training is very favorable. Nearly all LCs indicated they were satisfied with the training (99%) and that it was effective in preparing them to facilitate the program (97%). Secondary analyses suggest there were no differences in satisfaction by type of organization represented, nor between health professionals and lay workers. LCs identified several forms of ongoing support that would be useful to them, including: ability to contact DTTAC for implementation assistance (92%), topical webinars (90%), online expert panel sessions (89%), and an online forum with other LCs (88%). There was also particular interest in having more coverage of program implementation and logistics. These findings suggest that the lifestyle coach training is suitable for both health professionals and lay health workers, and that focused implementation assistance may be desirable post-training for long term program sustainability.

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Paper Session 08 4:54 PM-5:12 PM 2145

EXAMINING THE EFFECTS OF FOOD TRACKING AND PHYSICAL ACTIVITY ON WEIGHT LOSS AMONG GETTING PEOPLE IN SYNC (G.P.S.) PRE-DIABETES PROGRAM PARTICIPANTS

Kimberly Arnold, BS,[1] Juhi Mawla, CRC,[2] Nicole A. Vaughn, PhD,[1] Crystal Wyatt, CRC,[1] Laura Hunter, MPH,[1] Beatriz Reyes, MPH,[1] Marcia Polansky, ScD, MSW[1] and Longjian Liu, MD, PhD[1]

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To prevent the onset of type II diabetes, the National Institutes of Health's Diabetes Prevention Program recommends individuals with prediabetes lose 5-7% of their body weight and get at least 150 minutes a week of moderate physical activity.Tracking meals, calorie intake, and fat grams have been shown to improve weight loss.Increased walking and steps per day has been linked to significant changes in body composition measures and biochemical measures.Current literature lacks adequate research specifically focused on weight loss and food tracking content and behaviors among African Americans at risk for type II diabetes.The Getting People in Sync (GPS) Pre-Diabetes Program is a pre-diabetes education program and community based participatory research study. This study examines the effects of food tracking and physical activity on weight loss.These self-reported food trackers and pedometers were collected at weeks 2, 8, & 16. Data will be presented from baseline to midpoint for this presentation across two phases. Food tracking variables were created around weight, foods tracked, nutrient intake, and tracking quality.Physical activity was measured using pedometer steps per day. From baseline to midpoint, participants lost an average of 5.5 pounds and 2.7% of their body weight. There were no significant differences in weight between participants that tracked calories and fat grams (p > 0.05) and participants that did not track calories and fat grams (p > 0.05). However, 58% of participants that met the midpoint weight loss goal of losing 3.5% of their body weight tracked calories and fat grams. There was a weak positive correlation between pedometer steps and weight loss (r = 0.377; p > 0.05). Recommendations include a food-tracking lesson and administering a food tracking survey to measure food tracking behaviors and barriers. Additionally, pedometer training and use across the entire study is recommended.

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Paper Session 08 5:12 PM-5:30 PM 2146

EFFECTS OF A THEORY-BASED MESSAGE-FRAMING INTERVENTION ON GLUCOSE TESTING BEHAVIOR OF PATIENTS AT RISK FOR DIABETES

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An estimated 25.8 million Americans are living with diabetes, 79 million adults have prediabetes, with numbers expected to rise. Of these, 7 million are unaware they have diabetes. Evidence shows effective preventive and control measures occur when patients are aware of their condition. Objectives: Evaluate the impact of message framing and a visual cue on blood glucose testing behavior of untested high-risk patients. We hypothesized people at risk for diabetes would view blood glucose testing as a "prevention behavior;" thus, a message emphasizing the benefits of testing (gain-frame) would be more effective than a message emphasizing the costs of not testing (loss-frame). We also hypothesized that providing a visual cue would improve late testing (after 45 days). Methods: 3255 undiagnosed patients at 9 clinics in Indianapolis, IN, were randomized to one of four treatment groups in a 2 x 2 design: loss vs. gain-frame and visual cue (reminder magnet) vs. no visual cue. Randomization was stratified by physician at each clinic. Blood glucose test completion was extracted from the electronic medical record. Results: On average, 38.4% of patients completed a blood glucose test within 6 months of the mailing. A chi-square test revealed no significant differences in rates of testing between the gain or loss-framed messages, p = .68. A chi-square test examining only subjects who had completed the test, showed no significant difference in treatment assignment between those who completed the test within 45 days versus after 45 days, p = .39. Conclusion: This intervention is the first known one to use message framing to encourage patients in an outpatient primary care setting to complete blood glucose tests. Findings will be discussed in terms of the methodological difficulties in conducting a randomized trial in a real-world primary care setting and suggestions for improving future message framing interventions will be provided.

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Paper Session 09 4:00 PM-4:18 PM 2147

USING TECHNOLOGY TO PROMOTE POSTPARTUM WEIGHT LOSS IN ETHNICALLY DIVERSE, LOW-INCOME MOTHERS

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Background: Racial/ethnic minorities retain 2 to 3 times more weight after pregnancy than non-Hispanic white women. Few interventions have been studied to promote postpartum weight loss among ethnically diverse mothers, and none has incorporated technology for skills training and adherence.
Methods: In 2013, 18 mothers were recruited and enrolled in this 14-week weight loss pilot feasibility study. At baseline, all participants were Black or Hispanic (78% Black, 22% Hispanic), low-income (100% Medicaid), in the first year after childbirth (mean 4.3 months since delivery), obese (mean BMI 36.9 kg/m2), and at least 5 kg heavier than their early pregnancy weight. Participants were randomized to receive usual postpartum care or a technology-based intervention. The intervention included: 7 health coach counseling calls; daily skills and monitoring text messages that encouraged weight loss and healthy eating/exercise; automated text message feedback; individual web-based weight loss graphs; and a Facebook support group. We report data on 13 mothers (7 usual care, 6 intervention) who completed the study to date.
Results: Mean weight loss among intervention participants was -3.6 ± 3.8 kg, compared to a mean weight gain of 1.2 ± 2.2 kg in usual care (mean difference: -4.8 kg; 95% CI -8.5, -1.1). One-third of intervention participants (33%) and no control participants returned to their early pregnancy weight by the 14-week follow-up. We observed reductions in juice intake (83% at baseline drank juice daily vs. 33% at follow up) and consumption of candy (67% at baseline consumed candy at least weekly vs. 17% at follow up) among intervention participants; no changes were reported in controls. Nearly all intervention participants (83%) found the program "extremely helpful" in improving weight and eating.
Conclusions: While more data are pending, our initial findings support the feasibility, acceptability, and preliminary efficacy of a technology-based weight loss intervention for obese, low-income mothers.

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Paper Session 09 4:18 PM-4:36 PM 2148

USING FACEBOOK TO INFLUENCE ADOLESCENT PHYSICAL ACTIVITY: A PILOT RANDOMIZED CONTROLLED TRIAL

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The World Wide Web is an effective mode for delivering health behavior programs, yet major limitations remain (e.g., cost of development, time and resource intensive, limited interactivity). Web 2.0, however, has the potential to deliver highly customizable and socially interactive behavioral interventions with fewer constraints. Thus, the evaluation of social media as a means to influence health behaviors is warranted. The purpose of this randomized controlled trial was to examine the efficacy of using an established social networking platform (i.e., Facebook) to deliver an eight-week physical activity intervention to a sample of low-active adolescents (N = 21; M age = 13.48 years). Participants were randomized to either a social cognitive-based condition (i.e., Behavioral group) or an attentional control (i.e., Informational group). Both conditions received access to a restricted-access, study-specific Facebook Group where two daily Wall Posts containing youth-based physical activity information and resources were made by the Group's administrator. Effect sizes (Cohen's d) were calculated within groups to determine differential treatment effects on outcome variables. Results revealed that involvement in the Behavioral group generally produced greater effects on primary outcomes compared to the Informational group. Specifically, the Behavioral group experienced large and positive changes in subjectively assessed moderate-vigorous (d = 0.86) and leisure-time (d = 1.12) physical activity, as well as changes in objectively assessed moderate-vigorous (d = 0.85) and total physical activity (d = 0.81), whereas the Informational group experienced small to moderate changes. These results suggest that a social cognitive-based intervention delivered via social media has the potential to positively influence physical activity levels in low-active adolescents.

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Paper Session 09 4:36 PM-4:54 PM 2149

INSTAGRAM FOR HEALTH: PEER-TO-PEER FITNESS MOTIVATION

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Background: Mobile and social media are increasingly used by individuals for health promotion in online communities. Such user-generated health content is distinguished from traditional health promotion interventions in that they are organically formed online networks and are frequently populated without any scientific underpinnings, deliberate funding, or strategic planning. Despite a lack of programmatic support, these interactions may be considered a new form of interventions involving timely and relevant communications towards the goal of improving health. One popular example is Instagram, an online photo/video-sharing and social networking service with the steepest growth curve among social networking sites (having attracted 150 million active users within 3 years). This rapidly growing engagement signals that Instagram may be "where people live, learn, work, and play". This platform has yet to be studied (or evaluated) to date by public health and behavioral medicine to ascertain its function in health promotion.
Purpose/Methods: This paper analyzes a fitness and health-oriented Instagram account with over 400,000 followers. Our research objective is to examine user engagement patterns (engagement is defined by number of followers, "likes", comments, and tags/shares per photo) and characterize the photos with the highest user engagement. Findings: Preliminary findings suggest that photos that solicit action and motivate others (e.g. "tag your favorite workout partner) elicit the highest level of engagement. In addition, visual cues of a message (e.g., decorative font or picture overlay) may influence number of "likes", and posting time is pivotal for optimal engagement.
Discussion/Implications: Careful evaluation of user engagement with this unique and emerging social media community can offer insight and guidance for meaningful participation with social media influencers from public health professionals and behavioral health researchers. In particular, studying Instagram can shed light on the use of visual dialogue around health topics as an important element for eliciting emotion and soliciting sustained engagement.

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Paper Session 09 4:54 PM-5:12 PM 2150

REPORTING FEASIBILITY AND ACCEPTABILITY DATA FROM ITEEN, A SOCIAL NETWORKING, WEIGHT GAIN PREVENTION STUDY FOR HEALTHY DISPARITY ADOLESCENT GIRLS

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Nationally, obesity rates are highest among African American and Hispanic youth. A pilot was conducted testing iTeen, an 8-week weight gain prevention intervention that promoted healthy eating and physical activity via an online social networking site. Health disparity adolescent girls, aged 10-14, were randomized to either an online social networking (SN) group or an online social networking site + eHealth Coaching group (SN + eCoach). Both groups received printed materials and had access to the SN site where they could view healthy eating and physical activity videos. SN + eCoach received weekly electronic chat sessions using social cognitive theory and a motivational interviewing approach to discuss healthy eating and physical activity. After 9 months of recruitment, 47 participants were randomized. Averages for the girls were 12.1 years (SD = 1.24), BMI 24.95 kg/m2 (SD = 4.44), 30% Hispanic, 41% Black, 18% low income whites, and 11% were multiracial. Leon, Davis, and Kraemer (2011) have called for using pilot studies to provide feasibility and acceptability data rather than data to power for larger trials. Following Leon et al.'s recommended reporting of feasibility data, this study yielded a screening rate of 23 participants/mo, an enrollment rate of 6.4 girls/mo, a randomized from eligibles proportion of 51%, and an intervention (i.e., eCoaching sessions) attendance rate of 65%. Acceptability was derived from consumer satisfaction questionnaires completed at 8-weeks. Overall satisfaction with the iTeen program was rated on an ordinal 7-point scale (1 = not at all satisfied to 7 = very satisfied). Girls' overall satisfaction was rated positively, and was higher for the SN + eCoach group (SN = 5.4, SN + eCoach = 6.89; F = 6.07, p = .03). Parents' overall satisfaction was also rated positively, and higher for the SN + eCoach group (SN =4.5, SN + eCoach = 5.9; F = 6.29; p = .02). Thus, iTeen, an online only program, demonstrated feasibility and acceptability with a hard to reach health disparity population of adolescent girls.

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Paper Session 09 5:12 PM-5:30 PM 2151

#READINESS: ARE PEOPLE READY TO USE TWITTER FOR HEALTH BEHAVIOR CHANGE?

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Twitter is a popular internet-based social media designed for interpersonal communication via micro-blogging. Health researchers have started using Twitter as an intervention modality given its popularity and its broad reach as a social medium. However, intervention researchers suggest that the fit between participants and intervention is an important design consideration. While there is an intuitive appeal for Twitter as an intervention tool, there is a need to ‘diagnose' participants' readiness to use such a modality as an aid to behavioral strategies. For example, those who do not see the merit of twitter as an intervention modality may be less inclined to initiate or adhere to its use. Employing social-cognitive theory, expectancy-value beliefs (EV) about cognitive behavioral strategies (CBS) associated with exercise and diet change and maintenance might be indicators of people's receptivity to using Twitter as an intervention tool. The purpose of this study was to "diagnose" individuals' readiness to use Twitter as a method to deliver CBS intervention components. 80 participants (Mage = 26; 65% female; 78% Twitter users), recruited via social media and internet bulletin boards, completed an online survey regarding their EV beliefs about using Twitter as a means to aid diet/exercise change. Discriminant function analyses (DFA), revealed value and likelihood of using Twitter-based CBS significantly differentiated those open and not open to using Twitter to aid exercise change (81% correctly classified; canonical R = .549), and diet change (65% correctly classified; canonical R = .363). DFA Patterns for both health behaviors were similar; effect sizes of group differences were large (d = 1.31 and .77). EV beliefs about using CBS via Twitter sorted those interested and not interested in using Twitter after controlling demographic covariates of Twitter use and age. Use of twitter as an intervention tool is neither straightforward nor intuitive and the readiness of individuals to participate should be closely examined before intervening.

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Paper Session 10 4:00 PM-4:18 PM 2152

LATENT PROFILE ANALYSIS OF GIS-MEASURED WALKABILITY, TRANSIT AND RECREATION ENVIRONMENTS FOR PHYSICAL ACTIVITY

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Neighborhood correlates of physical activity (PA) are complex and interrelated. This study explored whether patterns of neighborhood features could be derived from GIS-measured walkability, transit, park, and private recreation factors via multilevel latent profile analysis (LPA). Participants in the Neighborhood Quality of Life Study (N = 2199, 20-65 years, 48.2% female, 26% ethnic minority) were sampled from Seattle/King County, WA and Baltimore, MD-Washington, DC and geocoded to compute net residential density, land use mix, retail floor area ratio, intersection density (walkability components), bus/rail counts (transit), park, and private facility counts (recreation access) variables using a 1 km street network buffer around participants' homes. Multilevel regression models compared derived profiles on accelerometer-measured MVPA and reported transportation and leisure PA, adjusting for nesting and socio-demographics. Seattle results—LPAs yielded 4 profiles: low walkable/transit/recreation (L-L-L); high walkable/transit/recreation (H-H-H); mean walkable/transit/recreation (M-M-M); moderately high walkable/transit/recreation (MH-MH-MH). All 3 PA variables were higher in the Seattle H-H-H profile than the L-L-L profile (17.4 min/d MVPA difference; 5.5 hrs/wk transportation PA difference; 2.3 hrs/wk leisure PA difference; all ps < .05). Baltimore results—LPAs yielded 4 profiles: low walkable/transit/recreation (L-L-L); moderately high walkable/high transit/high recreation (MH-H-H); high walkable/moderately high transit/moderately high recreation (H-MH-MH); moderately high walkable/transit-friendly/mean recreation (MH-MH-M). Significant differences in the Baltimore subsample were not as pronounced as Seattle, but overall, MH-H-H and H-MH-MH participants had higher PA than other profiles. Combined impacts of walkability, transit, and recreation environments may explain greater differences in PA for adults than walkability alone. Patterns of environmental attributes can suggest tailored intervention strategies.

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Paper Session 10 4:18 PM-4:36 PM 2153

DISPARITIES IN PARK AVAILABILITY AND CRIME BY NEIGHBORHOOD SOCIOECONOMIC STATUS AND RACE/ETHNICITY

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Parks are an important resource for physical activity; however, the extent to which parks are equitably distributed remains unclear. Moreover, little research has examined whether social characteristics of park environments that may affect use, such as crime occurring in or near parks, vary by neighborhood sociodemographics. We investigated associations of neighborhood socioeconomic status (SES) and racial/ethnic composition with park availability and crime across Census Tracts (CT) in Houston, TX. Data on parks and de-identified crime incidents (2007-11) were obtained from the City of Houston. Neighborhood data on 338 CTs were derived from the 2007-11 American Community Survey. A neighborhood SES index comprised of 9 commonly used CT-level variables was developed using principal components analysis. Park availability within CTs was assessed as the number of parks intersecting each CT and the proportion of CT area comprised of park space. Crime was assessed as the number of violent and nonviolent incidents in CTs that occurred within 50 f. buffers of parks. Linear regression was used to model park availability, and negative binomial regression modeled counts of crime. Results showed that neighborhood SES and race/ethnicity were not significantly associated with park availability. However, neighborhood SES was inversely associated with violent crime within 50 f. of parks (β = -0.70, SE = 0.12, p < 0.001), while increased racial/ethnic minority composition was positively associated (β = 0.47, SE = 0.09, p < 0.001). No significant associations were observed for nonviolent crime. Violent crime occurring in or near parks was more prevalent in lower-SES and higher minority neighborhoods in Houston, TX, potentially deterring park use and park-based physical activity. Additional research and policy efforts are needed to further investigate and address neighborhood disparities in access to safe opportunities for physical activity.

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Paper Session 10 4:36 PM-4:54 PM 2154

ENVIRONMENTAL CORRELATES OF TRAIL USE FOR RECREATION AND TRANSPORTATION BY TYPE OF TRAIL

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Background: Recent research suggests that trails support physical activity in communities. Environmental correlates of trail use have included trail proximity, trail design features, and neighborhood characteristics. It is unclear whether correlates vary by the purpose for trail use (i.e., recreation or transportation) and by the type of trail (i.e., linear or circular). The aim of this study was to examine associations between environmental factors and trail use for recreation and transportation across 5 trails (3 linear, 2 circular) in Massachusetts. Methods: Adults ($n = 1190$) using 1 of the 5 trails responded to a brief intercept survey during 2004-05. Survey items included demographic, behavioral, and environmental factors related to patterns of trail use. Multiple linear regression was used to examine associations between environmental factors and frequency of trail use over the past 4 weeks for recreation or transportation. Interaction terms were used to assess whether trail type moderated associations between environmental factors and trail use. Models were adjusted for age, gender, race, ethnicity and education. Results: Respondents' mean age was 44.8 (SD = 12.5), 54% were female, and 82% were white. Distance and time to the trail from home or work were inversely associated, and a preference for a free place to exercise, convenient location, good surface, and the presence of other walkers and cyclists were positively associated with frequency of trail use for recreation ($p > .0001$). Type of trail significantly moderated associations between convenient location ($p = .001$), trail design ($p = .017$), and presence of other walkers and cyclists ($p = .009$) and frequency of trail use for recreation. There were no significant associations between the environmental factors and trail use for transportation. Conclusion: These findings indicate differences in correlates of trail use for recreation and transportation on linear and circular trails. Future research may consider ways to effectively promote trail use in community interventions.

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Paper Session 10 4:54 PM-5:12 PM 2155

INDIVIDUAL, SOCIAL AND ENVIRONMENTAL CORRELATES OF PHYSICAL ACTIVITY IN AFRICAN AMERICAN AND HISPANIC OR LATINA WOMEN: A STRUCTURAL EQUATION MODEL ANALYSIS

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This cross-sectional study examined the influence of individual, social and environmental factors on physical activity (PA) among African American and Hispanic or Latina women using structural equation modeling (SEM). Overweight and obese women from the Health Is Power project completed a 7-day accelerometer protocol, physical assessment, and body image, self-efficacy, motivational readiness, social support, home environment for PA, and perceived environment questionnaires at baseline, and trained assessors evaluated participants' neighborhood environment using the Pedestrian Environment Data Scan (PEDS). SEM was used to determine the indirect and direct effects of the physical and social environments and individual influences on PA, controlling for ethnicity, age, education and income. Participants ($N = 333$) were mostly African American (68.2%), middle-aged ($M = 44.9 \pm 9.5$ years), obese ($M = 34.7 \pm 8.5$ kg/m^2) and physically inactive ($M = 19.0 \pm 19.7$ min/day). The proposed structural model fit was acceptable ($X^2 = 2924.7$, $df = 2080$, RMSEA = .035, CFI = .878). There were significant relationships between body composition and image and motivational readiness ($\beta = 0.155$, $p = .035$) and exercise self-efficacy and the home environment ($\beta = -0.220$, $p = .001$); there were significant direct effects on PA from exercise self-efficacy ($\beta = -0.164$, $p = .043$) and measured neighborhood environment ($\beta = 0.194$, $p < .001$). Results suggest that multiple levels of influence are operating to explain PA in ethnic minority women. Health promotion interventions should seek to improve complex cognitive and psychological factors, such as body image, self-efficacy and motivational readiness, and incorporate factors in the home and neighborhood environments for effective behavior change.

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Paper Session 10 5:12 PM-5:30 PM 2156

STREET CONSTRUCTION TO POP-UP PARK: TURNING A TEMPORARILY CLOSED STREET INTO A VIBRANT DOWNTOWN PARK

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Background: Park access is positively associated with physical activity, quality of life, and can facilitate social interactions among residents that promote social capital. Street closures due to construction may deter foot traffic and negatively impact local businesses in downtown areas. Community members and city officials in a downtown San Francisco Bay Area, CA city created a temporary (one month) park when construction resulted in street closures. This study documented use and user characteristics at the park.
Setting: Artificial turf was used to create a green space covering two thirds of a city block and skateboard rails and ramps were installed to create a skate park in the remaining third (total area: 4930 m2). Local businesses organized family focused activities and shaded picnic tables and chairs were provided.
Method: The System for Observing Play and Recreation in Communities (SOPARC) was used to document green space and skate park use and activities. These areas were observed 14 times per day (hourly from 7 AM to 8 PM) on 4 randomly selected days (2 weekdays, 1 Saturday, 1 Sunday). Descriptive statistics were used to document use and user characteristics.
Results: 1,716 people were observed using the green space, and 54 people were observed using the skate park. Green space users included children (40%), teens (4%), adults (49%), and seniors (7%). Skate park users included children (54%), teens (35%), and adults (11%). 21% of green space and 36% of skate park users engaged in moderate-to-vigorous physical activity (MVPA).
Conclusion: The temporary park drew a large intergenerational group of users, with a notable proportion of users engaging in MVPA. Such parks may also contribute to quality of life and social benefits, which should be explored further. This type of park can serve as a model for communities facing similar circumstances related to street closures or construction.

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Paper Session 11 4:00 PM-4:18 PM 2157

DOES COGNITIVE VS. EMOTIONAL TALK IN CANCER GENETIC COUNSELING SESSIONS PREDICT HEALTH BEHAVIORS?

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A nondirective approach is standard of care for genetic counseling for hereditary breast-ovarian cancer; at the same time, patients need to process information at a cognitive and affective level. The influence of cognition and affect content in genetic counseling on patient decision-making for screening (TVU, CA125, mammography, breast exams) and for proactive (pre-cancer) or reactive (post-cancer) surgery (oophorectomy, mastectomy) is largely unexamined. Individuals ($n = 120$) were surveyed over the period of a year to understand responses to genetic counseling and testing. Sixty Ashkenazi Jewish women completed surveys and audiorecorded counseling sessions for Linguistic Inquiry and Word Count analysis. Proportions for participant (P) and counselor (C) cognition (cog) and affect (aff) content during sessions were used as predictor variables in Linear Mixed Models (LMMs) on change in intentions for screening and treatment and in self-reported screening. T-tests showed reactive mastectomy intentions increased ($p < .01$); pelvic exam intentions decreased ($p < .06$). LMMs found mutation carriers had greater intentions to have proactive surgery ($p < .01$) and screening ($p < .01$). High C-aff was associated with larger increases in intention for prophylactic procedures ($p = .02$) than low C-aff. In contrast, high P-aff and C-aff were both associated with less increase in the frequency of mammogram and CA125 (all p's < .01) than low. In sum, counselor affect content was associated with intentions for prophylactic procedures; however, affect content led to a decrease in actual screening. Perhaps counselors were assisting in affect processing; in turn, these participants planned to have prophylactic surgery negating the need for screening. Future studies will help to understand how genetic counseling facilitates affect processing and its association with health behavior.

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Paper Session 11 4:18 PM-4:36 PM 2158

WHAT DO BREAST CANCER SURVIVORS LEARN AND RETAIN FROM GENETIC COUNSELING SESSIONS?

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Introduction: An important goal of genetic counseling is to provide information that enables patients to make informed decisions in the short (e.g., whether to proceed with testing) and long term (e.g., uptake of cancer risk management). While prior studies examined the impact of genetic counseling on cancer-related knowledge cross-sectionally, fewer examined changes in knowledge longitudinally. The current study examines the impact of genetic counseling on short- and long-term knowledge about hereditary breast and ovarian cancer (HBOC).

Methods: As part of a larger study, breast cancer survivors (n = 114) were surveyed at three time points: T1) before attending the genetic counseling session; T2) one to four weeks after genetic counseling; and T3) six months after the T2 survey. A 15-item HBOC knowledge scale was used to assess participants' knowledge and included 4 subscales: cancer risks, patterns of inheritance, BRCA prevalence, and risk management options. The Cochran-Mantel-Haenszel statistic was used to examine HBOC knowledge changes over time.

Results: Of the 99 participants who completed all three assessments, a statistically significant change ($p < .0001$) in overall HBOC knowledge was observed over time: T1 mean = 6.7, standard deviation [SD] = 3.1; T2 mean = 9.6, SD = 2.6; T3 mean = 9.0, SD = 2.7. Significant changes also were observed for each subscale ($p < .01$) and 11 of the 15 individual items. No statistically significant change was observed for three of the four items pertaining to risk management options, nor one of two items pertaining to prevalence.

Conclusions: Results suggest individuals who attend genetic counseling have overall gains in HBOC knowledge, maintained over time. However, a lack of change in items regarding risk management options is concerning as patients who do not know about these options may be less likely to follow appropriate recommendations. These findings may indicate a need for risk management to be covered in greater depth or given more attention during genetic counseling.

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Paper Session 11 4:36 PM-4:54 PM 2159

PERCEPTIONS OF UNCERTAINTY IN GENOMIC SEQUENCING: THE ROLE OF EPISTEMOLOGICAL BELIEFS

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The scope of uncertainty in genomic sequence information is vast, and how this uncertainty is perceived is likely to influence decisions to learn and act on sequence information. We present data on how adults participating in the NIH ClinSeq® study perceive uncertainty in genomic information. We conducted six focus groups with 39 participants to explore their perceptions of the uncertainty associated with genomic sequencing, and their responses to this uncertainty. Participants described uncertainty as pertaining to specific qualities of genomic sequencing information, using terms like ambiguous, of questionable accuracy and validity, limited, probabilistic, fluid, and infinite. These perceptions, in turn, were associated with distrust of genomic sequencing information, as well as confusion, uneasiness, hopelessness, and further questions. The majority of participants also perceived uncertainty as an expected, unsurprising feature of genomic information, describing it as part of reality and fair, honest and accepted. Overall, those who perceived uncertainty to be an expected, significant aspect of genomic sequencing—congruent with their epistemological assumptions—were less likely to perceive it as a threat. They expressed optimism that more will be learned in the future as knowledge is unfolding, and one was curious to see "how far it will go." When faced with the prospect of ambiguous information, participants desired to know the degree of uncertainty and the estimated probabilities of disease. Some preferred a high level of certainty for making health-related decisions. These findings need to be replicated in larger studies, but identify a broad variety of perceptions and meanings—both negative and positive—that patients impart to the uncertainty associated with genomic sequencing results. The findings also suggest that people's responses to uncertainty may be influenced by their epistemological assumptions and expectations.

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Paper Session 11 4:54 PM-5:12 PM 2160

CHARACTERIZING INDIVIDUALS WHO ATTRIBUTE COMMON DISEASES TO GENETIC AND BEHAVIORAL (MULTIFACTORIAL) RISK FACTORS

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Background: Many diseases have genetic and behavioral risk factors, but the extent to which this is recognized by the public is unknown.

Objective: To obtain nationally representative and population-based estimates of the prevalence of and personal characteristics associated with holding multifactorial beliefs about diabetes, obesity, heart disease, hypertension, and cancer.

Method: Participants were 3,630 respondents to the Health Information National Trends Survey (Iteration 4 Cycle 2). Five dichotomous multifactorial belief variables (one for each disease) were created to reflect agreement that the disease was caused by both genetic and behavioral risk factors. A sixth variable was created to indicate overall endorsement of multifactorial beliefs across diseases. For each of the six variables, a multivariable logistic regression was run. Participant characteristics were the predictors, and the multifactorial belief was the outcome.

Results: The majority of respondents (64-79%) endorsed multifactorial beliefs for each disease and for overall health. Multifactorial belief endorsement was statistically significantly ($ps < .05$) more likely among participants with a higher BMI (heart disease, hypertension, overall health) and who were aware of direct-to-consumer genetic testing (diabetes, hypertension, overall health). Multifactorial beliefs about cancer were more likely among those with a family history of cancer, who lived in rural regions, and who were members of racial/ethnic minority groups. Numeracy was significant only for overall health. Age, gender, health history, and self-reported health status were not associated with multifactorial beliefs ($ps > .05$).

Conclusion: Endorsement of multifactorial beliefs for common diseases is highly prevalent in the U.S., yet varies by disease and participant characteristics. The implications of these differences for engagement in health behaviors and for health disparities should be explored.

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Paper Session 11 5:12 PM-5:30 PM 2161

DECISION SUPPORT FOR BRCA GENETIC TESTING

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Background: An estimated 6% of women are eligible for genetic counseling for hereditary breast cancer, but fewer than 20% are referred. Ethnic/minority women may be unaware of their high-risk status due to our inability to screen them in busy clinic settings. Research is needed to develop strategies for presenting risk information and engaging high-risk women in informed decision-making about genetic testing. Methods: We developed RealRisks, a decision aid (DA) that models patient-provider dialogue with modules on risk and genetic testing. Within the narrative are 2 games of experience-based interfaces demonstrating 5-year and lifetime breast cancer risk. Games ask players to sample from a pictograph of clickable women to learn the meaning of a pre-set probability. We conducted focus groups which involved use of RealRisks, questionnaires before/after interacting with the DA, and a discussion. Paired t-test and McNemar's test were used to compare within-individual changes in accuracy of perceived breast cancer risk. Discussions were transcribed and coded. Results: Median age was 53.5; 85% were either black or Hispanic; and 41% met criteria for low numeracy. According to the Gail model, 9.7% met high-risk criteria for breast cancer and mean 5-year and lifetime breast cancer risk were 1.11% (±0.77) and 7.46% (±2.87), respectively. After interacting with RealRisks, the difference in perceived vs. actual breast cancer risk significantly improved for 5-year risk ($p = 0.008$). Before exposure to RealRisks, 52% had accurate breast cancer risk perceptions compared to 70% after RealRisks ($p = 0.10$). We found a significant association between numeracy and accuracy of risk perception after interacting with RealRisks ($p = 0.05$). Over 85% of the participants thought RealRisks increased their understanding of breast cancer risk factors. Knowledge about breast cancer risk factors was limited, participants were interested in personalized risk assessment and found the games engaging. Discussion: We demonstrated a significant improvement in accuracy of perceived breast cancer risk and gained insight about a DA for genetic testing in a multi-ethnic population.

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Citation Paper
Paper Session 12 4:00 PM-4:18 PM 2162

SOCIAL NETWORKS: DO THEY HELP OR HINDER WEIGHT LOSS?

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Background: Social networks have been shown to play a role in the spread of obesity however further data are needed regarding network structure and influence on weight loss behaviors. Methods: The Small Changes and Lasting Effects (SCALE) trial is an ongoing 1 year behavior change weight loss intervention among Black and Hispanic adults, BMI ≥ 25 kg/m^2, recruited in New York City. Participants set small change eating and physical activity goals. Participants identified social network members using the convoy model, a model of 3 concentric overlapping circles; inner circle - members the participant could not imagine life without, middle circle - members not as close, outer circle - least close members. Participants identified whether each member helped or hindered their eating and physical activity goals in SCALE. Data were analyzed using chi-square tests for proportions and students t-tests for continuous data. Results: There were 110 participants included in the analysis (mean age 52 years, 90% female, 51% Black, 59% Hispanic, mean baseline BMI 33.3 kg/m^2). There were 1,253 social network members identified and the average network size was 11.4 members. Participants who reported at least one network member helped with their eating goals lost more weight compared to those with no helpful members (-4.68 lbs. vs. +2.61 lbs., p = 0.006). When stratified by network circle, weight loss was greater among participants who indicated that at least one network member in their inner circle helped with eating goals compared to those with no helpful inner circle members (-4.55 lbs. vs. +0.22 lbs., p = 0.04). There was a trend towards more weight loss among participants who identified at least one network member who helped with their physical activity goals compared to those with no helpful members (-4.29 lbs. vs. -1.61 lbs., p = 0.2). Conclusions: In SCALE, there was greater weight loss among participants who had close social network members help them with their eating goals compared to those without helpful members. These preliminary data suggest that social networks can be helpful in weight loss efforts.

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Paper Session 12 4:18 PM-4:36 PM 2163

USING PROPENSITY METHODS TO ASSESS CAUSAL EFFECTS OF MOTHERS' DIETING BEHAVIOR ON DAUGHTERS' EARLY DIETING BEHAVIOR

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Background: A high prevalence of dieting has been reported among pre-adolescent females. It is important to understand factors influencing the emergence of dieting because dieting is associated with increased likelihood of overeating, greater weight gain over time, and other chronic health problems. Previous studies suggest that mothers influence daughters' dieting by dieting themselves (i.e., modeling). Because it is not possible to randomly assign girls to particular mothers' modeling behaviors, causal inference regarding the effects of mothers' modeling behaviors on daughters' dieting is not straightforward. Method: In an observational study, data were collected on 4 occasions of measurement across a 6-year period, with 2-year intervals between assessments on 181 girls and their parents. Propensity methods were used to estimate the causal effects of mothers' dieting on the emergence of daughters' dieting between ages 7 and 11, examining the moderating effect of weight status. Results: Girls whose mothers were currently dieting were significantly more likely to diet before age 11 than those whose mothers were not currently dieting and this effect did not vary by girls' or mothers' weight status. Discussion: We conclude by discussing the implications of the effects of mothers' dieting on daughters' early dieting as well as the potential of propensity score methods in the field of obesity.

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Paper Session 12 4:36 PM-4:54 PM 2164

A RANDOMIZED TRIAL COMPARING WEIGHT LOSS TREATMENT DELIVERED IN LARGE VERSUS SMALL GROUPS

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Background: Behavioral weight loss interventions are commonly delivered in groups of 8-15 participants. Group size is often based on clinical judgment or logistical constraints; however, research is lacking on whether the number of individuals participating in a group-based treatment affects weight loss outcomes. Objective: To compare 6- and 12-month weight changes associated with an obesity intervention delivered in a large group (LG) or small groups (SG). Methods: Obese adults (N = 66; mean age = 50 years; mean BMI = 36.5 kg/m2; 47% African American; 86% women) recruited from a health maintenance organization participated in a 12-month behavioral weight loss trial. Participants were randomly assigned to one of two conditions: 1) LG treatment (30 members/group), or 2) SG treatment (12 members/group). Conditions were comparable in frequency and duration of treatment, which included 24 weekly sessions followed by 6 monthly extended care sessions. Results: Participant retention at months 6 and 12 was 89% and 94%, respectively. SG participants lost significantly more weight than LG participants at month 6 (-6.4 vs. -3.2 kg, respectively) and month 12 (-7.0 vs. -1.7 kg, respectively), ps < 0.04. SG participants also reported significantly better treatment engagement at months 6 and 12, ps < 0.04, and this variable partially mediated the relationship between group size and weight loss. Discussion: Participants receiving obesity treatment in smaller groups lost more weight initially and experienced better weight loss maintenance. This may be partially due to more cohesive interactions experienced by participants in a SG, potentially leading to greater treatment engagement. Findings suggest that clinicians and researchers should balance the efficiency of behavioral weight loss treatment delivery in a LG with the potentially better outcomes achieved by delivering the same treatment in SGs.

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Paper Session 12 4:54 PM-5:12 PM 2165

GROUP DYNAMICS IMPACT WEIGHT LOSS OUTCOMES IN LIFESTYLE INTERVENTION FOR OBESITY

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Lifestyle interventions typically result in greater weight loss when offered in group versus individual settings; however, it remains unknown how group dynamics affect weight loss outcomes within group-based obesity treatment. This study assessed whether specific group dynamics, including group conflict, avoidance, engagement, identity, and social support, significantly impacted weight loss and session attendance within a six-month lifestyle intervention for obesity. Participants were 125 obese women (mean ± SD BMI = 37.9 ± 3.9 kg/m^2; mean ± SD age = 52.0 ± 10.8 yrs; 74% Caucasian) who were offered 24 weekly group behavioral treatment sessions and achieved a mean ± SD weight loss of 9.13 ± 7.15 kg at six months. Perceptions of group dynamics were assessed with the following validated questionnaires: Group Climate Questionnaire-Short Form, Group Attitude Scale, and Social Provisions Scale. Greater perceived conflict within the group was associated with smaller weight losses, while higher perceived group identity was associated with larger weight losses (*p*s < .001). Lower session attendance was associated with greater perceived conflict ($p < .001$) and avoidance ($p = .01$), while higher attendance rates were associated with greater perceived group identity ($p < .001$). Attendance mediated the association between perceived conflict and weight loss, as well as the association between identity and weight loss (*p*s < .001). Findings demonstrate that both negative (conflict and avoidance) and positive (identity) group dynamics can impact weight loss outcomes. Fostering acceptance among group members and addressing disputes that arise may encourage positive group interactions and promote success in group-based behavioral treatment for obesity.

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Paper Session 12 5:12 PM-5:30 PM 2166

SOCIAL SUPPORT AND WEIGHT CHANGE IN COLLEGE FRESHMEN

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Over 50% of college students are overweight or obese, and there is a high incidence of weight gain during the college years. Social support is associated with weight change and related behaviors in adults, but this relationship has not been thoroughly examined in college students. As social support changes in college due to shifting social networks, there may be a relationship between social support and weight changes during freshman year. PURPOSE: This investigation examined the relationships between social support and change in BMI during freshman year. METHODS: In spring semester, 50 male and 50 female college students (69 healthy, 25 overweight, 6 obese) age 18-20 completed questionnaires regarding pre-college height, weight and social support, and objective height and weight measures were taken at this time. Social support was measured as perceived support or the confidence that support is reliably available from others when needed (Social Provisions Scale), and received support which quantifies the supportive behaviors of others (Inventory of Socially Supportive Behaviors). RESULTS: Participants gained 1.34 ± 2.94 kg (2.95 ± 6.27 lbs) from pre-college to February of freshman year. BMI was not significantly related to perceived ($p = .529$) or received ($p = .618$) social support. However, among overweight and obese participants, higher received social support was inversely associated with change in BMI ($r = -.40$, $p = .027$). There was no relationship between perceived social support and change in BMI in overweight and obese students. CONCLUSIONS: While social support was not associated with weight changes in the general college population, greater received social support was associated with less weight gain in overweight/obese students. Programs and interventions geared toward improving the tangible social support of overweight students may diminish weight gain during freshman year and ultimately prevent a pattern of weight gain continuing through adulthood.

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Thursday
April 24, 2014
6:40 PM-8:00 PM

Poster Session B

B-001

HESITANT PARENTS, HESITANT PROVIDERS: HPV VACCINE-RELATED PERCEPTIONS AND RECOMMENDATION PRACTICES AMONG MINNESOTA HEALTHCARE PROVIDERS

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Objectives: Despite national guidelines for routine administration of human papillomavirus (HPV) vaccine, healthcare providers in the United States often fail to recommend the vaccine to adolescents in the target age range. We sought to describe healthcare providers' HPV vaccine recommendation practices and to explore their perceptions of HPV vaccine hesitancy among parents of 11- to 12-year-old youth.
Methods: A statewide sample (n = 575) of Minnesota healthcare providers (20% pediatricians, 47% family medicine physicians, 33% nurse practitioners) completed our online survey in April 2013.
Results: Only three-quarters of providers (76%) reported routinely recommending HPV vaccine for girls ages 11-12, and far fewer (46%) did so for boys (p<. 001). In terms of parental hesitancy, half of providers (51%) reported that parents frequently react to HPV vaccine recommendations with requests to delay vaccination. A sizeable minority perceived expressions of concern about HPV vaccine (18%) or vaccine refusal (12%) to be similarly common responses. Providers who perceived greater parental hesitancy had lower odds of routinely recommending HPV vaccine for girls (OR = .40) or boys (OR = .46) (both p < .001). In the face of hesitancy, most providers reported asking questions to explore parents' concerns (74%), but many felt they lacked time to probe parents' reasons (47%) or that there was not much they could do to change parents' minds (55%). Providers indicated that helpful tools to address HPV vaccine hesitancy would include: information tailored to parents' specific concerns (75%) or cultural background (68%); screening tools to identify specific concerns (58%); or discussion guides (57%).
Conclusion: Healthcare providers perceive HPV vaccine hesitancy to be common among parents of adolescents, and such perceptions may discourage providers from routinely recommending the vaccine. Improving providers' self-efficacy to address HPV vaccine hesitancy may be important for improving their adherence to practice guidelines.

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B-002

COMPARING IN-PERSON AND WEBINAR DELIVERY OF A PROGRAM TO IMPROVE IMMUNIZATION PRACTICES AMONG PRIMARY CARE PROVIDERS

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Purpose. Immunization quality improvement programs are often limited by the cost and inconvenience associated with delivering face-to-face consultations to primary care providers. To investigate a more efficient mode of intervention delivery, we conducted a process evaluation of an intervention that compared traditional in-person consultations to those delivered via interactive webinar.
Methods. CDC's AFIX (Assessment, Feedback, Incentives, and eXchange) program is an immunization quality improvement program implemented in all 50 states. In 2011, we randomly assigned 91 high-volume primary care clinics in North Carolina to receive no consultation or an in-person or webinar AFIX consultation focused on adolescent immunization. Among 61 clinics in the intervention conditions, we used surveys of participating vaccine providers and expense tracking logs to evaluate delivery modes on participation, satisfaction, and cost. Clinics served 71,874 patients, ages 11-18.
Results. Participants who received in-person and webinar consultations reported similar levels of effort on key programmatic activities with one exception: more webinar participants reported improving documentation of previously-administered, "historical" vaccine doses (p < .05). Both in-person and webinar participants showed sustained improvement in self-efficacy to use reminder/recall systems (both p < .05). Participants rated delivery modes equally highly on satisfaction measures such as convenience (mean = 4.6 of 5.0). Delivery cost per clinic was $152 for in-person consultations versus $100 for webinar consultations.
Conclusions. In-person and webinar delivery modes were both well received, but webinar AFIX consultations cost substantially less. Given that webinar consultations were as effective as in-person consultations in increasing vaccination coverage, webinar delivery shows promise for considerably extending the reach of immunization quality improvement programs.

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B-003

DISTRESS, PROBLEMS, AND SUPPORTIVE CARE NEEDS OF PATIENTS TREATED WITH AUTOLOGOUS OR ALLOGENEIC STEM CELL TRANSPLANTATION

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Background:
Hematological malignancies and treatment with hematopoietic stem cell transplantation are known to affect patients' quality of life. The problem profile and care needs of this patient group need clarification, however.
Aim:
This study aimed to assess distress, problems, and care needs after allogeneic or autologous SCT (allo-SCT, auto-SCT), and to identify risk factors for distress, problems, or care needs.
Methods:
In this cross-sectional study, patients treated with allo-SCT or auto-SCT for hematological malignancies completed the Distress Thermometer and Problem List. Three patient groups were created: 0-1 year(s), 1-2.5 year(s), and 2.5-5.5 years after transplantation.
Results:
After allo-SCT, distress and number of problems tended to be lower with longer follow-up. After auto-SCT, distress was highest at 1-2.5 year(s). Patients mainly reported physical problems, followed by cognitive-emotional and practical problems. A minority reported care needs. Overlapping risk factors for distress and problems after allo-SCT included younger age, shorter time after transplantation, and presence of GVHD. A risk factor for distress as well as problems after auto-SCT was the presence of more comorbid diseases.
Conclusion:
Up to five years after auto-SCT or allo-SCT, patients continue to experience distress and problems. Judged by prevalence, physical problems are first priority in supportive care, followed by cognitive-emotional and practical problems.

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B-004

CORRELATES OF THE FACIT-SP SCALE IN CANCER PATIENTS: A SYSTEMATIC REVIEW

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Background The burden of cancer can challenge or, alternatively, strengthen the sense of meaning, spiritual and religious beliefs of patients and their families. The purpose of this systematic review was to identify demographic, clinical, and psychosocial characteristics or dimensions related to spiritual (SWB), existential (EWB), and religious well-being (RWB), as measured by the FACIT-Sp.

Methods A structured search of two broad concept categories- cancer and spiritual well-being - was conducted in PubMed, PsycINFO, Cochrane, EMBASE, CINAHL, Web of Knowledge, and grey literature sources in order to identify quantitative studies with correlational or comparative analyses. The FACIT-Sp measures overall SWB and includes two subscales, meaning/peace (EWB) and faith (RWB).

Results A total of 15,121 articles were retrieved, 13,645 were excluded based on title review and 984 were excluded based on abstract review. 492 full-texts were reviewed and a final sample of 60 studies met the inclusion criteria. Studies varied in the samples and methodologies utilized, although most employed a cross-sectional design and used self-report measures. Twenty-nine studies conducted analyses only with the total scale (SWB) and 31 with conducted analyses with one or both of the subscales (EWB and/or RWB). Depression, anxiety, mental health status, emotional WB, and social WB were consistently correlated with EWB and overall SWB, but not with RWB. Higher physical well-being was a more consistent correlate of EWB, but not of RWB or overall SWB. Ethnic minority status correlated with RWB more consistently than EWB and SWB.

Conclusion The results of the review suggest that psychosocial dimensions are more consistently correlated to EWB and overall SWB, than RWB in cancer patients, but RWB was higher among ethnic minority groups. Patterns of association between the demographic and clinical variables varied. Future interventions aiming to improve SWB, EWB, and RWB could potentially target different variables, such as physical well-being or ethnicity.

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B-005

INDICATORS OF POVERTY AFTER A CANCER DIAGNOSIS IN A MULTIETHNIC SAMPLE

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OBJECTIVE Immigrants and ethnic minority patients are more likely to live in poverty than non-Hispanic white patients. Further, the cost of cancer care, overall, is increasing. Low-income cancer patients face a double burden: compromised health coupled with added financial pressures. This study describes the socioeconomic characteristics of a multiethnic sample of patients before and after a cancer diagnosis, and predictors of unemployment after cancer.

METHODS This is a cross-sectional study with 1,534 patients from the Portal Cancer Project. Participants completed a sociodemographic and needs assessment survey in their preferred language. Patients reported information about their income and employment before and after being diagnosed with cancer.

RESULTS Patients' mean age was 55, 62% were female, 43% were Latino and 41% African American or Blacks, 40% had breast cancer, 85% reported incomes below the national poverty level, and only 6% were born in the continental USA. Unemployment in this sample rose from 25% before to 69% after being diagnosed with cancer. Before diagnosis, 17% had no income, and after, 46% had no income. Before diagnosis 55% of patients were supported by their own earnings and 20% by their families. After diagnosis, 10% were supporting themselves and 53% depended economically on their families. After controlling for sociodemographics, gender, lower education, and currently receiving chemotherapy predicted higher current rates of unemployment.

CONCLUSIONS Our findings suggest that a large proportion of our ethnic minority cancer patients live in poverty due to a decrease in income and lost jobs due to being diagnosed with cancer. A diagnosis of cancer has a detrimental effect financially on low-income individuals, especially during the active phase of treatment. More research is necessary to establish the impact of poverty indicators (income, employment, education, housing instability, food insecurity) on health outcomes.

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B-006

PREVALENCE OF FOOD INSECURITY AMONG LOW-INCOME LATINO CANCER PATIENTS

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OBJECTIVE For Latino households, rates of food insecurity (lack of access to enough food for an active, healthy life) are substan¬tially higher than the national average. Lack of access to a nutritious diet can complicate patients' health status and response to treatment. The purpose of this study is to determine the prevalence of household food insecurity (FI) in a cohort of Latino cancer patients, to compare it to 2011 national rates, and to identify relevant demographic characteristics associated with food insecurity.

METHODS A nested cohort of 749 Latino cancer patients was recruited thorough the Portal Cancer Project, which addresses socioeconomic determinants of cancer treatment access and adherence in New York City. Participants completed a sociodemographic survey and the USDA Household Food Security Survey in their preferred language.

RESULTS Patients' mean age was 55, 62% were females, 40% had breast cancer, 85% reported income below the national poverty level, and only 6% were born in the continental USA. 66% of Latino patients reported FI, 48% of them without hunger, 14% with moderate hunger and 4% with severe hunger. This Latino sample had four times the US national rate of FI for 2011 (15% vs. 66%) and more than double the national rate in Latino households (26% vs 66%). Patients who reported FI were more likely to be younger, unemployed, uninsured, born in Latin America, a more recent immigrant, Spanish speaking, have no monthly income, and have Medicaid for emergency care.

CONCLUSION The prevalence of FI among Latino patients was extremely high. A high proportion of these cancer patients not only face the burden of their disease but also the burden of hunger. Latino patients who are most vulnerable to FI are the poor, uninsured or underinsured (Emergency Medicaid), and immigrants. Comprehensive programs that include assessment of patients' food security and case management are greatly needed.

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B-007

IMPACT OF FOOD INSECURITY ON PSYCHOSOCIAL OUTCOMES AND TREATMENT ADHERENCE IN A MULTIETHNIC CANCER SAMPLE

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OBJECTIVE Ethnic minority patients and immigrants have higher rates of food insecurity (FI) than the general population. Food insecurity is a strong indicator of economic stress. Financial stress is related to depression [1, 2], poor functional [1] and emotional well-being [1] and non-adherence to cancer treatment [3]. The purpose of this study is to explore the association of FI with depression, quality of life (QOL) dimensions, and treatment appointment keeping in a multiethnic cancer sample.

METHODS We analyzed data from the Portal Cancer Project, which addresses socioeconomic determinants of cancer treatment access and adherence. Participants completed a sociodemographic survey, the USDA Household Food Security Survey, the PHQ-9 and the FACT-G in their preferred language.

RESULTS Patients' mean age was 55, 64% were female, 53% were Latino and 34% African Americans or Blacks, 42% had breast cancer, 82% reported income below the national poverty level, and only 20% were born in the continental USA. 61% of the cancer patients reported FI and 19% FI with hunger. Patients with hunger were 3.3 times more likely to have a positive depression screen and 2.31 times more likely to miss their cancer treatment appointments. In regression models FI predicted all the dimensions of QOL and overall QOL. FI with hunger predicted lower physical, social and emotional well-being, but not functional well-being.

CONCLUSION FI among ethnic minority patients is extremely high. Cancer patients with FI are at risk of depression, poor quality of life and treatment non-adherence. Further, patients with hunger are at higher risk of poorer psychosocial outcomes. Future research should focus on understanding the impact of food insecurity and other indicators of deprivation and poverty on patient outcomes.

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B-008

A MIXED METHODS EXAMINATION OF COMMUNICATION BETWEEN ONCOLOGISTS AND PRIMARY CARE PROVIDERS OF UNDERSERVED, MINORITY POPULATIONS

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Background: As the number of cancer survivors increases and the shortage of oncologists grows, primary care providers (PCPs) play an increasingly crucial role in patients' cancer care. Because research has demonstrated that communication and care coordination improves patient outcomes, it is important to understand how oncologists communicate with PCPs and recognize PCPs' communication needs.
Methods: A mixed methods approach was utilized to gain both an in-depth and broad understanding of PCPs' communication preferences and patterns with oncologists. This study focused on PCPs who serve low-income, minority populations, which experience disparities in cancer care. In the qualitative phase of the study, 18 PCPs were interviewed about their experiences communicating with oncologists. In the quantitative phase of the study, 128 PCPs completed an online survey about their experiences, preferences, and satisfaction communicating with oncologists.
Results: Results indicated that PCPs were typically not in communication with oncologists after diagnosis or during treatment, desired more communication with oncologists, wanted to get updates on their patients' prognosis throughout treatment, preferred to be contacted via telephone or email, and saw their role as crucial in providing supportive care for their patients.
Conclusions: Although PCPs recognize that they can play a critical, pro-active role in their patients' supportive care throughout the cancer continuum, current norms for post-referral communication often hinder PCPs' ability to provide this care. Expected standards regarding the method, frequency, and quality of post-referral communication and patient engagement should be jointly articulated and executed between PCPs and oncologists to improve patients' quality of care.

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B-009

TIBETAN YOGA PROGRAM FOR LUNG CANCER PATIENTS AND CAREGIVERS

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Although lung cancer leads to more debilitating physical and psychological sequelae than other cancer sites, evidence for effective behavioral interventions targeting quality of life (QOL) is limited. Moreover, in the context of patient care, the needs of caregivers are rarely addressed. The purpose of this study was to establish feasibility and preliminary efficacy of a mind-body intervention in lung cancer patients and caregivers. Patients with stage I-III non-small cell lung cancer undergoing radiotherapy and their family caregiver participated in a 15-session Tibetan Yoga (TY) program focusing on breathing exercises, gentle movements and guided visualizations. This single-arm trial assessed pre/post intervention levels of mental health (CESD; BSI), fatigue (BFI), sleep disturbances (PSQI), spiritual well-being (FACT-SP) and overall QOL (SF-36). Feasibility data (e.g., accrual, retention, etc.) were also collected. Fourteen of the 19 couples approached consented (74%) and 10 (71%) completed the program (1 became ineligible; 3 withdrew). Patients (mean age: 73 yrs., 62% male, 85% stage III) and caregivers (mean age: 65 yrs., 73% female, 85% spouses) completed a mean of 12 TY sessions (range: 6-15) and 95.5% of them rated the program as useful or very useful. Paired t-tests revealed a significant increase in spiritual well-being ($P = .03$; $d = 1.12$) for patients and decrease in fatigue ($P = .03$; $d = .87$) and anxiety ($P = .04$; $d = .91$) for caregivers. Although not statistically significant, effect sizes for change scores were large for sleep disturbances ($d = .60$ and .72; patients and caregivers, respectively) and medium for depressive symptoms ($d = .48$; patients). This first couple-based mind-body program appears to be a safe, feasible, acceptable and subjectively useful supportive care strategy for patients and their caregivers. Based on these promising preliminary findings regarding treatment gains, the next step is to conduct a randomized controlled pilot trial.

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B-010

ONE YEAR LATER: COPING AS A MEDIATOR OF STRESS AND QUALITY OF LIFE IN PATIENTS WITH RECURRENCE

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Background:Stress alleviation improves cancer patients' quality of life (QoL)(Ransom et al. 2005; Andersen et al. 2004; McCaul et al. 1999). How patients cope with stress significantly affects their long-term outcomes (Yang et al. 2008). Engagement coping strategies (i.e. planning, reframing, seeking support) are associated with better QoL and less psychological distress (Cohen 2002; Carver et al. 1993). Disengagement coping strategies (i.e. denial, alcohol use, behavioral disengagement) are associated with worse QoL and more psychological distress (Perczeket al. 2002). Little is known about coping with stress in recurrent cancer. Longitudinal data are used to test if coping mediates the relationship between stress at diagnosis and later QoL for patients with recurrence.
Methods:Breast cancer patients ($N = 98$) were assessed at recurrence diagnosis and 4 and 12 months later. Bootstrapped mediation analyses tested the indirect effect of coping on the relationship between stress and QoL. Stress was measured in two ways: 1) traumatic stress (IES-R), 2) symptom-related stress[composite of Karnofsky Performance Status (KPS), Brief Pain Questionnaire (BPQ), Fatigue Symptom Inventory (FSI), and Symptoms, Signs, Illnesses, and Toxicities Rating (SymS/Tox)]. QoL was measured using the SF-36 mental component summary. Four mediation models were tested with baseline stress as predictor, either engagement or disengagement coping at 4 as mediator, and QoL at 12 as outcome.
Results:Baseline traumatic and symptom-related stress predicted QoL at 12 months ($ps < .05$). These effects were not mediated by engagement or disengagement coping at 4 months.
Conclusions:Traumatic stress and symptom-related stress at recurrence diagnosis each predicted QoL at 12 months. Interestingly, patients' self-reported coping strategies were not a mechanism through which stress affected later QoL. QoL scores had normalized by the 12 month time point[Mean = 50.05 (population mean = 50)], thus coping strategies may have little impact at that time. Accounting for current functioning is important when considering how coping impacts QoL.

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B-011

IMPLICATIONS OF HOUSEHOLD SIZE ON QOL IN LOW-INCOME ETHNIC MINORITY CANCER PATIENTS

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OBJECTIVE Household size has great implications for health and overall QOL. The purpose of this study is to determine the impact of household size on QOL in ethnic minority cancer patients. It will provide insight into how the number of people living in a household and satisfaction with living situation may affect social well-being (SWB), emotional well-being (EWB), QOL, and depression in cancer patients. This has implications for policies around housing for cancer patients.
METHODS A sample of 1030 cancer patients was recruited through the Portal Cancer Project, which addresses socioeconomic determinants of cancer treatment access and adherence in NYC. Participants completed a sociodemographic survey (with questions about household size, perceptions of crowding, and overall satisfaction with living situation), FACT-G, and the PHQ-9. An objective measure of overcrowding was computed using the Census formula of more than 2 people per bedroom.
RESULTS Participants' mean age was 55, 65% were female. 62% were Latino and 43% African American. 20% of the participants were living alone, 71% in a household comprised of 2 to 5 people, and 9% six or more. Those who perceived their household as crowded had lower EWB, less overall QOL, and higher levels of depression. Using the objective measure, overcrowding was not associated with the psychosocial outcomes. Patients living with 6 or more people reported lower EWB and higher depression levels; patients who live alone reported lower SWB. Participants who reported not being satisfied with their living situation had less SWB, less EWB, higher depression levels, and less overall QOL.
CONCLUSION Household size among cancer patients is an important determinant of QOL. Results suggest that it is the patient's perception of overcrowding and their satisfaction with their living situation, rather than objective definitions, that impact the psychosocial outcomes.

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B-012

IMPROVING ADHERENCE TO A WEB-BASED INTERVENTION TO HELP ADVANCED CANCER PATIENTS EXPRESS EMOTIONAL CONCERNS

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Background: Up to 50% of patients with advanced cancer experience significant psychological distress, which can lead to decreased quality of life, increased healthcare utilization, and shortened survival. Despite feeling distressed, patients often do not express their concerns to their oncology providers. To teach patients how to express their emotions to providers, we developed an interactive web-based program that included exemplar videos and gave patients feedback on their own audio-recorded encounters with oncology providers. At 28 months after beginning accrual, more half the patients had not logged into the intervention website. We report on the effect of strategies to increase intervention adherence.

Method: First, at 28 months after starting enrollment, we taught study staff to use Motivational Interviewing (MI) techniques to help patients vocalize motivations for viewing the website and to encourage them to set specific goals for viewing the program. Two months later, we initiated a quarterly raffle in which participants who logged on became eligible for a $100 gift card.

Results: To date, 315 patients (mean age = 60.0, SD = 11.3; 59% female; 86% White) have been randomized in the trial. Prior to implementing MI or the raffle, the percent of patients who logged on to the program was 47%. In the two months after implementing the MI training and before starting the raffle, the log on rate was 71%. In the four months after adding the raffle, the rate was 65%.

Conclusion: After implementing two relatively easy protocol changes, log on rates improved dramatically in this population of older patients. Future researchers might consider these two strategies to promote adherence to web-based interventions.

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B-013

MINDFULNESS AND DEPRESSIVE AND PHYSICAL SYMPTOMS AMONG PATIENTS WITH METASTATIC COLORECTAL CANCER

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Although mindfulness, the receptive awareness of and attention to internal (e.g. thoughts, emotions) and external (e.g. behaviors, surroundings) phenomena in the present moment, has been studied in cancer samples, little research has been done with patients with metastatic cancer. This dearth of research represents a shortcoming in the literature as the experiences of patients with metastatic cancer are often more physically and psychologically challenging than those of patients with localized cancer and, thus, may create additional challenges when attending to their present situations. This study investigated mindfulness with a cross-sectional, questionnaire-based study of 111 patients receiving treatment for metastatic colorectal cancer. The sample (51% male, 66% White, mean age = 55.2) was recruited during visits to a major cancer center. Multiple regression analyses controlled for demographic and personality (neuroticism) variables and revealed that depressive symptoms (measured with the CES-D, somatic items removed) and physical symptoms (measured with the EORTC) were negatively associated with mindfulness (measured with the Mindful Attention Awareness Scale; $p = .04$ and $p < .01$, respectively). Furthermore, in order to understand the mechanisms through which mindfulness relates to depressive and physical symptoms, intrusive thoughts and coping strategies were tested as mediators. Meditational analyses demonstrated that cancer-related intrusive thoughts fully mediated the relation between mindfulness and depressive symptoms ($z = -2.62$, $p < .01$), but not physical symptoms ($z = -1.82$, $p = .07$). Approach and avoidant coping did not mediate either of the relations. Given the reduced likelihood of cure or long-term survivorship in metastatic cancer, psychosocial well-being is of the utmost importance. These findings suggest that mindfulness is one factor that may be associated these outcomes.

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B-014

AN IPOD INTERVENTION TO CONTROL HOT FLASHES IN ADVANCED PROSTATE CANCER PATIENTS ON HORMONE THERAPY

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Background: Androgen deprivation therapy (ADT) is considered first-line treatment for prostate cancer (PC) survivors after experiencing a rising PSA. Although effective in slowing the rise in PSA, ADT has side effects such as vasomotor symptoms (VS; also known as hot flashes). Up to 50% of men report VS severe enough to require treatment. Such pharmacological interventions have been shown to associate with additional side effects, interfere with cancer control, and increase patient burden. The purpose of this study is to determine the feasibility and efficacy of a non-pharmacological breathing technique, guided by an iPod Touch® application named 2Breathe, to manage hot flashes.

Methods: Ten prostate cancer patients have been enrolled in the study. Participants were instructed in the slow breathing technique and use of the 2Breathe application. Participants received an iPod® during the 9-week long study. Assessments took place at baseline and at 3-, 6-, and 9-weeks. 2Breathe usage data was extracted from each iPod®.

Results: Results are based on n = 8 men who completed participation. Men were, on average, 63 years old, African American (88%), and had at least a high school education. Participants used the program an average of 151 times (SD = 289.96; range 10-866) over the course of 9 weeks. This translates to a usage of 2-3 times per day. Participants used the program to guide their breathing 88% of the time. 75% of participants found the program extremely easy to operate and the animations and video were quite a bit or extremely helpful for performing the breathing exercise. The breathing technique was rated as quite a bit or extremely easy by 87.5% of patients. Half of the patients used the program "most of the time" during a hot flash episode; 25% used it every time.

Conclusion: Preliminary results indicate that the program and breathing exercise are well received by prostate cancer survivors, feasible to implement, and easy to operate.

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B-015

SYSTEMIC INFLAMMATION AMONG BREAST CANCER SURVIVORS: THE ROLES OF GOAL ADJUSTMENT CAPACITIES AND HEALTH-RELATED SELF-PROTECTION

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This cross-sectional study examined the associations between breast cancer survivors' capacity to disengage from unattainable goals, health-related self-protection, and low-grade systemic inflammation (i.e., C-reactive protein, CRP). Self-reports of goal adjustment capacities and health-related self-protection (e.g., positive reappraisals) were measured and concentrations of the inflammatory molecule CRP were quantified among 121 female breast cancer survivors (Mage 55.53, SD = 10.99 years). Results from hierarchical multiple linear regression analysis indicated that low levels of goal disengagement capacity predicted higher CRP. Moreover, the combination of low goal disengagement and low health-related self-protection was associated with particularly high levels of CRP. These results were independent from potential confounders including age, education, smoking, body mass index, cancer stage, and months since diagnosis. These findings suggest that goal disengagement capacities and health-related self-protection play important roles in predicting systemic inflammation among breast cancer survivors. Failure to disengage from unattainable goals may trigger health-compromising inflammatory processes, unless breast cancer survivors are able to psychologically protect themselves against emerging health threats. Integrating goal disengagement and self-protective processes into clinical practice may be warranted.

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B-016

INFLUENCE OF NEIGHBORHOOD-LEVEL FACTORS ON SOCIAL SUPPORT IN EARLY-STAGE BREAST CANCER PATIENTS

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In breast cancer patients, low perceived social support has been linked to negative psychosocial and health outcomes. Although individual-level factors have been linked to declining patient social support, less is known about how neighborhood-level factors affect social support decline. We collected individual-level data on 450 patients (34% DCIS, 66% stage I/IIA; 66% lumpectomy, 34% mastectomy; 80% White, 20% Black; 61% married/partnered, 39% not married/partnered; mean age 58.2 [SD = 10.7], range 40-89) who completed four telephone interviews a mean 7 weeks and 6, 12, and 24 months after final surgery. Neighborhood census-tract-level factors (percentage of people living in poverty and percentage of people who are high school graduates) were derived by geocoding place of residence at enrollment (census-tract mean percentage below poverty line 11.6 [SD = 10.2]; census-tract mean percentage high school graduates 88.2 [SD = 10.5]). Latent trajectory models were used to model intercept and slope (change over time) of scores on the MOS Social Support Survey. Models had good-to-excellent fit (e.g., CFI > .95, RMSEA < .05). With only census-tract variables in the model, higher census-tract poverty levels predicted lower social support intercept (p = .04). When individual-level predictors (e.g. demographic, psychosocial, and tumor/treatment characteristics) were added, there were no direct effects of census-tract variables on intercept or slope; the significant decline in social support was affected only by African American (vs. white) race and having mastectomy (vs. lumpectomy). Census-tract-level poverty had a significant indirect effect on intercept through marriage (p = .004). Patients in areas with greater poverty were less likely to be married/partnered, and those not married/partnered had significantly less initial social support (p = .0004). Clinicians may consider psychosocial interventions for patients with low social support, particularly patients in impoverished areas who do not have partnered relationships

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B-017

COGNITIVE BIAS MODIFICATION FOR FEAR OF BREAST CANCER RECURRENCE: THE PROMISE OF AIM-FBCR

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Fear of recurrence (FOR) is perhaps the most common sources of distress in breast cancer survivors (BCS), yet interventions designed to reduce FOR are lacking. Cognitive bias modification (CBM), a computer-based intervention targeting cognitive biases, has demonstrated efficacy in reducing anxiety symptoms. This study reports preliminary findings from a pilot randomized controlled trial of a CBM intervention called Attention and Interpretation Modification for Fear of Breast Cancer Recurrence (AIM-FBCR), which is designed to reduce maladaptive levels of FOR in BCS. Participants (n = 23, mean age = 55.1 years, 83% with at least college degrees) were randomized to receive 8 sessions of AIM-Neutral (which uses threatening and neutral word stimuli), AIM-Meaning (which uses threatening and meaningful word stimuli), or a placebo computer program. The Concerns About Recurrence Scale (CARS) and the Quality of Life-Cancer Survivors (QOL-CS) were administered at baseline and post-intervention. Paired t-tests and Cohen's d effect size estimates showed significant reductions in overall fear from baseline to post-intervention among participants randomized to AIM-Neutral (p = .04, d = .73) and AIM-Meaning (p = .04, d = .86), but not those in the control arm (p = .58; d = .27). Similarly, there were improvements in quality of life in participants in AIM-Neutral (p < .05, d = -.29), but not the control arm (p > .10, d = -.14). Large effects on overall fear of recurrence were found for both AIM-Neutral (d = -1.54) and AIM-Meaning (d = -2.05) as compared to the control arm, though baseline group differences likely impacted these estimates. Overall, these preliminary results suggest the promise of AIM-FBCR, which can be completed at home and easily implemented by healthcare providers, in improving FOR and quality of life. Continued recruitment will permit us to better evaluate the effects of AIM-FBCR and to better design a larger-scale study.

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B-018

SEXUAL SELF SCHEMA AND DEPRESSIVE SYMPTOMS AFTER TREATMENT FOR PROSTATE CANCER

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Introduction: The years following prostate cancer (PC) treatment are characterized by rapid change in sexual functioning and increased risk for depression. Sexual self-schemas (SSS) are cognitive generalizations about sexual aspects of the self that are associated with sexual behavior, affect, and the processing of sexually relevant information. SSS in men has 3 elements: power/agency; capacity for experiencing sexual passion and love; and openness to sexual experience. SSS predicts sexual outcomes in gynecologic cancer patients and buffers depressive symptoms when sexual satisfaction is low. This study tested if men's SSS moderates the impact of sexual morbidity on depression.
Methods: Men (N = 66; M age = 65.76, SD = 9.04) treated for localized PC in the preceding two years were assessed at T1 and four months later (T2). Questionnaires included the CESD (Radloff, 1977), Sexual Self-Schema Scale for Men (Andersen et al., 1999), Sexual Experience Scale (Derogatis & Melisaratos, 1979), and the EPIC (Wei et al., 2000).
Results: Regressions controlled for age, sexual activity, and T1 depression. There was no significant effect of SSS on depression; however, better sexual functioning was related to fewer depressive symptoms (B = -.25, p < .05). Results revealed significant interactions between SSS and sexual outcomes. Among men with high SSS, poor sexual functioning was associated with increased depression; loss of sexual function was particularly distressing for these men. There was no significant effect of sexual functioning. Among men with high SSS, there was an inverse relationship between sexual engagement and depression. Among men with lower SSS, greater frequency of sexual behavior was associated with increased depression.
Conclusions: SSS may be an important individual difference in determining the impact of sexual dysfunction and engagement in sexual behavior on adjustment after PC treatment. Men high on SSS are more vulnerable to psychological consequences of lower sexual functioning and less engagement in sexual activities.

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B-019

AGE AND PHYSICAL ACTIVITY IN BREAST CANCER SURVIVORS: ROLES OF SOCIAL SUPPORT, SELF-EFFICACY, AND COPING

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Physical activity (PA) is important for improving quality of life and decreasing morbidity and mortality in breast cancer survivors (BCS) (Irwin et al., 2008). However, cancer survivors' PA diminishes with age. Social support is an important facilitator of PA in cancer survivors (Pinto, et al., 2002) with both direct influences and indirect influences through self-efficacy (Williams & Bond, 2002) and coping (Luszczynska et al., 2005). Because SS also diminishes with age (Sarafino, 2010), effects of age on PA may be mediated by social support and its relations with self-efficacy and coping. We tested a model in which age decreases PA through SS and SS further affects PA through self-efficacy and coping.
Method These are baseline data from a randomized clinical trial. Participants were 157 women recently diagnosed with stages 0-II BC; most (98%) were recruited from a regional cancer registry. Most were White (94%) and married/partnered (73%). We assessed SS (Cohen & Hoberman, 1983), self-efficacy (Schwarzer & Jerusalem, 1995), active and behavioral disengagement (BD) coping (Carver, 1997), and PA (Paffenbarger et al., 1978).
Results Path analyses showed that modified model has a good fit (χ^ (5) = 6.959, p = .224; CFI = .972, RMSEA = .050): Paths from age to SS (β = -.25), from SS to PA (β = .28), from SS to self-efficacy (β = .34), from self-efficacy to BD (β = -.35), and from SS to BD (β = -.22) were significant (ps < .01).
Conclusion We found effects of age on PA occur through SS. Further, SS led to BD, and self-efficacy partially mediated this relationship. However, BD did not lead to PA. Because existing studies have much more paid attention on relations between coping and emotional well-being, additional research is required. Although cross-sectional, this study comprehensively investigated effects of psychosocial variables in the age-PA relationship. Interventions increasing SS in older BC survivors may improve their physical activity and thereby their health and well-being.

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B-020

SOCIAL SUPPORT FACILITATES PHYSICAL AND PSYCHOLOGICAL RECOVERY FOLLOWING HEMATOPOIETIC STEM CELL TRANSPLANTATION

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Hematopoietic stem cell transplantation (HSCT) is a rigorous treatment that often results in significant physical limitations and emotional distress. We examined the extent to which social support facilitates the recovery of physical and psychological functioning during the year following HSCT. Adults undergoing HSCT for hematologic cancers (N = 364) completed the Social Provisions Scale, which measures six support dimensions (reassurance of worth, attachment, social integration, reliable alliance, guidance, nurturance) prior to HSCT. Dimensions of physical functioning (physical well-being, functional well-being, and HSCT-related health concerns) and psychological functioning (depression, anxiety and psychological well-being) were assessed pre-HSCT and at 1, 3, 6 and 12 months post-HSCT. Mixed-effects linear regression models covarying for age and transplant regimen determined the extent to which pre-HSCT support predicted physical and psychological functioning across the assessment points. With regard to physical functioning, individuals who reported more overall social support prior to HSCT had better functional well-being (z = 4.70, p < .001) and experienced fewer HSCT-related symptoms and concerns (z = 4.69, p < .001), but there was not a significant relationship with physical well-being. With regard to psychological functioning, those with more supportive social relationships were less depressed (z = -4.51, p < .001), less anxious (z = -3.32, p < .001) and had higher psychological well-being scores (z = 5.58, p < .001). The same pattern was seen for each dimension of social support except for nurturance. Findings indicate that social support at the time of HSCT is an important protective factor for cancer patients' physical functioning and psychological recovery, and these effects can endure for the first year following transplant.

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B-021

COMPARISON OF ALTERNATIVE COMPOSITE MULTIPLE BEHAVIOR OUTCOME MEASURES FOR HIGH-RISK ADULTS

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Multiple health behavior change (MHBC) research simultaneously investigates relationships across multiple behaviors and requires a general composite outcome measure. However, since each behavior is unique, the structure of the outcome varies substantially, and the ordinary sum or average score is not methodologically sound. Exploring optimal methods for developing a composite outcome measure for MHBC research is therefore needed. This study compared seven different composite methods for summarizing multiple behavioral outcomes, including three standardized score approaches: 1) sum of residuals; 2) sum of z scores; 3) MANOVA, and four stage-based methods: 1) count of behaviors reached action stage; 2) count of progressed behaviors; 3) sum of stage score (1 = Precontemplation, 5 = Maintenance); 4) sum of stage score without counting negative (relapse) score. A series of general linear models were sequentially performed using data from a randomized trial with adults ($N = 657$) at risk for three cancer-prevention behaviors: smoking cessation, sun protection, and dietary fat reduction. Significant treatment effects were found only when stage-based composite scores were examined. The method using the sum of residuals was more sensitive to detect the intervention effect than using the sum of z scores, and the count of progressed behaviors was the most sensitive among the all methods on an absolute basis. MANOVA was a less effective approach for examining these three behaviors. Minimal to small effect sizes were found across all summary score comparisons ($R^2 = .004 - .018$). Although the two standardized composite scores (r = .96) and the four stage-based composite scores (r = .58 - .90) were highly correlated, the standardized composite scores and the stage-based composite scores were only moderately correlated (r = .36 - .49). This study demonstrates one approach to comparing alternative ways of summarizing multiple behavior outcomes and the variability of each method's sensitivity as an outcome measure.

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B-022

COMPARISON OF SYMPTOM EXPERIENCE OF CANCER AND GENERAL MEDICAL PATIENTS

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Background: Few studies have compared symptom burden across cancer and non-cancer patients; however, symptoms are often treated differently depending on cancer status. This study examined the symptoms of Cancer patients (CP) and General Medicine patients (GMP) in order to compare the symptom burden in each group.
Methods: CP had breast, colorectal, gynecologic, lung, or prostate cancer. GMP were attending a medical clinic for a medical concern. Participants completed the MSAS, with 32 symptoms, a Total Score, and 3 subscales. The Kruskal-Wallis was used to examine the effect of group for MSAS subscale scores, Total Scores, and number of symptoms.
Results: 301 GMP and 558 CP agreed to participate. In terms of demographics, the two samples differed only by race (p < .01), with GMP being more diverse. CP endorsed more symptoms (9 vs. 6, p < .01). There was no difference in prevalence between groups on: cough, nervousness, dry mouth, worry, dizziness, mouth sores, and weight loss. Proportionately more GMP reported pain at greater frequency (54% vs. 45%, p = .02), severity (87% vs. 60%, p < .01), and associated bother (75% vs. 59%, p < .01). The groups also differed for difficulty sleeping, with proportionately more GMP reporting greater frequency (64% vs. 46%, p < .01) and severity (88% vs. 76%, p < .05). In terms of the MSAS summary scores, CP had significantly higher Psychological and Total scores.
Discussion: Although CP reported more symptoms overall, there was no group difference in the Physical subscale score. GMP reported more frequent and more severe experience of some surprising symptoms, particularly pain and difficulty sleeping. Interestingly, there were no group differences on symptoms often associated with cancer, e.g. mouth sores, weight loss. The results suggest that bias toward treating cancer patients' symptoms more aggressively may leave patients who don't have cancer with inadequate palliation of their symptoms.

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B-023

RELATIONSHIP QUALITY AS A RISK FACTOR FOR CAREGIVERS OF HOME HOSPICE CANCER PATIENTS

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Good relationship quality (RQ) may protect cancer caregivers (CGs) from negative effects caregiving has on well-being, health and mortality. However, separating positive and negative dimensions of RQ may better predict these effects. Positive relationships with concurrent negativity (Ambivalent) appear to have unique detrimental influences on health-related outcomes compared to wholly positive relationships (Supportive). However, little research has been conducted using 2 RQ dimensions in advanced cancer CG populations.
Objective
This study assesses RQ and its psychological health correlates in a sample of spouse/partner CGs of cancer patients upon entry to home hospice care.
Methods
Cancer patients and their CGs are recruited at home hospice enrollment as part of an ongoing larger study. Within a week of enrollment, CGs complete questionnaires to assess demographics, co-occurring positive and negative RQ (Social Relationships Index), anxiety (Hospital Anxiety and Depression Scale), depression (Geriatric Depression Scale), and burden (Caregiver Reaction Assessment). CG anxiety and depression assessments will also be available at 6 weeks after patient death.
Analysis/Results
For the current sample of 102 CGs, relationship positivity and negativity were entered into GLM to predict CG anxiety, depression, burden at baseline, controlling for gender and relationship length. Preliminary results show 70% ambivalent and 30% supportive relationships. Relationship negativity marginally predicted more burden from lack of family support for women (B = 0.86, t = 1.87, p = .06). Positivity predicted a main effect of less burden from lack of family support for men and women (B = -0.52, t = -1.94, p = .05) and lower levels of anxiety for women at baseline (B = -0.01, t = -1.97, p = .05).
Implications
Increased CG anxiety and burden have gender-specific implications for psychological health, and may be risk factors for quality of patient care and CG morbidity and mortality. CG RQ may help target couples at risk for adverse health outcomes and lead to intervention.

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B-024

ACCURACY OF THE DISTRESS THERMOMETER (DT) IN YOUNG ADULT CANCER SURVIVORS: COMPARISON WITH STRUCTURED DIAGNOSTIC INTERVIEW

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Background: Professional consensus supports psychological screening for young adult (YA) cancer survivors, but research supporting specific screening measures for this group are limited. The Distress Thermometer (DT) is a widely used brief screening tool for distress in cancer patients that we sought to evaluate as a screening tool for YA survivors. Methods: As part of a larger study investigating validity of self-report anxiety and depression measures (E-Quest), we evaluated the accuracy of the DT to identify psychological distress by comparing it to the Structured Clinical Interview for DSM-IV (SCID). Participants, 125 YA survivors of childhood cancer ages 18-40 (mean = 23.9, SD = 5.5), completed the DT and the anxiety and depression modules of the SCID. Based on the SCID, participants were classified into one of three categories: 1) No significant symptoms; 2) Significant symptoms but no SCID diagnosis; 3) One or more SCID diagnoses. Results: In ROC analysis, the DT demonstrated moderate discrimination between participants with and without significant symptoms (AUC = .747), and those with and without a SCID diagnosis (AUC = .759). However, the recommended DT cut-off score of ≥ 4 failed to identify almost half of the participants with significant symptoms on the SCID (25 of 54; sensitivity 53.7%, specificity 80.3%), and 30.4% of those with a SCID diagnosis (sensitivity 69.6%, specificity 73.5%). No alternative DT cut-off score met study criteria for adequate sensitivity and specificity (both sensitivity ≥ 85% & specificity ≥ 70%). Conclusions: Based on comparison with a clinical interview this study does not support validity of the DT for screening adult survivors of childhood cancer. Consistent with a recent critique of ultrabrief measures, the DT may be useful as part of an initial screening process to identify non-cases, but the low sensitivity to psychiatric symptoms makes it ill-suited for a screening instrument in this population.

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B-025

PROSTATE CANCER SURVIVORS OPPOSED TO USPSTF RECOMMENDATION AGAINST PSA SCREENING

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Abstract Body: 2.5 million men in the U.S. are living with a diagnosis of prostate cancer (PCa); approximately 90% of whom received definitive therapy (e.g., surgery, radiation). The recent reversal in PCa screening recommendations may influence survivors' well being, possibly increasing diagnosis/treatment regret, or anger about recommendation changes. We assessed PCa survivors' knowledge of, and responses to the May 2012 US Preventive Services Task Force (USPSTF) recommendation that men no longer receive PSA screening tests. 1241 PCa survivors (mean age = 64 yrs, 85% Non-Hispanic White; 68% treated with definitive therapy, 24% active surveillance, 8% not yet known) diagnosed after May 2009, completed self-report questionnaires. Awareness was low: nearly half (45%) indicated they had had not paid attention to the recommendation and it was correctly identified by only 19%. Opposition was high: after being told the recommendation, most (79%) strongly/somewhat disagreed with the change and 75% were not at all confident that it was in the best interest of men's health; with those who correctly identified the recommendation less confident than those who did not (p < .02). Furthermore, 57% said that the guideline change undermined their trust in the government's ability to protect people's health. Diagnosis regret was low: (89%) never regretted having had the PSA, although men on active surveillance were more likely to regret having had a PSA test than those treated with definitive therapy (p < .001). Men on active surveillance also were more confident that the recommendation was in the best interest of men's health (p = .03). Most survivors opposed the recommendation change, although few were well informed. Physicians and survivorship groups should discuss the basis for PSA screening guideline changes with survivors given their role in PCa advocacy and education. In light of increasing attention to over-treatment of PCa, some, especially with less aggressive disease, may face diagnosis/treatment regret.

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B-026

SEXUAL DISTRESS AS A PREDICTOR OF WEIGHT LOSS IN ENDOMETRIAL CANCER SURVIVORS

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Background: Obesity is a common risk factor for the onset and recurrence of endometrial cancer (EC) among women, making long-term weight management critical. Efforts to identify reliable predictors of weight loss are ongoing; some research indicates associations between sexual function/distress and weight change among female cancer survivors. However, the specific influence of sexual factors on weight is not well understood. We evaluated the association between sexual dysfunction/distress and weight loss among EC survivors enrolled in a formal weight loss program.

Method: Participants completed a six-month remote weight loss intervention specifically designed for EC survivors. A subset of participants also completed the Female Sexual Function Index (FSFI) and Female Sexual Distress Scale-Revised (FSDS-R) at baseline. Two-tailed independent samples t-tests and multiple linear regressions were performed to examine sexual dysfunction/distress as predictors of weight change.

Results: Participants (N = 19) were a mean age of 58.5 years (range 30 - 72) and lost a mean of 16.2 lbs (SD = 13.1). Mean BMI at baseline was 37.1 kg/m2 (SD = 6.8). Of those who completed surveys at baseline (n = 13), 39% qualified for female sexual dysfunction (FSD) based on sexual distress scores (FSDS-R ≥ 15). Higher baseline FSDS-R scores (i.e., greater sexual distress) significantly predicted more weight loss during the six-month intervention period (β = -.715, p = .006), and those who met criteria for FSD lost a more clinically significant amount of weight than participants who did not (-29.3 vs. -12.3 lbs, respectively; p < .10). FSFI scores at baseline were not significantly associated with weight change.

Conclusions: Greater sexual distress predicted more weight loss in this sample of EC survivors, while sexual function scores on the FSFI did not. Sexual distress may motivate overweight survivors to address weight issues and may reflect more diffuse distress. Future research should examine this possible relation in larger participant samples.

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B-027

THE IMPACT OF REDUCED OVARIAN FUNCTION AND ESTROGEN DEPLETION ON YOUNG WOMEN SURVIVORS OF BREAST AND GYNECOLOGIC CANCER

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Objectives: Young women have identified treatment-induced reductions in ovarian function and estrogen depletion as survivorship challenges. Despite this, few studies (N = 5) have examined the relationship between these treatment-induced changes and young women survivors' psychological adjustment or quality of life (QoL). The current study examined consequences of reduced ovarian functioning and estrogen depletion in young survivors, and estimated their relationship to psychological adjustment and QoL.

Methods: 118 women aged 50 or less and diagnosed with stage 0-III breast or gynecologic cancer participated in an interview assessment. Participants had undergone treatment known to impact ovarian or estrogen functioning (e.g.; oophorectomy, chemotherapy, and/or radiation). Hierarchical multiple linear regression analyses tested consequences of ovarian functioning and estrogen depletion as predictors of psychological adjustment and QoL. It was hypothesized that each predictor (e.g.; menopausal symptoms, sexual symptoms, reproductive concerns) would influence each outcome (e.g.; general distress, depressive symptoms, cancer-specific stress, body change stress, and psychological QoL).

Results: Findings suggested that (1) increased physiological symptoms of menopause were associated with increased depressive symptoms, cancer-specific stress, and body change stress, but not with general distress or psychological QoL, (2) scores indicative of sexual dysfunction were associated with all outcomes, and (3) scores indicating high reproductive concerns were associated with increased body change stress, but were not associated with general distress, depressive symptoms, cancer-specific stress, or psychological QoL.

Conclusion: Results highlight the need for clinical approaches to prepare and educate women about these treatment-induced changes, prevent them where possible, and help women cope with those that are not preventable. Future studies are needed to establish directionality and to identify moderators or mediators.

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B-028

PROSPECTIVE DESCRIPTIVE PILOT STUDY OF BODY COMPOSITION IN WOMEN WITH SUSPECTED BREAST CANCER ENROLLED IN SIX WEEKS OF PREHABILITATION FOR DISTRESS MANAGEMENT

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Among women with suspected breast cancer (BrCa), the anticipatory distress of the diagnostic waiting period is associated with disruptions to behavioural patterns including exercise. Modifiable risk factors for BrCa include exercise and adiposity, with visceral and android adiposity of particular clinical importance. The benefits of exercise to body composition of BrCa survivors during and post-treatment are well documented, yet few interventions target the screening and pre-treatment stages of the cancer continuum. Prehabilitation (prehab) involves pre-treatment total-body exercise that may confer behavioural change during an identified Teachable Moment. The impact of brief prehab on body composition is unknown. The purpose of this study was to describe the body composition of women with suspected BrCa who participated in a 6-week pilot prehab program. Methods: Women presenting with suspicious breast malignancies were pre-screened for eligibility by Nurse Navigators at routine consult following diagnostic core biopsy. Eligible consenting women ($N = 10$) engaged in a 6-week progressive moderate intensity exercise intervention designed to enhance efficacy perceptions for self-regulation of exercise. Participants were expected to self-manage exercise outside of the laboratory to meet their program goals, with one weekly facility-based session with a trained exercise specialist. Body composition was assessed at baseline and post-treatment via dual x-ray absorptiometry scan (iDXA). Results: Descriptive statistics of pre- and post-treatment assessments of body composition endpoints are visually displayed, including mass, % body fat, % android fat, fat mass, lean mass, bone mineral content and visceral fat. Conclusion: Although changes were not statistically significant in this pilot study, a 6-week prehab exercise intervention did yield improvements to body composition among women with suspected BrCa. The clinical importance of changes to adiposity at this timepoint warrants further investigation with a larger randomized controlled trial.

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B-029

COGNITIVE PROBLEMS IN SCT PATIENTS THREE MONTHS POST-TRANSPLANT: ASSOCIATED PSYCHOSOCIAL FACTORS

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Stem cell transplantation (SCT) is a widely used treatment for a variety of blood and bone marrow cancers. With increasing success rates, SCT has become a common part of treatment for some cancers. However, SCT is associated with a number of significant physical and psychological problems (e.g., fatigue, sleep problems, and depression). Many patients report cognitive problems post-treatment including deficits in memory and concentration. Few studies have examined the factors related to cognitive problems following SCT. This study focused on the associations between self-efficacy for managing symptoms, depression, sleep problems and cognitive problems in 107 patients undergoing SCT (mean age 52; 82% autologous; 32% on disability). We predicted that lower levels of self-efficacy and higher levels of depression and sleep problems would be related to higher levels of cognitive problems at 3 months post-transplant. Multiple linear regression analysis showed that patients' ratings of cognitive problems were positively associated with both depression ($\beta = 0.33$, $t = 3.59$, $p < 0.01$) and sleep problems ($\beta = 0.20$, $t = 2.35$, $p = 0.02$). Patients' ratings of cognitive problems were inversely associated with self-efficacy ($\beta = -0.26$, $t = -2.98$, $p < 0.01$). These findings suggest that both physical (sleep problems) and psychological (self-efficacy, depression) factors may be important in understanding cognitive problems following SCT. Future research should examine these relationships over time and test whether interventions to increase self-efficacy and reduce depression and sleep problems can lead to reductions in cognitive problems in SCT patients.

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B-030

EFFECT OF A PATIENT-CENTERED COMMUNICATION TOOL ON CANCER PATIENTS' EMOTIONS

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Positive emotions are important for illness and recovery, found to be associated with less symptom distress and depressive symptoms, higher activation and quality of life. This study explored the role of patient-centered communication on emotions; specifically, the effect of a patient-centered assessment and communication tool, called Choice, used in outpatient visits with physicians and admission interviews with nurses, on cancer patients' positive and negative affect after the consultation. In this study Choice had also demonstrated significant improvements in patient-centered communication reported earlier, and significant reductions in symptom distress and patients' needs for symptom management support in a previous RCT.

209 cancer patients (mean age 59 years, 1/3 females) participated. The experimental group ($n = 100$) completed the Choice assessment prior to the consultation to share their symptoms, problems and priorities for care with their clinicians; 109 control group patients received usual care. All patients completed the 25-item Positive-Negative Affect Scale (PANAS) prior to and immediately after the consultation.

Controlling for pre-consultation PANAS scores, patients in the Choice group had significantly greater positive affect ($z = - 2{,}27$, $p = 0.02$, Wilcoxon signed rank test) than the control group. There were no significant group differences on negative affect ($z = 0.14$; $p = 0.14$), consistent with evidence that positive and negative affect tap into different concepts.

The findings suggest that using a patient-centered communication tool, clinicians can play an important role in helping patients foster positive emotions, which may help them manage their illness. As this may contribute to better patient outcomes, as found in previous studies, this highlights the important role of patient-centered communication.

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B-031

SPIRITUALITY PREDICTING PATTERNS OF PSYCHOLOGICAL DISTRESS IN COLORECTAL CANCER PATIENTS DURING THE FIRST YEAR OF DIAGNOSIS

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Cancer patients commonly report elevated psychological distress during the time of diagnosis and treatment. Although studies have suggested that spirituality may buffer against the adverse consequences of cancer, unknown is the extent to which components of spirituality relate to patterns of psychological distress (general and cancer-specific) in the early phases of the illness trajectory. 50 colorectal cancer patients enrolled in a longitudinal study provided valid data for the study variables at 2 (T1), 6 (T2), and 12 (T3) months post-diagnosis ($n = 50$; 59 years old; 72% female). Spirituality (FACIT-Sp; meaning, peace and faith) at T1; general distress (POMS-SF) at T1 through T3; and cancer-specific distress (IES-R; avoidance, intrusion and hyperarousal) at T2 and T3, were measured. Ethnicity, gender, age, education, and cancer stage served as covariates. General linear modeling with repeated measures revealed that the peace component of spirituality was associated to lower levels of both general and cancer-specific distress at all time points ($ps < .003$; except avoidance: $p = .06$). The protective effect of peace on general distress, however, subsided over time ($p < .005$). Although the three components of spirituality were correlated with each other ($rs > .58$), only peace predicted patterns of psychological distress during the first year of the diagnosis. These results suggest that spirituality-based interventions that foster an inner sense of peace may be efficacious for improving psychological adjustment of cancer patients who are vulnerable to experiencing significant distress, and ultimately help them enhance their overall quality of life during treatment and recovery.

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B-032

PARENTS' USE OF DYADIC COPING STRATEGIES DURING ADJUSTMENT TO THEIR CHILD'S CANCER

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Parental relationship dynamics are often not addressed when providing health care for children with cancer. This study explored whether parents' use of emotion-focused dyadic coping strategies and dyadic stress management techniques had an effect on their relationship satisfaction following their child's cancer diagnosis. Bodenmann's Systemic-Transactional Model (2005) was used as the theoretical framework for this study. Married/partnered parents of children being treated for cancer (N = 107) completed a self-administered questionnaire that included the Revised Dyadic Adjustment Scale (RDAS). The questionnaire included both quantitative and qualitative items. Descriptive data were summarized for demographic and clinical characteristics. As hypothesized, Hierarchical Linear Regression (HLR) analyses indicated that participants were more likely to report greater relationship satisfaction after their child's cancer diagnosis if they reported being more emotionally connected to their partner. Participants were also more likely to report greater relationship satisfaction after their child's cancer diagnosis if they perceived their dyadic stress management strategies as effective. Additional HLRs were conducted in order to get a more nuanced understanding of how problematic the use of the six specific behavioral markers of emotional connectedness and seven stress management strategies was for these dyads. The qualitative findings revealed themes that further enrich the quantitative findings. The data suggest that working toward strengthening emotional bonds in couples and providing psychoeducation about stress management techniques may improve or maintain the stability of couples coping with their child's cancer diagnosis.

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B-033

DAILY EVALUATION OF FATIGUE AND EXERCISE DURING CHEMOTHERAPY USING AN AUTOMATED MONITORING SYSTEM

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Cumulative evidence supports the benefits of exercise in reducing cancer fatigue. Improved methods to monitor symptoms and daily exercise can better inform research and clinical care. We tested a computer-based automated telephone monitoring (ATM) system with Nurse Practitioner follow-up for unrelieved symptoms using practice guidelines. Patients beginning chemotherapy were randomized to Telephone Care-NP (TC) (n = 180) or usual care (UC) (n = 178) and called the ATM system daily to report on 11 different symptoms including fatigue. Those who reported fatigue were asked questions to characterize their fatigue and activity. Analysis included summary statistics, comparison of groups with chi square and ANOVA and negative binomial regression to examine treatment effect on fatigue-free days. Participants on average called 73 of 83 study days yielding 26,518 daily reports. There were no differences between groups on demographics; 84% were White, 56 average age, mostly female (75%) with breast (44%) or lung (17%) cancer. Of symptoms reported at moderate to severe levels, fatigue was most prevalent (86%). Exercise data were collected from 326 participants who reported fatigue in 33% of calls. Because the TC group had greater fatigue free days (72.74/58.40; p = .01), drill down data over-represented the experience in the control group (4882 versus 3705 reports). Temporal patterns of fatigue varied with 38.4% of reports indicating fatigue was constant. In 43% of daily reports patients with fatigue indicated they had exercised; average time did not vary by group with an average of 29.75 minutes for the UC and 30.72 for the TC group. Of those who exercised, 70.25% reported exercise of low intensity. Automated monitoring systems are effective for collecting daily symptom and exercise data. Given the growing importance of exercise, future systems should collect exercise reports regardless of whether fatigue is present.

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B-034

"WHAT'S AGE GOT TO DO WITH IT?": CHALLENGES IN MEDICAL CARE AND POST-SURGICAL OUTCOMES IN ELDERS WITH BLADDER CANCER

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Purpose Age-related decline in physical and cognitive function, comorbidity, and attitudes on aging may lead to biases in muscle-invasive bladder cancer (MIBC) treatment offered by physicians and suboptimal consultations on treatment options and follow-up health care. This mixed-data analysis examines challenges in medical care provision for elders from providers' perspectives (study 1) and explores "spillover effects" on elders' needs at time of diagnosis, post-surgery, and during survivorship (study 2).

Materials and Methods In Study 1, a convenience sample of physicians and non-physician providers (N = 12; 50% physicians) was recruited from academic and private practices. A psychologist conducted 2, 90-minute focus groups stratified by provider-type. In Study 2, we recruited elders with MIBC (N = 22; > 65 Years) using the same method and conducted personal interviews to examine elders' unmet needs along the MIBC trajectory. Qualitative analyses (immersion/crystallization) were performed to examine study outcomes.

Results Study 1: Challenges in providing health care for elders centered on treatment recommendations, discussing trade-offs between treatment options, provision of sufficient post-surgical training on use of stomal appliances/catheters, and addressing comorbid conditions. Study 2: 45% of elders reported unmet information needs at diagnosis, 66% had difficulties using appliances, 36% had post-surgical issues, and 60% reported lifestyle changes. Sexual dysfunction was reported by 45%, yet only 9% received assistance. Future worries focused on the inability to continue using stomal appliances/catheters due to age-related physical changes.

Conclusions Our findings suggest unresolved challenges in health care provision and MIBC survivorship. Future studies should develop interventions to address these issues.

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B-035

POSTTRAUMATIC GROWTH AND HOPE IN PARENTS OF CHILDREN WITH CANCER

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Background: The cancer experience can be transformative for patients and their families and lead to reappraisals in goals. Posttraumatic growth (PTG) is a positive change in major life goals experienced as a result of the struggle with a highly challenging life circumstance, and hope is the belief that goals can be met. To date, no studies have examined the relationship between hope and PTG in parents of children with cancer. Methods: Participants were parents (N = 85, 82% female) of children (55% female; 2-18 years) with cancer. Parents completed a demographic questionnaire, the Posttraumatic Growth Inventory (PTGI), and Hope Scale (HS). Results: Hierarchical regressions were conducted. Following the transactional stress and coping model, demographic and illness covariates were entered on Step 1 of the regressions, and the HS total score was entered on Step 2. Hope was related to PTG in parents (p = .003), with higher levels of hope associated with greater PTG. There was a trend for the overall model to be significant (p = .057), and it predicted 15% of the variability in PTG. Exploratory analyses were conducted on the subscales of the PTGI. For Relating to Others, hope was related to growth (p = .002); the model predicted 17.2% of the variability in relating to others (p = .028). For New Possibilities, hope was related to growth (p = .008); the model predicted 15.6% of the variability in new possibilities (p = .048). For Personal Strength, hope was related to growth (p = .030); however, the model was nonsignificant. The model for Spiritual Change was also nonsignificant. For Appreciation of Life, hope was related to growth (p = .005); the model predicted 17.1% of the variability in life appreciation (p = .029). Conclusions: Findings suggest that having hope during the pediatric cancer experience may facilitate growth in parents, and hope may differentially impact the subdomains of growth. Hope may be an important target for promoting positive adjustment in this population.

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B-036

THE RELATIONSHIPS OF HEALTH LITERACY AND ACCULTURATION TO CANCER WORRY IN HISPANIC AMERICANS

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Cancer worry, or the concern that one is at high risk for developing cancer, has been associated with adherence to cancer screening. However, few studies have examined cancer worry among Hispanic Americans (HA), the fastest growing ethnic group in the United States. Stronger health literacy and greater acculturation have also been associated with adherence to cancer screening recommendations. This study investigated whether health literacy and acculturation were predictive of cancer worry among HAs. A community-based sample of HA men and women ($N = 913$) completed the Cancer Worry Scale, a brief self-report questionnaire that assesses level of cancer worry and its impact on daily functioning. Self-reported health literacy was assessed using a single validated question regarding confidence completing medical forms. Acculturation was assessed using the Brief Acculturation Scale for Hispanics, a four-item self-report questionnaire. Hierarchal linear regression was used to examine if health literacy was a significant predictor of cancer worry and whether acculturation moderated this relationship. After controlling for age, a significant main effect ($\beta = -.15$, $p < .05$) was found for acculturation as a predictor of cancer worry, whereby lower acculturation was associated with greater cancer worry. Health literacy was not a significant predictor of cancer worry, and the interaction between health literacy and acculturation was not significant. These findings suggest that HAs who are highly acculturated experience less concern about being at risk for cancer. Future studies could explore whether lower cancer worry puts HAs at risk for reduced adherence to cancer screening guidelines. Cancer worry may be an important construct to evaluate in interventions aimed at increasing screening behavior among HAs.

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B-037

POST-TRAUMATIC GROWTH AND BENEFIT FINDING IN ADVANCED CANCER

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Background: Studies that have examined post-traumatic growth (PTG) and benefit finding (BF) among patients with early stage cancer highlight the illness experience as one that may foster psychological growth. Few, however, have explored these constructs among patients with advanced cancer. Understanding factors that impact PTG and BF in this population is critical to improving overall quality of life. The purpose of this study was to examine PTG and BF in patients with advanced cancer of varying primary sites.
Method: Data were drawn from the baseline assessment of 135 patients with advanced cancer enrolled in a randomized controlled clinical trial examining the efficacy of Meaning-Centered Group Psychotherapy in enhancing meaning and spiritual well-being and reducing distress. Measures included an assessment of distress, PTG, and BF. Relationships between study variables were examined using bivariate correlations and one-way analyses of variance.
Results: Lower levels of global distress corresponded to higher levels of BF ($r = -.18$, $p = .03$) and facets of PTG: personal strength ($r = -.18$, $p = .04$) and new possibilities ($r = -.18$, $p = .04$). Additionally, there were significant differences in facets of PTG- spiritual change ($p = .01$) and personal strength ($p = .05$)- according to disease type, such that patients with breast cancer reported significantly more PTG than patients with lung cancer in these domains.
Conclusions: Global distress appears to challenge the ability for patients with advanced cancer to find benefit in their illness experience, recognize personal strength, and explore new possibilities to enhance growth. As distress is modifiable and amenable to intervention, future psychotherapeutic interventions should focus on targeting this variable as a means to increasing PTG/BF. Such interventions may be particularly important among patients with advanced lung cancer, for whom finding benefit in the illness experience appears to be especially challenging.

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B-038

FEAR OF BREAST CANCER RECURRENCE: THE IMPORTANCE OF PERSONALIZED INTERVENTIONS

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Fear of recurrence (FOR) is a significant and persistent concern associated with poorer psychological adaptation and quality of life among breast cancer survivors (BCS). To better understand the content of BCS's fears, this study examined associations between ratings of a set of health- and cancer-related verbal stimuli (words) and demographic and psychological variables in BCS. As part of a study to develop a personalized computerized cognitive bias modification (CBM) intervention designed to reduce FOR, women ($n = 27$) with a history of stage 0, I, or II breast cancer and at least moderate levels of FOR were asked to rate the emotional charge of a set of 35 health- and cancer-related words from +3 (positively valenced) to -3 (negatively valenced), with 0 indicating no charge. They also completed the Concerns About Recurrence Scale (CARS). Participants were on average 55.6 years old, and 89.0% were college-educated. BCS reporting higher levels of health worries as measured by the CARS rated several diagnostic- and treatment-related words more negatively, suggesting a greater level of threat. These included the words, mammogram ($r = -.42$, $p < .05$), biopsy ($r = -.53$, $p < .01$), and chemo ($r = -.43$, $p < .0.5$). Words reflecting general health (e.g., sickly) or cancer threat (e.g., malignancy) were not significantly associated with CARS scores ($ps > .10$). Younger BCS rated general health words (e.g., paralyzing, $r = -.51$, $p < .05$) as less threatening, despite the fact that, as has been shown in prior studies, age was inversely correlated with overall FOR, $r = -.47$, $p < .05$. Survivors with greater health worries appeared to have stronger negative reactions to words related to diagnosis and treatment. This suggests the importance of developing personalized interventions to assist BCS with reducing FOR, particularly to reduce negative emotional reactions to procedures, such as mammograms, that are part of routine follow-up care.

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B-039

THE IMPACT OF CAREGIVING BURDEN ON THE HEALTH-RELATED QUALITY OF LIFE FOR CANCER PATIENTS AND THEIR FAMILY CAREGIVERS

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Background: Caregiving burden exerts physical and emotional health, and consequently may undermine not only health-related quality of life (HRQOL) of caregivers, but also cancer patients. But impact of caregiving burden on patients' HAQOL is generally unknown.
Objectives: This study aims to examine association between caregiving burden and HRQOL for both by developing two path models through a pathway of stress level, sleep quality and emotional health.
Methods: 233 mixed type cancer patient-caregiver dyads completed an online questionnaire consisting of short form-12 health survey (SF-12), caregiver reaction assessment (CRA), perceived stress scale, Pittsburg sleep quality index, and hospital anxiety and depression scale. Path analysis was conducted to estimate associations among study variables for cancer patients and family caregivers separately.
Results: For caregivers, CRA was significantly associated with stress [unstandardized path coefficient (standard error) = 1.06 (.15), $p < .01$], sleep disturbance [.61(.12), $p < .01$], anxiety [.36 (.09), $p < .01$], depression [.55 (.10), $p < .01$], SF-12 physical health [-1.19 (.34), $p < .01$], and SF-12 mental health [-1.33 (.28), $p < .01$]. CRA showed a significant indirect effect on SF-12 physical health [-.36 (.11), $p < .01$] via sleep quality and SF-12 mental health via stress [-.53 (.14), $p < .01$] and via depression [-.24 (.11), $p < .05$]. For cancer patients, CRA showed a significant direct effect on stress [.59 (.14), $p < .01$], anxiety [.15 (.07), $p < .05$] and depression [.22 (.09), $p < .05$]. CRA showed a significant indirect effect on SF-12 physical health [-.42 (.13), $p < .01$] and SF-12 mental health [-.94 (.19), $p < .01$] via stress, sleep quality, and emotional health.
Conclusion: This study showed that CRA was an important role in HRQOL for both cancer patients and family caregivers, and might shed a light on self-care and use of social support for improvement of their HRQOL.

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B-040

EFFECTS OF DANCE/MOVEMENT THERAPY ON THE DISEASE SYMPTOMS IN BREAST CANCER PATIENTS UNDERGOING RADIOTHERAPY

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Background: Breast cancer patients undergoing radiotherapy often suffer from various disease symptoms such as fatigue, pain, and sleep disturbance. These symptoms have been shown to be detrimental to their daily functioning and illness prognosis. The present study aimed to examine the effects of dance/movement therapy as an integrated therapeutic intervention on the disease symptoms in breast cancer patients undergoing radiotherapy.
Methods: This randomized control trial recruited 139 breast cancer patients (mean age = 48.8 years, SD = 8.2) from cancer support centers and randomized them into intervention group (N = 69) or standard care control group (N = 70). The intervention program composed of six 90-minute dance/movement therapy sessions over 3 weeks and integrated physical, psychotherapeutic, and humanistic components. Participants filled in the Brief Fatigue and Pain Inventories and Pittsburgh Sleep Quality Index at baseline and 3-week follow-up. Latent growth modeling was used to assess the intervention effects on fatigue severity, pain severity, and sleep disturbance.
Results: Participants in the two groups did not significantly differ on demographics (p = .18 - .88) and baseline status of the outcome variables (p = .16 - .77). There was a significant intervention effect on pain severity (group x time effect = -.72, SE = .36, p < .05). Participants in the control group showed a significant increase in pain severity while those in the intervention group remained stable. No intervention effects were found on fatigue severity (group x time effect = -.09, SE = .33, p = .78) and sleep disturbance (group x time effect = -.50, SE = .45, p = .27).
Discussions: The results suggest that dance/movement psychotherapy may have therapeutic effects in reducing the pain severity of breast cancer patients receiving radiotherapy.

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B-041

CONTENT ANALYSIS OF AN ONLINE ORAL CANCER FORUM: QUESTIONS AND PSYCHOSOCIAL CONCERNS ABOUT THE HUMAN PAPILLOMAVIRUS (HPV)

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The distinct molecular, clinical and epidemiologic differences between HPV + and HPV- oral cancers raise the possibility of distinct psychosocial issues related to HPV in oral cancer. To date, our knowledge of such issues is rudimentary. Understanding the subjective concerns of those with oral cancers linked to HPV is a necessary prerequisite for the development of theory to guide subsequent psychosocial research. The purpose of this exploratory study was to identify questions and psychosocial concerns about HPV among persons with a diagnosis of oral cancer via content analysis of an online oral cancer patient and survivor forum. Using a computer-generated sampling procedure, we drew a random sample of 300 unique posts made to the forum before June 2013. Only posts containing the text keywords "HPV" or "human papillomavirus" were sampled. All related posts and responses to the thread were included. We performed content analysis using principles of Grounded Theory. After development of a codebook of topics, trained coders reviewed and coded each text segment. Inter-rater reliability was good. Emergent themes were many and varied, and included: etiologic role of HPV versus "other" in some oral cancers; sex, oral sex and oral cancer; increasing public awareness (with and without celebrity endorsement) of oral cancer; HPV + oral cancer as an emerging health condition; cancer screening and HPV testing in partners and spouses; treatment differences between HPV + and HPV- oral cancer; stigma: HPV + and HPV- as an identifier; and the role of HPV vaccines. Questions abounded about the use of the vaccines in adulthood, in preventing oral cancer and in preventing recurrent oral cancer. Despite the potential self-selecting sample bias of participant posters, this study provides novel information about questions and psychosocial concerns about HPV among oral cancer patients and survivors. Findings should inform the development of theory to guide subsequent psychosocial research.

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B-042

SEXUAL FUNCTION IN MEN RECEIVING ANDROGEN DEPRIVATION THERAPY FOR PROSTATE CANCER: A LONGITUDINAL CONTROLLED COMPARISON

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The effects of surgery and radiotherapy for prostate cancer (PC) on sexual function have been well-characterized. The relative effects of androgen deprivation therapy (ADT) on sexual function are less well known. There are few controlled studies of ADT effects in PC. We examined sexual function in PC patients receiving ADT (ADT+) compared to patients treated with radical prostatectomy only (ADT-) and men with no history of cancer (Controls) matched for age and education, and in the case of PC patients, time since diagnosis. ADT + patients (n = 66) completed the Expanded Prostate Cancer Index Composite (EPIC) prior to initiation of ADT (baseline) and at follow-up 6, 12, and 24 months later. ADT- patients (n = 93) and Controls (n = 101) completed the EPIC at similar intervals. Mixed models yielded significant (p values < .001) group by time interactions. Erectile function, sexual desire and ability to climax decreased significantly (p values < .001) over time in ADT + patients. In ADT- patients, erectile function and ability to climax increased significantly (p values < .001); there was no change in sexual desire over time. There were no changes in any of these domains for Controls. At 24 months, ADT + patients' erectile function, sexual desire and ability to climax were significantly worse (p values < .05) than both ADT- patients and Controls. There were no differences between ADT- patients and Controls in sexual desire and ability to climax; ADT- patients reported significantly worse erectile function (p < .05) than Controls. Study findings indicate improvements over time in erectile function and ability to climax in ADT- patients. ADT affects sexual function in multiple domains and effects worsen over time. Longer-term studies are needed to determine the full extent of dysfunction associated with ADT and whether sexual function is comparable to matched controls and ADT- patients after cessation of ADT.

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B-044

COGNITIVE PROFILES IN HEART FAILURE: INTACT, IMPAIRED, AND MEMORY IMPAIRED

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Introduction: Cognitive impairment is common in heart failure (HF). A recent study found three distinct cognitive profiles in HF patients-namely-persons with intact abilities, those impaired in multiple cognitive domains, and those with isolated deficits in memory. We examined whether these profiles would replicate and also identified whether the profiles were related to multiple medical factors, including those not previously studied (e.g., adiposity, mood, and stroke).
Methods: HF patients (68.6 ± 9.7 yrs; N = 329) completed tests for intelligence (North American Adult Reading Test), global cognition (3MS), attention (Trails A, Stroop Word, Letter-Number Sequencing), executive function (Trails B, Stroop Color-Word, Frontal Assessment Battery), and memory (Rey Auditory Verbal Learning Test). Composite scores were created for each domain using norms and used to identify clusters via agglomerative hierarchical cluster analysis. ANOVAs were used to compare groups and logistic regressions were used to predict group membership.
Results: A 3-cluster solution emerged. Cluster 1 had intact cognition (n = 109; attention = 52.1, SD = 7.0; executive function = 53.5, SD =6.1; and memory = 59.5, SD = 4.1). Cluster 2 had globally impaired cognition (n = 123; attention = 43.5, SD = 4.8; executive function = 44.1, SD = 6.2; memory = 44.5, SD = 5.1). Cluster 3 had impaired memory only (n = 97; attention = 55.8, SD = 4.9; executive function = 54.7, SD =4.7; memory = 46.3, SD = 5.4). Profiles differed across age, race, education, SES, IQ, body mass index, and diabetes but did not differ in mood or cerebro/cardiovascular disease. Older age, male gender, and lower 3MS predicted memory and globally impaired profiles.
Conclusions: Three cognitive profiles emerged: intact, impaired, and memory impaired. These profiles may reflect unique mechanistic pathways to impaired cognition in HF. Patients with memory deficits only may be overlooked, given the lack of adequate cognitive screening.

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B-045

GREATER BODY MASS INDEX PREDICTS POORER COGNITIVE FUNCTION IN MALE HEART FAILURE PATIENTS

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Background/Purpose: Patients with heart failure (HF) are at increased risk for cognitive impairment. Obesity is prevalent in HF and shown to be an independent contributor to cognitive impairment in both healthy and patient samples. We examined whether higher body mass index (BMI) is associated with poorer cognitive functioning in HF patients.
Method: Participants were 231 adults (34% female, 24% non-white) HF patients (aged 68.7 ± 9.3 years) recruited from two urban medical centers. Self-reported height and weight were used to compute BMI. A neuropsychology battery included global cognitive function (Modified Mini-Mental Status Exam), memory (Rey Auditory Verbal Learning Test and Complex Figure), attention (Letter-Number Sequencing, Stroop Word and Color, and Trails A), and executive function (Stroop Color Word and Trails B). Composites were created using averages of the age-adjusted scaled scores for each domain. Hierarchical regressions were run for each gender using continuous BMI as a predictor of cognitive variables, after adjusting for estimated IQ, education, socioeconomic status, race, medical comorbidities, and HF severity on Step 1.
Results: Most of the sample was overweight (28.6%) or obese (47.6%). For males, greater BMI predicted poorer attention ($\beta = -.18$, $p = .01$) and executive function ($\beta = -.13$, $p = .04$) but did not predict memory ($p = .69$) or global cognitive functioning ($p = .08$). In females, greater BMI was not associated with any cognitive variable (all $ps \geq .09$).
Conclusion: Consistent with expectations, higher BMI is associated with poorer attention and executive function in male HF patients. Given the association between these mental abilities and daily function, these patients have more difficulties with the complex HF treatment regimen and have heightened risk for poor outcomes. Additional intervention may be warranted to ensure optimal adherence in this group.

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B-046

HEALTH LITERACY AND DISEASE MANAGEMENT IN CAREGIVERS FOR OLDER PATIENTS WITH HEART FAILURE

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Introduction: Older adults with HF often need caregivers to assist with HF care yet little is known about the health literacy and effectiveness of such caregivers. We hypothesized that caregivers would have adequate health literacy and heart failure management skills.
Methods: Seventeen patient-caregiver dyads ($n = 34$) were recruited from a JCAHO-certified HF program with a standard HF patient education protocol. Inclusion criteria: patients dependent in ≥1 ADL, symptomatic HF (NYHA class II-IV) and without dementia. Dyads completed 2 measures of health literacy: a combined score of 3 validated self-report questions and a nutrition label reading task (Newest Vital Sign; NVS) and the Self-Care of Heart Failure Index (SCHFI). Data were analyzed with SPSS 20. Paired t-tests compared patients to caregivers.
Results: Patients were older than caregivers (80 vs. 67 yrs), majority female in both groups (59% vs. 71%), 59% NYHA class II and 41% class III, 94% hospitalized at least once in the prior 12 months (59% for CV related cause). Although caregivers scored higher on self-reported health literacy ($t = 4.6(df = 16)$, $p < .001$) and NVS ($t = -3.9(df = 16)$, $p = .001$) than patients, the majority of both groups scored in the questionable/inadequate range for health literacy (95% and 53% for patients and caregivers, respectively) on the NVS. Both caregivers and patients scored adequately in SCHFI Maintenance (>70) but inadequately in SCHFI Management (60.8 ± 20.2 and 62.3 ± 16.3 for patients and caregivers, respectively) and Confidence domains (62.1 ± 21.9 and 62.5 ± 22.3 for patients and caregivers, respectively).
Conclusion: While caregivers have better health literacy than patients, they demonstrate a gap between self-reported health literacy and competence on a label reading task, a prerequisite skill for a low sodium diet for HF management. As such, caregivers of dependent patients are in need of targeted HF disease management education.

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B-047

A WEB APPLICATION FOR SELF-MONITORING IMPROVES SYMPTOMS IN CHRONIC HEART FAILURE

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Background: Several studies have implemented technologically-driven heart failure programs to reduce readmissions and results have been mixed. Symptom monitoring is the basis of most strategies, and they rely heavily on healthcare providers to provide telephone calls and/or review automated monitoring. The purpose of this study was to evaluate the impact of a home self-monitoring website for heart failure. The hypothesis was that self-monitoring provides the patient empirical evidence of health status improving self-care and reducing heart failure symptoms.
Methods: A single, group prospective pilot study was done. Patients with systolic heart failure (EF <40%) were recruited. A website for patients to self-monitor heart failure was designed for monitoring blood pressure, weight and heart failure symptoms. Participants were given instructions about how to use the website and to perform self-monitoring daily for 12 weeks. Patients received a comprehensive physical exam by a heart failure cardiologist at baseline and after 12 weeks, and analyses used paired t-tests.
Results: Forty-one patients were enrolled and 24 completed the study. The mean age was 56 years old and half the patients self-monitored for >10 weeks. Compared to baseline, the New York Heart Association class significantly improved (pre 2.5 ± 0.66 versus post 2.0 ± 0.66, $p = 0.0011$), weight decreased (pre 209 ± 47 pounds versus post 207 ± 46 pounds, $p = 0.39$), 6-minute walking distance improved (pre 572 ± 721 feet versus post 845 ± 920 feet, $p = 0.065$), and jugular venous distention by physical exam decreased (pre 8.1 ± 3 inches versus post 6.7 ± 1.7 inches, $p = 0.08$).
Conclusions: A 12-week program for self-monitoring in heart failure significantly improved symptoms, and other surrogate markers trended toward improvement. Further research is needed to determine how to improve the persistence of self-monitoring and how to make self-monitoring in heart failure more efficient.

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B-048

UTILIZING A CULTURAL FRAMEWORK TO ASSESS PERCEPTIONS OF CARDIOVASCULAR DISEASE AMONG MIDLIFE AND OLDER AFRICAN AMERICAN WOMEN: APPLICATION OF THE AACORN PARADIGM

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Cardiovascular disease (CVD) is the leading cause of mortality among African American women, who are 30% more likely to die from the disease than their white counterparts. Despite this disparity, interventions for CVD prevention have been shown to be less effective among this demographic. The purpose of this study was to utilize the African American Collaborative Obesity Research Network (AACORN) paradigm to deconstruct perceptions among African American women about several facets of CVD. Specifically, focus groups were guided by the three expanded knowledge domains of this framework: cultural and psychosocial processes, historical and social contexts, and physical and economic environments. The sample population included 22 African American women with a BMI of ≥24, and self-described as mostly inactive. The mean age was 55.3 years. Recruitment occurred at a fitness center in a low-income, urban Boston neighborhood and participants were screened for eligibility either on-site or over the phone. At a psychosocial and cultural level, participants expressed a high-perceived severity of heart disease, and in spite of stress and family obligations, were confident in their ability to overcome these obstacles. In the historical and social contexts, common elements emerged, including the importance of spirituality and the historical influences of food choice and inferior educational opportunities. In the final domain, the economic environment was often cited as a barrier to maintaining healthy behaviors. This formative research is novel in its application of the AACORN ecological framework to elucidate a more comprehensive understanding of heart disease among midlife and older African American women.

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B-049

ASSOCIATIONS OF BLOOD PRESSURE CHANGE AND PATIENT REPORTED STRATEGIES FOR MANAGING HIGH BLOOD PRESSURE

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Background: To advance blood pressure (BP) reduction interventions, it is important to know the characteristics and strategies of those successfully managing their BP.
Method: We mailed surveys to African American patients, across three Veterans Affairs facilities, identified having controlled BP, as part of a larger study to improve hypertension self-management. We asked patients interested in participating to indicate their BP strategies, and examined responses in association to BP measurements recorded in the clinical record over 6 months.
Results: Patients (N = 149) were mostly male (85%), mean age of 61.9; 54% have some college education, and take on average one BP medication. Most (85%) identified more than one strategy; the most frequent strategies were "take my medicine" (n = 102; 68.5%), "watch salt intake" (n = 52; 34.9%), and "exercise" (n = 34; 22.8%). College educated patients less frequently indicated "talk to my doctor" as a strategy (p = .024) compared to no college completion. Additionally, patients that responded "take my medicine," were younger (M = 60.2; SD = 9.5) (p = .002). No differences showed for "exercise," "avoid stress" or "watch salt intake" strategies. A weak association emerged with lower systolic blood pressure readings across 6 month intervals for patients indicating "take my medicine" (p = .06) and "exercise" (p = .08) as strategies, compared to those who did not. Although not significant, patients indicating "avoid stress" as a strategy had higher overall systolic BP across the 6 months (125.1) compared to those who did not (123.3).
Conclusion: Education and age remain significant differences for using particular BP strategies in this small sample of patients with controlled BP. Further research on additional BP strategies is warranted to understand relationships between strategies and BP measurements.

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B-050

SPIRITUAL WELL-BEING PARALLELS PHYSICAL AND PSYCHOLOGICAL DISTRESS IN PATIENTS WITH HEART FAILURE

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Patients with heart failure (HF) often experience physical and psychological distress, risk factors for repeated hospitalization and mortality. Research suggest that spiritual well-being might influence HF patients' experience of distress. This study examined whether changes in spiritual well-being over the course of three months were related to changes in psychological and physical distress. HF patients (N = 42; 88% male; mean age = 63; 78% NYHA 2-3) recruited from specialty clinics completed questionnaires at enrollment (T1) and at 3-month follow-up (T2). Spiritual well-being was measured with the FACIT-Sp-12, which yields a total spiritual well-being and two subscales (faith and meaning/peace). Psychological distress (depressive and anxiety symptoms) and physical distress (severity of HF-related symptoms) served as outcomes. Using regression analyses, change in spiritual well-being (total, meaning/peace, and faith) was used to predict outcomes at T2 (symptom severity, depressive and anxiety symptoms) while controlling for T1. Results indicated that improved total spiritual well-being was associated with a reduction in physical distress from HF-related symptoms ($\beta = -.31$, $p = .002$). Increases in faith ($\beta = -.31$, $p = .002$) and increases in meaning/peace ($\beta = -.24$, $p = .03$) were related to decreased physical distress. For psychological distress, increases in faith were also related to decreases in patients' depressive ($\beta = -.28$, $p = .03$) and anxiety symptoms ($\beta = -.26$, $p = .05$), but changes in meaning/peace were not significantly related to depressive or anxiety symptoms. These results suggest that increases in HF patients' spiritual well-being are related to decreased reports of physical and psychological distress. Further work is needed to understand the connection between spirituality and HF patients' experience of distress.

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B-052

HOW YOUNG ADULTS WITH PREDIABETES PERCEIVE THEIR CONDITION AND PREVENTION ACTIVITIES

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Aims: The study explored prediabetic young adults': 1) perceptions of prediabetes and T2D, 2) subjective experiences of managing prediabetes, and 3) perceived barriers to making behavioral changes.
Method :Young adults aged 18-29 were recruited from Metro Atlanta area. Semi-structured focus group interviews lasting 70-110 minutes were conducted ; each included 3-5 prediabetic young adults (14 females, 2 males). The interviews were audio-recorded and transcribed verbatim by research assistants. Content analysis without predetermined themes was used by two independent researchers to identify and agree upon themes.
Results: The average age and Body Mass Index(BMI) were 23.89 years (SD: 3.22) and 40.35 (SD: 9.69), respectively . Young adults perceived prediabetes as: no specific meaning because it is not actually diabetes or being glad to know about prediabetes because it enabled them to make behavioral changes. Participants who observed the negative effects of diabetes in their close family expressed fear. They wanted to engage actively in diabetes prevention activities. Weight reduction was the primary and most common advice from health care professionals to prevent T2D, but young adults felt frustrated hearing the advice because they believed that their body sizes were inherited. Time, stress, money, convenience, and inaccessibility of healthy food on campus and at work were challenges to achieve dietary change. Technology (e.g., mobile apps) was often used by young adults to monitor weight and calorie intake. Physical activity was the behavioral goal least addressed by young adults with prediabetes.
Conclusions: Because young adults are sensitive about their body images, an effective diabetes prevention program may be focused on "to do" (e.g., physical activity) activities rather than "to be" (normal weight) conditions. A peer coach approach seems a good approach. Future research is warranted to identify strategies to help young adults with prediabetes overcome barriers to behavioral changes.

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B-053

CHANGES OF DIABETES RISK FACTORS IN OBESE AND SEDENTARY YOUNG ADULTS

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Aims: The study explored changes of body mass index (BMI), A1C and fasting glucose (FG) in high risk young adults for type 2 diabetes over two years. A 12 week diabetes prevention program occurred one year after enrollment into the study.
Method : A 2- phased study (phase 1: descriptive study; phase 2 :12 week pilot intervention using quasi experimental design) was performed. Between 9/2011 and 5/2012, overweight/obese, sedentary young adults residing in Atlanta were recruited to examine the characteristics of young adults with prediabetes (phase 1 study). Those who had high risk (pre-diabetes and BMI ≥ 30) from the Phase 1 study were re-recruited for Phase 2 study. A lifestyle modification incorporating hand-held device technology was developed based on the findings of phase 1 study. Data collection occurred at phase 1 study and phase 2 study (pre and post testing after 12 weeks). One-way within-subjects ANOVA was performed on BMI, A1C (%), or FG (mg/dL) as a function of time with post hoc pairwise comparisons using Bonferroni adjustment.
Results: Of 15 young adults with pre-diabetes, 13 completed the phase 2 study. Participant characteristics were: male 23.1%, African American 53.8%; age 24.4 yrs [SD: 2.2]. During the control period (one year observation period), the BMI, A1C and FG increased by 0.6 ±2.1, 0.3% ± .4, and 3.3 ±9.6 mg/dL, respectively. Between pre and post testing, BMI and A1C decreased from 41.0 ±7.3 to 40.1 ± 7.0 (p = .08) and 6.0% ± .5 to 5.6% ± .5 (p = .02) respectively, while FG increased from 92.6 ± 11 mg/dl to 97.6 ±14.3 mg/dl (p = .33).
Conclusion: The intervention resulted in reduced A1C and a trend for decreased BMI in obese sedentary young adults with prediabetes after 12 weeks. Further study through a randomized clinical trial with longer intervention period is warranted.

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B-054

FATIGUE PATTERNS IN T2DM: EFFECTS OF GENDER & BLOOD GLUCOSE

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Fatigue is a common and debilitating complaint among patients with type 2 diabetes (T2DM), yet the results of cross-sectional studies have yielded little information about how baseline characteristics and daily variation in blood glucose levels are related to changes in fatigue. In this study, we used concurrent, continuous measures for glucose and self-reported fatigue to: 1) characterize fatigue patterns across days; 2) identify factors associated with the fatigue patterns. Fifty two subjects (24 male, 28 female; aged 58.2 + 8.2) wore a wrist actigraphy monitor and a continuous glucose monitor (CGM) for six days. A fatigue rating was entered every 2 hours into the actigraphy monitor. Baseline self-reported sleep, fatigue, and depression were measured using measures from PROMIS. Profile plots of daily fatigue scores were used to explore fatigue patterns. Mixed effects regression models, using repeated measurements of fatigue and daily glucose levels (mean and standard deviation) over 5 days; and baseline characteristics (gender, age, years of T2DM, BMI, depression, sleep quality (interruption and impairment) were used to examine key predictors of fatigue. Results: Baseline sleep impairment, average daily glucose, and gender were the strongest predictors of fatigue. In separate analyses by gender, female subjects' daily fatigue patterns were consistently and significantly higher than the males and strongly associated with daily glucose levels. Fatigue was lower in the males and significantly associated with baseline self-reported sleep impairment, however there was no association between glucose and fatigue. Gender is known to influence self-reported fatigue in healthy and cancer patients. To our knowledge, we are the first to report similar findings among people with T2DM. More importantly, we were able to discern significantly different fatigue patterns across 5 days between genders, and found that glucose was only related to fatigue in women.

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B-055

THE FIVE FACTORS OF PERSONALITY AND SELF-REPORTED/BIOMARKER DIABETIC CONTROL

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Objective: To test whether the five-factors of personality influence perceived versus actual diabetic control differently using the 2006 Health and Retirement Study (HRS). It was predicted that participants higher in neuroticism would be more likely to report that their diabetes was not under control and had gotten worse since the previous interview, and that their HbA1c level, a biomarker of diabetic control, would not be correlated with their report. It was predicted that participants higher in extraversion, agreeableness, and openness to experience would be more likely to report that their diabetes was under control and had gotten better, even if their HbA1c level did not reflect their report. Participants higher in consciousness were predicted to more accurately report about diabetic control. Method: HRS is a longitudinal population-probability study, which surveys community-dwelling American adults age 50+ using interviews and biometric data. The present study analyzed the 2006 HRS core, leave-behind survey, and HbA1c biomarker data from 753 diabetic participants with complete data. Results: Correlations between extraversion/reported diabetic control ($r = -.09$, $p < .05$), and extraversion/HbA1c ($r = .04$), were significantly different ($t = 3.07$, $p < .01$). Likewise, as were HbA1c ($r = .04$) and reports that participant's diabetes had gotten better ($r = .12$, $p < .01$) ($t = 3.43$, $p < .001$). Small significant correlations were found between neuroticism/reports that diabetes had gotten worse ($r = .09$, $p < .05$), agreeableness/reports that diabetes had gotten better ($r = .09$, $p < .05$), and conscientiousness/reports that diabetes had gotten better ($r = -.09$, $p < .05$). Conclusion: These results suggest that increased extraversion is associated with reports that diabetes was under control and was better than the previous interview, even though HbA1c levels did not support this belief. As those higher in extraversion may more likely over-estimate their diabetic control, physicians should consider monitoring blood glucose levels more closely for these diabetics.

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B-056

SLEEP AND ADJUSTMENT IN ADOLESCENTS WITH TYPE 1 DIABETES

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Insufficient and poor quality sleep are important risk factors for depressive symptoms, impaired cognitive functioning, and decreased insulin sensitivity in adults. However, little is known about the impact of sleep disturbances in adolescents with T1D. The purpose of the current study is to examine disordered sleep in relation to adjustment (i.e., depressive symptoms, quality of life, and glycemic control) in adolescents with type 1 diabetes.

Adolescents age 10-16 with type 1 diabetes ($n = 117$, mean age = 12.9 + 2.2, 45% female, mean HbA1c = 7.7 + 1.1) and their mothers completed questionnaires, and clinical data (i.e., HbA1c) was obtained from adolescents' medical records. We focused on an item from the Child Behavior Checklist and the Youth Self Report asking if the adolescent had trouble sleeping. This item has been significantly correlated with other measures of sleep latency (assessed with sleep diaries and actigraphy) and total sleep time (assessed with EEG).

In our sample, 33% of adolescents had parent- or self-reported sleep problems. There were no significant differences in sleep problems related to age or gender. Analysis of variance indicated that adolescents who had trouble sleeping reported significantly higher levels of depressive symptoms and lower quality of life (both $p < .001$). Notably, sleep problems were associated with significantly poorer glycemic control; mean HbA1c for adolescents with trouble sleeping was 8.0 (above the goal range) vs. 7.5 (within the goal range) for those who did not have trouble sleeping ($p = .022$). Finally, adolescents who had trouble sleeping reported significantly higher levels of diabetes-related stress ($p < .001$).

Our results indicate that problems with sleep are common in adolescents with type 1 diabetes, occurring in nearly 1 in 3. Abnormal sleep in this population may be a modifiable risk factor for poor psychosocial and physiological adjustment, including uncontrolled diabetes. Future studies are needed to describe sleep patterns in this population and to determine if changes in sleep improve diabetes management and glycemic control.

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B-057

MEDIATIONAL EFFECTS OF STRESS AND SOCIAL SUPPORT ON DIET IN WOMEN WITH DIABETES AND HYPERLIPIDEMIA

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Background: Research demonstrates that healthy diet behaviors are promoted by satisfaction with social support but hampered by perceived stress. Adherence to a healthy diet is critical for illness management in individuals with type 2 (T2) diabetes (DM). Healthy eating is also essential for the control and prevention of comorbid dx, in particular hyperlipidemia which is diagnosed in 46% of adults with T2DM. Aim: This study explores how stress mediates the effects of social support on diet behaviors in an at-risk population with T2DM and comorbid dx of hyperlipidemia.

Method: Ss were 100 women with T2DM and hyperlipidemia (94.8% White; M BMI = 34.54, SD = 7.41) attending a DM care clinic in IN. Ss completed validated self-report measures assessing DM/ medical Hx, perceived barriers to DM diet change (PDQ), perceived social support satisfaction (SSS; SSQ) and perceived stress (PS; PSS).

Results: Linear regression analyses were conducted. Individual relationships emerged between dietary barriers and the predictors PS ($\beta = -.305$, $p < .001$) and SSS ($\beta = .035$, $p = .002$). A combined regression model (PS, SSS) accounted for 15.5% of the variance in dietary barriers; the linear combination of predictor variables was related to the experience of barriers to diet engagement ($F = 8.610$, $p < .001$). PS was maintained as a significant predictor in the regression model ($\beta = .033$, $p < .001$). However, SSS was not maintained ($\beta = -.156$, $p = .172$), indicating potential PS mediational effects.

Conclusions: Increased SSS has been shown to reduce perceived barriers to healthy diet engagement. Our data suggest that PS may mediate the effect of SSS on perceived dietary barriers in women with T2DM and hyperlipidemia. Clinicians, as part of the support system, should be cognizant that positive social support may not augment diet engagement in women under high levels of stress. Our results demonstrate that stress impacts individuals with comorbid dx who may benefit from improved diet control and highlights the need for clinicians to monitor their patients' perceived stress levels.

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Citation and Meritorious Poster
B-059

WHAT PREDICTS INTENTION TO PURSUE HEALTH CAREERS IN HIGH-ACHIEVING LOW-INCOME MINORITY STUDENTS?

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Background: Research shows that increasing the percentage of ethnic and racial minorities in health professions may be beneficial for reducing the racial/ethnic health disparities in the United States. Despite a dire need to recruit minority students to enter health careers, there is a lack of research examining factors influencing minority high school students' intentions to pursue health careers. Therefore, the objective of the study was to examine the potential influences of personal interest in health, subjective norm toward pursuing health sciences in college, and social support in sciences from adults in high-achieving low-income minority students' intentions to pursue health careers. Methods: Utilizing baseline data from Climbing Up & Reaching Back (CURB), a project aimed at identifying factors influencing pursuit of health science careers, a cross-sectional analysis of high-achieving low-income minority 10th graders was performed ($n = 134$). Results: Multiple linear regression analysis indicated that subjective norm toward pursuing health sciences in college was significantly associated with intention to pursue a health career ($b = 0.72$, $t = 4.85$, $p < 0.001$), above and beyond demographics, personal interest in health, and social support in sciences. Conclusions: Findings suggest that perceived expectations from relevant individuals or groups is a significant indicator of intention to pursue health careers in high-achieving low-income minority students. While further research is needed to confirm the predictive nature of subjective norm in this population, the current findings provide valuable insight for the future development of interventions targeting recruitment of high-achieving minorities for health careers.

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B-061

SOCIODEMOGRAPHIC CHARACTERISTICS EXPLAIN DIFFERENCES IN UNPROTECTED SEXUAL BEHAVIOR AMONG YOUNG HIV-NEGATIVE GAY AND BISEXUAL MEN IN NEW YORK CITY

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Young gay, bisexual and other men who have sex with men (YMSM) under age 30 in New York City are at high risk for acquiring HIV. Using the theoretical framing of fundamental causes, this analysis examined the extent to which sociodemographic factors (race/ethnicity, perceived familial SES, U.S.-born status, and sexual orientation) explain the likelihood that HIV-negative YMSM ages 18 and 19 engage in unprotected sexual behavior, which may place them at risk for serconversion. Data were drawn from the baseline (Wave 1) assessment of a cohort study ($N = 592$), predominantly of racial/ethnic minority YMSM. Multinomial logistic regression analyses were undertaken to examine associations between demographic covariates with the likelihood of engaging in unprotected sexual behaviors with male partners (any unprotected anal intercourse, as well as unprotected receptive anal, insertive anal, and receptive oral intercourse) irrespective of partner serostatus, in the month prior to assessment. U.S-born status and perceived socioeconomic status consistently were significant in differentiating risk behaviors. Being born outside the U.S. and perceiving a lower SES was associated with greater levels of risk. These findings suggest that efforts to address the disproportionate burden of HIV disease among YMSM in the United States must not focus solely on issues of race/ethnicity, but must be tailored to low SES and foreign-born young gay and bisexual men. These demographic factors lead to disproportionate levels of psychosocial burdens, which engender risk.

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B-062

"MY YAP FAMILY": AN ANALYSIS OF A PRIVATE FACEBOOK PAGE FOR HIV-POSITIVE YOUNG ADULTS

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Background: Little research has been done regarding whether social networking sites, like Facebook, can be harnessed to improve patient well-being. As part of its comprehensive services for HIV positive individuals, a large urban healthcare clinic established a private Facebook group for members of its young adult program (YAP). This study investigates how participants use this group, particularly for social support, and assesses the utility of the Facebook group in the context of the program as a whole.

Method: A directed content analysis using validated typologies was applied to the 3,838 posts and comments appearing on the YAP Facebook page between March 1, 2011 and July 1, 2012. The frequencies of the different types of interactions were calculated in order to characterize the nature of the exchanges occurring on the page.

Results: A large percentage of the content fell into the "administrative/engagement in group" (41.74%) category and worked to improve the functioning of the Young Adult Program. While negative interactions (1.35%) were infrequent, positive interactions such as socializing (24.83%), banter (20.22%), and provision of social support (15.06%) were common. Esteem support and emotional support were the most frequently provided types of support on the YAP Facebook page, while emotional support and network support were the types of support most frequently sought by group members.

Conclusion: Very few negative interactions were found on the Facebook page, but a substantial amount of socialization and social support exchange was observed. These results indicate that a monitored Facebook group may be a useful tool for clinics seeking to provide support and positive social interaction to patients beyond scheduled support-group meetings. This study also adds to the social support literature by identifying a new type of esteem support ("mattering") that warrants further investigation.

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B-063

USE OF TECHNOLOGY IN DISSEMINATION OF HIV ADHERENCE PROMOTION INTERVENTIONS WITHIN OUTPATIENT CLINIC SETTINGS

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Medication adherence to Highly Active Antiretroviral Therapy (HAART) is a primary concern among healthcare providers. However, healthcare providers often lack sufficient time, education, and resources to adequately assess treatment adherence and intervene with at-risk patients (Gerbert et. al, 2000). Widespread dissemination of current efficacious interventions designed to improve HAART adherence is limited by several barriers, including time and expense burdens on the health care system. The use of electronic interventions could overcome these barriers and aid in dissemination of these interventions within the clinic setting. This study developed a computer-based adherence promotion intervention and tested its feasibility and acceptability via a randomized controlled study in an outpatient HIV clinic. HIV + men and women ($N = 92$) currently prescribed HAART, with self-reported adherence <95% were randomized to the intervention or treatment as usual (TAU). Participant satisfaction data strongly support the relevance and helpfulness of the program among HIV patients. Further, participants in the intervention condition reported significantly higher self-efficacy to adhere to their treatment regimen at follow-up than those in the control condition, $F(1, 91) = 6.25$, $p = .014$. A trend was found for improved adherence for participants in the intervention condition at 1-month follow-up, while adherence among TAU participants remained consistent with baseline, $F(1, 92) = 3.75$, $p = .056$, $h2 = .04$. This was the first study to investigate a single-session computer-based adherence promotion intervention in an outpatient HIV clinic. Results suggest that electronic interventions are feasible in the clinic setting and that this method may be effective in increasing adherence self-efficacy and possibly treatment adherence. Thus, the use of technology-assisted interventions may be a convenient, economical solution to the current limitations imposed upon health care providers.

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B-064

A JUST-IN-TIME BEHAVIORAL INTERVENTION USING A NOVEL DEVICE TO INCREASE MEDICATION ADHERENCE: LESSONS LEARNED AND IMPLICATIONS FOR FUTURE RESEARCH

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Sub-optimal antiretroviral adherence is a serious problem among people living with HIV that can lead to virologic rebound, resistance to medication regimens, and poor health outcomes. Emerging mobile health technologies allow for the detection of potential missed doses in real time. This test-of-concept intervention trial was designed to target missed medication doses using the Wisepill device and initiate just-in-time behavioral self-regulation adherence counseling. Men and women living with HIV (N = 41) who were medication non-adherent at baseline were randomly allocated to receive either (a) the just-in-time counseling intervention or (b) a single standard adherence counseling session. Adherence was assessed through monthly unannounced pill count for the 3-months post-intervention. Acceptability of the intervention and device by participants provides encouraging evidence for utilization of this type of technology. However, limited feasibility and noon-significant efficacy results raise questions regarding the intersection of cognitions, behavior and novel mobile health technologies. These data have implications for future study designs especially for identifying active components of the intervention, optimizing of the intervention in conjunction with the Wisepill device as well as addressing participants' responses, both behavioral and cognitive, to novel mobile health technologies.

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B-065

IMPLEMENTATION OF EVIDENCE BASED HIV INTERVENTIONS INTO CHURCH SETTINGS FOR YOUNG ADULT AFRICAN AMERICAN WOMEN

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Despite the staggering rates of HIV, and the prominent role the African American church has in the health of young African American women (AAW), it remains underutilized as a forum for implementation of evidence-based interventions (EBIs) to prevent HIV. The purpose of this study is to examine the barriers and facilitators to the implementation of an HIV EBI into a church setting for AAW ages 18-25. Research questions explored and examined the risks and needs of this population as well as the barriers, facilitators, feasibility and acceptability of implementation. This is a mixed methods, multilevel study using interviews, focus groups and surveys of pastors, young adult women and congregants in four churches. Barriers included pastor's discomfort in distributing condoms and lack of education regarding HIV/AIDS. Facilitators included the strong presence of the church as a trusted institution for delivery of health interventions which is also situated in communities with the highest HIV risk. Implementation of the intervention was supported by adaptation to fit church context and integration of health professionals. A primary product included an adapted HIV intervention suitable for church settings. These results provide strategies for the implementation of HIV EBIS in churches with health care providers and researchers at the forefront of facilitating this process. Findings contribute significantly to development of community based health policies related to implementation of health interventions and to the understanding of the implementation process in systems that face significant contextual barriers. These findings can be applied to other organizations and systems to promote implementation and dissemination of EBIs.

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B-066

VAGINAL PRACTICES IN LUSAKA, ZAMBIA: INFLUENCE OF CULTURAL NORMS

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Introduction: Intravaginal practices (VP) are the introduction of products inside the vagina for hygienic, health or sexuality reasons. VP are common in sub-Saharan Africa and increase the transmission and acquisition of HIV, but the influence of men and Alengizis, traditional marriage counselors for girls, has not been explored. This study presents qualitative data on VP obtained in Lusaka, Zambia.

Methods: Gender concordant focus groups (10 men, 30 women) and 3 key informant interviews with Alengizis were conducted in Community Health Centers. Focus group and interview responses were grouped into 3 themes, 1) cultural norms, 2) types and reasons for VP and 3) health consequences.
Results: VP is a cultural norm and widespread tradition in Zambia, learned from generation to generation, taught by friends, relatives or Alegizis. Alengizis' described teaching VP to young girls to promote hygiene and enhance sexual pleasure for men, but due to the HIV epidemic, teaching of VP has changed over time. The reasons for women to engage in VP are hygienic, though men expect women to engage in VP to enhance sexual pleasure. The types of practices and products used are broad (e.g., soap, water, lemon, beer, herbs). Women were aware of the health consequences of VP; that VP could be harmful and facilitate genital cancer or HIV, but felt they would not feel clean if they discontinued VP. Men, however, were not aware of the health consequences of VP and were concerned about their loss of sexual pleasure. Alengizis had broad knowledge regarding the harmful effects of VP. Both women and Alengizis felt men should be involved in discussions regarding discontinuing VP. Men said they would be supportive of discontinuing VP if they knew of the health consequences.
Conclusions: Despite awareness of the health risks of VP, these practices are widespread among Zambian women and an essential component of their perceived hygiene and sexuality. The frequency of VP mandates further exploration into methods to intervene to decrease or ameliorate their use as an essential component of HIV prevention.

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B-068

ETHNIC IDENTITY AND MAJOR DEPRESSION IN ASIAN-AMERICAN SUBGROUPS NATIONWIDE: DIFFERENTIAL FINDINGS

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Objectives: Social identity theory proposes that racial/ethnic identity protects minorities. Few studies, however, have examined whether such an identity is the consistent protective factor for major Asian American subgroups nationwide. To meet the gap, we explored the differential influences of their racial/ethnic identity on major depressive disorder in these subgroups, using the first national database. Based on their distinct cultural backgrounds, including varied immigration stressors, we expected inter-group differences in effects of subcultural identity on major depressive disorder, above and beyond the influences of existing predictors such as demographics, discrimination, and acculturation factors. Methods: Using the first national sample from the National Latino and Asian American Study (NLAAS), we explored the varying effects of racial/ethnic identity, alongside known protectors (social support and religious attendance) . Three hierarchical logistic regression models were conducted for Chinese, Filipino, and Vietnamese Americans, respectively. Results: Multivariate analyses showed an association of Racial/Ethnic Identity and being US-Born with an increased likelihood of major depression in Chinese. Social Support was related to the reduced likelihood of depression. In Filipinos, Racial/Ethnic Identity and English Proficiency were inversely linked with major depression, whereas higher levels of Education, Years in the US and Discrimination predicted the greater likelihood. In Vietnamese, Religious Attendance and Social Support reduced the likelihood of major depression. Conclusion: Our findings do not reinforce a consistent protective role of Racial/Ethnic Identity in all Asian Americans. The findings were interpreted through differential meanings/implications of identity within cultural and immigration contexts of the three major Asian American subgroups.

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B-069

AN ABBREVIATED FORM OF THE INJECTION PHOBIA SCALE-ANXIETY FOR THE HEALTHCARE SETTING: EVIDENCE FOR PREDICTIVE VALIDITY AND A SINGLE FACTOR STRUCTURE

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Introduction: Needle/injection anxiety is defined as an extreme fear and behavioral avoidance of needles and related medical procedures. Needle/injection anxiety is common and carries with it significant individual and public health ramifications, as medical procedures involving needles (e.g., blood draws, vaccinations) play an ever expanding role in the diagnosis, treatment, and prevention of disease. In order to address needle/injection anxiety in today's healthcare settings, a brief validated measure is needed. The Injection Phobia Scale-Anxiety (IPS-A), a validated 18-item self-report instrument, assesses for needle/injection anxiety. An abbreviated validated form of IPS-A would enhance parsimony and prove more easily deployable in clinical practice and research contexts. Methods: Participants completed an 8-item form of IPS-A and 2 items assessing for history of fainting and avoidance in situations involving needles. Results: Participants (n = 675) were primarily Caucasian (74%) and female (59%). Participant ages ranged from 17-75 years (M = 19.24; SD = 2.93). Nearly one quarter (24.6%) of participants endorsed fainting or dizziness during medical procedures involving injections; 18.8% reported avoiding medical procedures because of injection fear; 10.7% reported both. Confirmatory factor analysis supported a single factor structure for this instrument (X2 = 305.917; p < .001; CFI = .923; SRMR = .0367). IPS-A scores were significantly predictive of dizziness/fainting (OR = 1.13; 95%CI: 1.10, 1.16; p < .001), behavioral avoidance (OR = 1.24; 95%CI: 1.19, 1.28; p < .001), and both (OR = 1.22; 95%CI: 1.17, 1.28; p < .001) in this sample. Conclusions: An abbreviated form of the IPS-A demonstrates a unified factor structure, and scores predict primary behavioral outcomes of needle/injection anxiety in this sample. This brief measure could help healthcare providers identify patients at risk for behavioral avoidance of or syncope in response to medical procedures involving needles.

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B-070

RESILIENT COPING FINDINGS IN A LARGE, COMMUNITY-BASED, TWIN STUDY

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Adaptive coping as an aspect of effective chronic illness management will become increasingly important in an era of shrinking government services. The 4-item Brief Resilient Coping Scale (BRCS; Sinclair & Wallston, 2004) efficiently assesses a form of adaptive coping. Using a sample of 3734 pairs of twins (N = 7468) from the community-based University of Washington Twin Registry, twins were randomly allocated to either subsample A or B to examine the psychometrics of the BRCS. Principle components analysis confirmed that all 4 items loaded on a single component. In both subsamples, Cronbach's alpha was .75. For the 2102 pairs of monozygotic twins, the intercorrelation of BRCS scores was .29 (p < .001), whereas for dizygotic twins (1515 pairs) the correlation was only .08 (p = .002), indicating some degree of heritability of resilient coping. Theoretically consistent significant correlations (with p values < .001) were demonstrated between the BRCS and perceived stress (r = -.21 for both subsamples); perceived control (r = .40 and r = .38); anxiety (r = -.14 and r = -.13); and depressed mood (r = .-22 and r = -.21). Resilient coping theoretically buffers the negative consequences of stressors; in both subsamples the BRCS demonstrated moderating effects of perceived stress on depressed mood and anxiety on depressed mood. These findings offer new insights into the potential heritability of resilient coping patterns. Using the resilient coping patterns assessed in the BRCS as a guide, implications for potential clinical interventions that could enhance the use of these adaptive coping patterns will be discussed.

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B-071

CHOCOLATE CRAVING AND EATING DISORDER SYMPTOMS IN MEN

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Chocolate craving is common in U.S. women and has been linked to the menstrual cycle, with peaks in craving frequency and intensity around the onset of menstruation. Prior studies have not supported a causal role of fluctuations in hormones, nutritional deficits or pharmacologically active ingredients in chocolate in the etiology of craving. Instead, craving in women is positively correlated with elevated dietary restraint, less flexible control over food intake and more guilt following consumption, suggesting that maladaptive eating-related attitudes and behavior may be causally involved in the emergence of food cravings. This study examines the prevalence, nature and correlates of chocolate craving specifically in men to further elucidate mechanisms underlying strong urges for food. Undergraduate men (n = 240, mean age = 19.75, 72.8% Caucasian) completed measures assessing demographics, food cravings, and eating disorder pathology and dietary restraint. More than half of respondents (53.3%) reported any chocolate craving, with most experiencing "mild" (57.8%) or "moderate" cravings (31.3%) at least once a month (78.9%). Cravers and non-cravers did not differ in self-reported BMI or dietary restraint. Cravers scored significantly higher on the "craving," "guilt" and "functional" subscales of the Attitudes to Chocolate questionnaire (all p < .05). There were significant main effects of craving on Eating Attitudes Test (EAT) total (p = .04, ηp2 = .02) and "dieting" subscale scores (p = .03, ηp2 = .02), controlling for BMI. EAT scores were higher in non-cravers, suggesting more eating-related pathology. Non-cravers were also significantly more likely to be on a diet than men craving chocolate. Craving appears largely unrelated to eating disorder pathology in men and may instead be associated with overall healthier behaviors. Findings thus differ markedly from prior data indicating that craving in women is associated with maladaptive patterns of eating. Future research should take into account these gender differences.

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B-072

RISK BEHAVIORS AND FLOURISHING IN UNDERGRADUATES

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Research suggests increasing rates of mood difficulties in college cohorts, with estimates of 1/4 to 1/2 of students suffering from depression (Westerhof & Keyes, 2010; MacKenzie et al., 2011). Keyes and others have argued that mental health is more than the absence of depression, but a state described as flourishing (Keyes, 2007; Keyes, 2009) The present study assesses undergraduates for both flourishing and depression and explores the association between these dimensions and risk behaviors. A sample of 121 senior undergraduates completed measures of mental health (MHC-SF,Keyes, 2007) and reported on a variety of behaviors, from binge drinking to cigarette smoking. 56.2% of respondents were flourishing, and 47.1% reported CESD scores in the depressed range. 15.3% of those who were flourishing also reported symptoms of depression. Underrepresented minority (URM) students had significantly higher CESD scores, significantly lower mental health scores, and significantly less flourishing than the non-URM respondents. Being on an athletic team or engaging in sports served as protective factors, as did participation in community-engaged work or service. Neither alcohol consumption (oz/week) nor binge drinking were associated with flourishing. Cigarette smoking was inversely associated with flourishing, and positively correlated with depression. URM students reported marginally significantly lower alcohol consumption and less binge drinking, but greater tobacco and marijuana use. A regression model predicting mental health, including race, gender, smoking, athletics and service work as predictors accounted for 22% of the variance (F(5,116) = 5.7, p < .0001.) Flourishing, depression and risk behaviors in URM students merit further research.

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B-073

HOW DOES PRE-TRAUMA DEPRESSION, PTSD AND ALCOHOL USE INFLUENCE DAILY SOMATIC, COGNITIVE AND EMOTIONAL SYMPTOMS AFTER TRAUMA?

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BACKGROUND: Most individuals who experience acute traumatic events do not develop post-traumatic stress disorder (PTSD), but there is large variability in post-traumatic stress symptoms (PTSS). Prior research has identified pre-traumatic variables that predict PTSD distant from an acute trauma, including trait depression and anxiety, but few studies have examined how these factors influence the acute trajectory of PTSS. This study uses a novel mobile phone text message (SMS) method to collect daily symptom data to better characterize the role of somatic, cognitive, and emotional symptoms after an acute trauma.

METHODS: 160 medically stable, adult subjects (18-55 years of age) with acute trauma will be enrolled from a Level I trauma center Emergency Department (ED) between June, 2013 and February, 2014. Inclusion criteria include being discharged home from the ED after treatment and mobile phone with SMS ownership. Subjects complete a questionnaire about the injury, pain, depression, alcohol/drug use, Rivermead Post-Concussion Symptoms Questionnaire, PTSD checklist and Injury Perception Questionnaire. They are then sent daily text-message questions about symptoms of headaches, concentration difficulty, and anxiety for 14 days. After 3 months, they complete a follow-up questionnaire to re-evaluate for PCS, PTSD, and depression.

RESULTS: Preliminary data from 49 subjects demonstrated more days with symptoms in depressed versus non-depressed patients and pre-trauma PTSD versus those without PTSD over the first 14 days. There were trends of lower symptoms in patients with past month binge drinking versus no past month binge drinking.

DISCUSSION: Pre-trauma depression and PTSD are associated with more PTSS after trauma, but past binge dirnking is associated with less PTSS. Interventions should be targeted to improving acute trajectory of symptoms in those who screen positive for pre-trauma PTSD and depression.

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B-074

AGE MODERATES THE EFFECT OF PHYSICAL FUNCTIONING ON PSYCHOLOGICAL DISTRESS IN MULTIPLE SCLEROSIS

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Background: Previous research has found that age is related to less distress in people with Multiple Sclerosis (MS). However, reasons for the relationship of age and distress are not well researched. This study sought to examine whether age moderated the effect of physical functioning on two forms of distress, depression and anxiety, to help understand reasons for the relationship of age and distress.

Methods: People with MS (n = 440) completed a telephone survey. They completed PROMIS measures of physical function (PF), depression and anxiety as well as questions on needing help with daily activities. Demographic information was also collected. Stepwise multiple regression was conducted with the following variables entered on each step: 1) controls (gender, education), 2) age and either the PF measure or needing help, 3) interaction term of age and PF or age and needing help. Separate regressions were conducted for depression and anxiety.

Results: PF and needing help were related to depression and anxiety such that worse physical function and needing paid or unpaid help was related to more depression and anxiety (all ps < .01). Age was also negatively related to depression and anxiety (all ps < .01). However, age significantly moderated the effect of PF and needing help on depression and anxiety (all ps < .01) such that PF and needing help were more strongly related to depression and anxiety in younger participants.

Conclusion: The older the person with MS the weaker the relationship between PF and distress. The results suggest that age moderates the effects of PF on distress. Future research should examine other potential reasons for the age effects on distress.

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B-075

COMPLEMENTARY EHEALTH: VETERANS USE OF MY HEALTHEVET AND CLINICAL VIDEO TELECONFERENCING

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The Veterans Health Administration (VHA) has implemented several eHealth technologies including clinical video teleconferencing (CVT) and a personal health record, My HealtheVet (MHV), to deliver progressive care and to meet the needs of Veterans. eHealth technologies may improve patient-provider communication outside of face-to-face clinical encounters. Complementary use of ehealth technologies has been described as a means to provide seamless, patient-centered care, and to support communication, information sharing and patient involvement in care. Mentally ill patients are relatively high adopters of MHV, and may benefit from complementary eHealth use. To determine how to target mental health interventions using eHealth technologies, we characterized the adoption and complementary use of CVT and MHV among mentally ill VHA users..

We selected individuals with one or more high priority mental health conditions from a cohort of over 6 million active VHA users and linked data to MHV and CVT access and use data. We identified 2,171,653 VHA users with mental illness: 8.49% were women, mean age was 60.11 and 36.31% were over 65 years old. Four groups of tool users were identified. Most Veterans with MH conditions were not registered for MHV (71.86%) and did not engage in CVT, while 22.86% used MHV only and 3.78% used CVT only. There were 32,552 Veterans who were registered for MHV and who engaged in CVT ('complementary users'). Overall, the Veterans averaged 1.92 MH conditions and the complementary users had the highest average number of MH conditions as compared to other users. Complementary users were more likely to be younger, were more likely to be recently returned from combat than those who were non-users or used only one technology, and included a larger percentage of women.

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B-076

THE RELATIONSHIP BETWEEN DEPRESSIVE SYMPTOMS AND REPORTED PHYSICAL AND MENTAL HEALTH AMONG HEALTHY OLDER ADULTS

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Introduction

Depression is commonly reported among older adults, and it is closely associated with poor health outcomes. Mortality risk was 25%-43% higher for those with high levels of depressive symptoms. Depression has been found as a risk indicator for mortality even after controlling for sociodemographic factors, clinical disease, and health risk factors among older adults. However, very few studies have examined the role of depressive symptoms in non-clinical healthy population. Moreover, it is unknown how depressive symptoms contribute to physical and mental health among healthy aging adults. The purpose of the current study was to identify the link between depressive symptoms and physical and mental health among healthy older adults.

Participant and Method The study consisted of 124 healthy older adults (Age range = 64-75, M = 69.04, 75.8% Caucasian). Hamilton Depression Inventory was used to measure depressive symptoms. Physical and Mental Health were measured using the SF-12 questionnaire.

Results A significant negative correlation was found between depressive symptoms and both mental ($r = -.53$, $p < .01$) and physical health ($r = -.24$, $p < .01$). Additionally, depressive symptoms significantly predicted physical health ($\beta = -.50$, $p < .01$) and the model uniquely and significantly explained 22.5% of variance in physical health ($R2 = .225$, $F(2, 118) = 17.16$, $p < .01$) while controlling for mental health.

Discussion The findings from this study indicate that physical health and mental health can be impacted negatively even by minimal elevation of depressive symptoms in healthy older adults. It is apparent that depression adversely impacts one's physical and mental health, efforts in early screening and prevention of depression are important. Older adults with risk for depression should be further evaluated for possible treatment. Proper interventions may reduce depressive symptoms and enhance physical and mental health that promotes longevity in older adults.

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B-077

IMPACT OF INTERNALIZING AND EXTERNALIZING PROBLEMS ON SOCIAL FUNCTIONING AND THE FAMILY IN PEDIATRIC ONCOLOGY/HEMATOLOGY

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Research in pediatric populations has shown that children with chronic medical conditions have more difficulties than their healthy peers related to sleep, pain and emotional/behavioral problems. There is less research examining social problems. Research in healthy children demonstrates that internalizing and externalizing problems impact social functioning. The current study examined internalizing, externalizing problems and social functioning in children with cancer and hematological disorders, as well as impact on the family. Participants were 96 caregivers of children with cancer (32), sickle cell disease (49), or other hematological conditions (15) (M age = 8.59 years; 46.9% female, 78.1% African American). Caregivers completed the Family Symptom Inventory, Child-Behavior Checklist, and Impact on Families scale during regular clinic visits Results indicate that children with cancer and hematological disorders have poorer social functioning (T-score M = 43.32, $t(72) = -5.79$, $p < .01$) compared to the normative sample (T-score M = 50.00). Both internalizing ($r = .60$, $p < .01$) and externalizing symptoms ($r = .61$, $p < .01$) were positively correlated with social problems and both internalizing ($r = .31$, $p < .01$) and externalizing ($r = .23$, $p < .05$) symptoms were correlated with higher burden on families. Hierarchical regression analysis revealed that both internalizing problems ($\beta = .38$, $p < .01$) and externalizing problems ($\beta = .40$, $p < .001$) uniquely contributed to the variance in social problems, Adj. $R2 = .45$, $F(2, 70) = 30.15$, $p < .001$, even when controlling for demographic variables (age, gender, ethnicity, diagnosis). Internalizing and externalizing problems did not contribute to the variance in burden on families after controlling for demographic variables. These findings indicate that increased internalizing and externalizing problems may contribute to poorer social functioning in children with cancer and hematological conditions. Further research examining these relationships is warranted.

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B-079

PRIMARY CARE WELLNESS ADVOCACY PROGRAM: CONNECTING PATIENTS WITH COMMUNITY RESOURCES

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Growing evidence documents the environmental, social, and behavioral determinants of health, underlining the need for primary care practices and community organizations to coordinate efforts to support patients' health. Over an 8-month period beginning in the fall of 2012, we conducted a pilot study to assess the feasibility of implementing a Wellness Advocate Program into a rural primary care practice within the Mayo Clinic Health System. The aims of the Program were to identify patients' non-clinical, health-related needs and to connect patients with trained wellness advocates to coordinate access to community resources. Eighteen volunteer wellness advocates were trained in basic motivational interviewing and community resource-finding. The primary reason for referral to the Program was tracked and patients' perceptions of whether their needs were met were assessed. A total of 173 patients completed a questionnaire to assess social, behavioral, informational, and tangible needs. The median age of respondents was 49.7; 65% of respondents were female; and the majority of respondents were white with 6% of Hispanic ethnicity. Reasons for referral were: tangible needs (35%), informational needs (24%), emotional needs (11%), companionship (3%) and other/unidentified (27%). Tangible needs included financial (53%), transportation (15%) and other (32%). Information needs pertained to substance abuse (26%), nutrition / weight loss (19%) and other (55%). Our pilot research documents the feasibility of implementing a volunteer Wellness Advocate Program in a primary care setting to coordinate patient access to community resources. Results of this pilot will inform planned efforts to systematically evaluate the impact of the Program on patients' use of clinical services.

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B-080

PSYCHOMETRIC PROPERTIES OF THE CHINESE VERSION OF EVIDENCE BASED PRACTICE QUESTIONNAIRE

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Purpose: To translate the Evidence Based Practice Questionnaire (EBPQ) developed by Upton & Upton (2006) into Chinese, and evaluate its psychometric properties.
Background: Evidence Based Practice (EBP) is becoming increasingly important in both national and international healthcare, including the Chinese health care system. However, the absence of a qualified tool limits the evaluation of nurses' perceptions and abilities of implementing EBP. The EBPQ developed by Upton & Upton is a good measure of nurses' knowledge, practice and attitudes towards EBP. However, it has not been validated in the Chinese nursing populations.
Methods: The EBPQ Chinese version was translated from the English version EBPQ using the Brislin translation procedure. Over 1600 nurses from 12 tertiary hospitals in Southern China were enrolled to test its validity and reliability. The intra-structure of the scale was evaluated by exploratory factor analysis, and verified by confirmatory factor analysis (CFA). Internal consistency was assessed by Cronbach's α, test-retest and split-half reliability.
Results: Principal component analysis and Varimax rotation yielded three factors, including knowledge of EBP, attitudes towards EBP, and EBP practice, which explained 58.25% of the total variance ($n = 650$). Scores of each factor were significantly correlated with total scores, for the knowledge factor $r = 0.94$ ($p < .01$), the attitudes factor $r = 0.72$ ($p < .01$), and practice factor $r = 0.83$ ($p < .01$). CFA results revealed that the three factor model fitted indices ($\chi2/df = 4.01$, NFI = 0.88, FRI = 0.87, IFI = 0.90, TLI = 0.89, CFI = 0.90, RMSEA = 0.07, PNFI = 0.76, PCFI = 0.78, $n = 917$). Values for Cronbach's α, test-retest and split-half coefficient for the overall EBPQ were 0.94, 0.86 and 0.74 respectively, indicating satisfactory reliability. Cronbach's α for each factor ranged from 0.79 to 0.93 indicating good reliability.
Conclusion:The EBPQ Chinese version is a valid measure for assessing nurse's knowledge, attitudes and implementation of EBP.

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B-081

PRIMARY OUTCOMES IN LARGE BEHAVIORAL RANDOMIZED CONTROLLED TRIALS FUNDED BY NIH/NHLBI SINCE 1980

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Background. Debates have persisted if randomized controlled trials (RCTs) have demonstrated behavior change and improved health. We conducted a review of large RCTs with behavioral interventions supported by NHLBI.
Methods. Using NIH databases, we identified 4,089 RCTs primarily funded by NHLBI for cardiovascular disease (CVD) (dates 01/01/1980-12/31/12). Studies were retained for analysis if they involved: behavioral interventions, adults, and had direct costs > = $500,001 in 1 year. We reviewed ClinicalTrials.gov registries and grant abstracts for pre-specified primary outcomes (PO). POs were coded as positive, null, or negative. Among 65 trials meeting inclusion criteria, 24 were not published, 2 were excluded for design, leaving 39 for analysis.
Results. 85% of RCTs (33 out of 39) found a significant, beneficial effect on their PO. Eight RCTs did not measure the targeted behavior change. Of the 31 RCTs that measured behavior change, 26 (84%) reported significant improvements for the primary behavior change such as diet, exercise, or weight. Three RCTs did not measure a physiological outcome. Approximately 64% (23 out of 36) reported significant results when PO was an objectively-measured, physiological or clinical outcome such weight, blood pressure, cholesterol level, coronary artery diameter, medication adherence, or mortality. Only 7 RCTs assessed disease-specific or all-cause mortality and all were null for mortality. Almost 90% of RCTs were registered and all published their pre-specified outcomes.
Conclusions. Most large NHLBI supported behavioral RCTs found positive effects of the behavioral intervention. However, few trials have documented benefits in terms of mortality reductions. Our conclusions may be limited because of publication bias favoring positive trials. Our review suggests that behavioral investigators are complying with current standards for trial registration and transparency.

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B-083

DEPRESSION, ACCULTURATION, PERCEIVED BODY SHAPE/WEIGHT AMONG KOREAN AMERICAN WOMEN

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Background: Dissatisfaction with body image or a discrepancy between perceived ideal and actual bodyweight often manifest disordered eating (DE). Given the pervasive sociocultural pressure of maintaining thinness for women in Korea, DE among Korean American Women (KAW) is thought to be affected by acculturation to the U.S. Research on this topic, however, has shown mixed results. We hypothesized that the documented inconsistencies may be in part due to unaccounted psychological factors and that the relationship between acculturation and DE may be moderated by levels of depression. Method: A population-based survey was conducted in English and Korean with 544 KAW (Mage = 46,SDage = 14) residing in CA via telephone. We developed a series of regression models in which the subscales of the Eating Disorder Evaluation Questionnaire (EDEQ) were used as the outcome and relevant psychological and sociocultural factors as predictors: depression, acculturation, immigrant stress, and demographic variables. Results: Our findings showed that depression was positively associated ($\beta = .14, p < .01$) but acculturation was negatively associated ($\beta = -.13, p < .01$) with the concerns regarding EDEQ body shapes, controlling for age, Body Mass Index (BMI) and immigrant stress. The interaction between depression and acculturation was marginally significant ($\beta = .07, p = .06$) in such a way that positive effects of depression on body shape concern were amplified for those with higher acculturation. Similarly, depression was positively associated ($\beta = .11, p < .01$) but acculturation was negatively associated ($\beta = -.11, p = .02$) with EDEQ weight-related concerns, controlling for the age, BMI and immigrant stress. Conclusion: Depression among KAW is an important covariate to consider when examining the effect of acculturation and perceived body shape/weight-related concerns. The counter-intuitive findings as to why depression serves as a protective factor for less-acculturated KAW on the risk of misperceived shape concerns need further exploration.

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B-084

GLOBAL COMPARISONS OF WORKSITE FOOD PROGRAM PREFERENCES IN A MULTI-NATIONAL CORPORATE ENVIRONMENT

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While worksite environments provide a potentially convenient venue for promoting healthful food choices, little research has been done to understand cultural differences that may influence the successful introduction of dietary programs throughout a corporation. In 2011, 13,421 employees of a large multi-national corporation completed an on-line survey about worksite-related food preferences and interests. Employees came from 4 regions: Asia/Pacific (AS) (N = 1304), Europe/Middle East (EU) (N = 2711), South America (SA) (N = 243), and North America (NA) (N = 9163). Support for reducing unhealthy worksite food options was generally higher in Asia (60% favorable) and Europe (54% favorable) than other regions (SA = 32%, NA = 45% favorable) (most P's < .05). Removing all unhealthy options from onsite food venues had widespread opposition across regions (73% opposed). Across the 4 regions, women were more supportive of reducing unhealthy worksite food items than men (62% vs. 41% favorable; P < .001), and, after controlling for gender, sales and administrative personnel were more supportive than engineers and operations personnel (P < .001). A desire for more dietary health information was expressed most strongly in AS (61%) relative to other regions (43%-51%) (P = .02). When asked about their typical dietary behaviors, northern California-based NA employees were more likely to report regularly eating healthy worksite food options (54%) than other regions (41-49%) (P = .03). No major regional differences were seen for watching portion size (50-56%). More SA employees reported 0 servings of daily fruits (15%) and vegetables (10%) than other regions (0 fruit servings = 5-7%; 0 vegetable servings = 1-3%) P's < .004). Results underscore the regional differences in both worksite dietary patterns and program preferences across a single corporation with similar food policies and access. Opportunities for tailoring dietary programs to regional needs and preferences will be discussed.

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B-085

CHANGES IN QUANTITY, SPENDING PATTERNS, AND NUTRITIONAL CHARACTERISTICS OF ADULT, ADOLESCENT AND CHILD URBAN CORNER STORE PURCHASES AFTER A ONE-YEAR ENVIRONMENTAL INTERVENTION

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Background: Urban corner stores are prevalent in low-income, urban areas and primarily stock high calorie foods and beverages. Few interventions have targeted corner stores, which may be an ideal environment to promote healthier options.

Purpose: The purpose of this study was to assess one-year changes in corner store purchases (nutritional characteristics and cost) of children, adolescents and adults in a low-income urban environment before and after implementing an environmental intervention to increase the availability of healthier products.

Methods: Data at baseline (n = 9,238) and follow-up (n = 6,576) were gathered through intercept interviews and by direct observation of purchases at 192 corner stores in Philadelphia from March 2011 to August 2012. Stores were retrospectively classified as basic or high-intensity based on the number of environmental changes that were adopted.

Results: At baseline shoppers spent $2.81 ± 3.52 for an average 647.4 ± 1064.6 kilocalories. Overall, nutritional characteristics, cost, and calories were not significantly different at follow-up. The high-intensity intervention was associated with significantly lower calories purchased in adolescents (compared to children and adults; -101.5 ± 63.6). The basic intervention was associated with significantly lower calories purchased in males (compared to females; -92.6 ± 50.4).

Conclusions: Overall, cost and calories from corner store purchases were not significantly different after a one-year environmental intervention. The high-intensity intervention was associated with significant improvement in calories purchased by adolescents.

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B-086

EFFICACY OF TWO DELIVERY CHANNELS FOR TAILORED MESSAGES TARGETING SATURATED FAT

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There is growing evidence of the efficacy of healthy eating interventions delivered through computer-based channels, yet less is known about which channel is most effective. We conducted an RCT evaluating a 6-month healthy eating tailored intervention delivered by either monthly Web or weekly automated Telephone-Linked Communication (TLC) interactions. Both channels used the Transtheoretical Model as the conceptual framework for the tailored feedback interventions aimed to reduce intake of saturated fat & increase fruit & vegetable intake. 1224 adults were recruited during 2008-2009 from a national phone list, then randomized to Web (n = 410), TLC (n = 392), or assessment-matched Control (n = 422) groups & were assessed at baseline, 6- & 18 months. Eligibility criteria: computer use with high speed Internet, regular use of Internet/email, & pre-action stage of change for reducing fat intake. Dietary saturated fat % was estimated from the Dietary Behavior Questionnaire, which was moderately correlated (r = 0.37) with the estimate from Harvard Food Frequency Questionnaire, administered to a subsample of study participants (n = 410). Results from a latent growth model with robust standard errors, and inclusion of auxiliary variables by the saturated correlates method to minimize bias due to missing data, are shown for saturated fat %. Groups were equivalent on baseline outcome measures, demographics & other diet-related variables. Sample attrition at 18-months differed by group: TLC (35%), Web (38%), & Control (24%). At 18-months, a significant reduction (~0.5%) in saturated fat intake was found in the TLC group compared to controls (95% CI, -0.91, -0.01). No other statistically significant between group differences were observed, including between the TLC & the Web channels. Future studies need to evaluate subgroup intervention effects defined by differences in attitudes/use of Internet/telephony, bio-psychosocial factors, etc. to better match intervention channel with the person to promote maximal use & impact.

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B-087

CHILDREN'S LIKING OF CHILD-FRIENDLY SHAPED FRUITS AND VEGETABLES: DOES SHAPE INFLUENCE LIKING?

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Background: Fruit and vegetable intake is low in most children. Children's liking of foods predicts intake; therefore, increasing liking of fruits and vegetables may be an initial step in increasing consumption. The aim of this study was to explore whether offering fruits and vegetables in child-friendly (CF) shapes increases children's liking of these foods.
Methods: A convenience sample was recruited for a survey and optional taste-test at local retail locations. Fruits and vegetables were randomly offered in regular shapes (chunks/slices) or "fun" CF shapes (butterfly, chick, teddy, flower). Children reported their perception of the sample foods' shapes. Appearance, taste and texture were rated on a 5-point scale. Effects of gender, survey type (paper/electronic), and location (mall/grocery stores) were examined.
Results: Children ($n = 365$) and adults ($n = 298$) participated in the survey; 98.9% of children and 65.8% of adults completed the taste-test. Liking of CF-shaped foods was high (median = 5) and they were seen as more fun than regular-shaped foods ($p < 0.001$). Compared to boys, girls rated samples' shapes as significantly more fun ($p < 0.002$). CF-shaped foods were 34% more likely to be selected than regular foods, (OR 1.34, CI 1.02—1.76). Appearance, taste and texture ratings (median = 5) were not significantly different between shapes. Participants were more likely to choose fruits than vegetables.
Discussion: Our results suggest that the shape of fruits and vegetables influences how fun children perceive them to be and how likely they are to select them for a taste-test, but does not impact liking. Offering fruits and vegetables in CF shapes may increase children's motivation to select these foods. Future research should examine a wider variety of foods in order to elucidate these effects.

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B-088

ATTACHMENT ORIENTATION AND EATING BEHAVIORS: AN EXPLORATION OF EVIDENCE IN CHILDREN

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Background: Eating habits are formed early on and play an important role in a child's development and growth. Eating is an emotional activity and the attachment system is the foundation of the emotional regulatory system.
Objective: This paper aims to provide evidence of the link between childhood attachment styles and healthy and unhealthy food consumption as well as eating styles.
Methods: 616 parents reported on various behaviors of their 6-12 year old child (309 boys, 307 girls; Mean age = 9.15) enrolled in a cohort study during a telephonic interview. Attachment was measured using the Attachment Questionnaire-Child (AQ-C), and eating behaviors using an adapted validated version of the Child Eating Behavioral Questionnaire, as well as a 24-hour recall structured questionnaire. Parents reported on peer child attachment.
Results: Children classified as secure (vs. anxious) consumed more fruits in the course of the day, 2.36 vs. 1.86, $p < .01$. Vegetable consumption was not related to child attachment, $p > .05$. Children who were more securely attached consumed less salty snacks, $p < .01$, even after controlling for household income and child grade. When exploring the link between attachment and eating styles, results showed that while attachment categorization was not linked with emotional eating, children who were more anxiously attached were more likely to eat in response to emotions, $\beta = .28$, $p < .001$, while children who were more securely attached were less likely to do so, albeit only marginally, $\beta = -.15$, $p = .06$. Children classified as anxious (vs. secure) were more likely to report eating in response to external food cues (6.17 vs. 6.80) and as such higher attachment anxiety was positively linked with higher external eating, $\beta = .05$, $p < .01$. Attachment anxiety was also positively linked with restrained eating, $\beta = .16$, $p < .05$.
Conclusion: A secure attachment in childhood was linked with more healthy eating behaviors while an anxious attachment style was a particularly important vulnerability factor linked with unhealthy eating behaviors.

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B-090

RELATION OF STRESS-EATING AND PERCEIVED CONTROL OVER LIFE STRESSORS AMONG A POPULATION OF STRESS-EATERS PRESENTING FOR TREATMENT

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Some research suggests that among non-eating disordered individuals there is an inverse association between consumption of highly palatable (i.e., high fat) food and perceived control over life stressors. In the current study, this phenomenon was examined among a population of individuals identified as stress-eaters and who were subsequently enrolled in a treatment program (mindfulness or CBT) for stress-eating. Participants were 53 overweight individuals (98% female) with a Body Mass Index (BMI; mean ± SD) of 35.0 ± 9.0 kg/m2 and age of 45.4 ± 10.4 years. Perceived control over life stressors was assessed by isolating the items from the Perceived Stress Scale that pertain to individuals' perceived ability to control the stressors in their lives. Stress-eating was assessed using the Emotion and Stress-Related Eating subscale of the Eating and Appraisal Due to Emotions and Stress Questionnaire. Results from a bivariate correlation revealed that at pretreatment, greater perceived control over stressors was associated with lower levels of stress-eating ($r = -.383$, $p = .010$). Furthermore, results from a partial correlation revealed that the association became even stronger when pretreatment BMI was included as a covariate ($r = -.438$, $p = .003$). These findings provide evidence that among individuals who engage in stress eating, lower perceived control over life stressors is associated with greater self-reported levels of stress-eating, whereas greater perceived control over life stressors is actually associated with lower levels of self-reported stress eating. Future studies should examine how perceived control over life stressors is associated with specific macronutrient intake and overall caloric intake among individuals who engage in stress-eating.

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B-091

DIETARY RESTRAINT AND WEIGHT CHANGE IN COLLEGE WOMEN PARTICIPATING IN A WEIGHT GAIN PREVENTION PROGRAM

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To optimize response to weight gain prevention intervention, factors associated with poor treatment outcome should be identified so that programs can be tailored. Some research suggests that elevated dietary restraint may impede long-term weight management efforts. The current study examined the association between pretreatment dietary restraint and longer-term weight change in the context of a weight gain prevention program. Participants were 95 female college freshmen who were randomized to a 5-week weight gain prevention program or wait-list control. Measures were assessed at baseline, post-intervention and end of the semester. Dietary restraint (independent variable) and shape, eating and weight concerns were assessed using the Three Factor Eating Questionnaire. The dependent variable was change in body weight during follow-up. Participants' pretreatment BMI (mean ± SD) was 26.8 ± 6.4 kg/m2 and median dietary restraint score was 12. Between- and within-group weight changes from pre- to post-treatment and post-treatment to follow-up were not statistically significant. Linear regression revealed that pretreatment dietary restraint was not associated with weight change during follow-up ($p = .53$). Additionally, results from three linear regressions revealed that baseline dietary restraint was not associated with changes in shape, eating, and weight concerns during follow-up (*p*s = .31, .72, .20, respectively). The non-significant relation between baseline dietary restraint and longer-term weight change may represent a lack of an association or may be due to limited variability in weight change. Pretreatment levels of dietary restraint do not appear to be associated with changes in shape, eating or weight concerns following weight gain prevention intervention in a female college freshman population. Future studies should further clarify the role that dietary restraint may play in long-term response to weight gain prevention intervention.

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B-092

COOKING SUPPLIES AND CHILD CONSUMPTION OF FAMILY MEALS AND HOME-PREPARED DINNERS IN LOW-INCOME HOUSEHOLDS

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Frequent family meals and home food preparation are considered important for children's nutritional health and weight maintenance. This cross-sectional study tested whether these parent-driven behaviors are related to the availability of cooking supplies in low-income urban households. Caregivers (N = 103; 98% ethnic minority) of children ages 6 to 13 years provided information on family meal frequency, child consumption of home-prepared dinners, household food insecurity, and attitudes towards cooking. Researchers assessed the availability of 41 cooking supplies during a physical audit of the home environment. Caregivers and children underwent anthropometric measurements and jointly reported on child dietary intake. Fewer cooking supplies were available in households characterized by greater food insecurity (linear trend: $F_{(1,99)} = 5.97$, p = .02), lower income (rho = .21, p = .04), and negative caregiver attitudes towards cooking ($t_{(101)} = 2.96$, p < .01), but did not differ by child (p = 0.97) or caregiver (p = 0.83) weight status. In covariate-adjusted ordinal logistic regression models, greater home availability of cooking supplies was associated with more frequent family meals (OR = 1.08, 95%C.I. = 1.02-1.09) and child consumption of home-prepared dinners (OR = 1.05, 95%C.I. = 1.01-1.10). These associations were independent of household financial strain, food insecurity, caregiver attitudes toward cooking, and sociodemographic characteristics. More frequent family meals and consumption of home-prepared dinners were associated with healthier child dietary intake in several areas. We conclude that cooking supplies are often limited in the most disadvantaged households, and their availability is related to the frequency with which children consume family meals and home-prepared dinners. The potential contribution of cooking supplies to socioeconomic disparities in child nutritional health and obesity deserves further study.

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B-093

STRESS, MOOD, AND EMOTIONAL EATING: WHAT ARE WE CAPTURING?

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Emotional eating (EE) is defined as the tendency to eat in response to negative emotions (NE) and college students are at particular risk for engaging in EE (e.g., Arnow, et al., 1995; Mills et al., 2012). The affect regulation model applied to EE suggests that people engage in EE to reduce NE (e.g., Polivy et al., 1993). However, both perceived stress (PS) and NE have been purported to contribute to EE (e.g., Nguyen et al., 2009). There is conceptual overlap between NE and PS, and research has demonstrated positive relationships between PS and EE (e.g., Greeno et al., 1994), NE and EE (e.g., Arnow et al., 1995) and among the three variables (e.g., Pinoquay et al. 2003). Yet, they are also distinct constructs: PS has typically been operationalized to include the cognitive appraisal of one's resources to cope with experiences (Lazarus et al., 1984); NE is a more parsimonious reflection of negative moods, which have specifically been theorized to predict EE (e.g., Arnow et al., 1995; Watson et al., 1984). In research, PS and NE are often used interchangeably when describing precipitants of EE, which may contribute to a lack of targeted interventions for EE.

This study compared PS and NE as predictors of EE to understand which is a better predictor of EE. 120 female students (59% White; 20% Black) from a small urban college participated. A linear regression was used to compare NE, as measured by the composite of the Depression and Anxiety subscales of the DASS (Lovibond et al., 1995), and PS as measured by the Perceived Stress Scale (PSS; Cohen, 1983) as predictors of EE, as measured by the Emotion Eating Scale (EES; Arnow et al., 1995) and the Emotional Overeating Questionnaire (EOQ: Masheb & Grilo, 2006). NE predicted the EES Total ($\beta = .331$, p < .001) and the EOQ Total ($\beta = .585$, p = .000) scores, but the PS did not predict either measure (EES Total: $\beta = .033$, p = .762; EOQ Total: $\beta = .162$; p = .110). Consistent with theories of EE, NE, rather than global PS, contributes to EE. Findings suggest that strategies which target NE, as opposed to stress management, may be beneficial for females who report EE.

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B-094

STEREOTYPICAL PORTRAYALS OF OBESITY, ATTITUDES ABOUT APPEARANCE AND WEIGHT, AND THE EXPRESSION OF IMPLICIT WEIGHT BIAS

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BACKGROUND: Weight biased attitudes are pervasive and are influenced by an individual's repeated exposure to messages that are prevalent in the environment. Implicit anti-fat attitudes reflect rapid, automatic reactions to or associations with obesity. The strength of implicit attitudes may depend on ways in which obesity is portrayed when one responds to depictions of weight that are either stereotypical or nonstereotypical in nature, as well as being influenced by individuals' explicit attitudes toward appearance and weight.

METHOD: Participants (N = 117) completed measures of explicit weight bias, orientation toward personal appearance, overweight preoccupation, and two Implicit Associations Tests (IAT). One IAT measured anti-fat attitudes when images portrayed individuals with obesity engaging in behaviors congruent with common stereotypes (e.g., eating snacks, watching television), while a second IAT depicted stereotypical incongruent behaviors (e.g., preparing vegetables, exercising).

RESULTS: While implicit weight bias was evident for both IATs, participants evidenced greater implicit weight bias when responding to the stereotype congruent IAT (t(1,112) = -9.91, Cohen's d = 1.87, p < .001). Additionally, the stereotype congruent IAT was significantly related to appearance orientation ($\beta = .21$, p < .05) and overweight preoccupation ($\beta = .27$, p < .01) and was marginally related to explicit anti-fat attitudes ($\beta = .18$, p = .06).

CONCLUSIONS: The findings are highly relevant in our media saturated culture in which individuals with obesity are commonly portrayed in negative, stigmatizing ways (Ata & Thompson, 2010; Greenberg et al., 2003; Puhl et al., 2013). Results have implications for the development, maintenance, and expression of stigmatizing attitudes related to common attitudes about appearance and weight to ways in which persons with obesity are commonly portrayed.

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B-095

THE HEADS UP STUDY: PREDICTORS OF WEIGHT LOSS SUCCESS USING A LOW CALORIE DIET WITH SEVERELY OBESE ADULTS

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Over 39% of the U.S. population are obese (BMI >30 kg/m2). The Intensive Medical Intervention (IMI) is a treatment arm of the Heads Up Study, a weight management program for members of Louisiana's Office of Group Benefits. IMI treats severely obese adults using a low calorie liquid diet (LCD) for 16 weeks coupled with lifestyle change groups. Few studies have examined the relationship between baseline characteristics and program satisfaction on overall program compliance measured by attendance and weight loss outcomes among severely obese participants.

Participants (n = 156, 78% female, 60% Caucasian, BMI = 45.8 kg/m2 + 5.62) completed baseline measures including demographic questions and anthropometrics. After participants completed the LCD phase, a program satisfaction survey was done and percent weight loss (PWL) was evaluated. Bivariate correlation analyses showed significant positive associations with PWL at week 16 and compliance (r = .36, <.002) as well as satisfaction (r = .39, <.001). A linear regression analysis revealed that compliance, satisfaction, gender, and race were significant, independent predictors of PWL at week 16 (all ps < .05). Men (15.63 kg + 5.34) had significantly more weight loss at week 16 compared to women (12.25 kg + 4.73; <.003). Caucasians (17.59 kg + 6.10) had significantly more weight loss at week 16 compared to non-Caucasians (13.3 kg + 4.73; >.02). Among participants compliant to the intervention, PWL during LCD run-in (2 weeks) was positively correlated with PWL at week 16 (r = .37, <.008), and PWL at week 16 was positively associated with PWL at month 6 (r = .39, <0.004).

These findings suggest that initial weight loss, compliance, satisfaction, race, and gender may be indicators for future weight loss success. Additional analyses will assess predictors of PWL at six months of treatment.

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Citation Poster

B-096

A NALTREXONE OPIOID BLOCKADE ELIMINATES ASSOCIATIONS BETWEEN REWARD-BASED EATING DRIVE AND DAILY FOOD CRAVINGS

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Objectives: Cravings and overeating of palatable food are at least partially opioid-mediated. In rodents, naloxone, a mu opioid antagonist, blocks stress-induced overeating of palatable food. Some obese individuals report an excessive drive to eat characterized by a trio of (1) a lack of control over eating, (2) a lack of satiety, and (3) preoccupation with food. We used a naltrexone (NX) test to examine the effects of opioid blockage in women on food craving.
Method: At baseline, we assessed 45 overweight female participants' (1) food craving tendencies using the Modified Food Craving Inventory, and (2) experiences of a lack of control over eating, a lack of satiety, and preoccupation with food using the newly-developed Reward-Based Eating Drive (RED) questionnaire, on which greater scores may reflect dysregulated reward pathways that foster overeating. We assessed craving strength on five different days, five hours after participants took a placebo (PP) or naltrexone (NX) pill. All participants received PP and NX in the following (blinded) order: PP1, NX1 (25 mg), PP2, NX2 (50 mg), NX3 (50 mg).
Results: On the 2 PP days, regression analyses revealed that greater food craving tendencies (PP1 B = 0.59, p = .005; PP2 B = 0.63, p = .002) and greater RED scores (PP1 B = 0.59, p = .005; PP2 B = 0.50, p = .022) were associated with stronger daily food cravings. Results held after accounting for age, BMI, and perceived stress assessed at baseline. On the 3 NX days; however, baseline food craving tendencies and RED scores were unrelated to strength of daily cravings.
Conclusions: Women who reported more reward-based eating tended to experience stronger daily food cravings, but an opioid blockade (NX) disrupted this association. These findings hold implications for the basic understanding of food drive and the development of interventions for individuals who endorse more reward-based eating.

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B-097

INITIAL ENGAGEMENT AND ATTRITION IN A NATIONAL WEIGHT MANAGEMENT PROGRAM: DEMOGRAPHIC AND HEALTH PREDICTORS

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The Veterans Health Administration's MOVE! Weight Management Program is the largest nationally-disseminated weight control program in the United States. Like other effective weight control programs, inconsistent session attendance and participant withdrawal limit effectiveness. However, there has been little systematic investigation of attrition from MOVE! based on actual participant characteristics. The present study was designed to identify predictors of both initial engagement and attrition from MOVE! using data extracted from veterans' medical records within the Upstate New York area (VISN 2). A sample of 28,221 veterans seen in primary care within a one-year period was split into two random subsamples; these samples were used for exploratory and confirmatory logistic regression models to examine the likelihood of engagement and attrition. Confirmatory models verified that those who engaged (*n* = 1,226) had higher (vs. low) BMIs, lived closer (vs. farther) from the medical center, and were more likely to be non-smokers (*ps* < .02), relative to those who did not engage. Using exploratory and confirmatory models for veterans who did engage in MOVE!, we examined the likelihood of participants completing one or two MOVE! visits (*n* = 982) versus three or more visits (*n* = 397). Older (vs. younger) veterans and those with poorer (vs. better) glycemic control were more likely to continue attendance (*ps* < .02). Medical and mental health diagnoses did not differentiate engagement or attrition in confirmatory models. These findings highlight several predictors that may be useful for identifying individuals who are least likely to engage in a weight management program delivered through a large healthcare system. Additional early intervention for these individuals may increase engagement and minimize attrition from MOVE! and other effective weight management programs.

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B-098

PAIN CATASTROPHIZING AND ANXIETY SENSITIVITY AS MEDIATORS OF THE RELATIONSHIP BETWEEN PERSISTENT PAIN AND EMOTIONAL EATING

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Background: Persistent pain is increasingly associated with obesity; however mechanisms linking these co-morbidities are not fully understood. While qualitative evidence suggests pain may serve as a trigger for emotional eating, the relationship between emotional eating and pain is largely unexamined.
Aims: Assess eating behavior in individuals with persistent pain and examine whether pain catastrophizing, anxiety sensitivity, and pain-related fear—components of the fear avoidance model of pain—are vulnerabilities that contribute to emotional eating.
Methods: Adult participants responded to an online, University-based survey (N = 186) inquiring about health habits, weight and height, and experience with pain, and completed assessments of eating behavior (Dutch Eating Behavior Questionnaire), pain catastrophizing (Pain Catastrophizing Questionnaire), anxiety sensitivity (Anxiety Sensitivity Index) and pain-related fear (Pain Anxiety Symptoms Scale-20).
Results: Respondents had average BMI in normal range (M = 23.7, SD = 3.8). Roughly 25% (n = 48) reported persistent pain (pain > 50% of the days during the past 3 months). Those with pain had significantly higher BMI's (t(184) = 2.4, p = .02) and higher scores on measures of restrained eating (t(184) = 2.3, p = .02), eating in response to clearly defined emotions (t(184) = 3.0, p = .00) and diffuse emotions (t(184) = 2.4, p = .02), anxiety sensitivity (t(184) = 3.9, p = .00), and pain-related fear (t(184) = 2.0, p = .04). Multiple mediation was employed, controlling for BMI and gender. Both pain catastrophizing and anxiety sensitivity mediated the relationship between the presence of pain and eating in response to clearly defined emotions (R^2 = .21, p = .00).
Discussion: Emotional eating may occur at higher rates in individuals with persistent pain. Catastrophizing and anxiety sensitivity are pain-related vulnerabilities that may promote emotional eating and, potentially, overweight in those with pain. Treatments targeting these may promote better outcomes for co-morbid pain and weight.

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B-099

ASSOCIATION BETWEEN ELECTRONICALLY RECORDED SELF-WEIGHING AND WEIGHT CHANGE IN A WEIGHT LOSS TRIAL

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Self-monitoring of weight is recommended as a weight loss strategy. However, no study has previously examined electronically recorded self-weighing during long-term standard behavioral treatment for weight loss. Thus, we aimed to examine objectively measured self-weighing using an electronic scale and to examine the association between self-weighing and weight change. Participants from the self-efficacy enhancement arm of the 18-mo SELF Trial were given a scale (Carematix, Inc.) at the start of the intervention, and instructed to weigh at least 3 days/week or every other day. The scale date- and time-stamped each weighing episode, storing at most 100 readings, which were uploaded every 3 mos during a study visit. Linear mixed modeling was used for statistical analysis. Some scale data were missing a date-stamp due to technical issues and were imputed using retrieved dates. The data without dates and weights were coded as missing. Self-weighing was examined as continuous (mean days/week) and binary variables (<3 days/week vs. >3 days/week). The sample (N = 55) was 80% female, 69% White, 55.0 ± 9.6 yrs old, had 15.9 ± 2.6 yrs of education, and a BMI of 33.1 ± 3.7 kg/m2 at entry. The mean days of self-weighing per week was 2.2 ± 1.1 during the first 6 mos and declined to 1.8 ± 1.1 over the second 6 mos and to 1.5 ± 1.2 during the last 6 mos (p < .001). Percent weeks of adherence to self-weighing declined from 44.1% to 36.9% to 29.3% over three 6-mos blocks of time (p < .001). Both mean days of self-weighing (b = -0.82, p = .03) and percent weeks of adherence to self-weighing (b = -0.03, p = .047) were significantly associated with percent weight change over 18 mos. Thus, the use of electronic data revealed that both mean days of self-weighing and adherence to self-weighing over 18 months were significantly associated with weight change. This is the first study to use an electronic scale that stored data to objectively measure adherence to self-weighing over an extended period and adds support to self-weighing.

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B-100

SAFETY PERCEPTIONS AND SOCIAL ENVIRONMENTAL PREDICTORS OF BMI, WAIST CIRCUMFERENCE AND BMI-WAIST CIRCUMFERENCE COMPOSITE IN UNDERSERVED AFRICAN-AMERICAN ADULTS

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African Americans have the highest rates of obesity in the United States relative to other ethnic minorities. Ecological factors including social and environmental factors play an important role in understanding obesity, especially in underserved populations. Previous research has shown that perceptions of safety have be inconsistently associated with physical activity (PA), however few studies have looked at perceptions of safety as a predictor of weight related outcomes. This study used an ecological framework to examine how perceptions of social, environmental and safety predicted weight-related outcomes, including Body Mass Index (BMI), waist circumference (WC), and BMI-WC composite (BWCC). Baseline data from the Positive Action for Today's Health (PATH) randomized trial data were collected data from 434 African Americans living in one of three low-income communities matched based upon US census information. In separate multiple regressions models psychosocial variables representing places for walking /cycling, perceived neighborhood safety, neighborhood satisfaction, neighborhood social life, peer social support, intrinsic motivation and self-efficacy were regressed on weight related outcomes with age, sex, and PA as covariates. Overall multiple regression models predicting BMI, WC, and BWCC were significant, with significant associations of each outcome variable with average daily MVPA ($B = -0.208, -0.199, -0.207$, $p < 0.01$, respectively) and neighborhood social life ($B = -0.126, -0.137, -0.137$, $p < 0.01$, respectively). These results show as neighborhood social life increased, weight related outcomes decreased. These findings are consistent with a growing literature, demonstrating that the social environment is linked to weight related outcomes. Future prevention and intervention efforts should continue to investigate social life factors, and the potential positive impact that they have on weight related outcomes.

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B-101

ENHANCING PHYSICAL AND SOCIAL ENVIRONMENTS TO REDUCE OBESITY AMONG PUBLIC HOUSING RESIDENTS

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Individuals with low socio-economic status who live in subsidized public housing have higher levels of obesity than other urban residents. Intervention programs that change environments may have greater population impact on preventing obesity as opposed to individual-level programs. We are currently conducting a cluster randomized, multi-component environmental-level intervention ('Healthy Families') to improve weight, diet, and physical activity among Boston public housing residents. Here we describe the rationale, intervention design, and baseline survey data. After approaching 12 developments, ten were randomized to intervention ($n = 5$) or assessment-only control ($n = 5$). All residents in intervention developments are welcome to attend any intervention component: health screenings, access to fruits & vegetables via a mobile food van, walking groups, cooking demonstrations, and a text messaging campaign; all of which are facilitated by community health workers ('Healthy Living Advocates') who are residents trained in health outreach. To evaluate weight and behavioral outcomes, a subgroup of female residents and their daughters age 8-15 were recruited into an evaluation cohort. From 3080 households approached, 211 completed the survey (RR = 8.53%). Respondents were Latino (63%), Black (24%), and had ≤ high school education (64%). Respondents reported ≤2 servings of fruits & vegetables/day (62%), visiting fast food restaurants 1+ times/week (32%), and drinking soft drinks daily or more (27%). Mean (SD) for BMI was 31.1 (7.7) and minutes of walking/day was 19.7 (33.7). The only between group difference was language spoken at home, with more Spanish speakers in the intervention vs. control group (57% vs. 40%, $p = 0.007$). In a population of low SES urban public housing residents, we successfully recruited and randomized families into an environmental-level intervention targeting obesity. If successful, this intervention model could be adopted in other developments or entities that also employ community health workers, such as WIC clinics or food assistance programs.

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B-102

EFFECTS OF A LIFESTYLE INTERVENTION ON METABOLIC SYNDROME IN KOREAN MIDDLE-AGED ADULTS

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Backgrounds The prevalence of Metabolic Syndrome (MetS) has been increasing in Korea, especially in middle-aged adults. Although there have been many intervention programs to solve the problem, few studies have evaluated the long-term effects of the programs.

Objectives This study attempts to investigate the effects of a lifestyle intervention on the MetS in Korean middle-aged adults.

Methods A total of 243 Korean middle-aged adults (40-60 years) with MetS were randomly assigned to 2 types of lifestyle intervention for MetS and followed for 1 year. The health examinations and interventions were performed at 16 regional branches of a medical center in Korea according to the NCEP ATP III criteria and recommendations. Maximum intervention group ($n = 137$) participated in a 12-week multi-component intervention including individual counseling, group sessions, and self-help materials. Minimum intervention group ($n = 106$) was provided one-page health information sheet on MetS at baseline.

Results The prevalence of MetS, number of MetS components, z-MetS scores, and the prevalence of each MetS component except for low HDL-Cholesterol were significantly reduced in both groups after the 12-week intervention. The prevalence of MetS and most of the MetS components did not change significantly in the minimum intervention group after 1-year follow-up period. The number of MetS components and z-MetS scores, decreased significantly in the maximum intervention group after 1 year after controlling for age, sex, education level, income, marriage status, intervention site,. However, the prevalence of the MetS and all MetS components were not significantly different between the two groups at the end of 1-year follow-up.

Conclusion The maximum lifestyle intervention was effective to reduce the prevalence of MetS in Korean middle-aged adults. Furthermore, regular health check itself affected the participants' lifestyle also in the minimum intervention group.

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B-103

EXAMINATION OF SENSORY RECEPTION AND INTEGRATION ABILITIES IN CHILDREN WITH AND WITHOUT PRADER-WILLI SYNDROME

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Because of the interdependency that exists between sensory and motor system function, any impairment in the peripheral and/or central components of the sensory systems will adversely affect the performance of fundamental movement skills that require high levels of sensory-motor integration (e.g., playing games or sports). Quantification of how children with PWS receive and integrate sensory information in altered sensory environments is lacking. Participants were 12 children with PWS (age = 9.4 +/- 1.2 years, z-BMI = 1.7 +/- 1.0) and 40 age-matched children categorized as obese (age = 9.8 +/- 1.2 years, z-BMI = 2.1 +/- 0.4). Sensory reception and integration skills were assessed using the Sensory Organization Test (SOT)®. Each child completed three standing trials in each of six sensory conditions. Visual input was manipulated in conditions 2 and 3, somatosensory input was manipulated in condition 4, and visual and somatosensory input was manipulated in conditions 5, and 6. A Composite Equilibrium Score (CES) was calculated as an overall measure of postural stability while condition-specific Equilibrium Scores (ESs) were obtained for each trial. The PWS group demonstrated lower overall postural stability versus the OB group (CES = 53.8 +/- 14.3 vs. 65.5 +/- 10% respectively, $p < .002$)). While no significant group differences were evident for ES when visual or somatosensory inputs were manipulated, significant differences emerged when both sources of sensory input were manipulated. Due to the high number of falls occurring in conditions 5 and 6, a mean ES could not be calculated. Instead, groups were compared with respect to the number of falls in conditions 5 and 6 (PWS > OB, $p = 0.036$ and $p = 0.023$). Children with PWS demonstrated significantly lower levels of overall postural stability that was primarily due to an inability to effectively use vestibular inputs to maintain standing balance following repeated exposure to the same sensory condition. Including vestibular stimulation activities into a treatment plan for children with PWS is recommended.

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B-104

RECRUITMENT AND BASELINE CHARACTERISTICS OF THE REFIT WEIGHT LOSS PROGRAM FOR MEN

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Men are underrepresented in research on behavioral weight loss; thus very little is known about men's needs for weight loss. This study describes the recruitment and baseline characteristics of a randomized trial of a weight loss program for men.

Recruitment for the first of two cohorts of the REFIT (Rethinking Eating and FITness) study was conducted primarily through a single email sent through a University listserv. To be eligible, men needed to be 18-65 years of age, have a BMI between 25-40 kg/m^2, and be able to exercise.

Of the 114 potential participants who completed the online screener, 84 were eligible to participate and 47 of those eligible were randomized (56%). Those randomized did not differ from those not randomized on age ($p = 0.44$) or race ($p = 0.71$). Due to BMI eligibility requirements, those randomized had lower BMIs (M ± SD; 31.2 ± 3.5) than those not randomized (33.0 ± 5.9, $p = 0.05$).

Randomized participants were 42.5 ± 10.3 years, 83% had at least a bachelor's degree, 70% non-Hispanic white, and 34% reported having type II diabetes, high blood pressure, or high cholesterol. Most participants (89%) reported trying to lose weight in the past although 60% reported no experience with organized weight loss programs. Dietary intake was assessed through two recalls using the NCI's ASA 24-hour Recall. Participants reported average daily intake of 2482 calories (±759), 1.9 cups of vegetables (±1.0), 1.0 cup of fruit (±1.0), and 37.1% calories from fat (±5.9). The majority of participants did not report eating the recommended number of servings of vegetables (83.0%) or fruits (87.2%). More than half of participants (61.3%) reported >150 minutes of activity while 21% reported <60 minutes of activity per week.

Men recruited for a weight loss intervention had little experience with organized weight loss programs, despite trying to lose weight in the past. They were generally active but had poor dietary patterns indicating a need to emphasize improving diet during interventions for men.

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B-105

ADOPTION OF SELF-MONITORING BEHAVIORS IN A COMMUNITY-BASED WEIGHT LOSS INTERVENTION VARIES BY RACE

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Self-monitoring behaviors are well-established strategies promoted in behavioral weight control programs. However, limited research exists on those who adopt or do not adopt these behaviors in the context of behavioral weight loss interventions and among diverse populations in particular. This study examined the relationship between demographics and self-monitoring behaviors (i.e., online diaries, self-weighing, recording calories, pedometer use) among women that participated in a 4-month, community-based, Internet-delivered weight loss program. Participants ($n = 126$) were adult women (59% African American, 46.9 ± 10.7y, BMI = 37.9 ± 8.0, 48% college graduates) who completed online questionnaires and objective weight measurements at baseline and 4 months. We evaluated associations between demographics and self-monitoring behaviors (objective and self-reported) over 4 months with bivariate analyses and logistic regression adjusting for baseline BMI. Online submissions of weight, diet and physical activity (PA) diaries over 4 months were significantly correlated with 4-month percent weight loss (r's = -.43 to -.51; p's < .001), as were self-reported frequency of daily self-weighing, daily calorie recording and pedometer use over 4 months (r's = -.26 to -.46; p's < .01). African-American women, compared with white women, were less likely to submit online weight (OR, 0.36; 95%CI, 0.17-0.75), diet (OR, 0.36; 95%CI, 0.17-0.75), and PA diaries (OR, 0.40; 95%CI, 0.19-0.84), and to report daily self-weighing over 4 months (OR, 0.41; 95%CI, 0.19-0.88). Those with higher reported difficulty with monitoring PA over 4 months were less likely to submit online PA diaries (OR, 0.64; 95% CI, 0.52-0.78), but difficulty with monitoring eating or PA behaviors did not differ by race (p's > .10). In this diverse sample of treatment-seeking women, use of self-monitoring behaviors varied by race. Future interventions should consider characteristics and barriers that may influence the uptake of these behaviors in the context of weight loss programs.

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B-106

ARE WEIGHT LOSS APPS GROUNDED IN BEHAVIORAL THEORY?

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Background: Weight loss "apps" may provide a useful link between health experts and citizens to address obesity. Methods: Weight loss apps from Apple iTunes were evaluated for use of four theories: Transtheoretical Model (TTM), Social Cognitive Theory, Theory of Planned Behavior and the Health Belief Model (HBM). A previously-validated template was used that included 20 constructs from these theories. The 20 constructs were evaluated at five levels of interaction (from general information through individualized feedback) to create a 100-point scale. Two coders, both trained in these theories, independently coded each app. Information for each app was collected such as user rating, cost, credentials of the creator, and affiliated organizations, as well as features such as a food log, exercise log, and weight tracker. Apps were excluded if they focused primarily on exercise, hypnosis or nonevidence based diets, geared towards children, cost over $4.99, or required outside membership. Data was analyzed using frequencies, mean scores, and regression analysis. Results: Over 1600 apps were retrieved; of these, 74 apps met the inclusion criteria for evaluation. A majority (51.4%) were free. About a third of the apps (33.8%) were rated highly by users. Most apps (73%) offered a food log, 52.7% offered an exercise log, and 74.3% offered a weight tracker. Only 20.3% had an affiliation; 25.7% were created by a health expert.Theory scores ranged from 3 to 47; the mean score was 9.8 (SD = 7.8). The HBM was used most frequently (12.5%), while the TTM was used least (10.3%). Significant or marginally significant predictors for theory score were higher ratings ($p = .089$), apps with affiliations ($p = .001$) and ones created by a health expert ($p = .015$). In multivariable regression, only organizational affiliation remained a significant ($p = .02$) predictor. Conclusions: Overall, weight loss apps are lacking a foundation in behavioral theory. Evaluated apps provide mostly general tips, calorie goals and formats to log food/exercise. Results can serve to support a dialogue between health experts and app creators.

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B-107

YOUNG ADULTS' MOTIVATIONS FOR ENROLLING IN A BEHAVIORAL WEIGHT LOSS PROGRAM AND RELATIONSHIP TO TREATMENT OUTCOMES

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More than 40% of young adults (YA) 18-25 years of age are overweight or obese (OW/OB), placing them at increased risk for additional weight gain and the development of chronic health conditions. Despite increased risk, compared with older adults, YA are less likely to enroll in behavioral weight loss (BWL) programs, lose less weight in such programs, and are less likely to complete treatment. Little is known about weight loss motivations among treatment-seeking YA, which limits our ability to tailor recruitment messages, treatment format, and content to this high-risk group. Further, initial motivations for weight loss may be associated with engagement, weight loss, and retention. In the current analysis we examine the self-reported baseline motivations for weight loss among OW/OB YA who enrolled in a 12-week BWL program and examine the relationship between motivations and treatment outcomes. At baseline, YA ($N = 52$) rated nine motivations for weight loss on a scale from 1 (not important) to 5 (extremely important). The top three motivations for weight loss were: improve appearance (M = 4.60, SD = .80), feel better about themselves (M = 4.61, SD = .70) and improve energy level (M = 4.06, SD = .97). A hierarchical multiple regression controlling for participant demographics and treatment arm revealed that a stronger desire to improve appearance was associated with less weight loss at post-treatment ($t = 3.28$, $p = .002$). Higher motivation to lose weight for a special event was associated with lower engagement (attendance and lessons viewed) over the 12-week program ($t = -2.18$, $p = .036$). In this sample, none of the assessed baseline motivations were significantly related to participant retention at 12 weeks. Consistent with findings from non-treatment seeking samples, findings suggest appearance is a leading motivation for weight loss among YA. Moreover, these data indicate this may be associated with poorer weight loss outcomes. Findings are discussed in terms of treatment development efforts with this age group.

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B-108

PRELIMINARY FINDINGS FROM AN EXAMINATION OF AN ONLINE COMMERCIALLY-BASED WEIGHT MANAGEMENT PROGRAM

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Online programs represent an innovative approach to aid in weight management, but little is known about their effectiveness. The current study was conducted in an effort to evaluate the effectiveness of a commercially-based, online weight management program, which utilized message boards as the primary form of program communication. Participants were 425 adults (55.5% female) from 37 countries worldwide with a mean ± SD age of 42.4 ± 9.5 years and body mass index of 30.5 ± 4.8 kg/m^2 who volunteered to take part in the Big Burn Program. Twelve weeks after the start of the program, 231 individuals (54.4%) had stopped their involvement in the program while the remaining 194 participants (45.6%) reported a mean ± SD weight loss of 4.0 ± 4.1 kg, representing a reduction in body weight of 4.4 ± 4.2%. Approximately 15.1% of participants who began the study reported body weight losses of 2.0% to 4.9%; 15.8% had losses of 5.0% to 9.9%; and 4.7% of the sample reported body weight reductions of 10% or more. The 12-week drop-out rate of 54.4% in this study is in alignment with the rate of attrition commonly observed in commercial weight loss programs delivered in a face-to-face format. Similarly, the reported mean weight loss of 4 kg in this study is comparable to the weight changes typically seen in in-person, commercial weight-loss programs. A limitation of this study is the use of self-reported body weights. However, the rate of weight change reported by participants (0.34 kg per week) is biologically plausible and is consistent with the reductions commonly observed in lifestyle programs for weight management. Collectively, these findings suggest that the delivery of weight-management assistance via commercial online platforms represents a cost-efficient, easy-to-disseminate approach with the potential to benefit large numbers of overweight and obese individuals.

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B-109

LOSE 2 WIN CONTESTS: A NOVEL METHOD TO MOTIVATE WEIGHT LOSS MAINTENANCE AMONG COLLEGE STUDENTS

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About 30% of college students are overweight/obese. "Lose 2 Win" contests (i.e., achieve weight-loss goals to win prizes), appear well-suited for college campuses. We evaluated the feasibility/acceptability/efficacy of "Lose 2 Win" contests for weight-loss maintenance among college students. Interested students completed on-line eligibility (enrolled student; aged 18-25, BMI = 26-35; no diabetes/eating disorders diagnoses), baseline survey and informed consent. Enrolled participants (N = 144) offered 8-weekly group-based weight-loss sessions (Phase 1 = weight-loss). At Week-10, participants losing >5% of initial body weight enrolled into Phase 2 (n = 41) and randomized to Tx1: Contest PLUS (biweekly counseling) (n = 15), Tx2: Contest ONLY (N = 12) or Tx3: Control (n = 14). Tx1 and Tx2 were enrolled into 3 consecutive month-long, lottery-based contests of $1000, $2000, $3000 for verified weight-loss maintenance. Of 308 qualified, 144 enrolled. At Week-10, 28% (n = 41) achieved >5% weight-loss goal and randomized into Phase-2 (age 19.9; 81% female, BMI = 30.5). Average weight loss at Week 10 was Tx1 = -11.1lbs (+3.9, -6.3% baseline body weight), Tx2 = -10.5lbs (+2.7, -5.8%) and Tx3 = -11.5 (+2.9lbs, -6.0%). Phase-2 participants re-assessed at end of the three incentivized (contest) periods (16, 20 and 24 weeks post-enrollment). Using completers-only analyses, at week-16, the % of participants in Tx1, Tx2 & Tx3 maintaining their goal weight of > 5% loss and actual weight loss from Week-10 was 100% (-1.7lbs + 2.6), 66.7% (0.5lbs + 4.4) & 69.2% (0.7lbs + 3.5), $p = 0.04$. At week-20: 92.9% (-1.7lbs + 3.4); 66.7% (0.7lbs + 4.9) and 76.9% (-1.0lbs + 5.6), p = NS and at week-24: 73.3% (-2.3lbs + 5.4), and 50% (1.4lbs + 7.0) & 76.9% (-1.4lbs + 4.2), p = NS, respectively. Contest PLUS resulted in improved rates of short-term weight loss maintenance. Lose 2 Win contests may be an appealing and easy-to-implement method to motivate initial weight loss and promote weight loss maintenance among college students.

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B-110

PREDICTORS OF ATTENDANCE TO INTENSIVE DIET AND EXERCISE INTERVENTIONS AMONG OLDER OVERWEIGHT AND OBESE ADULTS WITH KNEE OSTEOARTHRITIS: RESULTS FROM THE INTENSIVE DIET AND EXERCISE FOR ARTHRITIS (IDEA) TRIAL

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The American College of Rheumatology recommends weight loss and physical activity for obese adults with knee osteoarthritis (OA). Although exercise and weight loss programs have shown improvements in pain and mobility for adults with knee OA, successful outcomes are clearly linked to intervention adherence. We examined a range of demographic, health-related, and psychosocial predictors of attendance to exercise and dietary weight loss interventions in the IDEA study. IDEA was a prospective, single-blind, randomized controlled trial with 454 over-weight and obese (BMI = 27-41 kg/m^2) older (age ≥ 55 yrs) adults with radiographic evidence of tibiofemoral OA. Participants were randomized to one of three 18-month interventions: intensive dietary weight loss-only; intensive dietary weight loss-plus-exercise; or exercise-only control. Mean (SD) baseline descriptive characteristics of the cohort included: age, 65.6 (6.2) yrs.; BMI, 33.6 (3.7) kg/m^2; %female, 72; %white, 81. Of the 454 randomized participants, 399 (88%) completed the study and adherence rates were good in both the exercise (>50%) and diet (>60%) interventions over 18 months. Higher attendance to diet sessions was significantly ($p < .05$) correlated with greater self-efficacy for mobility and adherence, mental and social functioning, cognitive function, and less difficulty with daily activities (all Pearson r = 0.13-0.19), and more years of education (OR = 1.8) whereas higher attendance to exercise sessions was significantly correlated with greater self-efficacy for mobility (Pearson r = 0.13) and more years of education (OR = 1.8). Understanding predictors of exercise and diet session attendance should enhance adherence in future lifestyle interventions, as well as increase intervention efficacy for older, overweight and obese adults with symptomatic knee OA.

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B-111

APPETITE AND GROWTH IN EARLY CHILDHOOD: FINDINGS FROM TWINS DISCORDANT FOR APPETITE IN INFANCY

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Background Discordant sibling designs make it possible to examine phenotypic associations while controlling for familial confounding. This study tested the hypothesis that differences in appetite in early infancy between same-sex, non-identical twins are associated with different growth trajectories.

Methods Data were from Gemini, a population-based cohort of 2402 families with twins. Appetite at 3 months was assessed with the Food Responsiveness (FR) and Satiety Responsiveness (SR) scales from the Baby Eating Behaviour Questionnaire (BBQ). Discordance was defined as a within-pair difference of at least one standard deviation. Weights from birth were based on measurements by health professionals or by parents using weighing scales sent to the home. Growth trajectories were analysed using multilevel modelling taking into account clustering, and adjusting for sex and birth weight.

Results One hundred seventy two pairs were discordant for SR and 121 for FR. Within-pair analyses showed that the twin with higher FR grew faster than their co-twin ($\chi 2 = 953.95$, $p < .001$), and the twin with lower SR grew faster than their co-twin ($\chi 2 = 1264.84$, $p < .001$). At age 6 months, the twin with higher FR was 654gms heavier (95% CI: 365, 913), and the difference increased to 991gms by 15 months (CI: 484, 1498). For twin pairs discordant on SR, the differences were 637gms (CI: 438, 836) and 918gms (CI: 569, 1267) at 6 and 15 months.

Conclusion A heartier appetite - indexed with higher food responsiveness or lower satiety responsiveness - in early infancy is prospectively associated with faster growth up to age 15 months in a design controlling for possible familial confounding. Appetite could be an early marker for risk of weight gain and might be a potential target for preventive interventions.

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B-112

SHIFT WORK AND BONE MINERAL DENSITY IN BUFFALO POLICE OFFICERS

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PURPOSE: To investigate the association between night shift work and bone mineral density (BMD) among 408 Buffalo police officers.
METHODS: This cross-sectional study was conducted from 2004-2009. The percentage of work hours on night shift was derived from daily payroll work history records. BMD (gm/cm^2) was measured by dual-energy x-ray absorptiometry (DXA). Mean BMD levels from five anatomical locations (total hip, femoral neck, AP spine, wrist, and total body) were compared across gender-specific tertiles of night shift work using ANOVA/ANCOVA; p-values were obtained using linear regression.
RESULTS: Percentage of night shift work was significantly associated with BMD, but only among women (n = 108). In women, increasing tertiles of night shift work (1st tertile 0-0.51%, 2nd tertile 0.56-12.64%, 3rd Tertile 13.75-92.86%) was associated with generally decreasing mean levels of BMD of the total hip (1st tertile = 1.06 ± 0.02, 2nd = 1.08 ± 0.02, & 3rd = 0.96 ± 0.02; p < 0.001), femoral neck (0.91 ± 0.02, 0.94 ± 0.02, 0.84 ± 0.02; p = 0.012), AP spine (1.12 ± 0.02, 1.17 ± 0.02, 1.05 ± 0.02; p = 0.035), and whole body (1.23 ± 0.02, 1.24 ± 0.02, 1.16 ± 0.02; p = 0.009), but not wrist (p = 0.107), after adjusting for age, race/ethnicity, smoking status, and BMI. Among men, the associations between night shift work and BMD were not statistically significant.
CONCLUSION: Night shift work, expressed as a percentage of total hours worked, was significantly and inversely associated with BMD among female officers. Future studies employing prospective designs and larger sample sizes should investigate the association between night shift work and BMD, including the role gender may play.

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B-114

RELATIONSHIPS BETWEEN ACCULTURATION, FEMINIST ENDORSEMENT, HEALTH BEHAVIORS AND HEALTH BELIEFS IN HISPANIC WOMEN

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Hispanic women are the fastest growing population in the United States. Thus, it is important to explore health disparities that affect this population and understand potential causes. Explanations have been proposed for disparities that exist including turning to cultural alternatives. The aim of the present study was to investigate endorsement of feminist attitudes and level of acculturation as additional explanations for this phenomenon.
Participants were undergraduate Hispanic women (18-24 years of age, M = 20.25). Participants completed the Multidimensional Health Questionnaire to assess health assertiveness, health esteem, health-efficacy, and locus of control. A modified version of the ARSMA-II assessed participant level of acculturation. Three subscales from the Liberal Feminist Attitude and Ideology Scale assessed feelings related to feminism. The Health and Well-being Assessment measured diet and exercise. Feminist endorsement was positively related to health-esteem, health-efficacy, and internal-health locus of control. Diet and exercise were positively related to health efficacy, health assertiveness, and health esteem. Acculturation and feminist attitudes explained significant variance in internal health locus of control (adj. R^2 = .084, F (2, 86) = 5.03, p < .01) with feminist endorsement as the sole contributor (β = .26, t = 2.55, p < .05).
This research suggests that women who agree with aspects of feminism may feel more capable of managing their own health, feel more positive about how they handle their health, and feel that they influence their own health. Empowerment is considered a central tenet of feminist theory and, in the context of health, women who endorse feminist beliefs may feel more empowered. This may support interventions focused on strengthening empowerment in women. The relationships between health behaviors and health attitudes make intuitive sense; individuals who feel that they have the capacity to make beneficial changes to their own health are likely to report higher rates of exercise and healthier diets.

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B-115

CONCERNS FOLLOWING SPINAL CORD INJURY: A QUALITATIVE STUDY

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When examining the course of rehabilitation for individuals with spinal cord injury (SCI), studies have found consistent barriers in both the subjective (life satisfaction) and objective (health-related quality of life) experiences that impede an individual's successful reintegration back into the community (Krause & Reed, 2009). Previous research has addressed general concerns experienced by individuals with SCI based on injury level; however, there has been limited consideration for concerns based on both injury level and individual status in the rehabilitation process (inpatient or community dwelling). The purpose of the present study is to increase the understanding of concerns experienced by adults with SCI with consideration for these factors.
Ten structured focus groups were conducted to examine concerns regarding participants' abilities to adapt to daily life following injury. The sample consisted of 14 patients (injury level: thoracic/lumbar (T/L) = 8; Cervical (C) = 6) currently in inpatient rehabilitation and 14 individuals (T/L = 7; C = 7) who had reintegrated into the community following completion of a rehabilitation program. Qualitative data analysis was completed using grounded theory and revealed six consistent themes: transition to community (e.g., school, work, and accessibility), adapting to home environment, social concerns, acceptance (social and self), caregiving, and physical concerns. Several themes varied based on level of injury and outpatient versus inpatient status. Regardless of level of injury, those living in the community reported more concerns related to transition to community, social concerns, and acceptance. Individuals with cervical level injuries living in the community reported more concerns about caregiving than other groups. Additional results will be presented as well as participants' quotes, providing richness and a phenomenological perspective to the understanding of these concerns.

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Citation and Meritorious Poster
B-116

SOCIAL SUPPORT AND GRANDPARENT CAREGIVER HEALTH: ONE YEAR LONGITUDINAL FINDINGS FOR CUSTODIAL GRANDFAMILIES

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The physical health of custodial grandparents is a key factor impacting their adjustment and role satisfaction (Hayslip & Kaminiski, 2005). Concerns about their health are shared by grandparents and grandchildren alike, where declines in health may impair a grandparent's ability to manage the demands of raising a grandchild. Social support that is both timely and effective may mitigate such consequences, contributing to greater quality and perhaps greater quantity of life among grandparents raising their grandchildren. Accordingly, the primary aim of the current study was to investigate the relation between social support and health among custodial grandparents at two time points over the course of one year.
Participants were 86 custodial grandparents (*M*age = 59.35, *SD* = 7.87, 83.3% women). Grandparents completed several measures at initial assessment and at one-year follow-up, including the Multidimensional Scale of Perceived Social Support, Short Form-36 General Health Survey, and the Center for Epidemiologic Studies Depression Scale. Prospective relations between social support and health were ascertained via cross-lagged panel analyses, and hierarchical regression analyses addressed the unique and interactive role of social support and health in relation to depression. Findings suggested that social support predicted health over time rather than vice versa. Regression analyses indicated that health predicted depression over time, where persons in better health reported less depression one year later. Further, the interaction of health and social support at time 1 predicted depression one year later, wherein those who lacked social support and who were in poorer health at time 1 also reported elevated depression symptoms one year later. The clinical implications suggest greater social support may lay the groundwork for better health, and such support may prevent the development of depression.

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Citation and Meritorious Poster
B-117

SOCIAL DETERMINANTS OF BARRIERS TO HEALTHCARE UTILIZATION IN CHRONIC FATIGUE SYNDROME (CFS)

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Background: Social determinants (SD) of health are increasingly recognized as important factors in public health research, particularly in community-based participatory research in reducing health disparities. However, few studies have examined the associations between SD and barriers to healthcare utilization in any illness, and none have included CFS. For complex and devastating illnesses like CFS, understanding what factors reduce barriers to healthcare utilization (HU) is pivotal in increasing access to needed treatment.
Methods: Data came from the 2007-2009 population-based study of CFS and unwellness in Georgia. The sample contained 750 participants classified into CFS, Insufficient Symptom/ Fatigue (ISF), and Non-Fatigue (NF) with and without CFS-excluding conditions. We performed multiple logistic regressions on HU barriers, adjusting for socio-demographics, SD (social support (SS), sense of community (SOC)) and physical/mental unhealthy days.
Results: Those with ≥1 barrier to HU (34%) were more likely to be younger, uninsured, had significantly lower SOC, less social supporters, or lower satisfaction with SS, and more physical/mental unhealthy days. CFS participants were 5-times more likely to report HU barriers than those without fatigue (OR = 5.76). Additionally, subjects with stronger SOC membership (OR = 0.76) and higher SS satisfaction (OR = 0.63) were less likely to report HU barriers. With the adjustment, SOC Membership and SS satisfaction remained significantly associated with HU barriers.
Conclusions: Social determinants are vital for health of fatigued patients, since they face additional challenges to seeking medical care. Community-level educational interventions and activities should be targeted at younger, uninsured, new residents to create ties to existing community support systems.

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B-118

ANALYSIS OF RECRUITMENT COSTS IN A COMMUNITY-BASED INTERVENTION

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Cost of participant recruitment in community-based research is an important, but understudied, consideration in study design and implementation. To address this research gap, recruitment costs and enrollment data from a multi-cohort behavioral trial, Talking Health, were collected and analyzed. Individuals were recruited in 6 cohorts, across 6 rural counties in Southwest Virginia that met the medically underserved area (MUA) designation. Based upon community needs, a variety of recruitment methods were used. These included advertisements, targeted mailings, and in-person community outreach efforts at a variety of venues including the health department, free clinics, retail stores, daycares and other community events. In addition, three cohorts had hired local, invested community-research assistants who co-led recruitment activities. Concerted efforts were made to engage and recruit low socio-economic individuals. Recruitment costs were divided into eight categories: research staff hours at community facilities, travel time, transportation, newspaper ads, postcard mailings, training of community research assistants, communication with potential participants before enrollment, and miscellaneous costs. On average, recruitment costs were $7,951.08 ± 3,752.58 (mean ± SD) per county (range $2,254.30 to $13,488.86). Cost per participant screened was $63.60 ± 22.86 (range $34.68 to $85.92), and cost per participant enrolled was $222.42 ± 130.04 (range $59.98 to $421.53). In the 3 counties with an invested community research assistant, the cost per participant screened ($46.58 ± 17.18) and cost per participant enrolled ($135.6 ± 80.18) were lower when compared to the 3 counties where recruitment was carried out almost exclusively by the research staff: $81.94 ± 8.57 per participant screened, $324.25 ± 95.68 per participant enrolled. To effectively recruit individuals from MUA to participate in community-based behavioral research trials, it is imperative to strategically consider recruitment approaches and costs.

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B-119

HEALTH-RELATED QUALITY OF LIFE IN CHILDREN WITH SPINAL CORD LESIONS AND THEIR CAREGIVERS IN COLOMBIA

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Objective: Poor health-related quality of life (HRQOL) has been documented in children with spinal cord lesions (SCLs) and their caregivers in the U.S. However, HRQOL has not been studied among children and caregivers living in the developing world. Lack of access to medical, rehabilitative, and psychological resources places Latin American children with SCL and their caregivers at high risk for poor HRQOL. This study compared HRQOL between children with SCL and healthy controls in Neiva, Colombia, as well as their caregivers.
Participants: Thirty children with SCLs, 30 age-matched control children, and their respective caregivers. Ninety percent reported low socioeconomic status. Children had a mean age of 13.7 years (SD = 3.0). Caregivers had a mean age of 41.3 years (SD = 9.8).
Methods: To assess HRQOL, children completed the Pediatric Quality of Life Inventory (PedsQL) and caregivers completed the Short Form-36 (SF-36).
Results: Compared to healthy controls, children with SCLs obtained lower total scores on the PedsQL (F(1) = 29.3, p < .001) and subscales assessing Physical (F(1) = 49.2, p < .001), Social (F(1) = 49.2, p < .001), and School Functioning (F(1) = 7.7, p < .01). On the SF-36, caregivers of children with SCLs obtained lower scores compared to controls on Physical Functioning (F(1) = 12.2, p < .001), Bodily Pain (F(1) = 49.16, p < .05), General Health (F(1) = 5.5, p < .05), Social Functioning (F(1) = 13.2, p < .001), Mental Health (F(1) = 5.1, p < .05), and Role Limitations-Emotional (F(1) = 5.1, p < .05).
Discussion: Children with SCLs and their caregivers living in Colombia experience poorer HRQOL compared to controls in physical and psychosocial functioning. Results highlight the need for improved access to healthcare resources among children with spinal cord disabilities in Colombia. Children and caregivers would benefit from evidence-based behavioral health interventions, including cognitive-behavioral strategies, designed to optimize HRQOL in the presence of limited resources.

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B-120

THE EFFECTS OF PHYSICAL ACTIVITY, EDUCATION, AND SPIRITUALITY ON PREMORBID INTELLIGENCE IN HEALTHY OLDER ADULTS

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The US Census Bureau projects that the population age 65 and older will more than double in the next 50 years. Age-related dementias, such as Alzheimer's disease, are predicted to increase at the same rate. Cognitive decline is a key component in neurodegenerative diseases and can include memory loss, speech impairment, and inability to perform daily tasks. Premorbid intelligence (PI) is a determinant of cognitive decline and health behaviors. Researchers have found that PI is influenced by sociocultural factors including physical activity and education. The link between physical activity, education, and spirituality has not been examined. Thus, this study tested the impact of physical activity, education, and spirituality on PI in healthy older adults.
Participants were 129 adults ages 64-75 years (M = 69.01, SD = 3.04). The American version of the National Adult Reading Test measured PI, the Physical Activity subscale of the Cognitive Reserve Questionnaire measured physical activity, and the Spirituality Index of Well-Being assessed spirituality. Regression analysis was conducted to test physical activity, years of education, and spirituality as predictors of PI.
The analysis revealed that 57.3% of the variance in PI was accounted for by physical activity, education, spirituality, and the interaction between the variables, F(9, 111) = 16.54, p < .001. Premorbid intelligence was significantly predicted by education (β = 2.81, t = 9.00, p < .001), spirituality (β = -2.85, t = -7.55, p < .001), and the interactions between physical activity, education, and spirituality, p < .001.
Results introduce spirituality as a new predictor of PI. Furthermore, our findings support previously reported relationships between physical activity, education, and PI. This study highlights the importance of using an integrative approach towards healthcare in a healthy, aging population.

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B-121

BROADER SOCIAL NETWORKS AND COPING INTERPERSONALLY IN ADULTS WITH TRANSFUSION-DEPENDENT THALASSEMIAS

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Objective: This study sought to examine a link between social networks and coping with chronic illness.

Background: Previous research has shown that a broad social network is an asset to maintaining physical health and quality of life (Cassel, 1974; Cohen, Doyle, Skoner, Rabin & Gwaltney, 1997). These benefits have also been found in studies of chronically ill populations (Kop et al., 2005; Vassilev et al., 2011). However, much of this research has involved only patient self-report and has neglected to measure how social resources are employed when coping with demanding circumstances. Therefore, the question we sought to answer was whether broader social networks were linked to the inclusion of important others in discussions of coping in adult patients with Thalassemia. It was hypothesized that the broader individuals' social networks were reported to be, the more participants would refer to close others while speaking about coping with their illness

Method: 33 Adult patients with transfusion-dependent Beta-Thalassemias completed a laboratory interview on how they were coping with their illness. Prior to the interview, patients also reported the breadth of their social network using the Social Network Index (SNI: Cohen, Doyle, Skoner, Rabin & Gwaltney, 1997). Transcriptions of the interviews were used to derive the degree to which patients made references to close others while describing coping efforts. Other key data regarding psychological distress and co-occuring medical conditions were also collected.

Results: Data analysis revealed a significant correlation between interpersonal references while coping and the breadth of their reported social network ($r = .39$ $p < .05$), even when controlling for psychological distress, level of co-morbid disease, gender, and age.

Conclusion: These results suggest that broader social networks influence the role interpersonal relationships may play in patients' coping. The possession of a broad social network may be a resource to chronically ill patients that increases the likelihood that important others will be included in how they cope with their illness.

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B-122

TOWARDS A POSITIVE VIEW ON HEALTH BY GAINING INSIGHTS INTO THE CONCEPT OF VITALITY: ASSOCIATIONS WITH SOCIETAL PARTICIPATION AND COSTS AMONG DUTCH ADULTS

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Background Vitality (energy, motivation and resilience) is a nowadays often used concept and is in line with the positive health approach: a focus shift from someone's disabilities to someone's abilities. However, little is known about vitality yet, in particular about its association with participation and costs.

Methods Within a cross-sectional design, data was collected using an internet survey among 8015 Dutch adults. Vitality was measured using the validated Dutch Vitality Questionnaire (i.e. Vita-16). Furthermore, information was collected on participation, namely 1) economic (e.g. sustainable employability); 2) societal (e.g. voluntary work); and 3) social participation (e.g. social contact), and costs (e.g. health care costs).

Results As for economic participation, a higher vitality scores were associated with higher sustained employability, higher task performance, lower absenteeism risk, and lower perceived work pressure. As for societal participation, higher vitality scores were associated with doing voluntary work and giving informal care. As for social participation, higher vitality scores were associated with having frequent social contacts. Regarding costs, higher vitality scores were associated with lower yearly health care, presenteeism and absenteeism costs.

Conclusion Vitality was positively associated with participation (i.e. economic, societal, social) and negatively with health care and employer costs. As such, improving the vitality of the Dutch adult population might be a promising manner to increase participation and reduce costs. However, further research with a longitudinal study design should confirm the found associations.

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B-123

EATING DISORDER SYMPTOMATOLOGY IN NORMAL WEIGHT WOMEN DIETING TO LOSE WEIGHT OR AVOID WEIGHT GAIN

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Women who self-identify as dieting to lose weight may differ from those who self-identify as dieting to maintain weight. The purpose of the current study was to elucidate differences between three groups of women: non-dieters (ND), women who self-identify as dieting to lose weight (DL) and women who self-identify as dieting to maintain weight (DM). A sample 226 of normal weight (mean BMI: 21.60, SD 1.77, range: 18.54-24.96) women (age range: 18-62, M = 24.02, SD = 8.94) completed a series of self-report measures about dieting and eating habits. The majority of the sample was ND (N = 159), followed by DL (N = 45) and DM (N = 22). There were no significant differences between groups in terms of reported ideal body weight. DL indicated a desire to lose, on average 12.5 ± 6.27 lbs. The majority of women dieting to maintain weight (90%) indicated it was to avoid weight gain. In general, DL and DM had higher restraint scores than ND [$F(2, 222) = 48.49$, $p < 0.001$] and higher eating disorder symptomatology than ND [$F(2, 223) = 40.67$, $p < 0.01$]. DM reported being significantly more responsive to the food environment than DL or ND, $F(2, 217) = 5.37$ $p = 0.005$). DL reported significantly more general anxiety than either ND or DM [$F(2, 223) = 4.09$, $p = 0.018$]; whereas DM reported significantly higher physiological arousal than either ND or DL [$F(2, 223) = 6.84$, $p < 0.01$]. DL had significantly higher BMI than either DM or ND [$F(2, 223) = 3.89$, $p = 0.02$]. Results indicated that DL and DM are more similar than different. Future studies should explore clinical distinctions between DL and DM.

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B-124

THE RELATIONSHIP BETWEEN APPEARANCE DISSATISFACTION AND LIFE SATISFACTION IN SYSTEMIC SCLEROSIS

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Systemic sclerosis (SSc) is a multisystem disease characterized by excessive collagen production leading to skin thickening and organ fibrosis. SSc is often accompanied by physical disfigurement in interpersonally relevant areas. Such disfigurement has been shown to be related to poorer appearance self-esteem and poorer quality of life. This study examined the relationship between satisfaction with appearance and satisfaction with life among a sample of patients with SSc (N = 192). Patients completed the Satisfaction with Appearance Scale (SWAP), an assessment of body image distress (BID) that yields four subscales: Subjective Dissatisfaction (SD), Facial Features (FF), Non-Facial Features (NFF), and Perceived Social Impact (PSI). Overall life satisfaction was assessed with the Satisfaction With Life Scale (SWLS). Hierarchical linear regression was used to examine the relationship between satisfaction with appearance and satisfaction with life. The final model was statistically significant [$F(7, 184) = 7.93$, $p < .01$], and accounted for 23.2% of the variance in life satisfaction scores. Controlling for age, physician-rated skin involvement, and physician-rated global health, a significant main effect ($p = .02$) was found for PSI, such that greater PSI ($\beta = -.35$) was a predictor of lower SWLS scores. No significant associations between SD, FF, or NFF, and life satisfaction were found. Physician-rated global health assessment was a significant predictor of SWLS scores ($\beta = -.14$; $p = .04$), however skin involvement and age were not. The results suggest that patients' perceptions of the social consequences of disease-related changes in appearance are the most important contributor to overall life satisfaction, rather than the severity of the physical changes. When designing interventions targeting BID, researchers should consider perceived social impact.

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B-125

EMOTION REGULATION AND WELL-BEING IN SINGAPORE

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Background: Emotion regulation strategies have been show to have reliable relationships with measures of health and well-being.
Purpose: This research investigated three emotion regulation strategies and their relationship to measures of emotions and well-being among Chinese, Malays and Indians in Singapore.
Methods: Questionnaires asking about habitual use of three emotion regulation strategies (suppression, reappraisal, and use of negative thinking) as well as emotions experienced, life satisfaction and depression were given to 166 university students (61 Chinese, 60 Malays and 45 Indians; 81 females). Age ranged from 18 to 42 years with a mean of 22.3.
Results: Chinese were more likely to report more use of reappraisal than either Malays or Indians ($p = .077$). No differences were found for suppression. Malays reported more use of negative thinking than did Chinese or Indians ($p = .023$). Use of suppression showed no relationship with life satisfaction, depression or felt positive or negative emotions. Use of reappraisal showed significant positive relationships with life satisfaction, and current positive emotions ($p < .05$). Use of negative thinking showed a significant negative relationship with life satisfaction and significant positive relationships with depression, current negative emotions and negative emotions in general (all $p < .01$).
Conclusion: Contrary to previous studies of emotion regulation and well-being done in North America no relationships were found between use of suppression and well-being. Positive relationships found for reappraisal are in line with other research showing beneficial effects for the use of reappraisal. The use of negative thinking to regulate emotions was quite common in our sample, with the greatest use being among Malays. Strong associations between negative thinking, well-being and negative emotions suggest that this is a type of emotion regulation that needs to be more thoroughly explored.

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NOISE ANNOYANCE AT HOME AND WORK: THE ROLE OF NOISE PERCEPTIONS AND PSYCHOSOCIAL FACTORS

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Noise annoyance is regarded as an important factor in health and well-being; if sustained or experienced frequently, it can lead to long-term health problems. In our study, we examined ratings of noise annoyance at home and at work, and the role of noise perceptions and psychosocial factors in the predicting noise annoyance. Participants were 1028 residents of Auckland, New Zealand who completed anonymous questionnaires and returned them through the mail. Hierarchical linear regression analyses were conducted using ratings of noise annoyance at home and noise annoyance at work as outcome variables in two separate models. Education level, neuroticism and age were entered in block one of the model (covariates), and in block two, noise sensitivity, perceived stress, and perceptions of control over the noise source were entered into the model. The noise annoyance at work model was significant, $F(7, 869) = 38.46$, $p < .001$, with the following predictors significantly predictive of noise annoyance: noise sensitivity ($\beta = .327$, $p < .001$), perceived stress ($\beta = .267$, $p < .001$), perceptions of control over noise source ($\beta = -.152$, $p < .001$), and education level ($\beta = .062$, $p = .040$). The noise annoyance at home model was also significant, $F(7, 1022) = 75.64$, $p < .001$, with the following predictors significantly predictive of noise annoyance: noise sensitivity ($\beta = .429$, $p < .001$), perceptions of control over the noise source ($\beta = -.244$, $p < .001$), and perceived stress ($\beta = .244$, $p < .001$). Overall, our results indicate that a variety of psychosocial factors contribute to the experience of noise annoyance both at home and at work. Importantly, noise sensitivity is strongly associated with noise annoyance in both settings, and perceptions of control play a significant part in the experience of annoyance. It would be beneficial for future research to examine the role of perceived control to further understand possible ways to mitigate the experience of noise annoyance.

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PATIENTS' DRAWINGS OF BLOOD CELLS REVEAL PATIENTS' PERCEPTION OF THEIR BLOOD DISORDER

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Context: Sickle cell disease (SCD) and thalassemia are rare but chronic blood disorders. Recent literature showed impaired quality of life (QOL) in patients with these blood disorders. Assessing one of the determinants of QOL illness perceptions - therefore, is an important next research area
Objective: We aimed to explore the illness perceptions of patients with a blood disorder with the novel Drawing Test in addition to the Brief Illness Perception Questionnaire (Brief IPQ). The Drawing Test is a novel test to assess illness perceptions and the free-range answers drawings offer can add additional insight into how patients perceive their illness.
Method: We conducted a cross-sectional study including 17 patients with a blood disorder. Patients' illness perceptions were assessed by the Brief IPQ and the Drawing Test. Brief IPQ scores were compared with reference groups from the literature (i.e. patients with asthma or lung cancer).
Results: Patients with SCD or thalassemia perceived their blood disorder as being more chronic and as having more severe symptoms than patients with either asthma or lung cancer. In the drawings of these patients with a blood disorder, a greater number of blood cells drawn was negatively correlated with perceived personal control ($P < 0.05$) indicating that a greater quantity in the drawing is associated with more negative or distressing beliefs.
Conclusion: Patients with a blood disorder perceive their disease as fairly threatening compared with patients with other chronic illnesses. Drawings can add additional insight into how patients perceive their illness by offering free-range answers.

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PSYCHOLOGICAL MORBIDITY AND IMPAIRED QUALITY OF LIFE IN PATIENTS WITH STABLE TREATMENT FOR PRIMARY ADRENAL INSUFFICIENCY

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Context: A high prevalence of psychological morbidity, maladaptive personality traits and an impaired quality of life (QoL) are observed in patients with and without hydrocortisone (HC) dependency following (cured) Cushing's syndrome. However, it is currently unclear whether a similar pattern is present in patients with primary adrenal insufficiency (PAI)
Design and subjects: We performed a cross-sectional study including 54 patients with stable treatment for PAI and 54 healthy matched controls. Patients and controls were asked to complete questionnaires on psychological functioning (Apathy Scale, Irritability Scale, Mood and Anxiety Symptoms Questionnaire short-form, and Hospital Anxiety and Depression Scale), personality traits (Dimensional Assessment of Personality Pathology short-form), and QoL (Multidimensional Fatigue Inventory, Short-Form 36, EuroQoL-5D, Nottingham Health Profile, and Physical Symptom Checklist).
Results: Patients with PAI suffered from psychological morbidity (i.e. irritability and somatic arousal) and QoL impairments compared with controls (all $P < 0.01$). There were no differences regarding maladaptive personality traits. However, there was a strong and consistent positive association between daily HC intake and prevalence of maladaptive personality traits. There was also a strong relation between mean daily dose of HC and psychological morbidity and QoL.
Conclusion: Patients with stable treatment for PAI report psychological morbidity and an impaired QoL. Psychological morbidity, impaired QoL, and maladaptive personality traits were associated with higher HC intake. The results of this study can be used for improvement of psychosocial and medical care for patients with PAI.

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SOCIAL SUPPORT ASSOCIATED WITH MEMORY FUNCTIONING IN PATIENTS WITH CHRONIC FATIGUE SYNDROME/MYALGIC ENCEPHALOMYELITIS

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Objective: Memory impairment is common in Chronic Fatigue Syndrome/Myalgic Encephalomyelitis (CFS/ME). Social support (SS) may be protective against decline in memory functioning (MF), yet the relationship between SS and MF in patients with CFS/ME is poorly understood. This study examines whether SS and MF are associated in patients with CFS/ME, and whether specific types of SS relate to different domains of MF. Methods: 62 men and women diagnosed with CFS/ME completed the Social Provisions Scale, which divides SS into attachment (AT), social integration (SI), reassurance of worth (RW), reliable alliance (RA), guidance (GD), and opportunity for nurturance (ON) subscales. Patients also self-reported general frequency of forgetting (GFF), seriousness of forgetting (SF), and mnemonics usage (MU) on the Memory Functioning Questionnaire. Partial correlations controlling for age (M = 48.2 years) and education (M = some college) were conducted to assess whether SS subscales were related to types of MF. Results: GFF (M = 3.73, SD = 1.21) was positively correlated with AT (M = 13.39, SD = 2.31), r = 0.27, p = 0.041, RW (M = 12.69, SD = 2.56), r = 0.41, p = 0.002, and ON (M = 13.34, SD = 2.11), r = 0.28, p = 0.036. SF (M = 3.64, SD = 1.56) was positively related to AT, r = 0.33, p = 0.012, RW r = 0.36, p = 0.006, and GD (M = 13.71, SD = 2.27), r = 0.32, p = 0.017. Conclusions: GFF was correlated with emotional support in patients with CFS/ME, and SF was associated with emotional and informational support. MU was not related to SS, and instrumental support was not associated with any MF indices. The causal mechanism of the relationship between SS and MF remains unknown in CFS/ME patients. Prospective research should be conducted to determine temporality between these variables, and whether SS interventions could improve MF.

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NOVEL EXPLORATION OF PSYCHOLOGICAL CORRELATES OF DISEASE-RELATED QUALITY OF LIFE IN PATIENTS WITH INTERMITTENT CLAUDICATION

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Peripheral artery disease (PAD) is atherosclerosis in the limbs and extremities. Some patients with PAD suffer from intermittent claudication (IC), which entails pain in the affected limbs during activity and is related to poor functionality. Surprisingly, research on psychosocial ramifications of IC is scarce. Limited research documents poor quality of life (QoL) in PAD patients. One study showed that health-related QoL predicted long-term survival in PAD patients.

The current study explored how anxiety, depression, and positive health expectations relate to QoL in a sample of PAD patients with IC (N = 70; 60% male; mean age = 62.46 yr). Participants completed the Vascular Quality of Life (QoL), Hospital Anxiety and Depression (HADS), and Positive Health Expectations (PHE) Scales at a routine clinic visit. Ankle brachial index was included in analyses to control for disease severity. Hierarchical regressions were conducted with PHE and HADS as predictors of QoL (performed separately for anxiety and depression subscales due to multicollinearity).

Analyses showed a mediation effect, which was confirmed with Sobel tests. The effect of PHE on QoL (std. $\beta = 0.29$, $p < .05$) was reduced to non-significance when HADS-anxiety (std. $\beta = -.42$, $p < .01$; R2 = .22, F = 5.91, $p < .01$) or HADS-depression (std. $\beta = -.40$, $p < .01$; R2 = .21, F = 5.46, $p < .01$) were introduced into the model. Notably, reverse hierarchical regression models exploring PHE as the mediator of associations between HADS and QoL were non-significant.

Although our data are cross-sectional, they are the first to show that positive health expectations relate to disease-related QoL in patients with IC, but that this link may be accounted for by the detrimental impact of depression and anxiety on QoL. In light of recent research highlighting an association of lower QoL and shorter survival in PAD patients, screening PAD patients for mood problems may identify fruitful treatment targets to bolster QoL and, ultimately, medical outcomes.

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FINANCIAL HARDSHIP AND CONFIDENCE IN THE ABILITY TO TAKE CARE OF YOUR HEALTH AMONG AFRICAN AMERICAN MEN

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Confidence in the ability to take care of one's health increases the likelihood that one is an active partner with his/her health care provider in managing their health. However, racial/ethnic minorities and those with low socioeconomic status (SES) often report lower confidence in their ability to prevent and manage health problems; specifically, having few financial resources presents barriers to health care and healthy behaviors. Yet, no study has examined the association between experiencing financial hardship and confidence in taking care of one's health. The purpose of this exploratory study was to investigate that association among African American (AA) men, and to determine if missing a doctor's visit because of cost mediates the association. Cross sectional analysis was conducted using data from a convenience sample of AA men who attended an annual community health fair (N = 279). Confidence was measured using a single item, "Overall, how confident are you about your ability to take good care of your health?" Financial hardship was measured as follows: "How difficult is it for you or your family to meet monthly payments on bills?" Modified Poisson regression models were estimated to obtain the relative risk of reporting low confidence, adjusting for demographic and SES characteristics. Fully adjusted models revealed that those reporting financial hardship were 2.87 times more likely to report low confidence, compared to those not reporting financial hardship ($p < .05$). When missing a doctor's visit because of cost was added to the model, the association was no longer statistically significant. The results of our exploratory study suggest that having to miss a doctor's visit because of cost may explain the association between financial hardship and low confidence. Possible health intervention efforts with AA men with limited financial resources should consider including efforts to eliminate missed/avoided doctor's visits to increase confidence.

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DEVELOPMENT OF A MHEALTH INTERVENTION FOR CARE TRANSITIONS

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INTRODUCTION For chronically ill adolescents and young adults (AYA), the process of transitioning from pediatric to adult care is often poorly planned, delayed, or avoided entirely. This can result in adverse health outcomes. Mobile health (mHealth) interventions have great potential to transform this process. In this study, we aimed to develop content specifications for a mHealth intervention targeting AYA with a common, serious chronic illness: inflammatory bowel disease (IBD).

METHODS We performed semi-structured interviews with 28 expert pediatric and adult providers across the U.S. as well as focus groups among AYA aged 15-24 with IBD. Provider interviews aimed to identify key measurable, modifiable endpoints indicative of transition failure as well as important transition milestones and threats to success. Focus groups aimed to prototype a user-centered mHealth tool targeting these endpoints. We used the Socio-ecological Model of AYA Readiness to Transition (SMART) to inform intervention development.

RESULTS Transition endpoints for IBD that emerged from the provider interviews included health outcomes such as changes in the Crohn's Disease Activity Index, appropriate healthcare utilization such as maintaining continuity with adult providers, quality of life, and patient satisfaction. Milestones included ownership of care, appropriate knowledge of disease and medical history, and open communication between patients and providers. Perceived threats included overbearing "helicopter" parents, patients' lack of motivation, and need for better communication between pediatric and adult providers.

DISCUSSION We have identified a core set of transition endpoints, milestones, and threats to success that are driving the development of a mHealth intervention aimed at improving transition outcomes for chronically ill AYA. Content specifications for a mHealth tool ready for evaluation in a clinical trial are in development.

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DETERMINANTS OF PAIN TREATMENT RESPONSE AND NON-RESPONSE: IDENTIFICATION OF TMD PATIENT SUBGROUPS

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Objective: Despite cautions that not all patients are alike, psychosocial treatments for chronic pain tend to treat patients as a homogeneous group. The purpose of the present study was to determine if we could identify a specific subtype of temporomandibular disorder (TMD) pain patient that does not respond to treatment as other patients do. Methods: Patients were 101 men and women with chronic TMD pain recruited from the community and randomly assigned to one of two treatment conditions: a standard conservative care (STD) condition or a standard care plus cognitive-behavioral treatment condition (STD + CBT) in which patients received all elements of STD, but also received cognitive-behavioral coping skills training. Growth mixture modeling, incorporating a series of treatment-related predictors, was used to distinguish several distinct classes of responders or non-responders to treatment based on reported pain over a one-year follow-up period.

Results: Results indicated that treatment non-responders accounted for 16% of the sample, and did not differ from treatment responders on demographics or temporomandibular joint pathology, but that they reported more psychiatric symptoms, poorer coping, and higher levels of catastrophizing. Treatment-related predictors of membership in treatment responder groups versus the non-responder group included the addition of CBT to standard treatment, treatment attendance, and decreasing catastrophization.

Conclusions: It was concluded that CBT may be made more efficacious for TMD patients by placing further emphasis on decreasing catastrophization and on individualizing care. Results may also suggest that certain subtypes of patients may be less amenable to CBT approaches than other patients.

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PHYSICAL FUNCTION AND QUALITY OF WELL BEING IN FIBROMYALGIA: THE APPLICABILITY OF THE GOODNESS-OF FIT HYPOTHESIS

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Fibromyalgia syndrome (FMS) is a chronic, painful condition that affects approximately 2% of the U.S. population. It is characterized by widespread musculoskeletal pain, stiffness, disrupted sleep, and fatigue. Managing the physical pain and emotional distress associated with FMS may require individuals to use a variety of coping strategies. Because FMS has no cure, and its associated pain and problems in physical functioning are often not eliminated with medication, many patients likely believe that they have little control over their condition. The goodness-of-fit hypothesis suggests that the effectiveness of a coping strategy depends on the match between the type of strategy [problem-focused, emotion-focused] used and level of perceived control one has. This hypothesis was examined as a predictor of physical functioning and quality of well being in a large sample of women (N = 478) diagnosed with FMS [Mage = 54.31, SD = 11.2]. Hierarchical regression analyses were performed to determine whether the relationship between coping and control predicted physical functioning and quality of well being. The results provided little support for the goodness-of-fit hypothesis; however, several statistically significant and important findings emerged. Participants who believed that they had little control over their fibromyalgia experienced better physical functioning when they reportedly engaged in more confrontive [problem-focused] coping. Consistent with the goodness-of-fit hypothesis, participants reporting low perceived control experienced better physical functioning and quality of well being when they reportedly used higher levels of self-controlling [emotion-focused] coping. Thus, the present study provides valuable information about general patterns of coping and perceived control within the FMS population as they relate to health status.

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DIFFERENCES BETWEEN FIBROMYALGIA SYNDROME AND OSTEOARTHRITIS: A MODERATED MEDIATION APPROACH

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Although fibromyalgia syndrome (FMS) and osteoarthritis (OA) are both chronic pain conditions, people with FMS have worse health status. The present study used a moderated mediation analysis to identify the mechanism responsible for differences in health status between FMS and OA. The effects of knowledge about the illness, self-efficacy, and depression on health status were examined. Participants (N = 238) were assigned to control conditions in two different intervention studies. There were 169 people diagnosed with FMS and 69 with OA. Each step of the moderated mediation model was performed three times: 1) once with the FMS data, 2) once with the OA data, and 3) once with the addition of a group variable to examine whether people with FMS and OA differed at each step of the analysis. Overall, the moderated mediation model did not hold in any of the three instances. However, in all three conditions, depression, self-efficacy, and age were significantly related to health status. This suggests that these factors may be important predictors of health outcomes in chronic pain populations. In FMS, specifically, depression moderated the effects of self-efficacy on health status. Therefore, a hierarchical approach to treatment should be considered in FMS patients, with depression being the first level of the hierarchy, then self-efficacy, and lastly, factors associated with age. The moderation effect was not present in the OA sample. Further, the third model showed no group differences between FMS and OA in any of the steps of the moderated mediation analysis. The findings imply that the strengths of the interrelationships among knowledge, self-efficacy, and depression and health status were not consistent between FMS and OA. Although FMS and OA are both chronic pain conditions, separate interventions should be developed.

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PHYSIOLOGICAL STRESS REACTIVITY AND RECOVERY: THE KEY TO MIGRAINE HEADACHES?

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Background: Migraine headaches are one of the most disabling and prevalent disorders (13.2%) in the U.S. Previous research shows migraineurs experience greater self-reported stress, and have a lower quality of life, however, little is known about physiological reactivity and recovery to stress and how this relates to migraine frequency. Method: This study examines the impact of stress reactivity among frequent migraineurs with 2-10 migraines/month. 24 frequent migraineurs completed 30-day headache logs and then completed a laboratory assessment on stress reactivity (EMG, Galvanized Skin Response, and peripheral temperature). Results: Elevated skin conductivity at baseline was associated with greater migraines frequency ($r = .444$, $p < .05$). More frequent migraines were also correlated with greater stress reactivity to a laboratory induced stressor (timed arithmetic test). Higher physiological stress reactivity ($r = .586$, $p < .01$), and slowed physiological recovery rate ($r = .529$, $p < .01$) were strongly correlated with greater headache frequency. Headache frequency also impacts quality of life ($r = .467$, $p < .05$). Forced entry regression, after adjusting for demographics, indicate that three factors (Quality of Life, Reactivity, and Recovery) are strong predictors for frequency of migraine headaches (adj $R2 = .429$, $p < .05$). Discussion: Individuals with more migraines are more likely to have elevated baseline physiological stress levels; which is exacerbated in the context of a psychological stressor. Greater migraine frequency is associated with greater physiological stress reactivity and a slower return to baseline levels. Reducing the impact of psychological stress on the sympathetic nervous system may reduce the frequency of migraine headaches. Clinical implications will be discussed in context with the author's previous research on psychological pain management.

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GENETIC AND FAMILIAL CONTRIBUTIONS TO SELF-REPORTED PAIN AND SLEEP IN FEMALE TWINS

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The relationship between sleep quality and pain has been well studied in both clinical populations with chronic pain and non-clinical populations in experimental paradigms. Little is known about the genetic and familial contributions to this relationship. The aims of this study were to: a) examine the relationship between self-reported sleep quality and pain and; b) explore genetic confounding in those relationships. The 99 community-based female twin pairs had a mean age of 29 years; 75% were monozygotic (MZ). The short form McGill Pain Questionnaire (SF-MPQ), a visual analog scale (VAS), and the Pittsburg Sleep Quality Index (PSQI) measured self-reported clinical pain and sleep quality. Mixed model regression accounting for non-independence of twins and adjusted for age were used to examine relationships between SF-MPQ and PSQI indices in overall and within-pair models. Higher PSQI total scores were significantly associated with higher scores across the sensory ($B = .38$, $p = .01$), affective ($B = .15$, $p < .01$), and total scores ($B = .54$, $p < .01$) on the SF-MPQ and the VAS ($B = 1.72$, $p = .02$). All of these associations were diminished and rendered non-significant in within-pair analyses that accounted for genetic and familial factors. These findings provide further support for an association between poor sleep quality and pain, and further suggest that this relationship may be confounded by genetic and familial factors. Examining the genetic and familial contributions to the sleep-pain relationship could elucidate biological mechanisms that underlie the development and maintenance of pain and sleep problems.

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PAIN MODERATES THE RELATIONSHIP BETWEEN SELF-EFFICACY FOR HEALTH MANAGEMENT AND PERCEIVED FUNCTIONAL BENEFIT OF INTEGRATIVE MEDICINE PRACTICES IN VETERANS

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Integrative Medicine (IM) techniques that can be independently practiced, such as yoga and meditation, have been shown to alleviate various symptoms. However among the Veteran population, many do not practice or know of IM. As part of a pilot education initiative, we collected data on Veteran characteristics and on their perceptions of IM. Participants were recruited in VA waiting rooms and via their providers and returned surveys by mail before viewing a Veteran-oriented educational DVD about IM. Sample ($N = 133$) was 88% male, 50% white and 42% African-American, and spanned all adult age ranges with 51% between 50 and 70 years.

Determining which personal characteristics influence IM perceptions may indicate who is already willing to engage in IM programs if available, and who may require additional education or support first. We looked at which characteristics influence the belief that IM techniques can help with functionality (on a likert scale). Factors included age range, screening positive for a mental health condition (PTSD, depression or anxiety), self-rated health (SF-1), having experience with at least one IM technique in the past, pain screen (PEG 3-item), and self-efficacy for health management (SE; 6-item screen). Multivariate linear regression modeling showed that only SE was significantly associated with the belief that IM can improve daily function. Pain moderated this relationship; those with higher pain levels only believed IM could help with function if they also had high SE, but those with low pain scores did not. Thus strong SE may overpower doubts about IM that accompany having pain. Patients with pain may require interventions targeted to increase SE related to IM in order to promote Veteran experimentation with such techniques.

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VALIDATION OF A DIGITAL BLOOD DRAW AS A NOVEL AND NONINVASIVE IN-VIVO EXPOSURE TO BLOOD DONATION

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In the United States, the annual blood supply is provided by voluntary, non-remunerated donors. Over the past 3 years, the percentage of donors has decreased from 5.4% to 4.5% of the population. Fear of blood and needles comprise central barriers to blood donation. Considerable evidence suggests that in-vivo exposure to feared experiences such as blood draws is among the most effective means of intervention for those with blood and needle phobia. As part of such interventions, exposure paradigms that deliver a simulated blood draw experience have been developed, utilizing increasingly realistic blood draw scenarios. The current study aimed to develop a highly realistic video-based (digital) blood draw simulation by pairing footage of a human arm undergoing a blood draw with tactile stimuli delivered to the participant's own arm, thus generating a sense of "ownership" of the digital arm. In the present study, healthy college students were exposed to the digital blood draw simulation using the procedure described. Results indicated that exposure to the digital blood draw resulted in significant increases in physiological arousal, as measured by blood pressure ($F[3,40] = 8.62$), heart rate ($F[3,40] = 6.85$), respiration ($F[2,41] = 3.53$), and skin conductance ($F[2,41] = 29.01$) (all p's $< .05$). These physiological elevations were associated with measures assessing fear of blood donation as well as self-reported presyncopal reactions following the experimental procedure. Follow-up surveys also indicated that the digital arm paradigm successfully produced a realistic illusion that blood was being drawn from the participant's own arm. Implications of the findings for blood donation research and clinical interventions are discussed.

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B-141

THE BENEFICIAL SIDE EFFECTS OF HYPNOSIS IN MULTIPLE SCLEROSIS AND CHRONIC PAIN PATIENTS

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Pain is a common and often refractory problem in multiple sclerosis (MS). Non-pharmacological approaches such as psychoeducation (ED), cognitive restructuring (CR) and hypnosis (HYP) have been evaluated as potential treatments for managing pain in MS. This treatment study has several hypotheses that: 1) participants would report experiencing significantly more treatment benefits than negative effects across all of the treatment modules; 2) participants would report more pain reduction benefits following modules that provided hypnosis; and 3) participants would report greater pain-related knowledge benefits following the education module. Fifteen individuals with MS and chronic pain were drawn from a previous study (Jensen et al., 2011) comparing the effects of ED with HYP, CR, and combined hypnosis-cognitive restructuring treatment (CR-HYP) for chronic pain. Participants received four sessions of each of the four treatment modules. After each module, participants listed the ways they benefitted or not from the module. Each response was then classified independently by two of the authors into specific domains in three categories: (1) pain- vs. nonpain-related; (2) beneficial, neutral, or negative; and (3) specific type (e.g., "reduces pain"). Our first hypothesis was supported, as substantially more patients reported benefits (95%) than reported negative effects (5%) ($\chi 2$ (1, $N = 259$) = 209.6, $p < .001$). Our second hypothesis was supported, as significantly higher numbers of pain reduction benefits were reported after HYP and CR-HYP compared to the non-HYP modules, ($\chi 2$ (1, $N = 17$) = 7.12, $p < .01$). Our third hypothesis was also supported, as participants reported significantly more pain-related knowledge beliefs after the ED compared to others modules ($\chi 2$ (3, $N = 36$) = 19.33, $p < .001$). Further research will be needed to determine whether specific treatment modules can be matched with specific patient needs.

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B-143

PHYSICAL ACTIVITY BELIEFS, FACILITATORS, AND BARRIERS FOR HISPANIC CHILDREN OF IMMIGRANTS

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BACKGROUND. Hispanic children of immigrants, a rapidly growing segment of U.S. population, have higher rates of obesity and engage in lower levels of physical activity (PA) than white children; however, little is known about the influences on Hispanic children of immigrants' PA. The aim of this study was to describe the PA experience (i.e., beliefs, behavior, barriers) for low-income Hispanic children of immigrants. METHODS. Fourteen, 6- to 11-year-old, 1st and 2nd generation Hispanic children (8.4 ± 1.7 years-old) were recruited from an after-school program. Daily observations and field notes were collected by a trained researcher and semi-structured interviews and a PhotoVoice activity were conducted with the children. Data were triangulated and NVivo9 (QSR International, Cambridge, MA) was used to aid with data analysis. RESULTS: In-depth, qualitative data analysis revealed 4 overarching themes surrounding children's experience of PA (i.e., attitudes, perceptions, context, and barriers/facilitators). Children were engaged in a variety of physical activities and sedentary behaviors which differed by sex and context (e.g., park, outside home, after-school program) with different people (e.g., parents, siblings, friends). Children perceived physical, health, and social benefits to PA. Children's negative attitudes toward PA were related to physical discomfort, low athletic competence, and safety concerns. Children perceived PA and play to be one in the same, and "fun" was identified as a primary determinant of their PA patterns and preferences. The facilitators and barriers of children's PA were related to the parent/home, school and neighborhood environments. CONCLUSION. The results from this study may inform multi-leveled interventions that take a ‘child-centered' approach and focus on ‘play' as an effective approach to increasing PA in this population. Culturally-informed approaches should be used when designing programs targeting low-income Hispanic immigrant families.

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SOCIAL COGNITIVE THEORY CORRELATES OF PHYSICAL ACTIVITY AMONG SINGLE MOTHERS WITH YOUNG CHILDREN

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Background: Single motherhood has been associated with increased risks for cardiovascular disease, diabetes, and mental health problems. These negative health consequences might be ameliorated through participation in physical activity, yet single mothers have low levels of physical activity. To date, little is known about physical activity correlates among single mothers. Purpose: This study examined variables from social cognitive theory (SCT) as correlates of physical activity among single mothers with young children to identify potential modifiable targets for future behavioral interventions. Methods: Participants ($N = 94$) were 18-50 years old, not pregnant, single (i.e., never married, separated/divorced or widowed; not living with a partner) with at least one child less than 5 years. Participants completed a demographic and SCT questionnaires, wore an accelerometer for one week, and then completed the Godin Leisure-Time Physical Activity Questionnaire (GLTEQ) and the International Physical Activity Questionnaire (IPAQ). Results: Standardized scores were created for accelerometer minutes of MVPA, GLTEQ, and IPAQ and then averaged to yield a composite physical activity score. Pearson correlations indicated that self-efficacy ($r = .35, p = .001$), social ($r = .34, p = .001$) and self-evaluative ($r = .20, p = .03$) outcome expectations, barriers ($r = -.39, p = .001$), goal-setting ($r = .26, p = .008$), and planning ($r = .43, p = .001$) had significant associations with physical activity. We then conducted a hierarchical multiple linear regression analysis with self-efficacy entered in model 1 and all significant SCT correlates of physical activity entered in model 2. Model 1 ($F = 12.04, p = .001$) and Model 2 ($F = 5.73, p = .001$) were statistically significant. Planning ($\beta = .29, p = .03$) was the only statistically significant individual predictor of composite physical activity scores in Model 2. Conclusions: SCT, specifically, self-efficacy and planning might be important factors to consider when designing physical activity behavioral interventions for single mothers.

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B-145

CHILDREN'S OUTDOOR PLAY TIME, PHYSICAL ACTIVITY, AND PARENTAL PERCEPTIONS OF THE NEIGHBOURHOOD ENVIRONMENT

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Research is required to identify correlates of outdoor play that might be amenable to policy or practice intervention. The purpose of this study was to examine the association between the hours of outdoor play and objective measures of physical activity and identify the correlates of outdoor playing time in terms of parental perceptions of the neighbourhood environment. Time spent in outdoor play, both on a typical weekday and a typical weekend day, and neighbourhood perceptions, was assessed by parental self-report for 889 students attending grade 5 and 6 in Toronto, Canada. Physical activity was assessed by accelerometry. Ordered logit models were estimated to explore the influence of neighbourhood perceptions on the time spent playing outdoors. Regardless of a child's age and sex, duration of play was significantly correlated with minutes of moderate to vigorous physical activity (MVPA). Park and school accessibility was not associated with a child's outdoor play. Parental concerns about strangers and fast drivers were inversely associated with duration of play on a typical weekday. Parental safety concerns continue to present a formidable barrier to greater outdoor play.

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THE COMPLEX RELATIONSHIP BETWEEN SENSATION SEEKING, PHYSICAL ACTIVITY AND ALCOHOL USE

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Aims: While previous thinking assumed that positive health behaviors were positively correlated, we are beginning to see that this is not always the case. Research indicates that physical activity is positively related to alcohol use, particularly in younger men. We wanted to investigate whether a personality trait, sensation seeking, might help to explain this perplexing relationship. Design: Secondary data analysis. Setting: Medium sized university in the Western United States. Participants: 290 undergraduate and graduate students. Measurements: Physical activity was measured using a well validated measure, the International Physical Activity Questionnaire Short Form. Sensation seeking was measured using four items from the Brief Sensation Seeking-Scale (BSSS-4). A variant of the alcohol module of the Semi-structured Assessment for Drug Dependence and Alcoholism was administered to assess alcohol use history and average drinks per week was calculated. Findings: Alcohol use was significantly related sensation seeking ($r = .24, p < .0001$) and physical activity ($r = .22, p < .0001$). Sensation seeking and physical activity were not statistically related. Sensation seeking was not found to mediate the relationship between physical activity and alcohol use. There was a significant interaction between physical activity and gender in both unadjusted models ($\beta = .25, p < .0001$) and adjusted models ($\beta = .25, p < .0001$). Moderated mediation (gender as a moderator of a potential mediational effect) was not significant. Conclusions: Male exercisers might be at an increased risk group for higher levels of alcohol consumption and sensation seeking may not be the ideal target for alcohol prevention among physically active individuals.

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PHYSICAL ACTIVITY COUNSELING IMPROVES HEALTH IN OLDER VETERANS WITH PTSD

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Objective: Older veterans constitute a large proportion of the Veterans Health Administration patient population, many of whom have posttraumatic stress disorder (PTSD). Veterans with psychiatric disorders are at increased risk for obesity and other features of the metabolic syndrome, stemming from negative health behaviors including high rates of inactivity. Method: The purpose of this pilot study was to examine the effects of physical activity counseling (PAC) on measures of physical and psychological health in older overweight veterans with PTSD (N = 39). General linear mixed modeling was used to assess intraindividual changes at 3 (n = 32) and 12 months (n = 35). Results: The majority of the sample was male (94.9%) and Caucasian (53.8%), with an average age of 62 (SD = 2.8) years. The multivariate test of the overall mixed model was statistically significant (F(7,22) = 5.20, $p < .05$). Significant ($p < .05$) time effects were observed for fasting blood glucose, satisfaction with physical function, aerobic endurance, PA, and psychological well-being. Pairwise comparisons across the three timepoints (baseline, 3 and 12 months) revealed that the largest benefits were seen from baseline to 3 months. These changes were maintained from 3 to 12 months. Only aerobic endurance demonstrated significant additional improvement from 3 to 12 months. No significant time effects were observed for waist circumference, BMI, self-efficacy, physical performance, self-rated health, inflammatory markers, or pain. Conclusion: These preliminary results suggest that PAC interventions of shorter duration may be sufficient to improve physical and mental health outcomes in veterans with PTSD. Consideration of tailored approaches to improve self-efficacy and health-related quality of life is warranted. Refinement of physical activity intensity may be needed to impact body composition, function, and systemic markers of stress.

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B-148

TIME ELASTICITY: USING AN ECONOMIC MEASURE TO EXAMINE TIME-ALLOCATION CHANGES IN RESPONSE TO A TEMPORARY PARK IN CALIFORNIA

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Background: Park availability is associated with physical activity, quality of life, and community engagement. Few studies have examined the relation between park availability and time-allocation. Cross-elasticity, an economic measure used to report change item demand given a price increase of another item, can be applied to behavioral research to understand time displacement due to environmental changes. In August 2013, a street block in the shopping district of downtown Los Altos, CA (28,976 inhabitants) was closed due to construction and subsequently transformed into a temporary park (TP). We conducted a study to: a) estimate the prevalence of activities that TP-use displaced (alternate activities = AA); and b) perform a cross-elasticity analysis to estimate minutes of AA gained or lost due to TP. Methods: TP-users were surveyed during a 4-day period. They reported time spent at the TP and their usual activity if the TP weren't present (i.e., AA). AA were categorized as: screen-time, park-time, downtown-time, and outdoor-time (binary variables). Cross-elasticity was obtained via multivariate linear regression models (AA = dependent variable; TP = independent variable). Sex and age were controlled for. Results: TP-users (n = 147) were 62.5% female, 5.5% children, 6.8% teens, 66.7% adults, and 20.4% older adults. If the TP were not present, 15.0% would engage in screen-time, 64.6% would be indoors, 40.8% would be in downtown, and 15.7% would be at a park (AA are not mutually exclusive). TP availability was negatively associated with screen-time (-77.4 mins.), and positively associated with park-time (+72.0 mins.), downtown-time (+88.6 mins.), and outdoor-time (+76.1 mins.). Conclusion: Our study showed positive time-allocation changes as a result of TP availability. Results support the creation of more open spaces in high land-use mix urban areas, and suggest beneficial effects beyond health outcomes (e.g. revitalization of downtown areas). Larger confirmatory studies are needed.

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UNPACKING THE EXPECTANCY VIOLATION EFFECT IN PHYSICAL ACTIVITY: EXAMINING THE EFFECT OF RETROSPECTIVE, PEAK, AND AVERAGE REPORTS OF EXPERIENCES

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Expectancy violation occurs when expectations for a behavior change are not met and has been shown to affect regular physical activity levels. But how people specifically determine whether their expectations for physical activity have been met is currently unclear. In the present study, we examined the effects of three different expectancy violation variables on (1) weekly minutes of physical activity and (2) study attrition. We compared people's outcome expectations for physical activity to (a) the average of their daily experiences over the previous week, (b) their retrospective report of their experiences over the previous week, and (c) their peak experiences during the previous week. Inactive adults (N = 104) initiated a self-directed physical activity regimen and completed daily diaries for 28 days about their experiences with physical activity, including daily and weekly reports of experiences (e.g., progress towards goals, positive affect, negative affect) and their outcome expectations. When tested separately, all three expectancy violation variables (average experiences, retrospective reports, and peak experiences) for positive affect ($ps < .02$) and one variable for progress towards goals predicted study attrition ($ps < .05$), but none of the variables predicted minutes of physical activity ($ps > .08$). Expectancy violation variables for negative affect did not predict either outcome ($ps > .08$). When tested in the same model, expectancy violation calculated with retrospective reports was the best predictor of study attrition ($ps = .02$) for both positive affect and progress towards goals, accounting for variance in study attrition above and beyond the expectancy violation variables calculated with the peak and average experiences. These results suggest that expectancy violation measured with retrospective reports best captures the effect on study attrition. Theoretical and practical implications will be discussed.

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LESSONS LEARNED FROM IMPLEMENTING 2 INTERNET-ENHANCED PHYSICAL ACTIVITY INTERVENTIONS FOR AFRICAN AMERICAN WOMEN

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Background. Little research has been conducted on technology-based approaches to promote physical activity (PA) in underserved populations (e.g., racial/ethnic minorities). We will highlight 5 key lessons learned through the development and implementation of 2 culturally relevant Internet-enhanced PA interventions for African American (AA) female college students.
Methods. Study 1 (n = 34) was a 6-month, single-arm pilot trial of an Internet-enhanced PA intervention. Results indicated high attrition (50%) and significant increases in social support and self-regulation for PA. In Study 2, we refined the Study 1 website based on participant feedback and implemented a 3-month, single arm pilot trial of the improved Internet-enhanced PA program. Results included 81% retention and significant increases in self-regulation, social support, and outcome expectations for PA. Both studies showed trends for increased PA, but these findings did not reach significance. Lessons learned are based on questionnaire and focus group feedback from participants and qualitative observations from researchers and study staff.
Lessons Learned. Key lessons learned include: 1) Elicit and incorporate feedback from the target population (i.e. AA women) throughout development of an Internet-based PA promotion tool, 2) Incorporate new and emerging technologies into Internet-based PA programs (e.g. Smartphone apps, social media); 3) Maintain frequent participant contact (e.g., text message, email) and provide frequent incentives to promote participant engagement; 4) Supplement Internet-based efforts with face-to-face interactions (e.g. group exercise sessions); 5) Include diverse images of AA women and culturally relevant PA-related information (e.g. hair maintenance tips) on the study website.
Summary. Incorporating aspects from our 5 lessons learned into future Internet and technology-based PA efforts may help reduce attrition and successfully promote PA in this at-risk population.

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THE AFFECTIVE RESPONSE TO EXERCISE: A STABLE TRAIT OR A DYNAMIC STATE?

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Introduction. Physical inactivity is a major public health concern, accounting for approximately 9% of premature deaths worldwide. Affective responses (or states of pleasure/displeasure) to acute exercise have been associated with physical activity (PA) cross-sectionally and prospectively. Recently established associations of exercise-related affective responses with physiological and behavioral markers of approach motivation suggest that affective responses to exercise may represent an underlying predisposition to enjoy PA that distinguishes regular exercisers from non-exercisers. It follows, therefore, that affective responses to exercise should be stable over time; however, this hypothesis has not been directly explored. The present study examined the temporal stability of acute affective responses to exercise in a group of healthy adolescents.
Methods. On two occasions, five months apart, early adolescents ($n = 62$; M age = 11.13; 52% male) completed a 30-minute moderate-intensity lab-based exercise task and indicated how they felt based on the Feeling Scale (Hardy & Rejeski, 1989) immediately prior to, every three minutes during, and immediately following each task. Stability was determined by computing intra-class correlation coefficients (ICCs) between affective responses to the two exercise tasks (during, after, and total responsivity determined via area under the curve).
Results. Acute affective responses during and after exercise and total affective responsivity were stable over time, with high ICCs of .60, .56, and .56 ($p < .001$) respectively.
Conclusion. Adolescents' affective responses to exercise can be conceptualized as a relatively stable, trait-like characteristic that may help to identify adolescents at increased risk for a sedentary lifestyle. These reluctant exercisers may benefit in particular from PA interventions that employ strategies to make exercise more enjoyable.

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CHANGES IN PSYCHOLOGICAL DETERMINANTS OF PHYSICAL ACTIVITY DURING A YOGA INTERVENTION FOR PTSD

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Previous research has demonstrated the beneficial effects of various types of physical activity (PA), e.g., aerobic exercise as well as strength and flexibility training, on mental health outcomes for both mood and anxiety disorders, including posttraumatic stress disorder (PTSD). More recent research has expanded to include the investigation of resistance training and other activities shown to improve flexibility and balance, such as yoga. As use of PA, and yoga in particular, as an adjunctive mental health intervention becomes more widespread, it is important to understand the nature of the relationships it has with other psychological processes that may impact mental health functioning as well as PA maintenance. This study investigated PA outcomes and possible psychological mechanisms of PA behavior change, including self-efficacy and regulatory motivation, in a randomized controlled trial of yoga for women with PTSD symptoms (n = 38). Growth curve modeling was used to determine whether the above outcomes changed significantly over time. No significant changes in PA behaviors or self-efficacy were found. However, yoga group participants had a significant decrease in external motivation (M = -.01, t = -2.33, p = .02) while the control group did not (M = .004, t = .54, p = .59). Limitations include a lack of statistical power due to a small sample size, which likely reduced power for detecting significant change outcomes. Continued research is needed to further understand psychological determinants impacted by yoga interventions and their role in promoting continued engagement in PA and symptom remission.

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PHYSICAL ACTIVITY LEVELS AND PATTERNS IN OLDER ADULTS: THE INFLUENCE OF A DVD-DELIVERED EXERCISE PROGRAM

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Background: The utilization of multimedia to deliver behavioral interventions offers unique advantages over more traditional center-based programs; however, little is known about the effectiveness of such approaches in improving physical activity levels over time. The purpose of this study was to examine the efficacy of a progressive and age-appropriate, DVD-delivered exercise program in promoting physical activity levels among older adult cohorts.
Methods: Participant were community dwelling older adults (N = 307, Mage = 71.03) randomized to either a 6-month home-based DVD-delivered exercise program - FlexToBa intervention, or a healthy aging control group. Physical activity was objectively assessed using a standard 7-day accelerometer wear period and subjectively assessed using the Godin Leisure Time Exercise Questionnaire. Participants completed the measurements at baseline and following the 6-month intervention.
Results: Repeated measures analysis of covariance models were used to examine treatment effects and age cohort effects (≤70 years versus >70 years) on levels of physical activity at follow-up controlling for sex and baseline scores. ANCOVAs indicated a statistically significant treatment effect for subjectively [F (1,250) = 8.42, P = .004, $\eta 2 = .03$] and objectively [F (1,240) = 3.77, P = .05, $\eta 2 = .02$] measured physical activity. The older cohort in the FlexToBa condition further had significantly larger improvements in physical activity levels compared to their younger counterparts.
Conclusion: The FlexToBa DVD intervention was successful in improving physical activity levels in a sample of older adults, with oldest participants appearing to improve the most. From a public health perspective, media-delivered interventions such as the FlexToBa program might prove to be cost-effective, have a broader reach and at the same time be effective in improving physical activity levels in older adults.

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AN INSTRUMENT TO EXAMINE WOMEN'S ABILITY TO ACQUIRE SOCIAL SUPPORT FOR PHYSICAL ACTIVITY

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The purpose of this study was to develop an instrument to measure women's perceived ability to acquire social support (SS) for physical activity (PA).
A literature review and existing SS questionnaires informed an initial 30-item draft. Focus groups (women 19-65 yrs) helped refine the instrument (Acquiring Social Support for PA Questionnaire [ASSPA]). The ASSPA, demographics questionnaire, Godin Leisure-time Exercise Questionnaire (GLTEQ), and Social Support and Exercise Survey (SS-E) were administered in 318 women. Test-retest reliability was assessed one week later. A principal component analysis (PCA) with direct oblimin rotation was used to identify factors for retention. Factors with eigenvalues greater than 1 and that explained at least 5% of total variance (validated by scree plot) were retained in the model. Construct validity was further determined by examining relationships between ASSPA, PA (GLTEQ) and SS-E. Cronbach's alphas and correlation analysis were used to determine internal consistency and test-retest reliability, respectively.
Twenty items were retained across three factors (Cronbach's alpha = 0.90), accounting for 52.14% of the total variance. Factor 1 contained 10 items (Cronbach's alpha = 0.88) assessing the ability to acquire accompaniment for PA from family, friends, etc; Factor 2 contained 6 items (Cronbach's alpha = 0.81) focusing on the ability to seek information related to PA; and Factor 3 contained 4 items (Cronbach's alpha = 0.69) measuring the ability to ask for encouragement/rewards for PA participation. SS-E Friend and Family Participation Scale scores (r = 0.45; r = 0.59, respectively) were significantly correlated with total ASSPA scores (p < 0.05). Test-retest reliability (n = 56) for ASSPA was 0.76 for the overall scale and 0.75, 0.77 and 0.57 for factors 1, 2 and 3, respectively. The ASSPA represents a new and valid instrument with moderate to high reliability across three sub-scales to measure a woman's ability to acquire SS for PA.

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PHYSICAL ACTIVITY, TV WATCHING AND HEALTH RELATED QUALITY OF LIFE IN PROSTATE CANCER SURVIVORS

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Background: Prostate cancer and its treatment have been associated with compromised health-related quality of life (HRQOL). Existing evidence indicates physical activity (PA) and reduced TV watching may ameliorate these effects. The purpose of the present study was to examine post-treatment PA and TV watching in relation to HRQOL in prostate cancer (PCa) survivors and determine whether these relationships vary by type and intensity of physical activity.
Methods: The associations between post-treatment PA and TV watching and each HRQOL domain (urinary incontinence, urinary irritation/obstruction, bowel, sexual, vitality/hormonal) on the Expanded Prostate Cancer Index Composite Short Form were assessed using generalized linear models in men diagnosed with non-metastatic PCa in the Health Professionals Follow-up Study ($n = 1917$) followed from 1986-2010.
Results: After adjusting for potential confounding factors, greater duration of total, non-vigorous, and walking PA was associated with higher vitality/hormonal functioning (p-trend $= \leq 0.001$). Specifically, greater total and walking PA were associated with fewer problems with depression (p-trend <0.001 for both), lack of energy (p-trend <0.001 for both) and change in body weight (p-trend <0.01 and 0.04, respectively) but unrelated to hot flashes or breast tenderness/enlargement. No significant relation was observed for vigorous PA. Weight lifting was associated with increased urinary incontinence (p-trend $= 0.02$). There were no statistically significant relationships between TV watching and HRQOL.
Conclusions: Increased duration of non-vigorous PA post-treatment was positively associated with hormone/vitality functioning. However, PA was not related to other HRQOL domains indicating its effects may be domain specific. PA, particularly walking, may be beneficial for enhancing HRQOL in PCa survivors.

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B-156

DAILY PHYSICAL ACTIVITY AND ALCOHOL USE IN A LIFESPAN SAMPLE OF COMMUNITY-DWELLING ADULTS

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The notion that physical activity can be a substitute for alcohol use is appealing but the evidence generally shows that people who engage in greater physical activity consume more alcohol than less-active peers. This evidence is largely based on cross-sectional or panel data which aggregate behavior over time (e.g., past 30 days). These health behaviors vary considerably from day to day so this study evaluated whether established associations reflect a daily behavioral coupling or are an artifact of behavioral aggregation over time in previous assessments. A lifespan sample of 150 adults (aged 18-89 years) completed three 21-day measurement bursts of a daily diary study. At the end of each day, they reported on their physical activity and alcohol consumption. As expected, both behaviors exhibited limited between-person variation. After controlling for age, sex, and seasonal and social calendar influences, daily deviations in physical activity were positive associated with daily total alcohol use (i.e., participants consumed more alcohol on days when they were more physically active than usual; $p < .05$). Previous-day physical activity was not associated with alcohol use. Person-level physical activity and total alcohol use were not associated (i.e., more active participants did not consume more alcohol overall than less active participants). The within-person findings appeared to be driven by beer consumption rather than wine or liquor. Based on these results, we concluded that the established positive association linking physical activity and alcohol use reflects the aggregation of a daily process that unfolds within-people over time. Further work is needed to identify mediators of this daily association, to evaluate causality, and to evaluate the daily association in high-risk samples.

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A THEORY-BASED PILOT STUDY TO DECREASE SITTING TIME IN THE WORKPLACE

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Growing evidence from cross-sectional and longitudinal studies indicate sitting time (e.g., TV viewing, workplace sitting) as an independent risk factor for cardiometabolic disease. Since the average adult spends one third of their life at work, and the majority of this time is spent sitting, the workplace has emerged as an important target for reducing sitting time. Current studies are limited by short intervention periods, lack of theory-based intervention strategies, and reliance on self-reported measures of sitting. This pilot randomized control trial was to test the initial efficacy of a 10-week social cognitive theory (SCT)-based intervention to reduce workplace sitting. Middle aged adults ($N = 24$; 45.5 ± 12.7 years of age, 66% women) with predominantly sedentary occupations (e.g., office-based workers) were randomized to one of two arms: (a) weekly SCT-based adaptive e-newsletters focused on reducing workplace sitting time ($n = 13$); or (b) similarly formatted weekly e-newsletters focused on health education ($n = 11$). Participants wore an activPAL inclinometer to assess postural allocation (i.e., sitting vs. standing) and Actigraph GT3x + accelerometer to assess sedentary time for one week pre- and post-intervention. Social cognitive constructs specific to sitting time were measured via adapted physical activity questionnaires. Baseline-adjusted ANCOVA statistical analyses were used to examine differences between groups in time spent sitting and sedentary during self-reported work hours from pre- to post- intervention. Both groups decreased workplace sitting ($p = .06$) and sedentary time ($p = .08$); however, no significant differences between arms were observed. SCT constructs did not change from pre- to post-intervention in either arm. These pilot data indicate that an individualized psycho-educational approach may not be sufficient to sustain decreases in workplace sitting. In the future, the workplace environment and policies related to sitting (e.g., standing desks) should be evaluated and incorporated into the intervention and outcome data should be measured more frequently.

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A SYSTEMATIC REVIEW OF QUALITATIVE STUDIES EXAMINING PSYCHOSOCIAL CONSTRUCTS ASSOCIATED WITH PHYSICAL ACTIVITY PARTICIPATION AMONG PEOPLE WITH MULTIPLE SCLEROSIS

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Multiple sclerosis (MS) results in a number of symptoms including fatigue, pain, and paralysis. Physical activity (PA) may assist with symptom management. Nevertheless, there are low rates of PA participation among people with MS. Participation may be improved through the delivery of theory-based interventions targeting key psychosocial constructs. However, there is a need to examine existing research to determine which constructs consistently demonstrate an association with the PA participation of people with MS. The purpose of this study was to conduct a systematic review of qualitative studies examining the psychosocial constructs associated with PA for people with MS. A search of eight electronic databases was conducted and supplemented by a handsearch. Data were extracted and article quality was assessed using the Critical Appraisal Skills Program Qualitative Research (CASP, 2013). Data were analyzed using thematic analysis. The search yielded eight articles for inclusion in the review. All studies were of medium to high quality. The thematic analysis revealed seven higher-order themes representing key psychosocial constructs: a) barriers to PA, including MS symptoms, facility barriers, and social barriers and stigma; b) PA management strategies, which demonstrated the importance of strategies including planning, and self-monitoring; c) motivation, a critical factor of which was enjoyment; d) positive outcome expectations, specifically health incentives and social benefits of PA; e) previous PA experience before and after MS; f) social support, which was a source of encouragement, and available through a social network; and g) self-efficacy, which was related to activity levels. The results of this review provide direction for developing PA promotion interventions that target meaningful psychosocial constructs.

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BARRIERS AND FACILITATORS TO REDUCE SCREEN TIME IN YOUTH: A QUALITATIVE METASYNTHESIS

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Introduction: Youth spend approximately 7.5 hrs/day using technology, such as TVs, computers, or smartphones (screen time). Qualitative research has been employed to elucidate factors that underpin engagement in screen time. We synthesized the qualitative evidence to identify the parent and child perceptions of barriers and facilitators to reduce screen time in youth.

Methods: Qualitative metasynthesis techniques were used to analyze and synthesize 13 studies that met inclusion criteria and were published between 01/2001-01/2013. Each of the articles was critically reviewed to extract the data relating to screen time among youth (11-18 yrs). The exact phrase, quote, and/or author interpretation (i.e. theme or subtheme) was recorded in a data display matrix to facilitate article comparisons. Codes were collapsed into 46 categories with 3 overarching themes.

Results: Study sample sizes ranged from 6 to 270 participants from 6 countries. Data collection methods included focus groups ($n = 9$), interviews ($n = 3$), and naturalistic observation ($n = 1$). Studies that reported data analysis methods used thematic analysis ($n = 6$), concept analysis ($n = 3$), grounded theory ($n = 1$), and observation ($n = 1$). As the synthesis evolved, it became apparent that there was a reciprocal relationship between barriers and facilitators to reduce screen time. Three thematic categories were identified: 1) Screen time is a normal part of youths' daily life, and facilitates opportunities for entertainment and social interaction; 2) Parents are conflicted and send mixed messages about the appropriate use and amount of screen time; and 3) Engagement in screen time is dependent on school, community, neighborhood, and home environmental contexts.

Conclusions: Screen time is an established norm in many youth cultures, presenting barriers to behavior change. Parents recognize the importance of reducing child screen time, but often model and promote engagement in screen time.

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SOCIAL COGNITIVE THEORY-BASED PHYSICAL ACTIVITY INTERVENTION DELIVERED BY NON-SUPERVISED TECHNOLOGY IN PERSONS WITH MULTIPLE SCLEROSIS

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Physical inactivity is highly prevalent among persons with multiple sclerosis (MS), despite the well-documented benefits of engaging in regular physical activity in this population. This highlights the importance of developing behavioral interventions for increasing physical activity among persons with MS. The primary purpose of the current study was to examine the efficacy of a 6-week, theory-based intervention (i.e., social cognitive theory [SCT]) delivered by newsletters and telephone calls for increasing physical activity in persons with MS. We enrolled 66 physically inactive persons with MS who were randomly assigned them into intervention ($n = 33$) and control ($n = 33$) conditions. The intervention condition received SCT-based newsletters and phone calls regarding physical activity behavior change as well as pedometers and log books for self-monitoring, whereas the control group received newsletters and phone calls that did not include any physical activity information (i.e., stress management, nutrition, and allergies) over a 6-week period. We measured physical activity and SCT mediators before and after the 6-week period. The intervention condition had a statistically significantly increase in self-reported physical activity ($d = 0.56$, $p = .02$) over the 6 weeks, whereas the control condition reported no change ($d = -0.13$, $p = .45$). Only goal setting changed after the intervention ($d = 0.68$, $p \leq .01$) and represented a significant mediator of change in self-reported physical activity ($B = 0.80$, $\beta = 0.35$, $p = .007$). The effect of the intervention on self-reported physical activity was no longer statistically significant when controlling for goal setting ($p = .35$). The current study provides initial evidence for the potential benefit of theory-based interventions delivered by newsletters and phone calls for promoting change in self-reported physical activity in persons with MS.

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THE RELATIONSHIP BETWEEN PERCEIVED COMPETENCE FOR PHYSICAL ACTIVITY AND SELF-SELECTED EXERCISE INTENSITY IN A LABORATORY TASK

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The benefits of physical activity (PA) for weight control depend on its intensity, such that vigorous PA may be associated with greater benefit than lower intensity PA. The competence motivation theory (CMT) and self-determination theory (SDT) predict that individuals with higher perceived competence will engage in higher-intensity PA in order to challenge themselves. Studies indeed show that perceived competence is correlated with amount of PA (duration and frequency). This study tests whether perceived competence is associated with exercise intensity during a laboratory task.

Participants. Sixth grade students ($N = 74$; age $M = 11.09[0.44]$; BMI%ile $M = 68.37[31.22]$; 49% male; 49% Latino).

Procedures. Participants completed a perceived competence for PA questionnaire and a 30 min self-selected intensity exercise task. After starting the task at a standardized work rate, participants were given the opportunity to adjust the intensity by 10 watts every 3 minutes and asked to find the intensity that "felt good". Percentage of maximal heart rate (HR), work rate as a percentage of work rate at VO2max (WR) and rating of perceived exertion (RPE) were assessed every 3 minutes during the task. Mixed effect models were used to determine whether perceived competence was associated with HR, WR, and RPE during the task.

Results. On average, there was a substantial increase in HR, WR, and RPE from the beginning to the end of the task ($ps < 0.001$). Participants with higher perceived competence for PA began the task at equivalent WR ($p > 0.05$) and lower HR ($p < 0.05$), had more rapid increases in HR and WR ($ps <0.05$), and completed the task at higher WR and HR ($ps < 0.05$) compared to participants with lower competence. Participants with higher competence, however, had a slower increase in RPE over time ($p < 0.05$).

Conclusion/Implications. Consistent with CMT and SDT, perceived competence may be a key factor predicting self-selected exercise intensity. Building perceived competence may result in higher voluntary exercise intensity.

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BARRIERS TO PHYSICAL ACTIVITY IN YOUNG ADULTS: AN EXPLORATORY FACTOR ANALYSIS

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INTRODUCTION: Successful initiation and maintenance of physical activity (PA) involves overcoming perceived barriers to PA. Measurement of barriers to PA among healthy adults has thus far been limited—assessed by either a single item, or a small number of items combined into a composite score. To investigate how specific types of barriers may differentially relate to PA intentions, plans, and resulting activity, we conducted an exploratory factor analysis of a new 37-item measure of barriers to PA.

METHODS: 229 undergraduates and members of the surrounding community (Mean age = 22.2(7.9), Mean BMI = 24.5(5.7), 80.5% female, 82.4% Caucasian) completed online surveys about PA, intentions, plans, and barriers. We conducted an exploratory factor analysis of the barriers scale using principle axis factoring with a Promax rotation, and examined relationships between these sub-scales and intentions, plans, and PA using multiple regression.

RESULTS: The measure yielded 5 distinct sub-scales, including barriers of motivation, bodily discomfort, resources, time, and social support. Barriers of motivation were associated with significantly lower levels of PA ($\beta = -.33$, $p < .01$), controlling for past PA, intentions, and plans. Surprisingly, barriers of bodily discomfort were associated with higher levels of PA ($\beta = .25$, $p < .05$). Barriers of time were associated with significantly lower levels of planning ($\beta = -.19$, $p < .05$), and barriers of support were associated with lower levels of intention ($\beta = -.24$, $p < .01$).

DISCUSSION: Our findings indicate that there are distinct types of barriers to PA which appear to play different roles in the motivational and volitional phases of PA. Understanding the unique implications of different barrier types at each phase of the behavior change process can help improve interventions aimed at increasing PA among young adults.

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PREGNANCY INTENTION AND DESIRABILITY: ASSOCIATION WITH TRANSITIONAL CHANGES IN HEALTH COMPROMISING BEHAVIORS

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In general, women decrease their rates and intensity of health compromising behaviors (HCB) when they become pregnant. Those with unintended/undesired pregnancies have higher rates of these behaviors; however, it is unknown whether their HCB rates/intensity reflects a change from pre-pregnancy levels. We tested the hypothesis that women with unintended/undesired pregnancies are more likely to initiate, maintain, or increase HCB from their pre-pregnancy levels by conducting a retrospective cohort study of pregnant women from 1995 to 2009, using the linked Birth Certificate and Pregnancy Risk Assessment Monitoring (PRAM) survey databases. HCB was described as use of tobacco or alcohol and the outcome of interest, adverse change in HCB (HCB-AC), was defined as the initiation, maintenance, or increase of these behaviors during pregnancy. The cohort consisted of 408,657 women comprised as follows; 84%-intended/desired, 16%-unintended/undesired pregnancies; 58%-White, 12%-Black, 14%-Hispanic; 6%-teenagers, 77%-age-20-34y; and 44% <13y-education. Women with unintended/undesired and intended/desired pregnancies significantly differed from each other - the former were more likely to be minorities (59% v 39%), less educated (<13y-education - 65% v 41%), and more stressed (81% v 64%). Unintended/Undesired pregnancies had higher HCB-AC rates, 14% v 8%, $p < 0.001$. Multivariable logistic regression showed women with unintended/undesired pregnancies to be 50% more likely to experience HCB-AC, OR = 1.53 (95%CI = 1.32, 1.78), adjusting for age, education, race, and reported stress. In summary, women with unintended/undesired pregnancies are more stressed and likely to initiate, maintain, or increase HCB during the index pregnancy. This finding is concerning and should motivate health care providers to more deliberately determine the intended/desired status and intervene in HCB early in pregnancy.

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DEPRESSION IS MORE PREVALENT THROUGHOUT PREGNANCY AND THE FIRST SIX MONTHS POSTPARTUM IN WOMEN LOW IN RELIGIOUS COMMITMENT AND SOCIAL SUPPORT

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Both religiosity and social support predict positive mood and mental and physical health. The purpose of this study was to examine whether depression rates were higher for pregnant and postpartum women reporting low Religious Commitment (RC) and Social Support (SS). In a longitudinal study of mostly low SES pregnant women (n = 135) in Southern Appalachia, depression was measured during the 1st trimester (Time 1), 3rd trimester (Time 2), at 6 weeks postpartum (Time 3), and at 6 months postpartum (Time 4), with approximately 18% of women having clinically significant depression scores at Times 2-4 and a smaller proportion (13%) at Time 1. Factorial ANOVAs for each depression measure resulted in significant main effects of either RC (F's 2.26-11.27, p's .001-.14), SS (F's 3.75-8.72, p's .004-.06), or both at each time point, with higher depression scores in those low in RC or SS. The sample was dichotomized into women who were high on both RC and SS compared to those who were not. Comparison of these two groups indicated that those who were low on either or both measures scored significantly higher on measures of depression at Times 2-4 ($p < .005$), with no significant difference between groups at Time 1. Across all four depression measurements, only one woman (0.7%) who was classified as high on Social Support and Religious Commitment Measure fell in the clinically significant range on a depression measure, yet 15%-24% of the comparison group did. Healthcare professionals should be aware that pregnant and postpartum women who have low levels of Religious Commitment and/or Social Support may be at greater risk for clinically significant depressive symptoms than women with such resources, and should be screened accordingly.

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GENERATIONAL DIFFERENCES IN OPENNESS TO WEB-BASED ABBREVIATED MEDICAL DEVICE LABELING

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A facet of the U.S. Food and Drug Administration's role is to ensure medical product labeling accurately conveys information about intended use for products, risks, and how to use these products safely and effectively. How to ensure practitioner use of such labeling, however, remains an open question, especially regarding medical device labeling. Whether today's user preferences for labeling modality accurately forecast future preferences among younger generations also is unclear. In order to investigate how practitioners would prefer to obtain abbreviated medical device labeling, we surveyed prescribers (physicians, nurse practitioners, and physician assistants), registered nurses, licensed practical nurses, technicians and therapists in the United States (N = 574).

Survey participants (recruited from Direct Medical Data lists) selected up to three different media formats, e.g., hard copy, in which they would want an abbreviated version of labeling while using a medical device with a patient. We looked at two dimensions for comparison: years of professional experience and job category.

Respondents generally reported similar preferences for accessing labeling via a Web site regardless of job category. Comparing respondents by years of experience was revealing, however, and suggested a generational shift. Practitioners with less than 10 years of experience were more likely than those with more experience to list a Web site as one of their most preferred media formats. Approximately 75 percent (97/130) of those with less experience opted for labeling via a Web site, whereas fewer (283/444) more experienced practitioners opted for labeling via a Web site ($t = 2.3$, $p < .05$). Moreover, practitioners with less experience also were less likely to call for labeling physically provided with the device ($t = 2.4$, $p < .05$). Risk communication professionals should anticipate interest among future practitioners in abbreviated labeling delivered electronically.

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A PROSPECTIVE STUDY OF SOCIAL ENGAGEMENT AND HEALTH BEHAVIORS

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Among young adults, aspects of the social environment (e.g., role models, sources of social support) provide useful information about health norms, expectations, and opportunities for healthy behavior change. These effects are particularly strong among women; an enriched understanding of these effects among young women could improve health promotion efforts on college campuses. The present study used a prospective design to examine the relationship between young women's social engagement and health behaviors over one college semester. Social engagement was assessed with measures of social support and attention to positive and negative role models (i.e., others doing better or worse than self). Health behaviors measured were healthy eating, exercise, smoking, and alcohol use. College women (N = 325) completed a web survey at the start and end of one semester. Analyses examined prospective relationships between change in social engagement during the semester and health behavior at the semester end (controlling for baseline behavior). Results showed increased attention to positive role models over the semester was associated with eating a more balanced diet, and increased attention to both positive and negative role models was related to minimizing alcohol intake ($ps < .04$). Conversely, an increase in perceived social support over the semester was associated with less avoidance of smoking and minimizing alcohol intake ($ps < .02$). These findings further elucidate the influence of engagement with the social environment on young women's health behaviors. In particular, increased attention to positive role models may have beneficial effects on healthy eating and alcohol intake, whereas increased social support may be detrimental to some health behaviors (e.g., smoking, alcohol use). These findings identify potentially modifiable social factors that could be used in interventions targeting a range of health behaviors for young women.

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GUIDED SOCIAL COMPARISONS DIFFERENTIATE MOTIVATION TO IMPROVE HEALTH BEHAVIORS

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Comparisons to positive or negative role models can affect motivation for healthy behavior. Naturally-occurring identification and contrast processes (i.e., finding similarities with, or differences from, the target) influence responses to such social comparisons. At present, however, it is not clear which processes can be induced using brief interventions, and whether such induction leads to greater motivation to practice healthy behavior. We tested the effect of guided instructions to focus on similarities or differences (vs. no instruction) to healthy or unhealthy targets on motivation for healthy behavior. Participants (N = 118 young adults) read one of two vignettes describing targets with either healthy (e.g., regular exercise) or unhealthy (e.g., eating junk food) habits. Participants received one of three reading instructions: 1) focus on similarities with the target, 2) focus on differences from the target, or 3) no instruction. Participants then rated their reading focus and motivation for healthy behaviors. Participants instructed to identify with the vignette target did so to a greater extent when presented with healthy (vs. unhealthy) targets (p = .02), whereas those instructed to contrast with the target did not differ by condition. Motivation for healthy behavior was highest among participants instructed to identify with unhealthy targets (significantly higher than all other conditions combined; p = .03). Participants in this condition, however, also demonstrated greater contrast against the given (unhealthy) target than all other groups (p = .009), indicating that this group did not fully adhere to provided instructions. These findings suggest that although instructions to identify with unhealthy targets can activate defensive comparison processes, such processes may lead to increased motivation for healthy behavior. Among young adults, instructing focus on similarities with negative role models may be an opportunity for health promotion interventions.

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FACTORS ASSOCIATED WITH ADHERENCE TO GYNECOLOGIC SCREENING RECOMMENDATIONS IN YOUNG ORTHODOX JEWISH WOMEN

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The American Congress of Obstetricians and Gynecologists recommends that women above 19 visit a gynecologist for breast and abdominal exams. Breast exams are an important component of a gynecologic exam, having been found to detect between 5% and 10% of breast cancers. Breast exams are particularly important for Ashkenazi Jews given the increased incidence of BRCA mutations in this population. However, due to limited sexual education and lifestyle factors, young Orthodox Jewish women may pay less attention to sexual health. The current study examined rates of gynecologic exams and factors that have been found to predict screening behaviors in the general population including family history of disease and perceived risk. We also examined friend history (having a friend with breast cancer) since this has been associated with perceived risk. Sixty-five female Orthodox Jewish students (mean age = 20.37) completed an online survey assessing family and friend histories, perceived risk for breast cancer, and rates of gynecologic exams. Women with family history (n = 11) or friend history (n = 42) reported higher perceived risk (t(66) = 3.32; t(66) = 2.33, p's < .05, respectively). After eliminating participants with family history, those with friend history still reported higher perceived risk than those without friend history (t(55) = 2.08, p < .05). Gynecologic exams were reported by 33.8% of women. Contrary to our expectations based on prior literature, those who had an exam did not differ from those who had not on levels of objective and perceived risks. These results are important since they indicate that factors associated with screening may be different in young Orthodox Jewish women. Thus, traditional health promotion efforts may be ineffective. Moreover, because friend history was associated with perceived risk, and because young Jewish are likely to have friends with breast cancer due to increased prevalence of BRCA mutations, it is possible that these women may have elevated levels of anxiety related to risk. Future research should examine this possibility.

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SEX EDUCATION AND ADHERENCE TO SEXUAL HEALTH RECOMMENDATIONS IN YOUNG ORTHODOX JEWISH WOMEN

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Gynecologic visits are recommended for women over the age of 19 by the American Congress of Obstetricians and Gynecologists. While rates of exams in young women are generally high, little research has examined cultural differences in screening rates. Traditional religions may not support sexual education and may advocate lifestyle choices that women believe put them at lower risk for sexual health problems. The present study examined factors associated with gynecologic visits in young Orthodox Jewish women. A total of 78 students (mean age, 20.35) from a female religiously-affiliated college completed on-line surveys assessing formal (provided by high school) and parental sex education, sexual health knowledge, and anxiety, embarrassment and fear of pain related to gynecologic exams. Formal education was reported by 40%; 42% reported that parents talked to them about sex. Formal sex education was associated with perceived knowledge of reproductive disorders (X2(2) = 6.90, p < .05) and knowledge about what is involved in a gynecologic exam (X2(3) = 9.24, p < .05). Parental sexual education was associated with less embarrassment (X2(3) = 9.86, p < .05), and anxiety (X2 = 10.82, p < .01) as well as perceived knowledge about exams (X2(3) = 10.19, p < .05). Gynecologic exams were reported by 30.8% of participants. Women who had exams were more likely to report sex education in high school (X2(1) = 6.52, p < .05) and parents who taught them about sex (X2(1) = 8.40, p < .01). Those who reported they were more knowledgeable about sexual anatomy and function were more likely to have had exams (X2(1) = 5.87, p < .15). Both parental and school-based education were associated with screening. However, with the exception of knowledge about exams, these distinct forms of education were differentially associated with sexual health knowledge and concerns about exams. While results indicate that many young Orthodox Jewish women do not follow sexual health guidelines, we found evidence that sex education could minimize concerns and increase knowledge and screening rates.

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MULTIPLE SEXUAL PARTNERSHIPS AMONG FEMALE ADOLESCENTS IN RURAL UGANDA: THE INTERSECTION OF FAMILY STRUCTURE AND SCHOOL ENROLLMENT

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A better understanding is needed of the contextual factors that influence HIV risk behaviors among female adolescents in sub-Saharan Africa. The objectives of this study were to assess the influence of family structure on lifetime sexual partners and on the number of sexual partners in the last year among female adolescents in rural Rakai, Uganda; and to determine if the influence of family structure on these outcomes differed by adolescents' school enrollment status. The sample consisted of 2,337 unmarried adolescent girls, aged 15-19, enrolled in the Rakai Community Cohort Study between 2001 and 2008. Stratified analyses by age (15-17 vs. 18-19) and school enrollment (in-school vs. out-of-school) status were conducted using multinominal logistic regression accounting for community level clustering. Living with biological fathers was the reference category in all analyses. Among younger adolescents, the risk of having two or more lifetime partners as compared to zero partners was significantly higher for girls living in stepfather, grandparent, sibling, and non-relative households. Among older adolescents, girls living with single mothers, grandparents, or alone were significantly more likely to report two or more lifetime partners. Living with a biological father was also protective against having 1 or more sexual partners in the past year for both age groups. Family structure was not significantly associated with either outcome among girls attending school. Among non-attendees, the risks of having two or more lifetime partners were higher among non-attendees living in almost all family structures which did not include a biological father. Findings suggest that understanding the familial context in which female adolescents develop, as well as its interaction with school attendance, is important for HIV prevention efforts.

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WHAT'S FACEBOOK USE GOT TO DO WITH SEX? AN EXPLORATION OF FACEBOOK USAGE PATTERNS AND SEXUAL ACTIVITIES AMONG COLLEGE VARSITY ATHLETES IN TAIWAN

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Background: A popular social networking site globally and in Taiwan, Facebook has revolutionized the ways in which people communicate and interact with others, particularly in youth. With a "dual role" as a student and an athlete, college varsity athletes have been found more sexually active than their college peers. However, little is known about whether their Facebook usage patterns are associated with their sexual activities among college varsity athletes.
Methods: A total of 355 college varsity athletes in Taiwan were recruited via respondent-driven sampling (RDS) and data were collected using anonymous online surveys. Controlling for their background characteristics, multivariate logistic regression was conducted to examine Facebook usage patterns in relation to their sexual activities in the previous year.
Results: College varsity athletes in a stable relationship (AOR = 11.90), in senior year (AOR = 7.87), and in graduate school (AOR = 13.93) had significantly greater likelihood of being sexually active in the previous year. While there was no significant gender difference, gender interactive effects were found among male athletes who disclosed their work experience on Facebook HIA45654(AOR = 3.93) and who accepted "friend requests" from strangers with whom they had common friends on Facebook (AOR = 3.93). Furthermore, those who disclosed their number of friends on Facebook were less likely to be sexually active in the previous year (AOR = 0.38).
Conclusions: Various Facebook usage and self-disclosure patterns were significantly associated with sexual activities among college varsity athletes. Notably, gender interactions were found in these relationships. Future research may explore the possible mechanisms of particular Facebook usage and self-disclosure patterns in influencing their sexual behaviors. Gender-specific intervention efforts may also be tailored to suit their differential needs.

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Citation Poster

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MINDFULNESS TRAINING VERSUS SLEEP HYGIENE FOR INSOMNIA SYMPTOMS IN OLDER ADULTS: A RANDOMIZED CONTROLLED COMPARISON TRIAL

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Adequate sleep is vital to our survival, yet sleep problems grow common with age. About 50% of people aged 55+ years experience insomnia weekly. Given that sleep problems often go untreated in older adults, and untreated sleep problems increase the risk for morbidity and all-cause mortality, effective treatments for sleep problems are a priority to improve the health of our aging population. This randomized controlled comparison trial examined the relative efficacy of two 6-week interventions (mindfulness meditation training, MT vs. sleep hygiene, SH) on sleep, inflammatory markers, and brain morphology. Participants (N = 49) were ages 55-90 (M = 66.27, SD = 7.43). Inclusion criteria: currently active insomnia symptoms, age in years > 55, and agreeing to randomization. Exclusion criteria: current inflammatory disorder, illness, or infection, current practice of mediation, depression, cognitive impairment, class II or greater obesity, current sleep apnea diagnosis, inability to speak English, and current smoking and/or substance dependence. The UCLA IRB approved study procedures. Measures included self-reported sleep, fatigue, and peripheral blood mononuclear cell levels of Nuclear Factor-kappa B. Brain images were acquired on a 1.5 T Siemens Sonata scanner using an 8-channel head coil and a T1-weighted MPRAGE sequence. Forty-three (88%) participants completed the trial. ITT analyses showed that both groups reported improved sleep and NF-kB levels post-intervention. Sleep improvements in the MT condition were significantly greater than SH ($p < .02$). Fatigue symptoms improved only in the MT group ($p < .01$). Significant increases in brain gray matter density were observed in the MT group in the posterior cingulate cortex ($p < .05$). Findings have implications for broadening treatment options for older adults with insomnia symptoms, and novel neuroimmune mechanisms are elucidated.

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EEG BIOFEEDBACK TRAINING INTERVENTION FOR DISTURBED SLEEP PATTERNS AMONG ADOLESCENTS

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The present study is intended to see the effect of EEG biofeedback training on disturbed sleep patterns of female adolescents. It was hypothesized that 1. Post intervention scores on sleep quality of individuals in experimental group would be improved as compared to pre-intervention scores. 2. Sleep quality scores of individuals in experimental group would be significantly higher as compared to post intervention sleep quality scores of individuals in control group. 3. Post intervention scores of insomnia in experimental group would be reduced as compared to pre-intervention scores. 4. Insomnia scores of individuals in experimental group would be significantly lower as compared to post intervention sleep quality scores of individuals in control group. A pre-post experimental-control group design was adopted. A total of 160 female adolescents were screened in on the basis of high scores on insomnia and low scores on quality of sleep. All the screened participants in the age range of 13-19 yr. were randomly selected for experimental group (n = 80) and control group (n = 80). Regular 10 sessions of EEG biofeedback training for half an hour on alternative days were given to the participants.
After intervention, sleep quality and insomnia questionnaires were administered again to see the effect of EEG biofeedback training. Results revealed a significant improvement (F = 142.52**, HIA45654p < .01) in sleep quality of adolescents after EEG biofeedback training. There was significant reduction in insomnia scores (F = 164.09**, $p < .01$) of female adolescents after EEG biofeedback training. A significant difference was revealed between pre and post intervention scores of sleep quality and insomnia of experimental group whereas control group didn't show any statistically significant difference between its pre and post intervention scores of sleep quality (F = 2.95, ns) and insomnia (F = 0.32, ns) among female adolescents.

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SUPPORT FOR THE USE OF MHEALTH SMOKING CESSATION INTERVENTIONS: SELF-REPORTED QUIT RATES AND USER DATA FROM THE NATIONAL CANCER INSTITUTE'S SMOKEFREETXT PROGRAM

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The rapid proliferation of mobile technology has significantly changed the health communication and intervention landscape. Increasingly, cell phones are being used as a platform from which health behavior interventions can be delivered on a broad scale and a growing body of literature supports their use across a variety of health behaviors. In December 2011, the Community Preventive Services Task Force recommended mobile phone-based interventions for tobacco cessation based on sufficient evidence of effectiveness in increasing tobacco use abstinence among people interested in quitting. Further research is needed to assess the impact of mHealth cessation interventions on cessation outcomes and to better understand factors which may influence treatment outcomes. Methods: Since its launch in July 2011, more than 45,000 users have participated in National Cancer Institute's SmokefreeTXT program. Users receive cessation intervention messaging for up to two weeks before and six weeks after their quit date. Data on user characteristics and self-reported abstinence is collected at regular intervals over the course of the program. Results: An intent-to-treat analysis of cessation outcomes was conducted using data. Self-reported quit rates at the one, three and six month follow-ups were 17%, 13% and 11% respectively. Analyses were completed examining potential predictors of drop out and quit success based on gender, age and smoking pattern. Conclusions: Quit rates among SmokefreeTXT participants suggest that the text messaging program was effective in promoting successful cessation. The intervention increased self-reported abstinence rates well above those typically observed among individuals who attempt to quit smoking without medication or other assistance. These preliminary data provide further evidence of the potential for texting as a method to improve cessation outcomes.

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BELIEFS ABOUT THIRDHAND SMOKE AMONG HEALTHCARE PROFESSIONALS

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The public is generally unfamiliar with thirdhand smoke (THS), which refers to tobacco smoke contaminants and byproducts that remain in the clothing, hair, furniture, etc., after a cigarette is extinguished. Though the effects of THS on health have not been thoroughly examined, there is evidence of negative health effects, specifically in children. The purpose of this exploratory study was to assess beliefs regarding THS in healthcare professionals, and associations with smoking attitudes/beliefs and demographics. Healthcare professionals (N = 210) at a comprehensive cancer center and affiliated general hospital completed questionnaires regarding THS beliefs, smoking behaviors, attitudes about smoking, and demographics. The main variable of interest was the belief that THS is harmful. A little more than half of the sample had heard of THS before completing the survey, and more than two thirds of the sample believed that THS issues do not receive enough attention. Though respondents overall reported believing that THS is harmful (M = 4.1, SD = 0.7, range of 1-5), results are mixed regarding respondents' likelihood of discussing THS with patients, colleagues, and family members (M = 3.4, SD = 1.0, range of 1-5). A multivariate linear regression model showed that the following variables were significantly associated with endorsing the belief that THS is harmful: being female, t(180) = -2.40, p < .05, likelihood of discussing THS with others, t(180) = 6.39, p < .001, endorsing the belief that smoking affects quality of parenting, t(180) = 3.67, p < .001, endorsing the belief that smoking bans discriminate against smokers (negatively associated), t(180) = -2.36, p < .05, and endorsing the belief that it is the responsibility of the government to protect citizens from cigarette smoke, t(180) = 3.66, p < .001. As more knowledge is gained about the dangers of THS, the current findings shed light on smoking beliefs, groups of individuals that could be targeted in thirdhand smoke educational campaigns, and recommendations for new tobacco policies.

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USING PATIENT NAVIGATION TO IDENTIFY CESSATION BARRIERS IN LOW INCOME SMOKERS

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Patient navigators are uniquely trained to address barriers to health care in low-income populations. As an extension of this model for reducing health disparities, this pilot study explored the use of patient navigation to link underserved smokers with existing community-wide, cessation services. Primary care providers in Harlem, NY referred English and Spanish-speaking smokers to the study. Consenting patients were interviewed at enrollment using a customized database to assess demographic information, tobacco use, nicotine dependence, readiness to quit, knowledge of cessation services, and barriers to receiving tobacco cessation services. Guided by this baseline assessment, an experienced patient navigator identified participants' individual needs and barriers to seeking cessation treatment. Sixteen participants consented to the study; 69% were female and ages ranged between 19 and 65 (M =48.9). Four participants were Spanish-speakers and 81.3% had at least mild symptoms of depression. Eighty-six percent of smokers were at least contemplating quitting. Two trained coders identified a total of 53 barriers (M = 3.3, SD = 2.4) that were subsequently grouped into 15 themes associated with concerns about quitting smoking and using cessation treatment. The majority of participants (19%) reported concerns about using cessation medications, such as believing that these medications were not safe or helpful, as well as concerns about possible side effects. Other quitting barriers included concurrent alcohol or drug abuse (9%), living with a smoker (9%), concurrent psychiatric illness (9%), and other higher priority concerns (8%). Overall, these data indicate that low income smokers report numerous barriers to quitting smoking. Of note, their concerns regarding the safety and efficacy of nicotine replacement and other approved cessation medications are an obvious target for patient education and a modifiable barrier for increasing utilization of existing cessation services.

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VALIDITY, RELIABILITY, AND TEMPORAL STABILITY OF THE MODIFIED SMOKING DECISIONAL BALANCE INVENTORY IN ADULT SMOKERS

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The smoking decisional balance (SmkDB) inventory assesses the relative importance of the perceived advantages (Pros) and disadvantages (Cons) of smoking. Recent applications have used a modified version of this scale that includes six items from the validated and commonly used short form, and two additional items. This 8-item SmkDB measure consists of Pros and Cons subscales with four items each, in order to balance improved scale reliability and added response burden. This study examined the psychometric properties of the 8-item SmkDB measure in a population-based sample of adult current smokers [N = 2931, mean age 41.8 years (SD = 13.4), 68% white, 56% female]. Confirmatory factor analyses showed that the theoretically supported model with two uncorrelated factors (Pros, Cons) provided an excellent yet parsimonious fit for the measure [$\chi^2(20) = 151.48$, CFI = .96, RMSEA = .05]. Factor loadings for individual items were adequate (mean $\lambda = .57$), with improved internal consistency for each subscale (Pros $\alpha = .67$, Cons $\alpha = .64$) compared to the 6-item version. Multivariate analyses by stages of change for cessation replicated expected patterns for SmkDB, with medium-sized stage effects (Pros $\eta^2 = .02$, Cons $\eta^2 = .09$). Finally, longitudinal invariance of the measurement model was examined using a subsample of N = 677 "stable" smokers who remained in the same cessation stage between the baseline and 12-month assessments. Mean and covariance structure analyses supported the longitudinal invariance of the SmkDB measure up to the level of equal factor means, allowing meaningful comparisons to be made across assessment time points. In addition, for these stable smokers, both the Pros and Cons factors were found to be very stable ($\gamma > .75$) over the 12-month span. These results demonstrate the internal and external validity, reliability, and temporal stability of the 8-item SmkDB measure in adult smokers, supporting its use in research and intervention.

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NETWORKS FIGHTING NICOTINE: WILL VISITORS TO A TOBACCO CESSATION WEBSITE ENGAGE IN AN ONLINE SUPPORT COMMUNITY?

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Background: Online social networks can be a valuable part of a Web-Assisted Tobacco Intervention (WATI). Understanding characteristics of WATI participants who navigate to and participate in an online cessation social network may promote effective tailoring of both WATIs and online cessation social network sites.

Methods: We recruited 759 smokers to a WATI (decide2quit.org). We used online surveys to gather data on sociodemographics, tobacco use, and readiness to quit. Smokers were able to navigate from the WATI to an online social network supporting cessation (BecomeAnEx.org). We tracked navigation to and engagement with this online network, examining sociodemographic characteristics associated with online network use as well as patterns of WATI use in network users and nonusers.

Results: Of all smokers logging onto our WATI, 25.9% navigated from there to BecomeAnEx.org and 7.5% registered. Compared to those who did not navigate to BecomeAnEx.org, registrants were more likely to be female (75.4% of registrants vs. 62.6%, p = .03) and more likely to have visited a smoking cessation website before (43.9% of registrants vs 17.4%, p < .01). Registrants were more likely to engage in other aspects of the WATI including e-mails to trained tobacco specialists (68.4% vs 28.8). On multivariate analysis, smokers who used BecomeAnEx.org were no more likely than nonusers to report having quit smoking.

Conclusions: Smokers registering with a tobacco cessation social network via hyperlink from a WATI were more likely to have used other types of online cessation resources and were more likely to take advantage of our online tools. Overall engagement in the BecomeAnEx.org network was low and registration did not predict cessation. Further studies are needed to identify how best to use peer to peer online tools to promote tobacco cessation.

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TRENDS IN HOME SMOKING BANS AMONG VETERANS IN THE U.S., 2001-2011

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Background: Smoking is a significant health problem within the U.S. military. Home smoking bans help reduce secondhand smoke exposure among non-smokers and tobacco use among smoking adults. This study aimed to examine national trends in home smoking bans and associated personal characteristics among veterans in the U.S. from 2001 to 2011.

Methods: Data from the 2001-2002 and 2010-2011 Tobacco Use Supplement to the Current Population Survey (TUS-CPS) was used to estimate prevalence and multivariable logistic regression model of home smoking ban reports by adults who reported ever serving on active duty in the U.S. Armed Forces. We also compared the prevalence of home bans among veterans with adults who did not serve in the military.

Results: A total of 40,062 U.S. veterans provided valid responses regarding the home smoking ban status for the two survey periods. Overall, the prevalence of complete home smoking bans increased from 63.4% in 2001-02 to 79.7% in 2010-2011 among veterans ($p < 0.01$). The prevalence rates of home bans were consistently lower among veterans compared to non-veterans ($p < 0.01$), with the prevalence among the latter increasing from 67.2% to 84.1% over time. Veterans who were current or former smokers, unmarried, with older age, less than high school education, lower household income, no children living in the household were less likely to report a complete home smoking ban ($p < 0.05$).

Conclusions: In spite of the general increase in the adoption of complete home smoking bans, veterans lagged behind the rest of the U.S. population and disparities persisted over time. Interventions promoting the adoption of complete home smoking bans are necessary to protect veterans and their family and reduce disparities in tobacco-related diseases, especially among veterans who were current or former smokers, unmarried, older, with lower education and income level, and without children living together.

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FEASIBILITY OF A SPIRITUALITY-BASED WELLNESS PROGRAM ON STRESS REDUCTION AND HEALTH BEHAVIOR CHANGE

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Faith-based programs have focused on the physical dimension of health for improving healthy behaviors (i.e. exercise and diet). Few have specifically intervened on the mental dimension (i.e. distress/stress) in conjunction with spiritual and physical dimensions. Purpose: To evaluate the feasibility of a spirituality-based stress reduction and health behavior change program using the Spiritual Framework of Coping (SFC) model. The program was designed to target multiple dimensions of wellness/well-being. Methods: This study was a quasi-experimental one group pre-post design conducted at a non-denominational church. The program met for 4 weeks, once a week for 1.5 hours. Weekly phone calls were made during a four week follow-up period. Feasibility was assessed by the acceptability, demand, implementation, practicality, integration, and limited efficacy (well-being, spiritual coping, perceived stress, physical activity, dietary intake, body composition, blood pressure) of the program. Objectives were assessed by frequencies of responses to evaluations and limited efficacy of pre-post measures were conducted by paired t-test ($p < .05$). Results: The program was positively accepted. Demand for the program was shown with average attendance of 79% and was successfully implemented as indicated by meeting session objectives and 88% homework completion. The program was practical for the participants and successfully integrated within the existing church environment. Limited efficacy measures showed no pre-post changes. Significant inverse relationships were shown between perceived stress and mental well-being ($r = -.81$, $p = .000$) and physical well-being ($r = -.59$, $p = .01$), and for mental well-being and negative spiritual coping behavior ($r = -.49$, $p = 0.04$). Conclusion: This study addressed the feasibility of a faith-based program and provided preliminary support for the design and further testing of the theoretical components of the SFC model.

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CONCEPTUALIZATION AND MEASUREMENT OF PRENATAL MATERNAL STRESS IN DIVERSE WOMEN: A MULTIGROUP CONFIRMATORY FACTOR ANALYSIS APPROACH

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Converging evidence from animal and human studies shows that prenatal maternal stress (PNMS) is a risk factor for adverse birth outcomes and has deleterious effects on maternal and neonatal health. Numerous approaches to defining PNMS have been used to examine its health effects; however, operationalizing this construct has proven challenging to researchers. Multivariate definition of PNMS comprised of stress stimuli, responses, and appraisals is conceptually powerful but the reliability and validity of this approach among diverse women is unknown. Using multigroup confirmatory factor analysis, we examined reliability and validity of a theoretically-founded, multivariate operational stress definition in one of the largest studies of PNMS to date ($N = 2{,}709$). PNMS was modeled as a latent variable represented by stress stimuli, appraisals, and emotional responses. The hypothesized model fit the data well, and exhibited multigroup equivalence across education, income, ethnicity, age, gravidity, employment status, and pregnancy intendedness, confirming the validity of the multivariate definition of PNMS among diverse groups. Multigroup comparisons revealed significant group differences in PNMS levels, indicating that pregnancy is more stressful for younger, single, unemployed, less educated women, those with less income, with an unintended pregnancy, and with more pregnancy and birth experiences relative to their comparison groups. Findings suggest that multivariate approaches can be particularly useful in population-based studies to uncover differences in degrees and types of stress for pregnant women of various backgrounds and psychosocial characteristics and to facilitate prevention and intervention efforts.

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THE RELATION OF LEISURE ACTIVITY TO AMBULATORY MOOD, STRESS, HEART RATE AND CORTISOL IN DAILY LIFE

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Leisure activities have been related to a range of positive outcomes using between person approaches - those individuals reporting more leisure activities also report better outcomes. Few studies have examined the within-person associations between leisure activities and outcomes (how an individual responds in the moment to engaging in leisure activity), and none have done so using comprehensive ambulatory data capture outside the laboratory. We employed ecological momentary assessment to record mood, stress, and activities, coupled with ambulatory heart rate monitors and saliva samples to assess cortisol (an index of physiological stress) in daily life. We hypothesized that when individuals were engaging in leisure activity they would show enhanced mood, lower stress, lower heart rate, and lower cortisol levels. Moreover, we contrasted leisure with engagement in physical exercise. Adult community participants ($n = 122$, 67% female, ages 19-64) wore a heart rate monitor for three days and were prompted 6 times daily to report mood, leisure and exercise activity, and take a saliva sample. Engaging in leisure activity was associated with lower perceived stress ($p < .0001$), higher happiness ($p < .0001$), lower sadness ($p < .03$), and lower heart rate ($p < .05$), but was unrelated to cortisol ($p = .74$). In contrast, exercise was associated with higher heart rate ($p < .003$) and lower cortisol ($p < .01$), but was unrelated to stress ($p = .08$), happiness ($p = .16$), or sadness ($p = 0.26$). Our results extend prior work by showing that engaging in leisure activities is contemporaneously associated with less stress, better mood, and lower heart rate (but unrelated to cortisol) in daily life. Exercise was related to higher heart rate and lower cortisol, but unrelated to mood or stress. The benefits of leisure activities may be largely psychoaffectively mediated, and distinct from mechanisms for exercise. As participation in leisure activities has stress and mood benefits in daily life, promoting leisure activity holds promise as an intervention strategy.

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PERSEVERATIVE COGNITIONS MEDIATE THE RELATIONSHIP BETWEEN LIFE STRESS AND PSYCHOLOGICAL HEALTH AND WELL-BEING

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Life stress is associated with poor psychological health and well-being outcomes (e.g., depression, sleep quality, quality of life, pain symptoms). Yet the processes by which stress results in poor health remain relatively unknown. Engagement in perseverative cognitions, including rumination or worry, may explain the deleterious effects of life stress. Perseverative cognitions are cognitive representations of stressors (real or imagined) that can evoke and/or extend a stress response. Experiencing persistent stress responses places strain on an individual and can lead to poor health. Thus, we hypothesized that the extent to which individuals engage in perseverative cognitions may mediate the stress and psychological health and well-being association. To test our hypothesis, a diverse community sample ($n = 334$; 166 men, 168 women; aged 19-83, $M = 49.29$; 51.5% White, 37.7% Black) completed measures of life stress, perseverative cognitions (three separate scales), depression, sleep quality, quality of life, and pain symptoms. Using structural equation modeling, we specified a series of path models in which life stress predicted a latent factor of perseverative cognitions that in turn predicted psychological health and well-being (outcomes tested in separate models). All models controlled for participant sex, race, age, and socioeconomic status, and all were strong fits to the data. Life stress predicted perseverative cognitions, and perseverative cognitions predicted all health and well-being outcomes. The mediation models explained 57.6% of the variance in depression, 22.3% in sleep quality, 14.1% in quality of life, and 19.7% in pain symptoms. These data support the view that greater engagement in perseverative cognitions links life stress with poor psychological health and well-being. Moreover, that helping individuals avoid engaging in perseverative cognitions may be an important avenue for stress management research.

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PREDICTING STRESS IN CAREGIVERS OF OLDER ADULTS WITH DEMENTIA

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Providing care for a relative with dementia is an extraordinarily difficult task. In addition to managing problematic behaviors, such as agitation and wandering, caregivers must navigate personal emotional impacts. From a psychosocial perspective, the evaluation of aversive events plays a key role in determining the stress response, and this seems especially relevant to the challenges faced by caregivers of those with dementia. In the present study, we examined several aspects of evaluation and appraisal, including attributional style, locus of control and beliefs about symptom controllability on the experience of stress. We hypothesized that higher stress levels would correlate with an internal locus of control, maladaptive attributional style (i.e. internal, stable and global attributions), and judgment that dementia symptoms were under the volitional control of the care recipient. We tested these hypotheses in 100 caregivers, who completed the following self-report measures: Attributional Style Questionnaire, Locus of Control Behavior Scale, Perceived Stress Scale, and Controllability of Symptoms Scale. The majority of participants in this study were female (85%), White (91%), and the daughter of the care recipient (77%). The role of the explanatory variables on the stress measure was analyzed through a series of regression analyses, the results of which indicated that significant variance in stress levels was accounted for by global attributional style and perceived controllability of symptoms (range $r2 = .06$ to .14, all $p's < .05$). Our findings appear highly relevant to behavioral medicine settings in several ways. For example, problematic attributional style has been linked to poor health outcomes, including diminished immune functioning and increased mortality, which potentially puts caregivers themselves at risk. Furthermore, this study elucidates potential areas for interventions targeting stress among dementia caregivers, who will become an increasingly important component of the health care delivery system in the U.S. as the population of baby boomers advances in age.

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B-191

THE APPRAISAL OF CHALLENGE OR THREAT SCALE PREDICTS UNIQUE VARIANCE IN SYMPTOMS OF DEPRESSION AND PTSD AMONG MUNICIPAL FIREFIGHTERS

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Research has established threat and challenge as differential ways of appraising and responding to stress (Tomaka et al., 1993; 1997). Tomaka et al. (2013) have developed a measure of individual differences in the tendency to make threat or challenge appraisals. The Appraisal of Challenge or Threat Scale (ACTS) assesses tendencies to appraise events as threats or challenges overall and in six specific domains. Unlike other measures, the ACTS assesses cognitive appraisal independently of other stress-related processes (e.g., emotional reactions, coping). Despite evidence for the construct validity of the ACTS (see Tomaka et al., 2013), studies have not yet shown that this measure adds to the prediction of stress-related outcomes above that predicted by general stress measures. Accordingly, the present study examined how the ACTS related to symptoms associated with depression and post-traumatic stress disorder independent of general stress as assessed by the Perceived Stress Scale (PSS; Cohen et al., 1983). Moreover, we did so among a large sample of individuals prone to these clinical conditions: Municipal firefighters. Seven hundred-thirty seven firefighters completed the ACTS, the PSS, the Zung Depression Scale (Zung, 1965), and the civilian version of the Post-Traumatic Stress Disorder Check List (Weathers et al., 1994). Correlational analyses showed that both the ACTS and the PSS related to these outcomes at the univariate level (r's ranging between .38 and .64, all $p < .001$). Multiple regression analyses indicated that the ACTS predicted variance in depression (R-Sq Change = .02; $b = .16$, $p < .001$) and post-traumatic stress (R-Sq change = .03, $b = .19$, $p < .001$) over and above that predicted by the PSS. The results suggest that cognitive appraisal tendencies that favor the appraisal of life events as threatening (i.e., perceived demands in excess of coping abilities) are a unique component of these clinical conditions.

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B-192

GOAL ADJUSTMENT ABILITY PREDICTS MAGNITUDE OF EMOTIONAL AND CARDIOVASCULAR REACTIVITY TO AN UNSOLVABLE ANAGRAM TASK

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Individuals differ in their ability to disengage from unattainable goals (referred to as goal disengagement ability, GD) and to generate and reengage in other activities (goal reengagement ability, GR). These partially independent factors relate differently to measures of affect, with evidence supporting an inverse association of GD with negative affect and a positive association of GR with hopefulness and purpose in life. Studies have yet to examine whether these dispositional characteristics impact the magnitude of emotional and cardiovascular (CV) response to situations that involve unattainable goals, which could have important mental and physical health implications. Accordingly, we exposed 90 healthy adult (18-25 years; 59.3% female) to a laboratory task that involved solving unsolvable anagrams. We measured trait GD/GR with the Goal Disengagement and Re-engagement Scale (Wrosch et al., 2003). Task-related arousal, positive mood, and feelings of control were assessed with the Self-Assessment Manikin (SAM; Bradley & Lang, 1994). Blood pressure (BP) and Heart rate (HR) were also monitored.

Linear regression analyses that controlled for demographic characteristics and baseline values showed that trait GD was associated with larger increases in perception of control ($\beta = -.253$, $p < .05$) and a trend towards smaller increases in HR ($\beta = -.222$, $p = .07$) in response to the unsolvable anagrams. GR, on the other hand, tended to associate with smaller task-related declines in positive mood ($\beta = -.198$, $p = .06$).There was also a significant interaction of GD and GR in the prediction of task-related increases in Systolic BP ($\beta = .239$, $p < .05$), with individuals low in trait GD and GR showing the largest responses and those low in GD and high in GR showing lower magnitude of change.

Perception of ability to disengage from unattainable goals and re-engage in alternative goals may help buffer individuals from declines in positive affect and concomitant CV activation in situations that involve unachievable goals, helping them feel more in control.

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B-194

THE ROLES OF TRAUMA AND SLEEP IN TERMS OF MEDICINAL CANNABIS USE

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Among the 20 states that have legalized cannabis for medicinal purposes, four states have listed posttraumatic stress disorder (PTSD) as the only psychological condition for which cannabis can be specifically prescribed. Unfortunately, empirical study of the specific symptoms for which cannabis is used among those with PTSD is lacking. Indeed, though anecdotal and empirical evidence suggest that cannabis may be used by those with PTSD specifically to improve sleep (Bonn-Miller et al., 2010), there has yet to be an empirical investigation of this association, including how it relates to actual cannabis use frequency. The present study aimed to explore these relations among a sample of 175 medical cannabis users (23.7% female; Mage = 41.15, SD = 14.68). Self-reported trauma symptom severity (PCL; Weathers et al., 1993), cannabis use motives (CMMQ; Lee et al., 2009), and cannabis use frequency (Bonn-Miller et al., 2009) were collected. To determine the association of PTSD on insomnia/sleep coping motives for cannabis use, the sample was split into those with low PTSD symptoms ($PCL < 30$) and those with moderate to severe PTSD symptoms ($PCL > = 30$), based on cutoff recommendations for community samples (see National Center for PTSD, 2012). A t-test indicated that individuals with moderate to severe PTSD symptoms were significantly more likely to report using cannabis specifically for coping with insomnia and other sleep-related disturbances ($t = 2.55$; $p = .01$). Additionally, among those in the moderate-severe PTSD group ($n = 77$), greater insomnia/sleep motives were significantly related to greater frequency of past 30-day use ($r = .38$, $p < .01$). These data indicate that, among a sample of medical cannabis users, those with moderate-severe PTSD symptoms are significantly more likely to use cannabis to cope with insomnia and other sleep disturbances, and that such sleep-specific coping is associated with greater frequency of use.

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B-195

USING LATENT TRANSITION ANALYSIS TO DIAGNOSE INTERVENTION EFFECTIVENESS AMONG SUBGROUPS

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The Stages for Smoking Acquisition represent an extension of the Transtheoretical Model (TTM) and are used in tailored smoking prevention interventions. While about 90% of adolescents who do not smoke classify themselves as being in Acquisition Precontemplation (aPC; i.e., do not plan to start smoking), 82% of adults report trying their first cigarettes before the age of 18, making accurate tailoring difficult. Research has identified four subtypes within aPC: Most Protected, Ambivalent, Risk Denial, and Smoking Engaged. The current study examines data from computer delivered TTM-tailored interventions that targeted multiple risk behaviors. Sixth graders from 20 schools were randomly assigned to either a smoking and alcohol substance use prevention program (SP) or an energy balance (EB) program, which targeted physical activity, fruit/vegetable consumption, and limited TV viewing. Each intervention condition served as the comparison condition for the other and assessments occurred at 12, 24, and 36 months. Students in the EB intervention effectively initiated and maintained energy balance behaviors. The SP intervention, however, was not as effective. The current study examines longitudinal transitions for each group using Latent Transition Analysis (LTA) in order to better understand these findings. The two group model (EB and SP) had three freely estimated 4x4 tau matrices of transition probabilities representing transitions from Baseline to 12 months, 12 to 24 months, and 24 to 36 months for each group. Among the findings, it was discovered that the Most Protected group was consistently the most stable for both intervention conditions and had higher probabilities in the SP condition (a positive treatment effect). The Smoking Engaged group was the next most stable, and also tended to have higher probabilities in the SP condition compared to the EB condition (a negative treatment effect). LTA provides critical information about the effectiveness of the intervention for the different subtypes by highlighting subtype transitions across time.

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B-196

EVALUATION OF WEBSITES AND WEB-BASED APPLICATIONS TARGETING ALCOHOL AND DRUG USE

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Objective: Websites and Web-based applications for alcohol/drug users seeking help vary in quality, usability, and the evidence to support their efficacy. It can be challenging for individuals to find user-friendly, content-rich, evidence-based e-health resources. The purpose of this study is to create a method for systematically evaluating e-health resources using customized heuristics to create a vetted library of free and commercially available resources.
Methods: Development of evaluation criteria was influenced by: Nielsen guidelines for interface development, Division 12 Task Force criteria for defining an Empirically Supported Therapy (EST), Nathan and Gorman Criteria, EST Content Criteria, and Happtique Standards. Sites were evaluated within 3 categories: interface, content, and evidence; each category contained 4 operational items. Items were rated using a 3-point scale (0-2) with a possible maximum score of 24 per site. A common set of 6 sites were reviewed by 4 independent raters, then discussed to refine the criteria and calibrate the reviewers. Sites were selected through Google using combinations of search terms relating to alcohol/drug cessation, moderation, and treatment. A total of 24 searches were conducted. Sites among the first 3 pages of results that offered advice, education, intervention, or direction toward treatment were accepted for evaluation.
Results: Of the 521 alcohol/drug websites found, 441 (85%) were rejected because they were not resources for behavior change or treatment, leaving 80 for review. When a sample of 40 sites were evaluated, 4 (10%) were directly supported by research and 17 (43%) had a compelling link to an EST.
Conclusion: The high volume of sites that were returned by the search criteria but which had little to do with alcohol/drug treatment illustrates the need for a vetted library of e-health resources. Moreover, the paucity of research supporting the websites further argues for thorough evaluation of these resources prior to recommendations to patients.

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B-197

IMPROVED SLEEP DURING FOUR WEEKS OF AN INPATIENT ALCOHOL TREATMENT PROGRAM: CHARACTERIZING PATIENTS WHO MAY BENEFIT FROM TARGETED SLEEP INTERVENTIONS

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There is an established association between alcohol consumption and sleep disturbances. Early awakening and non-restorative sleep are just two sleep-related issues many individuals undergoing treatment for alcohol dependency may face. Alcoholics who suffer sleep disturbances are at higher risk for relapse. This analysis examined correlates of improved sleep across the first four weeks of inpatient treatment among 82 alcohol-dependent individuals in a cohort of clinical research participants enrolled on an inpatient alcohol treatment protocol. Sleep quality was assessed with the Pittsburgh Sleep Quality Index (PSQI) at baseline (day 2) and day 28. Variables included demographics (gender, age, and race), baseline anxiety, depression, withdrawal (Clinical Institute Withdrawal Assessment of Alcohol: CIWA), and level of alcohol dependence (Alcohol Dependence Scale: ADS). The mean age of the sample was 44.37 (± 8.90) years. The decrease in global PSQI score between day 2 and 28 was the outcome variable of interest. The average PSQI score at day 2 was 10.91 (± 4.14) and day 28 was 6.39 (± 3.64). On average, participants improved by 4.72 (± 4.31) points on the PSQI ($p < .0001$). The mean ADS score was 20.53 (± 7.80). Females ($n = 25$) and those with higher levels of dependence as measured by the ADS were more likely to experience greater improvements on the PSQI. By improving our understanding of different subgroups of inpatients in an alcohol treatment program, health care providers can identify and implement targeted interventions for individuals at highest risk for sustained sleep disturbances as well as those who may be at higher risk for relapse. Future research should focus on following sleep quality in these individuals after discharge from inpatient treatment and in developing sleep hygiene regimens that can be initiated in the hospital environment and sustained over time.

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B-199

THE IMPORTANCE OF MENTAL HEALTH MONITORING DURING THE TRANSITION TO ADULTHOOD AMONG PEDIATRIC LIVER TRANSPLANT RECIPIENTS

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Introduction: Although the transition to adulthood is established as a dangerous time for transplant recipients, the reasons for this are not well understood. One possible explanation is that in general young adulthood is a period of vulnerability to psychological distress which could impact self-management. The purpose of the present study was to investigate whether psychological distress is associated with poor outcomes, as measured by medication non-adherence, during this transition.
Methods: Twenty liver transplant recipients (mean age = 22.42 SD = 1.64) have been followed prospectively at our site for a year after they transferred from pediatrics. At their last visit in pediatrics, they completed the Symptom Checklist-90 (SCL-90), a measure of psychological distress. The primary outcome was medication adherence, using a validated measure, standard deviations (SD) of tacrolimus blood levels. A SD above 2.5 has been established as a threshold associated with poor outcomes like rejection. Tacrolimus SD was compared for one year before and after transfer.
Results: Psychological distress and medication non-adherence after transfer were significantly correlated, $r = .50$, $p = .04$. After transfer, four patients displayed adherence levels that were above threshold for poor clinical outcomes, (mean tacrolimus SD = 4.50, SD = 1.08). Their SCL-90 scores were higher than the rest of the sample, 1.40 (SD = 1.04) versus 0.43 (SD = 0.58), $t = 2.41$, $p = .03$.
Conclusions: Psychological distress may be one factor behind deteriorating medical outcomes when transplant recipients transfer out of pediatric settings. Our results show that among patients who displayed the poorest adherence, psychological distress was high. It may be beneficial to incorporate mental health assessments during the transition process. Identified patients may require services from a mental health professional in addition to transitional interventions.

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B-200

CAN TRANSITION TO ADULTHOOD FOR TRANSPLANT RECIPIENTS BE IMPROVED BY DEDICATED SERVICES WHILE PATIENTS ARE STILL IN PEDIATRICS?

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Introduction: Transitioning out of pediatrics is a vulnerable time for transplant recipients. Creation of a "transition coordinator" (TC) position spanning from before to after transfer has been associated with improved outcomes, including stable medication adherence, after liver transplant recipients transferred from pediatrics. Given limited resources, the present study aimed to determine if incorporating a TC role while patients were still in pediatrics only was associated with similar outcomes for kidney transplant recipients.
Methods: A chart review was conducted on pediatric kidney transplant recipients who transferred in the last 5 years. There were 22 patients, mean age at transfer = 21.40 (SD = 1.51); of these, 11 received services from the team social worker that aligned with a TC position. The primary outcome was medication adherence, using a validated measure, standard deviations (SD) of tacrolimus blood levels. A SD above 2.5 has been established as a threshold associated with poor outcomes like rejection. Tacrolimus SD was compared for one year before and after transfer.
Results: Medication adherence worsened from one year before, 2.03 (SD = .75), to one year after transfer, 2.95 (SD = 1.38), $t = -3.07$, $p < .01$. A repeated measures ANOVA found that this pattern was the same for patients who did versus did not receive dedicated services in pediatrics, $F(1,18) = 1.531$, $p = .23$.
Conclusions: Medication adherence was stable before transfer but afterwards deteriorated and rose above an established threshold associated with poor outcomes. Dedicated services to improve transition delivered only while patients were still in pediatrics did not stave off disrupted adherence. These results suggest that in order to facilitate safer transitions, services are needed throughout the entire process.

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B-201

LIFESTYLE CHANGE AMONG OVERWEIGHT STEM CELL TRANSPLANT (SCT) RECIPIENTS: PERCEIVED CAREGIVER SUPPORT AND MEDICAL PROVIDER NORMS

Shawna L. Ehlers, PhD,[1] Carrie Bronars, PhD,[1] Eleshia Morrison, PhD,[1] William Bamlet, MS,[2] Christi Patten, PhD,[1] William Hogan, MBBCh,[3] Dennis Gastineau, MD[3] and Shahrukh Hashmi, MD, MPH[3]

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There is compelling evidence to suggest that obesity is associated with worse prognosis and outcomes for cancer patients and survivors, particularly for breast, prostate, and colon cancer. Weight and obesity remain understudied in SCT with some mixed findings. This study examines patient perception of medical provider norms and caregiver support for lifestyle change affecting weight loss among overweight and obese SCT patients. A prospective cohort of 470 SCT candidates completed a lifestyle survey pre- and 1 year post-SCT. Participants were predominately married/partnered (82.4%), Caucasian/Non-Hispanic (96.4%), males (57.0%) between the ages of 19-76 undergoing autologous transplant (81.2%). Near 75% of participants were overweight (including obese) and less than 1% underweight pre-SCT. Pre-SCT overweight participants were more likely to report family advice to increase exercise and improve nutrition, in addition to believing their primary caregiver would encourage weight loss ($ps < .05$). Overweight/obese participants were also more likely to report provider advice to lose weight ($ps < .05$). These associations were not statistically significant 1-year post-SCT. In conclusion, overweight patients perceive significant medical provider and social support for weight loss pre-SCT, but this support appears to fade by 1 year post-SCT. Given current evidence of significant risk associated with sedentariness and smoking in SCT and risk of obesity in non-SCT cancer populations, multiple-behavior lifestyle interventions may be the most appropriate intervention platform for SCT patients. Further study is needed.

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Friday
April 25, 2014
8:40 AM-10:00 AM

Symposium 23 8:40 AM-10:00 AM 3001

PUBLIC HEALTH LAW AND BEHAVIOR CHANGE: IMPROVING POPULATION HEALTH THROUGH POLICY

Tracy Orleans, PhD,[2] Scott Burris, JD,[3] Jennifer Ibrahim, PhD, MPH,[3] John MacDonald, PhD[4] and Sara J. Knight, PhD[1]

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Public policy and law represents an important new direction for the Society of Behavioral Medicine. Its advocacy efforts reach Capital Hill and national policy makers with evidence on the impact of behavior change on health outcomes. Public Health Law Research (PHLP), a Robert Wood Johnson Foundation (RWJF) program at Temple University, takes a complimentary approach that seeks to understand how state and federal law influences health behavior and outcomes. This symposium represents a collaboration between SBM and PHLR that aims to make the conceptual models and methods of public health law research accessible to behavioral medicine policy makers, clinicians, and researchers. Presenters will explore the PHLR perspective addressing its significance to behavioral medicine. Tracy Orleans, PhD, Senior Program Officer and Senior Scientist at RWJF, will serve as chair setting up an argument on why law and behavior matter to health and providing evidence on how public health law can serve as either facilitator or barrier to population health. Scott C. Burris, JD, PHLR Director, will present the conceptual basis for public health law especially focusing on the pathways through which policy is expected to influence health. Presentations from two investigators supported by the Public Health Law Research program will illustrate the methods. Jennifer Ibrahim, PhD, MPH, Associate Director of PHLR, will illustrate public health law research methods using PHLR funded research on obesity prevention law, nonsmokers' rights policy, and distracted driving law. John MacDonald, PhD, will describe the use of quasi-experimental design in his studies of how changes in community economic development, land use, and public transit reduce crime and improve health. Sara J. Knight, PhD, will provide overarching context on the intersection of law and health outcomes and will highlight the opportunities for behavioral medicine.

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Symposium 23A 3002

LAW AS AN INFLUENCE, MODERATOR, OR UNDERLYING CAUSE OF HEALTH BEHAVIOR: CONCEPTUAL MODELS IN PUBLIC HEALTH LAW RESEARCH

Scott Burris, JD

Temple University, Philadelphia, PA.

"Public health law research" is the emerging field focused on the scientific study of the effects of laws and legal practices on public health. In health behavior, law can be a tool of influence, a moderator of other intervention strategies, or an underlying cause of risky behavior. In all these roles, the inclusion of law in behavioral medicine research is crucial. There are unique challenges to studying law's influence on health behavior, and a range of theoretical and measurement tools have been devised over the decades to meet those challenges. This session focuses on the problems and solutions that arise in public health law research, with particular attention to using legal and behavioral theory to enrich research. In his symposium presentation, Scott Burris, JD, Director of the Robert Wood Johnson Foundation's Public Health Law Research program, will identify the foundational conceptual models used in public health law research to theorize and measure the impact of law on health behavior.

Theoretically grounded research illuminating mechanisms of legal effect has at least three important benefits for public health law evaluation and practice: Defining the phenomena to be observed, supporting causal inference, and guiding reform and implementation. The choice of what theory or theories to draw upon is a practical one based on research questions and designs, types of law or regulatory approach under study, and state of current knowledge about the matter being investigated. PHLR researchers can draw upon a variety of theories developed by socio-legal scholars to explain how laws are put into practice and how they influence environments and behaviors, including deterrence and labeling theory. Similarly, it is possible to integrate laws within general social and behavioral theories, such as the Theory of Reasoned Action. And it is in fact possible to do both at the same time. These methods make it possible to substantially improve the validity, utility and credibility of health research on effects of laws and legal practices.

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Symposium 23B 3003

MEASURING THE IMPACT OF POLICY ON OBESITY, TOBACCO USE, AND DISTRACTED DRIVING: THE METHODS OF PUBLIC HEALTH LAW RESEARCH

Jennifer Ibrahim, PhD, MPH

Temple University, Philadelphia, PA.

What distinguishes public health law research from scholarly work on public health law is the use of rigorous scientific method. While scholarship in law relies on non-empirical approaches such as ethics or legal analysis, public health law research uses theoretical frameworks and applies systematic methods to guide the collection, analysis, and interpretation of data. In her presentation, Dr. Jennifer Ibrahim, Associate Director of the Robert Wood Johnson Foundation Public Health Law Research (PHLR) program, will illustrate public health law research methods drawing from the research of PHLR grantees on health risks such as obesity, tobacco use, and distracted driving. Dr. Ibrahim will provide an overview of the diverse methods used to study the impact of policy on health, including experimental, quasi-experimental, observational, and participatory design, primary and secondary data, and qualitative and quantitative analyses. The presentation will highlight several approaches that may be less familiar to, but easily adopted by, the behavioral medicine audience, such as the development of public health law databases. Dr. Ibrahim will point to resources available through the PHLR program such as the LawAtlas, an interactive map used in research on state and local law and its influence on health behavior. In closing, Dr. Ibrahim will highlight information about PHLR funding opportunities.

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Symposium 23C 3004

PLACE-BASED APPROACHES TO REDUCING CRIME AND IMPROVING HEALTH

John MacDonald, PhD

University of Pennsylvania, Philadelphia, PA.

The idea that the built environment of places impacts human activity has long been recognized by academics and policy makers. Yet, connecting our understanding of the built environment of places to regulate the well-being of people has not played a central role in community planning policy. In this presentation, Dr. John MacDonald will discuss how social science theory can be used examine the impact of place-based intervention policy on behavior and health outcomes. Economic theory of markets provides a framework for explaining how shifts in the built environment can reduce the supply of opportunities for crime and increase more healthy lifestyles. Quasi-experimental evidence is presented from four separate studies on how changes in community economic development, land use, and public transit reduce crime and improve health. These empirical studies provide evidence from pre-post intervention designs with matched control groups for the utility of place-based interventions to regulate risk factors that influence crime and health. One central insight for policy is that place-based interventions that reshape the built environment can complement demand-side interventions already used to affect public health outcomes. Regulatory prevention strategies that focus on places are a promising area of evidence to prevent crime, improve health, and reduce their social costs. Dr. MacDonald will conclude with a brief discussion of the implications of research on place-based interventions for behavioral medicine.

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Symposium 24 8:40 AM-10:00 AM 3005

ADOLESCENTS, ALCOHOL, AND STI/HIV RISK: EXPLORING THE INFLUENCE OF ALCOHOL USE ON SEXUAL BEHAVIOR ACROSS CONTEXT, POPULATION, AND LEVEL OF ANALYSIS

Angela D. Bryan, PhD,[1] Ralph DiClemente, PhD,[2] Laura Bogart, PhD[3] and Jennifer Livingston, PhD[4]

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Half of all new sexually transmitted infections (STIs) worldwide, including the human immunodeficiency virus (HIV), occur in young people between the ages of 15 and 24. One risk factor for STI/HIV acquisition among adolescents/emerging adults is alcohol use. This series of talks will present research on the co-occurrence of alcohol use and sexual risk behavior among adolescents/emerging adults. Livingston will present data on the role of alcohol use in the context of first sexual intercourse among adolescent girls. She finds that alcohol use is associated with a range of problematic outcomes including less discussion of condom use with partners, and a higher probability of experiencing rape. DiClemente will present data from an intervention to decrease alcohol-related risky sexual behavior among African American young women using an innovative intervention that has demonstrated promise in reducing STIs and sexual risk behavior. Bryan will present longitudinal data from predominantly male high risk adolescents involved in the juvenile justice system. Alcohol use and risky sexual behavior were significantly associated, and variability in network connectivity assessed via resting state functional magnetic resonance imaging (rs-fcMRI) was associated with alcohol use but not with risky sexual behavior. Taken together, these investigations highlight the complexity of the alcohol use/risky sexual behavior relationship across context, population, and level of analysis to suggest both avenues for future investigation as well as potential strategies for intervening to reduce these co-occurring risk behaviors among different subsets of adolescents.

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Symposium 24A 3006

FUNCTIONAL NETWORK CONNECTIVITY AS A CORRELATE OF LATENT TRAJECTORIES OF ALCOHOL USE AND RISKY SEX AMONG JUVENILE JUSTICE-INVOLVED ADOLESCENTS

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Alcohol use is a major risk factor associated with unprotected sexual behavior, leading to higher risk of sexually transmitted infections (STI) including the human immunodeficiency virus (HIV). The relationship of alcohol use to risky sex appears to be particularly strong for adolescents, and has been demonstrated reliably among adolescents involved in the juvenile justice system. Emerging data suggest functional network connectivity strength is associated with problematic alcohol use, and given the relationship between risky sexual behaviors and alcohol use, we hypothesized that functional connectivity might be associated with both categories of risk behavior. As part of a sexual risk reduction intervention study, juvenile justice-involved adolescents underwent a baseline functional magnetic resonance imaging scan and completed questionnaires about their alcohol use and risky sexual behavior at 3-month intervals over 12 months of follow up. To test both cross-sectional and longitudinal relationships between alcohol use and sexual risk behaviors, we estimated a parallel process latent growth model that simultaneously modeled the trajectories of alcohol use and sexual risk behavior. Functional connectivity strength was included as an exogenous variable to evaluate its relationship with level of risk and change in risk over time in both behaviors. Associations were found between baseline alcohol use and risky sex, and between longitudinal trajectories of alcohol use and risky sex. Network functional connectivity strength of the dorsal default mode network was associated with initial and longitudinal alcohol use, but not sexual risk. These results suggest risky sex may be in a potentially different category in terms of its association with brain development and function, but also implies that intervening on self-awareness of the effects of alcohol could serve as a useful target to decrease subsequent risky sexual behavior in adolescence.

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Symposium 24B 3007

A NOVEL INTERVENTION TO REDUCE SEXUAL RISKS AND STIS AMONG ALCOHOL-USING AFRICAN AMERICAN WOMEN

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Using a three-arm randomized controlled trial we assessed the comparative efficacy of two interventions versus a comparison condition. Women are eligible if they are between 18-24 years of age at time of enrollment, and report recently drinking alcohol and unprotected sex. Using street outreach recruiters, we have accrued a sample of 600 women. At baseline, women completed informed written consent, provide self-collected vaginal swab specimens to assess prevalent STIs (Chlamydia, gonorrhea and trichomoniasis) using polymerase-chain reaction assays, conduct a urine pregnancy screen and complete an ACASI assessing alcohol and other drug use and sexual behavior. Subsequently, women are randomized using concealment of allocation techniques designed to eliminate assignment bias, to one of three conditions: (1) standard of care; women receive (a one-hour HIV/STI prevention session), (2) Horizons; women receive the two-session CDC-designated HIV/STI Tier I evidence-based intervention designed to be culturally and gender-congruent for African American young women plus a placebo-attention control session focused on diabetes prevention; or (3) Horizons + GMET; women receive Horizons plus an additional session of Group Motivational Enhancement Training (GMET). GMET is an innovative approach to behavior change that has demonstrated some evidence of efficacy with vulnerable populations; however, this is the first large-scale efficacy trial comparing it to a CDC-defined evidence-based intervention among alcohol-using young African American women.
Preliminary findings suggest GMET is efficacious in reducing alcohol-associated sexual risk behaviors and laboratory-confirmed STIs. We will describe the key findings from this study and its policy implications for enhancing public health among a vulnerable population at-risk for HIV and other STIs.

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Symposium 24C 3008

ALCOHOL USE AT SEXUAL DEBUT AMONG ADOLESCENT FEMALES

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Alcohol use has been linked to sexual risk behavior among adolescents, yet little is known about the circumstances under which alcohol and sex first co-occur. Using a sample of adolescent females, we compared the characteristics of sexual debut events that involved alcohol with those that did not to determine whether alcohol use was associated with greater sexual risk within the event. A community sample of 228 young women ages 18 - 19 participated in a retrospective study of 6-12th grade alcohol use and sexual behavior, including an event-based interview about their first heterosexual sexual intercourse. Results showed that alcohol involvement at sexual debut was associated with earlier age of first drink but significantly later age of sexual debut as compared with those not involving alcohol. First coital experiences involving alcohol occurred in social settings with casual partners that were significantly older, less well-known, and who were also using alcohol, whereas alcohol-free events tended to occur within the context of an intimate relationship with a sober partner. Relative to alcohol-free initiation events, alcohol-involved experiences were less likely to be planned, less desired, more pressured, more regretted and less likely to be consensual. Partners in the alcohol-involved group were less likely to discuss birth control prior to sex than those in the alcohol-free group; however, there were no differences in condom use. Because first sexual intercourse is a significant life event for young women and initiating coitus under negative conditions can impact subsequent sexual functioning and health behaviors, post-debut sexual behaviors of each initiation group were also examined. Experiencing first coitus while under the influence of alcohol was associated with continued alcohol-involved sexual risk behavior and incapacitated rape. These findings suggest that early alcohol use has negative implications for adolescent sexual health.

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Symposium 25 8:40 AM-10:00 AM 3009

EXERCISE IS MEDICINE: MULTILEVEL APPROACHES TO IMPLEMENTATION

Sherri Sheinfeld Gorin, PhD,[1] Adrian Huber, PhD,[2] Elizabeth Joy, MD, MPH,[3] Paul Estabrooks, PhD,[4] Bess Marcus, PhD,[5] David Goodrich, EdD[6] and Lynette L. Craft, PhD[2]

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There is emerging evidence that exercise can improve outcomes for more than 40 chronic diseases including diabetes, heart disease, and obesity. However, most adults do not meet physical activity (PA) recommendations or receive PA counseling during routine medical visits. In 2007, the American College of Sports Medicine (ACSM) launched the Exercise is Medicine (EIM) initiative guided by the principles that exercise and PA are essential to health and to the prevention and treatment of chronic diseases. The aims of this SBM/SPLC-ACSM co-sponsored symposium are to: (1) describe the EIM initiative and recent efforts to integrate PA into the healthcare setting; (2) discuss evidence-based strategies and techniques for increasing PA across multiple levels (policy, community, providers, and patients); and (3) explore strategies to overcoming implementation barriers, particularly for diverse and underserved patients. Adrian Hutber will discuss piloting EIM Solution (EIMS) in several US health care systems and the challenges of implementing this program across a variety of settings. Elizabeth Joy will discuss the integration of Physical Activity as Vital Sign and associated PA counseling in a large staff model system, and the need for orienting the behaviors of both health care providers and patients to this new model of clinical care. Paul Estabrooks will describe 3 research practice partnerships that focused on developing, implementing and evaluating strategies to promote physical activity (Fit Extension, Move More, and FitRx90 by comparison to Active Living Every Day). Bess Marcus will describe the development of low-cost interventions to promote PA behavior among vulnerable and underserved populations. Finally, David Goodrich will discuss the implications of these issues on implementing the EIM initiative more effectively across of health care settings within the context of current health care reforms.

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Symposium 25A 3010

INTEGRATING AND IMPLEMENTING THE EXERCISE IS MEDICINE SOLUTION < ® > WITHIN HEALTHCARE SYSTEMS AND SURROUNDING COMMUNITIES

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Exercise is MedicineR (EIM) is a Global Health Initiative co-launched by the American Medical Association and American College of Sports Medicine (ACSM) and now managed by ACSM. The goal of EIM is to institutionalize physical activity (PA) in healthcare systems across the United States and internationally so that PA is commonly utilized in the prevention and treatment of non-communicable diseases. Toward this end, ACSM has developed the EIM Solution (EIMS) that includes three clinical and two community components. Within EIMS, a medical system's healthcare providers (HCPs) are presented with the ability to quickly and routinely assess all patients' PA levels and to then either provide brief physical activity counseling or refer them for further counseling. In addition, EIMS gives providers the capacity to refer patients to community based sites to fulfill their PA "prescription;" and to use technologies to capture appropriate PA information that can be sent back to the patient's provider. The EIMS initiative is currently being introduced or pilot tested in healthcare settings across several diverse US communities, including the cities of Atlanta, Charleston, and Indianapolis, the state of Mississippi, and the US Department of Defense. This presentation will give a brief overview of the EIMS model and describe how it is being developed and integrated within five US medical systems/communities. We will describe the barriers and supports to implementation, within the changing US healthcare policy environment. Finally, we will detail the effective solutions that are being developed by integrating EIMS within these communities and their medical systems, and the approaches adopted to overcome the challenges to widespread implementation.

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Symposium 25B 3011

IMPLEMENTING INTERMOUNTAIN HEALTHCARE'S LIFESTYLE AND WEIGHT MANAGEMENT CARE PROCESS MODEL

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The integration of physical activity (PA) promotion into mainstream healthcare delivery is long overdue. Many barriers have impeded or slowed previous efforts including: limited reimbursement,educational issues with providers and staff, absence of effective clinical tools and workflow, and a paucity of evidence regarding clinical efforts to promote PA in the healthcare setting. A multidisciplinary team of physicians and other healthcare providers at Intermountain Healthcare developed a Lifestyle and Weight Management Care Process Model (LWM CPM) to overcome these barriers, to promote evidence-based approaches to lifestyle and weight management, and to facilitate multi-level implementation in routine primary care.Central to the LWM CPM is a shift from a focus on weight and body mass index, to a focus on physical activity. Intermountain instituted a Physical Activity Vital Sign (PAVS) in its electronic health record as a clinical tool, and as part of the broader strategy to promote healthy lifestyle. Integration of the LWM CPM has been a team effort: with clinical leadership during the year long development process; system-wide dissemination and implementation in clinical settings;evaluation of the CPM's effectiveness; and reporting back to key stakeholders.Implementation assessment tools have been developed as part of the evaluation strategy.They include subjective assessments of clinic leadership and culture, clinic workflow, use of community resources, and satisfaction with the LWM CPM.Dashboards have been created for clinic leadership to review key outcome measures. Finally, efforts to promote healthy lifestyle within the organization play a central role, with distribution of pedometers and a 10,000 step program, an Active Clinician Campaign, highlighting clinicians who have successfully integrated exercise into their own lifestyle and into patient care, and environmental changes such as stairway prompts and active worksite policies. The implications of the LWM CPM for wide spread implementation of PA interventions across health care systems will be explored.

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Symposium 25C 3012

INFLUENCING PHYSICAL ACTIVITY PROMOTION THROUGH INTEGRATED RESEARCH PRACTICE PARTNERSHIPS

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Research practice partnerships seek to develop physical activity (PA) strategies that have broad reach within a given target population, can increase and maintain participant PA levels, and can be implemented over a long period of time, at a reasonable cost, and using the resources and staff available within the community or clinical setting. This presentation describes 3 research practice partnerships that focused on developing, implementing and evaluating strategies to promote physical activity. First, the Fit Extension partnership developed a statewide physical activity program using evidence-based principles; staff adoption rates were assessed. The partnership found that a physical activity program adapted from the evidence-base was three times as likely to be adopted as Active Living Every Day, one of the most widely available evidence-based physical activity programs. Second, the Move More partnership developed a clinical PA promotion program that used evidence-based principles but also matched the resources available. The partnership found that simple physician prompts doubled referral rates and that a short small-group based intervention increased and sustained physical activity when assessed 6 months after the intervention was complete when compared to a social cognitive theory self-help intervention. Finally, the FitRx90 research practice partnership was developed in 2013 to develop a patient-centered maintenance component for a fitness-base weight loss program. The partnership is currently testing the effectiveness of a maintenance intervention in adherence, PA, and weight maintenance when participants can select the design of the program versus when they are assigned to receive the program in its entirety. The presentation will conclude with lessons learned across research practice partnerships relative to efficiency, the value of different outcomes, and the appeal of evidence-informed adaptation.

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Symposium 25D 3013

LOW-COST INTERVENTIONS TO PROMOTE PHYSICAL ACTIVITY BEHAVIOR IN DIVERSE SETTINGS

Bess Marcus, PhD,[2] Sarah Linke, PhD[2] and Sherri Sheinfeld Gorin, PhD[1]

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Promoting the Exercise is Medicine (EIM) movement requires the development of low-cost interventions to promote physical activity behavior in community, workplace, and primary care settings. Leaders with multiple levels of influence must work together to enable these interventions to succeed. For example, workplace policies that discourage employees from taking walk breaks and instead confine them to sitting at their desks could be amended to encourage multiple walk breaks throughout the day and/or provide standing work stations. Parks and recreation departments could partner with behavioral health researchers to develop a "train the trainer" model whereby individuals learn to teach fitness classes for little or no cost throughout the community. Primary care providers could write exercise prescriptions for their patients and provide them with simple tools such as pedometers to objectively monitor their physical activity patterns. Finally, patients could take greater responsibility for their health by seeking out existing physical activity programs in their community, inviting a friend or family member to be their exercise partner, and/or joining a fitness website or mobile app that will hold them accountable. Developing approaches to implement physical activity interventions among underserved and vulnerable populations is particularly important as physical activity levels are lower among these subgroups, so the associated health risks are higher.

This presentation will discuss: (1) general barriers, and facilitators related to the development of low-cost physical activity interventions among vulnerable populations, and (2) specific examples of low-cost evidence-based interventions targeted to these populations. Existing and bourgeoning partnerships between primary care physicians, academic researchers, and community leaders will also be discussed.

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Symposium 26 8:40 AM-10:00 AM 3014

MENTAL HEALTH CONSIDERATIONS FOR OPTIMIZING BEHAVIORAL WEIGHT MANAGEMENT INTERVENTIONS WITH OBESE VETERANS

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US Veterans have poorer health than civilians on numerous indices, and those with psychiatric conditions face even greater disease burden, including higher rates of obesity. Nationally, the Veterans Health Administration (VHA) has implemented an evidence-based behavioral weight management program (MOVE!). Recent research indicates that MOVE!'s effectiveness is poorer for Veterans with psychiatric conditions in adjusted analyses, despite comparable participation rates. It is critical that we better understand unique barriers to weight loss for Veterans with psychiatric conditions, and to explore novel interventions to reduce this effectiveness gap. This symposium will present a range of scientific perspectives regarding factors that interfere with weight loss for Veterans with psychiatric conditions, and will explore how to address these barriers using novel intervention methods. To illuminate weight loss barriers, Dr. GE will discuss findings from in-depth qualitative interviews with MOVE! participants with and without psychiatric conditions, and Dr. KH will describe findings on the association between psychiatric symptom severity and binge eating disorder among Iraq/Afghanistan Veterans. Dr. JG will present findings regarding a recently completed pilot study on a novel application of Acceptance and Commitment Therapy—an evidence-based psychotherapeutic intervention—for obese Veterans who engage in binge eating. Dr. KJ, head of VHA's MOVE! program, will discuss the work presented and implications for future efforts to address the disproportionate burden of obesity facing Veterans with psychiatric conditions.

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Symposium 26A 3015

A QUALITATIVE EVALUATION OF BARRIERS TO WEIGHT LOSS FOR OBESE VETERANS WITH CO-OCCURRING MENTAL ILLNESS

Gina Evans, PhD,[1,3] Katherine Hoerster, PhD,[2] Mindi Stanley, PhD[1,3] and Patricia Dubbert, PhD[4]

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Background: Veterans with PTSD and other mental health conditions have poorer weight loss outcomes in MOVE!. Little is known about barriers to successful weight management for obese Veterans with co-occurring mental illness. This qualitative study examined adherence and retention barriers among obese Veterans with PTSD, depression and anxiety disorders. Methods: Qualitative interviews were conducted with 27 obese Veterans who participated in MOVE!. MOVE! participants with a diagnosis of PTSD (36%), depression (36%), and/or anxiety (14%), and a comparison group of those with no mental health diagnoses (14%) were included. Veterans were asked about barriers to weight management; effects of mental health symptoms on health behavior change; and potential helpfulness of receiving tailored strategies for weight loss. Interviews were recorded and transcribed. Atlas.ti was used to code and analyze the transcriptions for correlations and common themes. Results: Participants had a mean age of 56.85 (+12.56) and BMI of 35.99 (+4.85); 27% were African American and 81% were male. Most participants, regardless of mental health conditions, reported general barriers to engaging in and maintaining physical activity. Participants with PTSD and anxiety symptoms reported concentration, hyperarousal, and social avoidance symptoms as the greatest mental health barriers to health behavior change. Participants with PTSD, anxiety and depression reported excessive eating and consuming high fat or sweet foods to cope with mental health symptoms, and wanting to receive strategies related to motivation and managing mental health symptoms before, during and after MOVE! participation. Conclusions: Providing tailored weight management strategies to obese Veterans with co-occurring mental illness may help improve dietary behaviors, and reduce the MOVE! effectiveness gap for Veterans with mental illness.

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Symposium 26B 3016

PTSD AND DEPRESSION ARE ASSOCIATED WITH BINGE EATING DISORDER AMONG US IRAQ AND AFGHANISTAN VETERANS

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Objective: Post-traumatic stress disorder (PTSD) and depression put US Iraq and Afghanistan Veterans at increased risk for cardio-metabolic conditions, including obesity. To address this public health issue, the role of health behaviors in this process must be better understood. Binge eating is a risk factor for obesity; however, the association of PTSD and depression with binge eating among Iraq/Afghanistan Veterans is not well understood.
Method: We examined the associations of PTSD and depression with presence of binge eating disorder (BED) among Iraq/Afghanistan Veterans assessed at intake to a VA post-deployment health clinic (May, 2004-January 2007; N = 332).The Patient Health Questionnaire assessed depression and BED, and the PTSD Checklist-Military Version assessed PTSD.
Results: The majority of the sample was male (91.5%) and Caucasian (72.6%), with an average age of 31.1 (SD = 8.5) years; 16.3% met criteria for depression, 37.8% met criteria for PTSD, and 8.4% met criteria for BED. In adjusted models, presence of PTSD (odds ratio (OR) = 3.37; 95% CI = 1.34,8.46; p = .01) and depression (OR = 7.53; CI = 2.69,21.04; p < .001) were associated with significantly increased odds of meeting criteria for BED. In addition, continuous measures of PTSD and depression symptom severity were positively associated with BED in adjusted analyses (ps < .05).
Conclusion: PTSD and depression, prevalent conditions among Iraq/Afghanistan Veterans, are risk factors for BED in this population. Findings suggest that tailored dietary behavior interventions may be needed for Iraq/Afghanistan Veterans with co-morbid obesity and psychiatric conditions. More research is needed to understand the mechanisms by which psychiatric distress leads to binge eating among Iraq/Afghanistan Veterans. Implications for VA and other healthcare delivery systems will be discussed.

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Symposium 26C 3017

FEASIBILITY AND OUTCOMES OF ACCEPTANCE AND COMMITMENT THERAPY FOR BINGE EATING SYMPTOMS IN OBESE VETERANS

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Overweight and obesity are disabling and costly problems for Veterans. Although behavioral weight loss interventions are partly effective, few show long-term weight loss maintenance for patients who binge eat in response to stress or negative emotions. One approach is to provide intensive treatment to target emotional and behavioral factors associated with binge eating in order to facilitate weight loss and maintenance. Acceptance and Commitment Therapy (ACT) is an empirically supported intervention that shows improvements in binge eating, weight, and psychological functioning. The aims of this preliminary study were to 1) determine the feasibility of an ACT-based group intervention for binge eating in overweight and obese Veterans, and 2) assess change in body mass index (BMI), binge eating symptoms, and psychological functioning. An 8-week ACT group was implemented in a clinical setting. Ninety overweight or obese Veterans who endorsed binge eating at least once a week were clinically referred and 70% completed the group. The Veterans were primarily male (89%), 56 (SD = 9) years old on average, had average BMI of 37 (SD = 6), and 75% endorsed clinically significant binge eating on the Binge Eating Scale. Pre- to post-treatment comparisons found significant reductions in binge eating symptoms, depression, global psychological distress, and BMI, as well as improvement in functioning, with medium to large effect sizes (Ps < .05). These findings suggest that implementing ACT for binge eating in primarily male Veterans is feasible and holds promise in addressing the psychological factors associated with binge eating and weight control. Future studies should examine ACT for this population in a randomized controlled trial.

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Symposium 27 8:40 AM-10:00 AM 3018

INNOVATION IN TOBACCO CONTROL: SCIENCE TO INFORM PUBLIC HEALTH COMMUNICATION & TOBACCO REGULATION

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The 2009 Family Smoking Prevention and Tobacco Control Act paved the way for new tobacco control measures, including hard-hitting public health communication efforts (e.g., CDC's "Tips from Former Smokers") and regulations to convey tobacco-associated health risks to the population (e.g., cigarette warning labels). Yet, new tobacco products are regularly emerging (e.g., e-cigarettes) and the tobacco industry swiftly adapts its promotional strategies in response to public health efforts and regulations, creating a constant need for innovative science to guide tobacco control efforts in this dynamic environment. This symposium will present evidence from three studies investigating innovative approaches to tobacco control. The first study will review evidence on the phenomenon of "dual use," or the concomitant use of cigarettes and smokeless tobacco products, synthesizing available data on dual use to inform public health communication strategies to address this emerging health concern. The second study examines novel approaches to "frame" pictorial warning labels for cigarette packs and how to pair strategically framed warning messages with cigarette pack branding regulations to promote cessation among young adult smokers. The third study presents evidence on "peer crowds" and how these macro-level social connections can be used to define youth peer groups based on lifestyle interests, identify groups at high risk for tobacco use, and target public health messages to high risk groups. These studies provide insights on new public health strategies for tobacco control messages leveraging tobacco regulations (e.g., cigarette packaging), crowd sourcing, social media, and other channels to enhance their impact in high risk groups. Our discussant will synthesize evidence across these studies to propose new public health communication strategies and future directions for tobacco control science.

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Symposium 27A 3019

IMPACT OF PICTORIAL CIGARETTE WARNING LABEL MESSAGE FRAMING AMONG US YOUNG ADULT SMOKERS: THE EFFECTS OF CESSATION SELF-EFFICACY AND PERCEIVED RISKS

Darren Mays, PhD, MPH,[1] Raymond S. Niaura, PhD,[2] W. Douglas Evans, PhD[3] and Kenneth P. Tercyak, PhD[1]

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The 2009 Family Smoking Prevention and Tobacco Control Act required new pictorial warnings for US cigarette packs, but implementation has been delayed by tobacco industry lawsuits. New evidence is needed to inform implementation of the new pictorial warnings and refinements to warning label messages over time. This study investigated the impact of warning label message framing on young adult smokers' motivation to quit, examining self-efficacy to quit and perceived risks as moderators. Smokers ages 18-30 (n = 740) completed baseline measures and were randomized to view images of cigarette packs with pictorial health warnings featuring gain or loss framed message text in an online experiment. Motivation to quit (range 1-7) was assessed in response to the packs. Linear models accounting for repeated measures and adjusting for baseline covariates were used to determine the impact of message framing on motivation to quit and to assess interactions with baseline self-efficacy and perceived risks. Results showed that loss framed warnings prompted significantly greater motivation to quit among smokers with high self-efficacy (M 5.1, SE .16) compared with smokers with low self-efficacy (M 4.6, SE .15, p = .01). In contrast, gain framed messages generated significantly greater motivation to quit among smokers with high perceived risks (M 5.4, SE .11) compared with smokers with low perceived risks (M 4.4, SE .10, p < .001). Pictorial warnings featuring a combination of risk-based (i.e., loss-framed) and efficacy-enhancing (i.e., gain-framed) information may promote better public health outcomes for young adults. Future research should investigate how strategically framed warning messages can be combined with anti-industry tobacco control branding to optimize public health impact.

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Symposium 27B 3020

SYSTEMATIC REVIEW OF DUAL TOBACCO USE PREVENTION PROGRAMS

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Dual tobacco use, the concurrent use of smoked and smokeless tobacco, is growing phenomenon representing approximately 15% of US tobacco users. Dual tobacco users are a unique high-risk population, often low SES, young adult males. Compared to those who use cigarettes only, dual users are more heavily addicted to nicotine, have more difficulty quitting, and may experience compounding risks of chronic diseases and certain cancers. Unfortunately, there are few evidence-based efforts to address dual tobacco use through health communication or mass media or other types of interventions commonly used in tobacco control. We conducted a systematic review of published articles on dual use prevention programs. We operationally defined dual use as programs whose stated objective was prevention of concurrent smoking and use of smokeless tobacco products. We conducted a literature review of major health and scientific databases including PubMed and Scopus using a defined set of MeSH terms based on key words related to campaigns, smoking, and smokeless tobacco use. We developed a coding form based on previous, related work by the lead author. Based on the search, we identified an initial set of 38 articles meeting inclusion criteria. The two lead authors reviewed all articles and met to synthesize their reviews and reach agreement. All but six (6) articles failed to meet full inclusion criteria (e.g., they were not original research, or did not include a prevention intervention). These six studies and implications for future tobacco control are summarized in this presentation. Limitations of this review include the fact that dual use tobacco control is an emerging strategy, and some programs may not have self-identified as such in the literature, a common type of problem other reviews of public health campaigns. As dual use prevention becomes more established, we anticipate more studies in this area. Future research should investigate what health communication messages are most effective with the high-risk dual user population.

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Symposium 27C 3021

MOST TEENS WILL NEVER SMOKE: HOW PEER CROWDS CAN HELP US BETTER TAILOR AND TARGET OUR MESSAGES TO HIGH-RISK TEENS TO REDUCE WASTE AND MAXIMIZE IMPACT

Jeff Jordan, MS

Rescue Social Change Group, San Diego, CA.

Most tobacco prevention campaigns aim for the mainstream center of teen culture to reach the largest number of teens in their community, failing to reach those youth at the fringes of teen culture. But what if the mainstream center of teen culture was disproportionately less likely to use tobacco products? Similarly, what if those at the fringes of teen culture are the ones who have disproportionately high rates of tobacco use and are largely unreached by most campaigns?

Innovative research is building a strong evidence-base on the science of "peer crowds," defined as the macro-level connections between peer groups with similar interest, lifestyles, influencers, and habits. While a teen has a local peer group s/he socializes with, the teen and his/her peer group belong to a larger "peer crowd" that shares significant cultural similarities across geographic areas. Rather than simply being teens that are influenced by a single mainstream culture, American teens are influenced by at least six different peer crowds that are nationally pervasive: Mainstream, Hip Hop, Alternative, Preppy, Country, and LGBT. Evidence from studies in VA, RI, NM, and VT all suggest a positive association between identification with fringe peer crowds and tobacco use. Specifically the more teens identify with fringe peer crowds like Hip Hop, Alternative, Country and LGBT, the more likely they are to use tobacco. Unfortunately, few tobacco prevention programs have been able to effectively tailor and target messages to teens who are Hip Hop, Alternative, Country, or LGBT, where tobacco use risk is concentrated.

This presentation will summarize research findings from these four states and discuss the implications of this innovative science. Then, examples of campaigns that target fringe peer crowds will be presented.

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Symposium 28 8:40 AM-10:00 AM 3022

PEER REVIEW OF COMMUNITY-BASED PARTICIPATORY RESEARCH IN HEALTH DISPARITIES AND STAKEHOLDER ENGAGEMENT IN THE RESEARCH PROCESS

Rosalie Torres Stone, PhD,[1] Hayley Thompson, PhD,[2] Clement K. Gwede, PhD, MPH, RN,[4] Isabel Scarinci, PhD, MPH,[3] Romana Hasnain-Wynia, PhD[5] and Bruce D. Rapkin, PhD[6]

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Community Based Participatory Research (CBPR) is a philosophical framework to research that focuses on relationships between academic and community partners to address health issues relevant to specific communities. However, few guidelines exist for regulation and oversight at the institution level (e.g., IRB, grants and contracts administration) and evaluation of research proposals using the CBPR framework (e.g., grant reviews, publications). In order to provide insight into these challenges, the Ethnic Minority and Multicultural Health Special Interest Group has identified an experienced panel of researchers who have successfully used CBPR to address health disparities and are experienced in the grant review process: Isabel Scarinci, PhD, MPH, University of Alabama; Clement Gwede, PhD, MPH, RN, Moffit Cancer Center; Bruce Rapkin, PhD, Albert Einstein College of Medicine; and Romana Hasnain-Wynia, MS, PhD, Program Director for the Addressing Disparities research priority area at the Patient-Centered Outcomes Research Institute (PCORI). Presenters will address 1) internal/institutional considerations in CBPR (e.g., working with IRBs, grants management and resource sharing); 2) community engagement and resource sharing; 3) methodological rigor and best practices in CBPR proposal and manuscript writing; and 4) current standards in CBPR proposal and manuscript review.

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Symposium 28A 3023

CBPR: PRACTICE WHAT WE PREACH WITHIN OUR INSTITUTIONS

Isabel C. Scarinci, PhD

Medicine, University of Alabama at Birmingham, Birmingham, AL.

CBPR is a philosophical approach that fosters equitable co-learning, collective decision-making, collaboration, and communication. These principles can be applied to the oversight of CBPR projects from a regulatory perspective within our institutions. Acknowledging the research approach and clearly communicating the processes involved may initiate dialogue between the researcher and the internal regulatory offices, fostering a better understanding and flexibility in the regulations and review process. The success of our CBPR efforts within our institution is a result of a co-learning process where all involved have worked together toward a common goal. Some lessons learned include: (1) Communication - Open and integrated communication between/within the investigator and the internal regulatory offices provides for a more informed oversight of the project; (2) Dedicated Staff to Oversee CBPR Studies - Having a single person within the regulatory offices who is very familiar with the CBPR as a philosophical approach to research is very valuable; (3) Flexibility- Given the nature of CBPR where the community makes decisions regarding the research design, it is impossible to outline the research protocol at the time of budget and/or IRB submission. For the most part, the research programs are implemented in phases, in which one phase determines the content and process for the next phase (e.g., the results of the needs/assets assessment phase will determine the development of an intervention). Further, once community members are engaged timing is important as they are eager to begin implementation of their ideas. Therefore, flexibility and quick turnaround is crucial for this process; and (4) Community Representation on the IRB Board - Community representation on the IRB Board has been critical for the review of CBPR projects. Engaged members of the community in which the research will take place understand unique factors that might affect the research and are pertinent to the IRB's review, and they are advocates of the importance of research among community members.

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Symposium 28B 3024

THE PATIENT-CENTERED OUTCOMES RESEARCH INSTITUTE (PCORI): THE POWER OF PARTNERSHIP IN RESEARCH TO REDUCE HEALTH DISPARITIES AND WHAT REVIEW COMMITTEES ARE LOOKING FOR

Romana Hasnain-Wynia, PhD

Program in Addressing Health Disparities, Patient Centered Outcomes Research Institute (PCORI), Washington DC, DC.

The Patient-Centered Outcomes Research Institute (PCORI) is an independent non-profit funder of clinical comparative effectiveness research and was authorized by Congress as part of the 2010 Patient Protection and Affordable Care Act (ACA). PCORI's mission is to help people make informed health care decisions and improve health care delivery and outcomes by producing and promoting high integrity, evidence-based information that comes from research guided by patients, caregivers and the broader health care community. PCORI sees patient, community, and stakeholder engagement as a path to rigorous research. To facilitate and enhance this process, PCORI undertakes a number of activities and through this process we have learned a number of important lessons about how the power of partnership tells us what PCORI should study, helps us determine what we fund, tells us how we are doing, and helps us share our research findings about reducing health disparities

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Symposium 28C 3025

CBPR: ENGAGING COMMUNITY—HOW MUCH IS ENOUGH?

Clement K. Gwede, PhD, MPH, RN

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Given the successes and promises of CBPR in addressing heath disparities, researchers, especially those new or transitioning to this approach, require skills and practical knowledge to effectively demonstrate and operationalize CBPR tenets in the grant proposal process. A number of questions exist in this regard. For example: how does one ensure effective and meaningful inclusion of community to address specific research concerns at the local level? What level of engagement is mutually beneficial to community-academic partners in the grant process? What communications address and resolve community-academic partner expectations and ensure mutual benefit? In practice, there are gradations of CBPR; with variable levels of inclusions at the different stages of the research process from problem identification to implementation and dissemination. This presentation examines perspectives, challenges and solutions for inclusion and beneficial engagement of communities in the grant proposal process. Examples from within the Tampa Bay Community Cancer Network (TBCCN), a regional Community Network Program Center (CNPC) located in southwest Florida, will highlight the value of robust community-academic partnerships and community advisory boards as effective mechanisms for engaging communities in problem identification, proposal concept discussion and project development, resource sharing and budget conversations, writing, ensuring community input throughout the conduct of the project, and dissemination plans. Grant-writing tips that sharpen and illustrate the infusion of CBPR in the grant-writing process will also be shared. It is expected that the tools and approaches presented will provide researchers valuable skills to successfully infuse CBPR in their research grant proposal.

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Symposium 29 8:40 AM-10:00 AM 3026

HEALTH DECISION MAKING IN THE FACE OF THREAT

James Shepperd, PhD,[1] Jennifer Howell, MA,[1] Kate Sweeny, PhD[2] and Michelle Stock, PhD[3]

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Health researchers have long noted that threatening information can prompt behavior directed toward addressing the threat, but can also prompt defensive behavior directed toward escaping or invalidating the threat. Yet, responses to threatening information are far more nuanced than suggested by this dichotomy. This symposium presents research three cutting-edge researchers that applies theory and methods from cognitive and social psychology to address from how people think about, prepare for, and respond to threatening information. Howell distinguishes automatic/implicit attitudes from more controlled/explicit attitudes and show that automatic attitudes predict current health behaviors, intentions for future health behaviors, and health decision-making, in addition to and often better than do measures of controlled attitudes. Stock examines what happens when people who engage in risky behavior without consequences (e.g., have unsafe sex yet remain STD free) compare themselves with people take precautions yet experience negative outcomes (e.g., generally practice safe sex, yet get an STD). She shows that this comparison can lead risk-takers to become even more willing to take future risks - a response she labels the absent-exempt heuristic. Sweeny identifies a new arena for understanding how people respond to threat - the waiting period between screening for a health condition and the announcement of the results. This important, yet understudied stage in the health news continuum provides a rich setting for exploring responses to uncertainty. Sweeny documents a variety of strategies that people use to deal with the uncertainty. She also examines several traits that moderate how unpleasant people find the waiting period. Finally, the symposium discussant, James Shepperd, places each talk within the larger theoretical context of health-information management, discusses challenges facing researchers, implications of their work, and future directions that stem from of these three lines of research both independently and collectively.

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Symposium 29A 3027

IT ONLY TAKES ONCE: THE ABSENT EXEMPT HEURISTIC AND REACTIONS TO COMPARISON-BASED SEXUAL RISK HEALTH MESSAGES

Michelle Stock, PhD[1] and Frederick Gibbons, PhD[2]

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Engaging in a risky behavior without experiencing negative consequences can weaken risk taker's perception of a link between the behavior (e.g., unprotected sex) and potential negative outcomes (e.g., a sexually transmitted disease, STD). This weakened link can lead to endorsement of the "absent-exempt" (AE) heuristic - a feeling that one is exempt from future risk in the domain. We present findings from three studies showing that social comparison can influence the AE heuristic. In Study 1 participants read about a peer diagnosed with a STD who was or was not similar in terms of past sexual risk behavior. Participants comparing with a similar risk peer generally reported lower willingness to engage in risky sex and higher conditional perceived vulnerability. However, consistent with the AE heuristic, high-risk participants who compared with a lower risk peer reported the highest willingness and lowest conditional perceived vulnerability. Risky sex intentions were not influenced. Study 2 included a direct measure of AE thinking and time spent reading information on STDs. Participants learned about a low risk comparison target or heard a Public Service Announcement (PSA) stating that negative outcomes (e.g., STDs) can happen even to low-risk targets. High-risk participants who compared with a low-risk target again showed AE thinking and spent the least amount of time reading the information. Study 3 showed that asking participants to think about how AE thinking is illogical reduced AE endorsement and increased STD testing intentions. Collectively the findings suggest that comparison-based information can have a stronger influence on health cognitions than analytic-based information (e.g., most PSAs). We discuss the implications for dual-processing models of health decision making and for interventions and health messages that may elicit defensiveness from high-risk participants.

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Symposium 29B 3028

WAITING IS THE HARDEST PART: MANAGING UNCERTAINTY ABOUT THREATENING HEALTH INFORMATION

Kate Sweeny, PhD

Psychology, University of California, Riverside, Riverside, CA.

Waiting for any news can be a difficult experience, and waiting for health-related news presents additional challenges due to the potentially life-changing implications of diagnostic, prognostic, or risk information. I describe findings from a program of research demonstrating the challenges and opportunities posed by this type of uncertainty. Her research identifies anxiety and rumination as key culprits in the difficulty of awaiting uncertain news, although certain protective traits (e.g., dispositional optimism) can buffer people from the unpleasant side effects of uncertainty. Furthermore, during difficult waiting periods people can mitigate anxiety, reduce disruptive rumination, and minimize later harm through effective emotion regulation (including distraction, reappraisal, reframing, and distancing), nuanced management of one's expectations, and proactive coping. The talk examines applications to waiting periods in a healthcare context, where the interface between the healthcare system and clinicians on the one hand and patients on the other can exacerbate or alleviate patients' experience of uncertainty. However, the findings have broad implications for all types of waiting periods.

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Symposium 29C 3029

AUTOMATIC ATTITUDES AND HEALTH BEHAVIOR

Jennifer Howell, Master of Science, Kate A. Ratliff, PhD and James A. Shepperd, PhD

Psychology, University of Florida, Gainesville, FL.

Although psychologists have long recognized the influence of automatic processes on behavior, the central models of health behavior (e.g., Theory of Planned Behavior, the Health Belief Model) focus only on more controlled thought processes. In two different lines of inquiry, we provide evidence that people's automatic attitudes directly influence their health decision-making and behavior. Specifically, we show that several different measures of automatic attitudes predict current health behaviors, intentions for future health behaviors, and health decision-making, often better than measures of controlled attitudes. For example, in several studies we demonstrate that people who display positively-biased implicit prototypes of tan individuals (i.e., they show stronger implicit associations between tan faces and words like cool, fun, intelligent) are more likely to report engaging in tanning behavior, more willing to engage in risky sun behavior in the future, and are less likely to presently engage in sun-protective behaviors. In another set of studies we demonstrate that people who show an automatic bias toward avoiding health information (as measured by a speeded self-report) are more unwilling to learn their risk for a specific disease. In both of these cases implicit attitudes predict in addition to, and better than explicit attitudes. Taken together these results suggest that automatic attitudes play a crucial role in health behaviors and should be incorporated into future health behavior models.

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Symposium 30 8:40 AM-10:00 AM 3030

ADVANCES IN BEHAVIORAL THEORY SIMULATIONS - USING DYNAMICAL SYSTEMS MODELING TO IMPROVE THEORIES OF HEALTH-RELATED BEHAVIORS

Eric B. Hekler, PhD,[1] Daniel E. Rivera, PhD,[2] William Riley, PhD,[3] Tylar Murray, MS[4] and Donna Spruijt-Metz, PhD[5]

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There is increasing recognition that current behavioral theories are not sufficient to support dynamic and adaptive behavioral interventions, particularly those delivered via mobile health (mHealth) technologies. Based on this, behavioral scientists are increasingly seeking other methods for improving behavioral theories. Control systems engineering offers a valuable methodological approach to this problem called dynamical systems modeling. Dynamical systems modeling allows for the creation not only of mathematical definitions of behavioral theories that foster better specification and falsification but also provide an opportunity to conduct simulations for exploring how a theory might function across different contexts, populations, and behaviors. In this symposium, three speakers will explore ways in which behavioral theory simulations, as driven by dynamical systems models, can support improved behavioral theories. First, a control systems engineer will provide a brief overview of dynamical systems modeling and then discuss specific lessons learned in developing a simulation model of the theory of planned behavior to model self-regulation as applied to a gestational weight gain intervention. Following this, a behavioral scientist will present on the development of a simulation model of social cognitive theory, with particular emphasis on how the simulation model has aided in improving understanding of social cognitive theory. Finally, a human-computer interaction researcher will present on his efforts to develop a behavioral theory simulation modeling toolkit to aid behavioral scientists in the use of these simulation models. The discussant and session chair, both behavioral scientists, will discuss the utility of these simulations in their own work for improving theory. This symposium is co-sponsored by the SBM Technology and the Theories and Techniques of Behavior Change SIGs.

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Symposium 30A 3031

THEORY OF PLANNED BEHAVIOR WITH SELF-REGULATION DYNAMICAL SYSTEMS MODEL FOR AN ADAPTIVE INTERVENTION TO MANAGE GESTATIONAL WEIGHT GAIN

Yuwen Dong, Master in Engineering,[1] Daniel E. Rivera, PhD,[1] Danielle S. Downs, PhD,[2] Jennifer S. Savage, PhD[3] and Linda M. Collins, PhD[4,5]

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Excessive gestational weight gain (GWG) represents a major public health issue. It is associated with negative pregnancy outcomes such as gestational diabetes, macrosomia, and birth defects. Interventions aiming to promote GWG within the 2009 Institute of Medicine recommendations appear to reduce the risk of adverse pregnancy outcomes in normal weight pregnant women; however, these interventions have been less successful in overweight and obese pregnant women (OW/OBPW), which leads to the necessity to develop effective interventions to help OW/OBPW. This symposium uses dynamical systems modeling to describe how an individually-tailored, adaptive, behavioral intervention can manage GWG in OW/OBPW. Our approach relies on integrating a mechanistic energy balance with the Theory of Planned Behavior (TPB) and self-regulation theory. The derivation of the dynamical TPB models shows how the standard path diagram associated with the TPB can be postulated as a fluid analogy which primarily consists of networks of production-inventory systems that are akin to supply chain. Self-regulation describes how success expectancies during the intervention influence a participant's motivation to achieve her GWG goal, which can be regulated by feedback control process and formulated by the control-oriented method. Decision rules are evaluated to outline how/when to adapt intervention dosages to the specific needs of each woman to help her manage GWG.

A simulated case study is presented to illustrate the basic working of the model and demonstrate the preliminary design and theoretical implementation of adaptive interventions by employing dynamical systems modeling and control engineering.

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Symposium 30B 3032

THE DEVELOPMENT OF A CONTROL SYSTEMS MODEL OF SOCIAL COGNITIVE THEORY

William Riley, PhD,[1] Cesar Martin, PhD,[2] Daniel Rivera, PhD,[2] Eric Hekler, PhD,[2] Matthew Buman, PhD,[2] Marc Adams, PhD,[2] Abby King, PhD[3] and Misha Pavel, PhD[4]

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Social Cognitive Theory (SCT) is among the most influential theories of health behavior and has been used as the conceptual basis of health behavior interventions for smoking cessation, weight management, and other health behavior targets. SCT and other health behavior theories were developed primarily to explain differences between individuals but explanatory theories of within-person behavioral variability are increasingly needed as new technologies allow for intensive longitudinal measures and interventions adapted to these inputs. These within-person explanatory theoretical applications can be modeled as dynamical systems. SCT constructs, such as reciprocal determinism, are inherently dynamical in nature, but SCT has not been modeled as a dynamical system. This paper describes the development of a dynamical system model of SCT using fluid analogies and control systems principles. Simulations of this model were performed to reveal potential implications for better understanding and testing of SCT. Control systems and other dynamical modeling approaches provide a robust method for advancing health behavior theory development and refinement, and for guiding the development of more potent and efficient interventions.

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Symposium 30C 3033

DEVELOPMENT OF A BEHAVIORAL THEORY SIMULATION TOOLKIT USER INTERFACE

Tylar Murray, MS

Electrical Engineering, University of South Florida, Tampa, FL.

As will be discussed by Rivera and others (in this symposium), dynamical systems modeling provides a valuable method for creating mathematical models of behavioral theories that can be used to simulate "what if" scenarios of relationships between psychological constructs and behavior change interventions. However, while these mathematical simulations can be highly valuable, the creation and exploration of these behavioral theories through simulation currently requires a great deal of technical knowledge, thus making these simulations difficult to use by behavioral scientists and others who cannot create the simulations themselves. Therefore, we this presentation addresses the need for a Behavioral Theory Simulation Toolkit User Interface that will make this simulation work more readily accessible to those lacking the technical experience to create them. This presentation will focus on current work utilizing design methods and processes from the field of Human-Computer Interaction (HCI) for the design of this BehaviorSim Toolkit. The goal of this simulation toolkit is to support a critical evaluation of behavioral theories based on quantified, falsifiable hypotheses for supporting later experimental manipulations. In this talk, we will discuss design methodology and results from our current development work on the BehaviorSim toolkit. Topics include our goal-oriented UI design, use-case examples, and an overview of the unique system architecture.

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Symposium 31 8:40 AM-10:00 AM 3034

THE USE OF MHEALTH WITH SPECIAL POPULATIONS: THEORY, RESEARCH AND PRACTICE

Leanne Mauriello, PhD,[1] Kerry Evers, PhD,[1] Wendy Nilsen, PhD[2] and Kevin Patrick, PhD[3]

[1]Pro-Change Behavior Systems, Inc., South Kingstown, RI; [2]National Institutes of Health, Bethesda, MD and [3]University of California San Diego, La Jolla, CA.

Technology and ubiquitous connectivity has just begun to impact health behavior and health care. Because of the potential to deliver high-quality, individualized interventions at lower cost, behavioral interventions have substantially improved with the use of technology. While many mobile and wireless health (mHealth) programs have been tested in general populations, or populations that have a specific interest in advanced technology, recent programs of research have focused more on underserved populations and populations who have specific technological needs. This symposium provides an overview of research being done in the mHealth area with three specific populations. The first presentation will provide an overview of research being done in the area of mHealth with traditionally underserved groups. In addition, it will highlight specific areas of interest and current gaps in research. The second presentation will describe research projects done exploring the use of SMS messaging, mHealth and aspects of gamification with military and Veteran populations. The final presentation will describe work done with promoting prenatal health behaviors via iPads with underserved pregnant women at community health centers. The discussion will focus on the unique concerns of using mHealth with these populations, as well as ways in which technology may be able to assist in bridging gaps in traditional program delivery and technology services. The appeal and disadvantages of different technologies in regards to implementation, and practicality will be considered, as well as recommendations for how these lessons can be applied to additional populations.-

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Symposium 31A 3035

MHEALTH IN TRADITIONALLY UNDERSERVED POPULATIONS: A VIEW FROM THE NATIONAL INSTITUTES OF HEALTH

Wendy Nilsen, PhD

Office of Behavioral and Social Sciences Research/NIH, Bethesda, MD.

Mobile and wireless health (mHealth) has the potential to extend access to health information and services to populations that have been traditionally underserved or who have concerns (e.g., stigma) about seeking services. The opportunity to provide remote access, accessible formatting and, in many cases, instant accessibility should reduce burden to access and enhance usability for diverse groups. The National Institutes of Health has begun exploring the use of these technologies in the United States and abroad. This presentation will focus on the scientific work being done across the area of mHealth, with a focus on those projects targeting traditionally underserved groups. The presentation will also highlight gaps in our knowledge and potential areas for research.

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Symposium 31B 3036

REVIEW OF RECENT DEVELOPMENT AND EVALUATION OF TTM BASED MHEATH INTERVENTIONS FOR VETERANS

Kerry Evers, PhD[1] and Patricia Jordan, PhD[2]

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With the reduction in U.S. military presence in Afghanistan and Iraq, more attention has now turned to those who have returned home and are experiencing deployment-related stress or difficulties associated with reintegration. Deployed service members are expected to be at high risk for mental health problems including posttraumatic stress disorder, depression, alcohol misuse, and impaired well-being and quality of life. One challenge in reaching OEF/OIF veterans is that 40% of service members leaving active duty return to rural or remote areas, where access to evidence-based behavioral health care is often limited. Several mHealth programs based on the Transtheoretical Model in various stages of development and evaluation with Veteran populations will be discussed. First, as part of a feasibility study that demonstrated the effectiveness of a web-based computerized tailored intervention (CTI) focused on smoking cessation, stress management, and depression prevention in veterans with PTSD (n=65), focus groups and usability testing was conducted to examine Veterans' specific concerns regarding interface, design and evaluation of the programs. Findings from these qualitative examinations will be outlined. Second, the results of a randomized study that compared the effectiveness of a smoking cessation CTI to the same CTI plus fully tailored text messaging. Results found that 32.8% of participants in the CTI group had quit smoking at 3 months; however, 43.2% of those in the text messaging group quit smoking in the same timeframe. Finally, a newly developed mHealth intervention aimed at pain management with Veterans that incorporates an evidence based CTI, gamification and social networking will be described.

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Symposium 31C 3037

USING MHEALTH TO DELIVER BEHAVIOR CHANGE INTERVENTIONS WITHIN PRENATAL CARE AT COMMUNITY HEALTH CENTERS

Leanne Mauriello, PhD, Deborah Van Marter, MPH, Cindy Umanzor, MPH, Emma deAguiar, BA and Patricia Castle, PhD

Pro-Change Behavior Systems, Inc., South Kingstown, RI.

Healthy Pregnancy: Step by Step is an iPad delivered multi-language, multiple behavior change program developed for underserved pregnant women. It was tested in randomized clinical trial at six federally funded community health centers across three states with 335 pregnant women (65.1% Hispanic, 20.9% White, 9% Black, 2.7% Asian, 2.4% Other or More than 1 Race). Prenatal staff recruited women during their first trimester and women engaged with the program once each trimester. Using best practices within behavior change science, the program offers reliable and valid assessments, stage-matched and theoretically grounded tailored feedback, guidance on multiple behaviors, an interactive and engaging approach, and messaging following plain language guidelines and targeted to the multicultural target population. The mobile delivery allows prenatal staff flexibility to use the program at any juncture throughout the prenatal visit and does not require dedicated space or time for the intervention. The majority of women in the trial were followed 1 month (77.3%) and 4 months (70.7%) postpartum. Preliminary analyses reflect differential movement to criteria for fruit and vegetable consumption between treatment and control group participants at 1 month postpartum (38.1% vs. 20.0%, X2 (1) = 7.65, p = .004.) and 4 months postpartum (43.2% vs. 26.4%, X2 (1) = 5.40, p = .015). This presentation will focus on key learnings about using iPads for behavior change intervention within community health center settings with underserved populations. Suggestions on how mHealth interventions can uphold and incorporate best practices in behavior change science will be discussed.

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Symposium 32 8:40 AM-10:00 AM 3038

BEHAVIORAL MEDICINE INTERVENTIONS AND OUTCOMES IN PEDIATRIC CANCER SURVIVORSHIP

Kenneth P. Tercyak, PhD,[1] Melinda Stolley, PhD,[2] Sean Phipps, PhD,[3] Cheryl Albright, PhD, MPH[4] and Laura Bava, PsyD[5]

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This Symposium, jointly sponsored by the Cancer and Child & Family Health SIGs, addresses current and pressing behavioral medicine research and outcomes facing long-term survivors of pediatric cancer. Empirical findings from three large and well-characterized studies (two case-control, and a clinical trial) are described, and implications for the field discussed. Children, adolescents, and young adults (CAYAs) surviving with cancer are living longer and leading healthier and more productive lives than ever before. This is due, in large part, to advances in the treatment of pediatric cancer and the development of comprehensive long-term care plans addressing young survivors' physical, social, and psychological needs. However, and despite this remarkable progress, young survivors remain at-risk for a host of poor outcomes. These include the onset of second malignancies, psychological strain, and risky behaviors predisposing them to complications (e.g., poor diet, physical inactivity, smoking, excessive UV exposure)–all of which may diminish quality of life. The objective of this symposium is to present evidence from three different studies targeting patients with/survivors of pediatric cancer. Our presentations will be drawn from: 1) a diverse (African American, Hispanic, White) case-control study determining the prevalence of CAYA's health risk behaviors, 2) a large case-control study of predictors of psychological functioning based on differences in trait disposition, stressful life events, and illness/treatment among CAYA's and healthy matched peers, and 3) the results of an intervention using evidence-based behavioral methods and health IT to improve diet and physical activity. After reviewing the evidence, future directions for behavioral medicine research in pediatric cancer and survivorship care will be discussed, and as highlighted by a long-term survivorship model implemented in current practice.

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Symposium 32A 3039

TRANSLATIONAL BEHAVIOR RESEARCH WITH PEDIATRIC ONCOLOGISTS: USING EVIDENCE-BASED METHODS AND EMR TO FACILITATE STAGE-BASED BEHAVIOR CHANGE WITH SURVIVORS OF CHILDHOOD CANCER

Cheryl L. Albright, PhD, MPH,[1] Randal Wada, MD[1,2] and Darryl Glaser, MD[2]

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Despite high cure rates for their cancer (80%), adolescent and young adult survivors of childhood cancer (AYASCC) are at increased risk for obesity and related conditions such as hypertension, cardiovascular disease, diabetes, and kidney diseases that can threaten their longevity and quality of life. Many AYASCC use pediatric oncologists for their primary care; thus, a clinical practice system that facilitates assessment and advice on lifestyle behaviors during a visit to a post-therapy oncology clinic is needed. Our translational project adapted an effective clinical practice system for healthy adolescents (PACE + Project) to AYASCC, and inserted text into the electronic medical record (EMR) for ethnic minority (Asian/Hawaiian) patients' current behaviors and stage-of-change intentions, as well as stage-appropriate provider advice to increase physical activity (PA) or fruits/vegetables (F/V), and decrease dietary fat. Over 6 months, 116 AYASCC aged 13-22 yrs were seen and 29% completed stage-based surveys. Over 90% did not meet guidelines for fruits/vegetables (mean 2 ±1.3 servings/day), 55% ate high fat foods daily, and 70% didn't meet PA guidelines. Most survivors (50-70%) were "ready to change" these behaviors and 36% selected F/V "to work on" with their provider (30% selected fat, 30% PA). During this feasibility study, providers increased their use of stage-based advice about diet/PA, particularly for AYASCC with co-morbidities. Using the EMR providers gave stage-appropriate advice and set goals for those in contemplation or preparation stages. The impact of new patient assessments and EMR entries on the clinic's patient flow was minimal; but, the time required to type patients' health behaviors and stages of change into the EMR was a concern, more so for nurses vs. providers ($p < .02$). Inserting stage of change assessments and advice protocols into EMR of a pediatric oncology clinic was feasible and patient flow was not negatively impacted.

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Symposium 32B 3040

PREDICTORS OF PSYCHOLOGICAL FUNCTIONING OF CHILDREN WITH CANCER: IMPORTANCE OF LIFE EVENTS AND DISPOSITIONAL FACTORS

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Background: Although childhood cancer presents a serious developmental challenge, most children have been shown to be adjusting reasonably well. Studies examining predictors of psychological outcomes have focused largely on illness and treatment variables, whereas factors such as life history and disposition have been relatively unexplored. We examined predictors of psychological functioning in children with cancer and a demographically similar sample of healthy peers, while including measures of stressful life events and disposition. Method: Participants were 255 children with a diagnosis of cancer and 101 healthy matched controls (8-17 years). Children completed measures of psychological functioning, including depression, anxiety, and symptoms of posttraumatic stress (PTSS); history of stressful life events; and dispositional traits, including optimism and personality as measured using a five-factor model. Results: Children with cancer did not differ from healthy peers with regard to depression; however, they reported lower anxiety and marginally lower PTSS. In a series of hierarchical multiple regressions, dispositional traits accounted for the majority of variance in children's psychological functioning, with stressful life events accounting for a significant amount of variance as well, while demographic variables and health status(i.e. cancer vs. control) , which were entered as the first steps, accounted for minimal variance. Similarly, within the cancer group, demographic and illness/treatment variables (diagnosis, time since diagnosis, treatment intensity, relapse) accounted for minimal variance, while life events and dispositional factors accounted for > 50% of the variance. Conclusion: These findings suggest that children's psychological functioning is predicted primarily by dispositional traits, and secondarily by history of stressful life events, with illness and treatment variables accounting for minimal, and often non-significant variance in children's functioning.

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Symposium 32C 3041

HEALTH BEHAVIORS IN MINORITY CHILDHOOD CANCER SURVIVORS

Melinda Stolley, PhD, Claudia Arroyo, MPH, Linda Schiffer, MPH and Lisa Sharp, PhD

University of Illinois at Chicago, Chicago, IL.

Introduction. Childhood cancer survivors (CCS) are at risk for adverse late effects such as cardiovascular disease and secondary cancers. Health promotion can modify this risk. Data from predominantly white samples suggest that survivors are comparable to the general population on these health and lifestyle parameters leaving much room for improvement. Little is known about minority CCS.

Methods. The Chicago Healthy Living Study is an observational study of adult CCS and ethnically matched non-cancer controls. Survivors were recruited from 4 hospital cancer registries. Controls were recruited by targeted digit dial. This presentation examines the body mass index (BMI) and health behaviors (physical activity, diet, smoking, alcohol use) of African-American (AA), Hispanic and White CCS across racial/ethnic groups and compared to controls. Interviews with validated measures were conducted with 450 adult CCS (150 per race/ethnicity) and 375 controls (125 per race/ethnicity).

Results. Mean age for survivors was 29.8 (SD = 7.6) and controls 29.7 (SD = 8.5). Survivors had BMIs and health behaviors similar to controls. Most did not meet USDA dietary guidelines and used insufficient sun protection, although many did meet CDC physical activity guidelines and a minority reported heavy alcohol use. 27% were current/former smokers. Differences between survivors and controls included: AA survivors had lower mean BMI ($p < .001$) were less likely to be obese ($p < .005$) and were more active than controls ($p < .005$); white survivors were less likely to smoke. Compared to white survivors, similarities were noted for smoking and meeting PA guidelines. African-American and Hispanic survivors reported low alcohol use, but were more likely to be obese, consume unhealthy diets and report high levels of sedentary activity.

Conclusions. Chronic disease risk is high among minorities in the general population. The additive risk of late effects makes minority CCS particularly vulnerable. Addressing health promotion early and often in survivorship care is critical to preventing further health disparities.

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Symposium 33 8:40 AM-10:00 AM 3042

SERVING CANCER SURVIVORS OUTSIDE CLINICAL SETTINGS: CONNECTING POPULATION-LEVEL DATA AND COMMUNITY-LEVEL PROGRAMS

Squiers Linda, PhD,[1] Sarah R. Arvey, PhD,[2] Ellen Beckjord, PhD, MPH,[3] Bree Hemingway, MPH[2] and Ruth Rechis, PhD[2]

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For people affected by cancer, information is a vital form of currency. Some of the most important information is received during clinical encounters. Yet, people affected by cancer may spend only a very small fraction of their time in clinical encounters while they live with, survive, and recover from cancer, particularly patients whose visits to cancer clinics and communication with oncology providers are reduced and even terminated after treatment completion. Survivors of cancer have physical, emotional, and practical needs that can last throughout their entire lives, and information about how to manage and ameliorate these needs is paramount. With the rapidly evolving health information environment, it is important to document, at a population level, how survivors navigate the information environment and to use these results to inform innovative community-level programs. In this symposium, presenters describe findings from qualitative and quantitative studies on survivors' health and information seeking behaviors, as well as programmatic efforts to meet survivors' needs outside of the formal medical system. Presentation 1 describes population-level data from the HINTS 2012 on survivors' health self-efficacy and information efficacy and factors associated with positive outcomes. Presentation 2 explores the role of community health workers in linking underserved Latinos' to support services. Presentation 3 focuses on how cancer survivors' self-reported needs can be met through a national navigation program. Finally, a discussion will highlight connections between these individual and population-level analyses of survivorship information, communication, and care and the LIVESTRONG Foundation's efforts to meet survivors' needs outside of clinical settings.-

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Symposium 33A 3043

STAKEHOLDERS' PERSPECTIVES ON COMMUNITY HEALTH WORKERS' ROLE IN LINKING LATINO CANCER SURVIVORS TO SUPPORT SERVICES

Sarah R. Arvey, PhD,[1] C. Emily Hendrick, MPH,[2] Gema Lane, MPA,[1] Haley Justice-Gardiner, MPH, CHES[1] and Ruth Rechis, PhD[1]

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For disenfranchised populations in the United States, access to healthcare is often hindered by economic, cultural, and structural realities. Promotores (community health workers for Spanish-speakers) are frontline public health workers who link medically underserved Latinos' to appropriate and accessible health care services. The LIVESTRONG Foundation's Promotora Program trains promotores to provide Latinos affected by cancer with health information and link them to medical, emotional, and practical support services offered by local or national organizations. In 2012, researchers conducted a qualitative study of the Promotores Program, drawing from ethnographic methods to collect data from multiple stakeholders including 18 promotores, 7 survivors, and 4 LIVESTRONG Navigators in Texas. Participants reported that one of the most important roles of promotores is to connect Latino cancer survivors directly to resources that meet Latino survivors' unique needs, thus saving survivors time, resources, and frustration due to language barriers, eligibility issues, etc. Promotores do this by forging close relationships with the survivors with whom they work, managing survivors' expectations about the services offered by various resources, and guiding survivors to providers with whom they themselves have established relationships. Findings suggest that promotores should be trained to understand the full breadth of local and non-local survivorship services available for underserved population, as well as to establish social networks or close relationships with the survivors and survivors' care providers in order to ameliorate common barriers to care.

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Symposium 33B 3044

HEALTH SELF-EFFICACY AND INFORMATION EFFICACY AMONG ADULT CANCER SURVIVORS IN THE UNITED STATES

Ellen B. Beckjord, PhD, MPH,[1] Lila J. Rutten, PhD, MPH,[2] Sarah R. Arvey, PhD,[4] Ruth Rechis, PhD,[4] Danielle Hartigan, PhD, MPH,[3] Neetu Chawla, PhD, MPH,[3] Neeraj K. Arora, PhD[3] and Bradford W. Hesse, PhD[3]

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Over the same time that cancer survivorship has received increased attention in clinical practice and research, the information environment in which survivors search for and process health information has changed. As specific programs evolve to empower individuals with cancer by providing education and resources, it is useful to look level at the degree to which survivors feel capable of taking care of their health (health self-efficacy), obtaining the information about cancer that they need (information efficacy), and the sociodemographic and medical factors positively associated with these outcomes on a population-based level. We examined data from adult cancer survivors from the fourth iteration of the National Cancer Institute's Health Information National Trends Survey (HINTS 4, Cycle 2). Data were collected from October 2012 through January 2013 via mailed questionnaire with a final response rate of 39.97%. From 3,630 respondents, 464 were cancer survivors (41% male; 48% between 18 and 64 years old). 25% of survivors were "completely" confident in their health self-efficacy and 32% were "completely" confident in their information efficacy. Health self-efficacy and information efficacy were positively associated (chi-square = 52.6; $p < 0.01$). In multivariate models that included sociodemographic factors, health insurance status, and time since diagnosis, only lower annual income was associated with worse health-self efficacy and information efficacy ($p < 0.05$); not having health insurance was also associated with worse health self-efficacy ($p < 0.05$). Organizations developing programs to empower cancer survivors may consider these results when allocating resources and services in an effort to reach those who are in greatest need of support.

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Symposium 33C 3045

LIVESTRONG CANCER NAVIGATION: ADDRESSING CANCER SURVIVORS' NEEDS OUTSIDE OF THE CLINICAL SETTING

Bree L. Hemingway, MPH,[1] C.Emily Hendrick, MPH,[2] Emily Eargle, LCSW,[1] Linda Squiers, PhD,[3] Carla Bann, PhD,[3] Janice Tzeng, MPH,[3] Melissa Stewart, LCSW[1] and Ruth Rechis, PhD[1]

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The LIVESTRONG Cancer Navigation program (LCN) empowers cancer survivors by providing information and resources that address their physical, emotional, and practical needs. In 2012, researchers studied LCN to determine how well the program enables cancer survivors to manage their health and practical concerns that are not met within a clinical setting. We describe study participants' (n = 1388) self-reported needs and the LCN's efforts to address them. Participants contacted LCN, their needs were documented and they were referred to in-house or external services to resolve their concerns. Participants completed surveys at intake, two, and six weeks post-intake to measure quality of life outcomes. Clients who completed surveys at two or more time points were included in the analytical sample (n = 874; 63% of participants). These participants were mostly women (70%), white (77%), married (53%), lived in metropolitan areas (87%) and currently were in treatment (61%). Study participants had an average of six different needs. Most (67%) needed emotional support and help with finances/insurance (57%). Other needs included alternative treatment and wellness (35%) and post-treatment issues (28%). LCN most frequently referred participants to internal emotional support (60%), followed by the external partner for financial advocacy (58%). Participants reported decreased distress and cancer concerns and increased self-efficacy from T1 to T3. Additional participant needs, unmet needs, and outcomes will be described. The LCN has developed a model of care coordination that addresses cancer survivor's needs outside of the clinical setting. Understanding the effectiveness and the gaps in service helps LIVESTRONG adapt the LCN and can help the providers outside of the health system develop services to help survivors manage their care.

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Friday
April 25, 2014
11:25 AM-12:25 PM

Panel Discussion 12 11:25 AM-12:25 PM 3046

NIH ADHERENCE RESEARCH NETWORK: A ROUNDTABLE DISCUSSION ON HOW TO ADVANCE THE SCIENCE AND PRACTICE OF ADHERENCE

Wendy Nilsen, PhD

Office of Behavioral and Social Sciences Research/NIH, Bethesda, MD.

NIH Adherence Network Program Staff will lead a discussion among participants interested in the area of adherence to medical and behavioral regimens to determine how NIH can move this critical field forward. Special focus will be on what is needed to advance the science of adherence and foster improvements in adherence within clinical practice and community settings. Program staff will also highlight current funding opportunities for adherence research at NIH.

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Panel Discussion 13 11:25 AM-12:25 PM 3047

RIGOR AND REPRODUCIBILITY IN BEHAVIORAL MEDICINE RESEARCH: NIH PERSPECTIVES

Melissa Riddle, PhD,[1] Dave Clark, DrPH,[1] Wendy Weber, PhD[2] and Bradford Hesse, PhD[3]

[1]NIDCR/NIH, Bethesda, MD; [2]NCCAM/NIH, Bethesda, MD and [3]NCI/NIH, Bethesda, MD.

Clinical research is central to all medical advances, serving a gateway function between basic research and wide-scale implementation of treatments and other health-related interventions. Behavioral medicine provides many examples of clinical research that helped move basic knowledge about health to effective interventions. However, the ability of clinical research to contribute meaningfully to health depends upon that research being conducted rigorously, such that the results are reproducible. International and Federal standards of good clinical practice have been established to ensure the rigor of clinical research. NIH recognizes the importance of clinical research rigor, with Institutes, Centers, and Offices (ICOs) across the NIH implementing policies and procedures to support the rigorous conduct of clinical studies. In addition to NIH's own policies and procedures, the extramural community has been working toward ensuring high-quality data from clinical research. Professional organizations and other groups have established standards for data sharing, and transparency of methods and analyses, and have provided opportunities for investigators to submit their studies for replication. It is difficult to argue against rigor and reproducibility in clinical research. However, the pathway to ensuring meaningful clinical research deserves discussion. The panel will lead a discussion about the pros and cons of policies—current and those being considered for the future—meant to yield high-quality clinical research.

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Panel Discussion 14 11:25 AM-12:25 PM 3048

ACADEMIC-INDUSTRY PARTNERSHIPS IN EHEALTH ACROSS MULTIPLE BEHAVIORS: A PANEL DISCUSSION OF THE BENEFITS AND RISKS FOR YOUR RESEARCH PORTFOLIO

Lisa M. Quintiliani, PhD RD,[1] Gabrielle Turner-McGrievy, PhD,[2] Gary G. Bennett, PhD,[3] Eric B. Hekler, PhD,[4] Anand K. Iyer, PhD, MBA[5] and Wendy J. Nilsen, PhD[6]

[1]Boston University, Boston, MA; [2]University of South Carolina, Columbia, SC; [3]Duke University, Durham, NC; [4]Arizona State University, Phoenix, AZ; [5]WellDoc, Inc., Baltimore, MD and [6]Office of Behavioral and Social Sciences Research, NIH, Bethesda, MD.

Along with the boom in availability and use of eHealth technologies comes opportunity for behavioral scientists to conduct eHealth research. For those researchers interested in designing, evaluating, and/or disseminating eHealth products (e.g., website, mHealth app, sensor, etc.) working with industry partners seems like a natural fit. Unfortunately many behavioral scientists have little training for working with partners outside of the traditional academic setting. In this panel discussion, panelists from academia, industry, and government will discuss the benefits and potential pitfalls of academic-industry partnerships, highlighting potential advantages for asking interesting research questions, diversifying your funding portfolio, and increasing the dissemination potential of eHealth interventions. Issues such as conflicts of interest, funding limitations and opportunities, and for-profit considerations within a university context will be examined, with the opportunity for audience questions and dialogue. Practical suggestions for how to successfully engage industry partners as well as details of funding opportunities in support of these endeavors (e.g., NIH SBIR/STTR grants; private partnerships) will also be discussed. Suitable for researchers from all realms of health behavior research, this symposium will place a particular emphasis on eHealth research related to multiple health behavior change. This panel is sponsored by the SBM Multiple Health Behavior Change and Technology SIGs.

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Panel Discussion 15 11:25 AM-12:25 PM 3049

FROM DEVELOPMENT TO EVALUATION & ANALYSIS TO DISSEMINATION: DEAD ON ARRIVAL

Lee M. Ritterband, PhD,[1] Abdul R. Shaikh, PhD,[2] Victor J. Strecher, PhD, MPH,[3] Steven H. Krein, JD,[4] Paul Tarini, MA[5] and William T. Riley, PhD[6]

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Hundreds, perhaps thousands, of health-related technology-based interventions have been developed - and many times this number of mobile apps are now available for use. There are two key areas of concern with this recent and rapid proliferation of digital health technologies and applications: (1) Most do not have scientific evidence substantiating their efficacy; and (2) Only a subset of the very few that do have empirical validity are disseminated, commercially or otherwise. Possible reasons for the current state of the digital health application ecosystem include low barriers to entry for new applications, perceived profit potential alongside growing consumer and commercial demand; high cost, evolving methodologies, and technical challenges for conducting appropriate efficacy trials; time lag from funding through development and dissemination; and the chasm between the "scientific research community" and "commercial sector" that constricts potential pipelines for dissemination.

With the goal of enabling greater opportunities for dissemination and implementation of evidence-based applications, this panel will focus on how to bridge the gap between researchers developing and evaluating technology-based health programs and the commercial, technology, and entrepreneurial worlds. While more research is needed to establish the efficacy of technology-based prevention and intervention programs, perhaps equally clear is the need to disseminate the programs that do show empirical validity into the hands of those who need them.

In this panel, a multidisciplinary group of individuals spanning the research, funding, and commercial sectors will discuss how best to move empirically validated programs to the marketplace, the need for more effective research, as well as related topics including exploring new methods for technology-based research, evolving models of cross-sector collaboration, and new policy initiatives and funding models.

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Panel Discussion 16 11:25 AM-12:25 PM 3050

USING WEARABLE SENSORS FOR BEHAVIOR MONITORING AND INTERVENTIONS: LESSONS LEARNED AND FUTURE DIRECTIONS

Richard R. Fletcher, PhD,[1,2] Santosh Kumar, PhD,[3] Noelle R. Leonard, PhD[4] and Selene Mota, PhD[2]

[1]Psychiatry, University of Massachusetts Medical School, Worcester, MA; [2]Massachusetts Institute of Technology, Cambridge, MA; [3]University of Memphis, Memphis, TN and [4]College of Nursing, New York University, New York, NY.

Wearable sensors are now widely available and are finding increasing use in behavior science and interventions. These small electronic devices can be worn comfortably on various parts of the human body (e.g. ankle, wrist) and enable continuous measurement of physiological parameters including: 3-axis acceleration, heart rate (HR), heart rate variability (HRV), and electrodermal activity (EDA). Analyzed together, these measurements in turn enable real-time detection and prediction of specific activities as well as autonomic nervous system activation. When used in tandem with a mobile phone, wearable sensors also provide a powerful paradigm for delivering "just-in-time" interventions by programming the phone to detect specific patterns of physiology and then triggering or tailoring customized interventions via the mobile phone. The panelists will present lessons learned from their recent studies using wearable sensors and discuss ways that these technologies can best be used. Application areas include: 1) detecting sympathetic arousal and predicting "meltdowns" in children with Autism Spectrum Disorder; 2) predicting and detecting drug use in people with substance abuse disorders 3) using wearable sensors to estimate physical activity, sedentary behavior and energy expenditure; and 4) using physiological feedback to measure efficacy of parenting intervention with content delivered on a mobile phone as part of in-resident mindfulness training program for at-risk teenage mothers. Panelists will also discuss lessons learned and suggested "best practices" for integrating wearable sensors as part of clinical research studies. Practical issues discussed include: measuring user compliance, comfort and aesthetic design, data analysis challenges, wireless considerations, privacy concerns, and techniques for extending battery life for multi-week studies. This panel is sponsored by the SBM Technology SIG.

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Panel Discussion 17 11:25 AM-12:25 PM 3051

CHANGING PHYSICAL ACTIVITY BEHAVIORS THROUGH THE INTEGRATION OF THE MEDICAL HEALTH CARE SYSTEM AND LOCAL COMMUNITIES

Mark Stoutenberg, PhD,[1,3] Ashley Falcon, MS[2,1] and Selina Stasi, BA[1]

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Physical inactivity is a major driver of obesity and a leading cause of death worldwide. Several evidence-based approaches to increase physical activity (PA) have been identified, ranging from the workplace and community to policy and environmental interventions. However, no one single intervention will solve the world's inactivity problem. Rather, reducing physical inactivity will require a "whole of society" approach. The healthcare sector offers a variety of resources, settings, and a workforce that can counsel, refer and deliver PA promotion programs for individuals of all ages. Health care professionals are in a privileged position to help increase PA among their clients for purposes of primordial, primary, secondary and tertiary prevention. The overarching goal of Exercise is Medicine® (EIM) is to make PA a standard part of the medical paradigm for the prevention and treatment of obesity and NCDs in the health care system. Specifically, that PA will be considered by all health care providers as a vital sign in every patient visit, and for patients to be effectively counseled and referred for their PA and health needs. The EIM Solution was created to provide a standardized structure for the integration of PA referral and counseling into the health care system, local communities, and University campuses. Additionally, ongoing EIM initiatives include the training of health care professionals in PA counseling and behavior change, as well as the development of community-based resources to support behavior change efforts. This panel discussion will present the audience with the description of the EIM campaign and engage them in discussion on how the EIM Solution might be best implemented in local, regional, and national health care systems and communities to bring about changes in PA behaviors.

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Panel Discussion 18 11:25 AM-12:25 PM 3052

LEVERAGING GOVERNMENT-SUPPORTED TECHNOLOGY TO ADVANCE SCIENCE AND PRACTICE

Rick Moser, PhD,[1] Kara Hall, PhD,[1] Sarah Kobrin, PhD, MPH,[1] Carly Parry, PhD, MSW[1] and Russell Glasgow, PhD[2]

[1]Behavioral Research Program, National Cancer Institute, Bethesda, MD and [2]Family Medicine, University of Colorado Medical School, Denver, CO.

The impact and reach of behavioral medicine is limited to the extent that the scientific community agrees upon common conceptual frameworks, best measures, and public health data infrastructures. Different areas of science are in different stages of maturation. Newer areas need to achieve consensus on conceptualization of key constructs and outcomes; more mature areas may focus on identification of best measures, promotion of more sophisticated use of theory, or implementation of agreed upon measures into public health data infrastructures (e.g., electronic health records [EHRs]). To facilitate these processes, technology-based tools are increasingly available that allow communities of scientists to collaborate efficiently across disciplines.

The Grid-Enabled Measures (GEM) tool, developed by the National Cancer Institute, has the capacity to support the growth of science across these different stages of maturation. Specifically, the GEM Workspaces allow for input from the diverse communities of scientists involved in behavioral research.

This panel will highlight use of GEM Workspaces to advance four scientific areas: 1) synthesizing measures of health behavior theories for testing behavior change models; 2) shared decision making in clinical practice; 3) identification of best measures of survivorship care-planning constructs, tied to a conceptual model; and 4) implementation of patient-reported psychosocial measures for use in EHRs.

Publically funded and open to all, GEM maximizes impact and reach through unrestricted interactions among a range of stakeholders including researchers, clinicians, and public health practitioners. The panelists will describe the goals for advancing each scientific area, how GEM supported achievement of these goals, and planned next steps.

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Panel Discussion 19 11:25 AM-12:25 PM 3053

SCIENTIFIC PRIORITIES AT THE NATIONAL HEART, LUNG, AND BLOOD INSTITUTE, NIH

Catherine Stoney, PhD, Peter Kaufmann, PhD and Susan Czajkowski, PhD

NIH/NHLBI, Bethesda, MD.

This session provides a forum for discussing scientific priorities for funding at the National Heart, Lung, and Blood Institute, NIH. This is an interactive and scientifically focused session with NHLBI program directors who will discuss high priority areas of research in behavioral medicine. Topics will include translational research, behavioral intervention development, clinical trials in behavioral medicine, technological advances, as well as others.

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Panel Discussion 20 11:25 AM-12:25 PM 3054

GRADUATE STUDENT RESEARCH PANEL DISCUSSION

Barbara Stetson, PhD[1] and Georita Frierson, PhD[2]

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The Graduate Student Research Panel is a regular feature of the ETCD Council's programming during the Annual Meeting. Faculty with experience in mentoring students in research activities, theses, and dissertations will provide advice and answer questions for attendees on a variety of topics. Although the structure of the panel is deliberatively flexible to allow panel attendees' questions to determine the content, panelists will make opening remarks and be prepared to discuss several aspects of conducting research and developing a research program as a graduate student or post-doctoral trainees. These topics will include but are not limited to the following: choosing a research topic and mentor; designing a project of appropriate scope for your graduate program; working productively with your mentor and committee; managing writing time effectively; balancing coursework, research, and clinical demands; dealing with disagreements within the lab or with your mentor; understanding authorship issues; and identifying funding opportunities for pre- and post-doctoral training. Other topics as raised by panel attendees will also be discussed.

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Panel Discussion 21 11:25 AM-12:25 PM 3055

ESTABLISHING BEHAVIORAL MEDICINE PROGRAMS WITHIN HOSPITAL SYSTEMS: NAVIGATING CHALLENGES; FOCUSING ON PATIENT-CENTERED CARE

Cori E. McMahon, PsyD,[1] Kelly L. Gilrain, PhD,[1] Helen L. Coons, PhD, ABPP,[2] Eric Kupersmith, MD,[1] Meghan Lines, PhD,[3] David Moore, MA[4] and Nick Stamatiades, MBA[5]

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Behavioral health care plays a significant role in the prevention, diagnosis and treatment of the 15 leading causes of death in the US, including heart disease and cancer. There have been many studies on stress and immunity showing that psychological distress can have a negative impact on the immune response. A study of cardiac patients found that psychological interventions can reduce the risk of further cardiac events by 75% compared to medical care and medication only and providing psychological services to high frequency Medicaid users resulted in a 36% reduction in Medicaid utilization after 1 year. In 2012, Behavioral Medicine at Cooper University Hospital received 817 IP consults, completed 1,984 IP encounters and an additional 677 encounters in oncology alone. The program also received 317 OP referrals through the Cancer Institute with approximately 20% becoming regular patients and many more resulting in one-time consults. Although research has demonstrated the value of having psychologists integrated into medical teams, there are challenges in billing and reimbursement for services and in training medical staff to incorporate therapists into daily practice. Learn from a multidisciplinary panel of professionals including psychologists working within hospital systems, a physician and Chief of Hospitalists who also serves as Deputy CMO of Hospital Operations, a Director of Financial Operations, and a health psychologist in private practice who will discuss program models, barriers to establishing and expanding programs, training medical staff in the effective use of Behavioral Medicine consultation services, and exploration of alternative routes to supporting programs in light of reimbursement challenges.

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Friday
April 25, 2014
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ALL THINGS SURVIVORSHIP AT THE AMERICAN CANCER SOCIETY: AN OVERVIEW OF ACS CANCER SURVIVORSHIP PROGRAMMATIC RESEARCH AND ACTIVITIES

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The American Cancer Society (ACS) is the nationwide public health organization dedicated to reducing suffering from cancer. ACS provides a wide range of services for cancer survivors, their loved ones, health care providers, and the general public. One area of focus is cancer survivors' well-being, in which the ACS engages in activities that cut across several domains including intramural and extramural research, health care policy, information, and support programs. This symposium will provide a broad overview of survivorship activities at ACS. The first presentation will describe the context in which ACS survivorship activities occur, outlining organizational structure, strategy, and processes. The talk will highlight collaborative, cross departmental, evidence-based research and programmatic work which is informed by ACS/external research and is "applied" by the ACS Health Promotions department. The second presentation will describe the National Cancer Survivorship Resource Center, a collaboration between the ACS and the George Washington Cancer Institute, supported by a cooperative agreement with the CDC. The Survivorship Center seeks to impact key survivorship issues by identifying gaps/barriers and indicators of success at survivor, system, and policy levels. The third talk will describe an ACS-led randomized control trial (RCT), using Stanford University's "Cancer: Thriving and Surviving" chronic disease self-management program, an online 6 week, asynchronous workshop facilitated by trained cancer survivors. The last presentation will report early results of the ACS Cancer Survivor Transition Study, an ACS intramurally-conducted study focusing on assessing factors that impact the transition from active treatment under the care of the oncology team to post-treatment care provided in the community setting. The discussant will consider the impact of ACS activities on the well-being of cancer survivors and identify future directions for research and dissemination of interventions by public health organizations.

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Featured Symposium 04A 3057

UNDERSTANDING THE IMPACT OF AN ONLINE SELF-MANAGEMENT PROGRAM ON SURVIVORSHIP OUTCOMES

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Introduction: The National Cancer Survivorship Resource Center is conducting a randomized control trial (RCT), of Stanford University's "Cancer: Thriving and Surviving" self-management program (SMP). The SMP is an online 6 week, asynchronous workshop facilitated by two trained cancer survivors, featuring self-management content, discussion groups, and interactive tools. The RCT seeks to assess the feasibility of delivering the program within the ACS' volunteer structure, identify effective recruitment strategies and explore the impact of a SMP on health and quality of life outcomes.
Methods: Recruitment began October 2012 and continued through July 2013 via online, social media and community promotion. Individuals responding to recruitment were screened for eligibility and asked to complete a baseline survey, prior to being randomized into study and waitlist control cohorts. Fifteen workshops were delivered between November 2012 and September 2013. Participants will complete 6- and 12-month follow-up surveys to measure impact.
Results: 2235 individuals responded to recruitment. 857 eligible participants were randomized into cohorts. Initial results indicate that it is feasible to recruit and train volunteer facilitators, but ongoing management and training is time intensive. Nearly 80% of participants were recruited through social media and the Society's Cancer Survivors Network. Feedback captured at the end of the workshops indicated that participants are highly satisfied. Additional analyses will explore program impact on key behavioral and quality of life outcomes.
Conclusions: Post-treatment survivors may experience a myriad of physical and psychosocial effects that can be mitigated by improving self-management skills. Participant feedback seems to support the value of an online SMP as one method of addressing cancer survivors' needs.

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Featured Symposium 04B 3058

THE CANCER SURVIVOR TRANSITION STUDY: POST-TREATMENT PREPAREDNESS OF CANCER SURVIVORS

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Introduction
Institute of Medicine reports have called attention to the transition out of active cancer treatment back into the community care setting. Survivors' preparedness for this transition is likely related to the degree of successful transition and long-term survivorship. To address this issue we examined how prepared cancer survivors were for this transition as well as levels of unmet needs.
Methods Cancer free adult survivors ($N = 1241$) of breast ($n = 419$), colorectal (CRC) ($n = 452$) and prostate ($n = 370$) cancers from 1 month to1 year post treatment, recruited from the ACS's Siebel record system, completed a mailed survey. The comprehensive survey assessed sociodemographic and cancer-related variables as well as preparedness, self-efficacy, outcome expectations, health behaviors, information preferences, information received, and other constructs. Preparedness and self-efficacy scores range from 1-5, with higher scores indicating the survivor felt better prepared for the transition or more confident in their ability to perform the task, respectively. A follow-up survey will be mailed to participants one year after they completed the initial survey.
Results Overall, survivors reported feeling prepared for the transition to post-treatment care ($M = 3.6$, $SD = 0.85$). However, CRC survivors felt significantly less prepared compared to prostate cancer survivors ($p < 0.0001$). CRC survivors reported having the least confidence in managing the financial impact of cancer ($M = 3.3$, $SD = 1.6$) while prostate survivors reported the most confidence ($M = 3.7$, $SD = 1.16$). Multivariate models identifying predictors of survivors' feeling less prepared for the transition will be presented.
Conclusion/Implications Cancer survivors have many unmet needs during and right after ending treatment which vary by cancer type. When developing tailored interventions to better prepare survivors for this transition, special attention must be dedicated to the unique challenges faced among different cancer groups.

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Featured Symposium 04C 3059

THE NATIONAL CANCER SURVIVORSHIP RESOURCE CENTER: DEVELOPING RESOURCES TO ADDRESS POST-TREATMENT SURVIVORSHIP CARE

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The National Cancer Survivorship Resource Center (The Survivorship Center), a collaboration between the American Cancer Society and the George Washington University Cancer Institute, supported by a cooperative agreement with the Centers for Disease Control & Prevention, seeks to address the needs of post-treatment cancer survivors. Leveraging the expertise from national leaders in cancer survivorship, The Survivorship Center explored key survivorship issues and identified gaps/barriers, recommendations and indicators of success at the survivor, health care systems and policy levels of the socioecological model. Gaps in post-treatment survivorship information and resources have been identified and analyzed. Tools to assist in the navigation of post-treatment care have been developed to benefit both survivors and health care providers. Clinical follow-up care guidelines are currently being developed for prostate, breast, colorectal, and head and neck cancer. PCPs are the target audience for these guidelines, which will address health promotion, surveillance and screening, assessment and management of physical and psychosocial long-term and late effects, and care coordination. An E-Learning Series and a mobile App are serving to educate providers and will be used for guidelines dissemination. A chronic disease self-management intervention was implemented through multiple recruitment strategies. As the number of cancer survivors continues to increase, the health care system needs to be adequately equipped to address the myriad of survivorship issues. The Survivorship Center's efforts illustrate advances in survivorship care in the United States.

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FRAMEWORKS FOR CLASSIFYING AND SPECIFYING BEHAVIOR CHANGE INTERVENTIONS: SPANNING DISCIPLINES, COUNTRIES AND APPROACHES

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This symposium comprises three talks reporting on the development and application of frameworks for classifying and specifying behavior change interventions, and a discussion led by Linda Collins.The frameworks are TIDieR, the Template for Intervention Description and Replication; RTT, the Rehabilitation Treatment Taxonomy; the Behaviour Change Wheel, and BCT Taxonomy v1, a method for specifying interventions in terms of their component behavior change techniques. Sponsored by Theory and Techniques SIG and Technology SIG.

Frameworks that classify and specify the components of interventions to change health-related behavior are necessary for replication, implementation and optimisation. In this symposium, we will present three new frameworks developed by rigorous, international, multi-disciplinary consensus. In the first of three talks, Marie Johnston will present TIDieR, the Template for Intervention Description and Replication that has the objective of improving intervention reporting and replicability. In the second, Tessa Hart will present the RTT, the Rehabilitation Treatment Taxonomy, a theory-driven approach to defining, classifying and measuring rehabilitation treatments. In the third, Susan Michie will present the Behaviour Change Wheel, a synthesis of 19 frameworks of behaviour change interventions, and demonstrate its links with BCT Taxonomy v1, a method for specifying interventions in terms of their component behavior change techniques.

All three talks will discuss their rationale, development to date, and both current and potential applications. The symposium will end with a discussion, led by Linda Collins, of challenges, opportunities, and new directions in frameworks for classifying behavior change interventions, as well as ways in which various approaches to such frameworks may overlap or complement one another.

This symposium is sponsored by the Theories and Techniques of Behavior Change Interventions SIG and by the Technology SIG.

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Symposium 34A 3061

DESIGNING BEHAVIOR CHANGE INTERVENTIONS: THE BEHAVIOUR CHANGE WHEEL AND BEHAVIOR CHANGE TECHNIQUES

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Background: Development of effective interventions is assisted by systematic methods for their design and evaluation. Two systematic methods which can be combined are the Behaviour Change Wheel to select intervention functions guided by a behavioral analysis, followed by the selection of Behaviour Change Techniques (BCTs).

Methods: A systematic review of behaviour change interventions identified 19 frameworks which were evaluated in terms of comprehensiveness, coherence and a clear link to a model of behavior. A series of consensus and coding exercises involving 54 international experts contributed to the development of an extensive taxonomy of behaviour change techniques (BCTs), usable across disciplines and countries.

Results: The 19 frameworks were synthesised, covering nine intervention functions and seven policy categories, and linked to a model of behaviour to form the 'Behaviour Change Wheel'. The resulting taxonomy of behavior change techniques, BCT Taxonomy v1, comprising 93 BCTs in 16 groupings, has shown good reliability and validity for 24 of the most frequently identified BCTs. Together, the Behaviour Change Wheel and BCT Taxonomy v1 provide a systematic method for designing and evaluating interventions in terms of their mechanisms of action and active ingredients.

Conclusions: The Behaviour Change Wheel has been used both for intervention design and to characterise the intervention functions and policy categories of established interventions and policies. Specifying interventions in terms of their component BCTs allows methods such as meta-regression, classification and regression trees and multiphase optimisation strategies to identify effective BCTs. It also facilitates intervention replication, implementation and fidelity.

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Symposium 34B 3062

TREATMENT THEORY AS AN ORGANIZING FRAMEWORK FOR DEFINING AND CLASSIFYING REHABILITATION INTERVENTIONS

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Background: Rehabilitation is in need of a taxonomy for identifying and classifying its varied interventions, including those that target behavior change. Treatment names that restate the problem ("Memory retraining;" "Adjustment counseling;" "Addictions treatment") do nothing to unpack the "black box" of rehabilitation. However, development of treatment theory—the specification of how and why treatments work—stands to aid in classifying rehabilitation treatments, as well as identifying their active ingredients. We present the results of an on-going effort to develop a rehabilitation treatments taxonomy (RTT) based on treatment theory.

Methods: We used literature review, consultation with a multi-disciplinary advisory group, and extensive discussions during which theory-driven classification models were tested against known and hypothetical interventions.

Results: We define treatment theory as having a tripartite structure in which ingredients (measurable clinician actions and decisions) are administered to effect changes in targets (measurable aspects of patient functioning) via mechanisms of action that are typically inferred rather than observed. Two broad learning-based treatment groupings, currently termed Skilled Performances and Cognitive/ Affective Representations, both have particular relevance to behavior change interventions and will be highlighted in the presentation. Implications for research and practice and alignment with "real-world" treatments will be presented along with challenges and future directions for a classification scheme for rehabilitation.

Conclusions: Rehabilitation needs a taxonomy, but the challenges of developing it are nowhere as pronounced as in the complex interventions focused on behavior change. We present the RTT framework in hopes of encouraging discussion that will enable more progress.

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Symposium 34C 3063

REPORTING BEHAVIOR CHANGE INTERVENTIONS: THE TIDIER INTERDISCIPLINARY CHECKLIST OF THE MINIMUM RECOMMENDED INFORMATION

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Background: CONSORT and other reporting statements emphasise the importance of adequate description of interventions to ensure that they can be faithfully replicated and that the scientific evidence can be effectively synthesised. Nevertheless, published descriptions of both behavioural and biomedical interventions frequently omit essential information; one analysis found that 67% of drug intervention descriptions were adequate compared with only 29% of non-pharmacological interventions [Glasziou 2008].
Methods: Steps in the methodological framework proposed by the EQUATOR network for developing a reporting statement were followed: 1. A steering committee generated items based on existing checklists and relevant literature; 2. Delphi survey over 2 rounds with 90 international experts from numerous disciplines (intervention researchers, clinicians, triallists, methodologists, journal editors etc.); 3. Consensus meeting of 13 experts; and 4) follow-up iterations and piloting to achieve agreement on items and reporting.
Results: The resulting checklist and guide identified 12 essential items: brief name, why (rationale), what (materials), what (procedure), who provided, how, where, when and how much, tailoring, modifications, how well (planned), how well (actual).
Conclusions The resulting TIDieR (Template for Intervention Description and Replication) is a guide (with explanations and examples) for reporting the essential minimum data. It can be applied to intervention and control groups and across different types of interventions including drug, surgery, rehabilitation and psychotherapy as well as behaviour change.

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ALCOHOL USE AND PHYSICAL ACTIVITY: PERSPECTIVES FROM BEHAVIORAL, NEUROCOGNITIVE, AND ANIMAL RESEARCH

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Alcohol use disorders have long been a major public health concern. Heavy alcohol use is one of the leading behavioral causes of morbidity and mortality, and is widely associated with multiple deleterious health outcomes. In contrast, physical activity is one of the leading health-promotion behaviors and is associated with myriad health benefits, including among alcohol dependent samples. Increasing evidence from multiple research perspectives is accumulating to suggest that physical activity may provide certain psychological, physiological, and neurocognitive protections against heavy alcohol consumption. Thus, it may be advantageous to incorporate physical activity into clinical alcohol abuse treatment. This series of talks will present research from multiple perspectives addressing the relationship between physical activity and alcohol consumption. Magnan and Schroeder address the relationship between alcohol use and exercise behavior using a daily-diary approach. They explore the pattern of activity between these behaviors and potential mediators and moderators of the relationship. Karoly and colleagues investigate a novel approach to address neurocognitive effects of exercise among heavy drinkers using resting-state functional connectivity (rs-fcMRI). Results suggest that physical activity may prevent functional damage among heavy drinkers. Finally, Ehringer and colleagues present an animal model to study the effect of the presence of alcohol and/or wheel running on gene expression patterns and alcohol consumption. Some genes were differentially expressed and less alcohol was consumed in the presence of a running wheel. Together these investigations highlight several areas in which research into the effects of physical activity on alcohol consumption should continue, providing evidence for the need to investigate the use of physical activity as an adjunct to alcohol abuse and prevention treatment.

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Symposium 35A 3065

ELUCIDATING THE RELATIONSHIP BETWEEN DAILY PHYSICAL ACTIVITY AND ALCOHOL CONSUMPTION AMONG COLLEGE STUDENTS

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Research from multiple perspectives (e.g., neurocognition, genomics, animal models), provides evidence for the integration of physical activity as an adjunct to alcohol abuse treatment. Yet, the research addressing the association between physical activity and alcohol use among non-dependent adults is less clear. Some epidemiological work finds no relationship, some finds an inverse relationship, but the majority of work finds a positive relationship such that physical activity is associated with increased moderate to heavy alcohol use. This work has been largely cross-sectional and retrospective in nature, relying upon survey data or one-time questionnaire assessments. Further, few efforts have been made to understand why such a relationship might exist and for whom this relationship might be more or less pronounced. In an effort to elucidate the physical activity-alcohol connection, this presentation will report findings from an on-going daily diary investigation of college students. This study will first address if there is a relationship among daily alcohol consumption and daily physical activity, and if different patterns of alcohol use arise based upon one's physical activity (e.g., less activity versus high activity). Previous work has also implicated physical activity as a means of improving affect (e.g., increasing positive affect, reducing negative affect), and reducing psychological stress reactivity. Such psychological benefits may help to account for the association between daily physical activity and drinking behavior. Thus, a secondary goal is to explore potential mediators and moderators of the relationship between daily exercise and alcohol consumption. The data provided from the current investigation may aid with the development of behavioral interventions promoting appropriate alcohol use behavior (moderate drinking versus heavy or binge drinking) and future interventions incorporating exercise as an adjunct to the clinical treatment of alcohol dependence.

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Symposium 35B 3066

AEROBIC EXERCISE IS ASSOCIATED WITH FUNCTIONAL CONNECTIVITY IN EXECUTIVE CONTROL NETWORKS AMONG HEAVY DRINKERS

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Owing to recent advances in brain imaging methods, neuroscience research is becoming increasingly focused on examining "resting-state functional connectivity" (rs-fcMRI), which refers to functional interactions between brain regions (Fox & Raichle, 2007). Several studies have examined the relationship between aerobic exercise and rs-fcMRI, and results suggest that aerobic exercise may be associated with increased connectivity (Erikson et al., 2009; Kamijo et al., 2011; Prakash et al., 2011). In particular, exercise appears to have a beneficial effect on functional connectivity in executive control networks (Voss, 2010a; Voss, 2010b). Further, it is hypothesized that exercise may be protective or reparative for individuals with neural damage resulting from various disorders, including alcohol dependence. We previously examined the effects of exercise and alcohol on white matter, and found evidence to support this hypothesis (Karoly et al., 2013). However, the relationship between alcohol, exercise and rs-fcMRI has not been explored to date. In this study, we measured exercise and rs-fcMRI among142 heavy drinkers. Self-reported average minutes/day of aerobic exercise over the past 3 months was correlated with rs-fcMRI in the right executive control network ($r = .286$, $p = .001$), and average minutes of exercise/week was related to rs-fcMRI in the same region ($r = 226$, $p = .007$). We also compared the heaviest drinkers in the sample ($n = 39$) to the lightest drinkers ($n = 36$). Among the heaviest drinkers, frequency of exercise was negatively correlated with failed control over drinking ($r = -.332$, $p = .039$). There was no relationship between exercise and failed control in the low drinkers. Results suggest that exercise may be beneficial for heavy drinkers in terms of repairing or preventing damage to functional interactions between brain regions, and decreasing failed control over drinking. Further research is needed to determine what frequency, intensity and duration of exercise confers the most benefit to connectivity among heavy drinkers.

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Symposium 35C 3067

USING A MOUSE MODEL TO STUDY COMMON NEUROBIOLOGICAL EFFECTS OF ALCOHOL CONSUMPTION AND EXERCISE

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Alcohol use disorders represent an enormous burden to society, families, and individuals. Human studies and animal model research have provided evidence that exercise may be a beneficial prevention and/or treatment for alcohol use disorders. Alcohol consumption and exercise can become addictive, and similar neurobiological pathways in the dopaminergic system are altered by these two behaviors. C57Bl/6 mice are a strain that exhibits very high levels of voluntary alcohol consumption, and work from our lab has demonstrated these mice will decrease their alcohol intake when given access to a running wheel (Ehringer et al, 2009). To further expand and characterize the mechanisms that may underlie this behavioral observation, we are taking two approaches. The first approach has been to perform whole transcriptome RNA sequencing from the striatum of animals to compare gene expression patterns between animals exposed to alcohol, wheel-running, or both. Preliminary analyses indicate that more genes are differentially expressed under the exercise condition compared to the alcohol condition. Further, some of the wheel-running differentially expressed genes show interaction effects when alcohol is present, suggesting alcohol presence can attenuate the effects of alcohol. Secondly, we examined adolescent mice using the same voluntary consumption model. Most individuals begin experimenting with alcohol during adolescence, a period characterized by hormonal changes and neuroplasticity believed to contribute to increased impulsivity and sensation seeking behavior. Adolescent C57Bl/6 mice also show decreased alcohol consumption in the presence of a running wheel. Future studies will focus on identification of genes and proteins uniquely expressed under these different environmental conditions, which may provide insight into the possible prevention and treatment applications of exercise for alcohol use disorders.

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CHALLENGES AND CONSIDERATIONS IN CREATING ECOLOGICAL MOMENTARY INTERVENTIONS FOR DISORDERED EATING BEHAVIORS

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Disordered eating behaviors (e.g., binging, overeating, restricting) tend to be persistent and difficult to treat. Converging evidence shows that many maladaptive eating behaviors are associated with health problems, other psychiatric conditions, and poor quality of life. A growing body of research indicates that standard behavior therapy is somewhat effective in reducing disordered eating; however current standards of treatment lack the ability to produce significant improvements that persist in the long term. One challenge of in-person treatment is the ability to affect behavior outside of the treatment setting. When eating-related urges are distressing and powerful, it can be difficult for individuals to remember coping skills discussed in treatment. Ecological Momentary Intervention (EMI) may help fill this gap. EMI, interventions delivered in the moment of distress usually via some form of technology, are able to help individuals enact behavioral skills in a different context. Given that most eating-related urges occur outside of the traditional treatment setting, there is good reason to believe that EMI would be an effective tool for reducing disordered eating behaviors. However, researchers are just beginning to discover the complexities of creating such interventions for disordered eating behaviors specifically. Our presenters will review data from studies of snack consumption, binge eating disorder, hedonic eating, and college student disordered eating. The studies utilized EMA and EMI in various capacities and the data provide insight for future intervention development. As a whole, the data presented suggest that EMI shows promise as a practical and effective modality for disordered eating interventions.

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Symposium 36A 3069

DEVELOPING AND EVALUATING A TAILORED ECOLOGICAL MOMENTARY INTERVENTION [EMI] FOR YOUNG WOMEN WITH DISORDERED EATING BEHAVIOR

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Researchers and clinicians are interested in extending both assessments (Ecological Momentary Assessment [EMA]) and, more recently, ideographically tailored interventions (Ecological Momentary Interventions [EMI]) into patients' everyday lives. The purpose of this study was to examine the feasibility of using mobile devices to collect EMA and to provide EMI to supplement a disordered eating intervention. College women with disordered eating behaviors (N = 131, BMI M = 25.6) were randomized to: (1) view psychoeducational videos on a computer (attention control); (2) complete an empirically supported interactive CD-ROM-based intervention aimed at reducing disordered eating behaviors (CD); (3) complete the CD-ROM supplemented with EMI (CD + EMI). The EMI was individually tailored in time (delivered at moments of need) and content (intervention components matched to risk) and provided on mobile devices for one week following the CD intervention. Results demonstrated significant group differences (control vs. treatment) in knowledge for intervention content (ps < .001), supporting treatment fidelity. Participants were satisfied with the content (M = 3.5, SD = 1.7; 0 = not at all, 6 = very much) and frequency (M = 3.6, SD = 1.6) of the EMI. An evaluation of treatment efficacy revealed the CD-ROM intervention did not reliably produce significant improvements in body-related constructs (ps > .13). There was no unique benefit of adding EMI to the intervention (ps > .05). Although previously shown to be efficacious with college women, the CD intervention was ineffective for changing behavior in the present sample. As such, we were unable to adequately test the efficacy of EMI. Nonetheless, this study demonstrated the feasibility of combining ambulatory assessment and intervention strategies to provide tailored and context sensitive EMI for disordered eating. This study adds to the relatively new, but growing, EMI literature by identifying challenges and opportunities for ambulatory assessment and intervention methods in psychosocial and health behavior treatments.

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Symposium 36B 3070

TECHNOLOGY-ASSISTED INTERVENTIONS FOR BINGE EATING AND OVERCONSUMPTION OF SNACK FOODS

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Prior research has suggested that technology-assisted interventions show promise for problematic eating behaviors. Our group conducted two projects evaluating such interventions. In one project, our group compared interventions for reducing consumption of high-calorie salty snack foods (SSF). The 75-minute interventions aimed to overturn the hard-wired drive towards hedonic eating via computer-based inhibitory control training (ICT), mindful awareness training (MT) or both ICT and MT. Interventions were boosted by text messages and/or home computer training in the days following. Results indicate large effects of condition on SSF consumption (F(3,80) = 3.26, p = .03, ηp2 = .11), and specifically that both MT and ICT + MT produced the largest decrease in SSF consumption (p = .04, p < .01), with a trend towards ICT + MT consuming the fewest.

We also report on the development of a smartphone-based ecological momentary intervention (EMI) for binge eating disorder (BED). TakeControl (TC) is a smartphone app that utilizes ecological momentary assessment to collect real-time information about eating patterns, emotions, binge eating triggers, and binge episodes. A risk algorithm calculated from observed associations between binge eating triggers and binge episodes provides personalized, in-the-moment cognitive and behavioral interventions. EMI has the potential to enhance CBT by facilitating usage of coping skills outside the therapy office, particularly in moments of high distress. TC additionally contains CBT-based learning modules that allow patients to progress through a traditional self-help program, as well as a portal that allows clinicians to interface with the app and view patient data. Data collection is ongoing (beta testing and feasibility trial projected n = 12; to be followed by an effectiveness trial, n = 16) but preliminary reports suggest high acceptability and satisfaction.

Taken together, results support the use of technology and EMI to enhance the ability to prevent overconsumption.

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Symposium 36C 3071

USING ECOLOGICAL MOMENTARY ASSESSMENT TO EXPLORE METHODS OF DISTINGUISHING BETWEEN HOMEOSTATIC AND HEDONIC EATING

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The decision to eat is more strongly influenced by a desire for the pleasurable or rewarding aspects of food (hedonic eating) than a physiological need to replete expended energy stores (homeostatic eating). It is hypothesized that hedonic eating is positively associated with weight gain; however, this has yet to be tested due to the lack of a reliable method for differentiating between hedonic and homeostatic eating. Developing such a method would support research aimed at understanding the etiology of obesity and the cognitive and contextual influences on "obesogenic" eating in an effort to design more effective weight control interventions. In support of developing such a method, we compared subjective and objective assessments reflecting homeostatic vs. hedonic eating via Ecological Momentary Assessment from 45 young adults (65% women, 40% overweight/obese) as part of Project TwEATs (Text with Ease Appetite Tracking System). At all eating events occurring over 7-days, participants recorded their perceived hunger status (hungry vs. not hungry) on eating records and simultaneously measured their pre-prandial blood glucose (BG), a biomarker of short-term energy availability, using a glucometer. A total of 962 eating events were reported with 775 BG readings reflecting a compliance rate of 81%. Four participants did not provide BG readings for an analytical sample of N = 41. Results from a general linear mixed model indicated that the mean difference in BG prior to self-identified hedonic vs. homeostatic eating was significantly greater among overweight/obese individuals than their lean peers (+6 mg/dl vs. +13 mg/dl, p = 0.019), after adjusting for covariates. Results indicate that overweight/obese individuals may subjectively identify hedonic eating but at BG that are significantly higher than their lean peers suggesting that pre-prandial BG may be a better indicator of hedonic vs. homeostatic eating, particularly in overweight/obese individuals.

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Symposium 37 2:10 PM-3:30 PM 3072

CASE STUDIES IN STRATEGIC SCIENCE TO INFORM CHILDHOOD OBESITY POLICY INTERVENTIONS

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Reversing the childhood obesity epidemic requires action by schools, advocates, the food industry, local and state policy makers, the federal government, and parents. Scientific research can play an important role in identifying and evaluating effective policy approaches to reverse the childhood obesity epidemic. Too often, however, policy makers and researchers have little interaction. Scientists may design their research without considering its value to policy makers, while policy makers and other change agents often are unaware of available research that could be of value. A strategic approach to conducting policy-related scientific research requires a dialogue between researchers and key change agents to identify the most important research questions and communicate findings to policy makers, the public, and others who can affect change. This symposium presents three case studies in using strategic science to inform policy interventions.

Speaker 1 will define strategic science, including how to identify key policy-related questions, employ scientific research to address those questions, and communicate findings to change agents. Speaker 2 will present a research program to understand cereal marketing to children, successfully used by advocates to encourage companies to reduce child-targeted marketing of high-sugar cereals. Speaker 3 will present research to address key questions regarding implementation and evaluation of a state law that established nutrition standards for competitive foods in schools. Speaker 4 will describe the role of research to support policy makers who propose state and local taxes on sugar-sweetened beverages. The discussant will comment on the value of using strategic science to support public health policy actions.

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Symposium 37A 3073

IMPROVING MARKETING OF SUGARY CEREALS TO CHILDREN THROUGH RESEARCH AND STRATEGIC COMMUNICATIONS

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Marketing of unhealthy foods to children contributes to obesity and poor diet. Children have traditionally seen more ads for ready-to-eat cereals than other food categories. However, child-targeted cereals contain 85% more sugar, 60% more sodium, and 65% less fiber than adult-targeted cereals. In 2006, we began a systematic research program to evaluate cereal companies' child-targeted marketing practices using a variety of research methods, including experiments, content analyses, field studies, and analyses of marketing data. We disseminated this information to the public health community through peer-reviewed publications, reports and presentations, and communicated with the general public through media outreach and online resources for parents. We also held in-person discussions with cereal manufacturers. The cereal industry appears to have responded to this scrutiny of their marketing practices. Cereal companies reduced advertising to children on television by 23%, from 2.4 ads viewed per day in 2006 to 1.8 ads per day in 2011. In contrast, advertising to children for other packaged foods and beverages declined by just 2% during the same period. Further, General Mills discontinued Millsberry.com, which had been the most popular food company-sponsored website for children. In addition, companies reduced the sugar content of child-targeted cereals below limits they had set initially in 2006, and companies have pledged to further reduce sugar by 2015. However, we found no evidence that companies will replace marketing of sugary cereals to children with marketing for their nutritious products. This case study provides evidence that scientific research together with communication of findings directed toward key change agents can contribute to changes in industry behavior and improve the nutrition environment for children. It also demonstrates limitations in companies' willingness and/or ability to voluntarily change successful business models that entail marketing their least nutritious products directly to children.

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Symposium 37B 3074

ADVOCATING FOR AND EVALUATING A STATE COMPETITIVE FOODS LAW

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Competitive foods in schools include a la carte items in the cafeteria and foods sold in vending machines, school stores, school concessions, and other in-school venues; these items are typically high-calorie, low-nutrient foods. Competitive foods have long been a target for school health advocates, as research shows that the availability of unhealthy snack foods in schools negatively impacts children's diet. In 2006, Connecticut passed legislation allowing for incentive payments connected to a school district's commitment to meet nutrition standards for all competitive foods sold in schools. Key to passing the legislation was targeted research to address specific predicted concerns about such standards, including their impact on school food service revenue. The legislation was ultimately supported by a coalition among state agencies, legislators, advocacy groups, and researchers. Key to maintaining the standards has been continued evaluation of the legislation with respect to financial feasibility and its impact on the school food environment. Beginning in the 2014-15 school year, all schools participating in the National School Lunch Program will be required to comply with new federal standards for competitive foods; the case study presented suggests the standards will be feasible and have a positive impact on students' diet.

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Symposium 37C 3075

THE ROLE OF STRATEGIC SCIENCE IN ADVOCATING SUGARY DRINK TAXES

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The role of sugary drinks in the American diet is one of serious concern to public health practitioners. Sugary drink taxes were proposed years ago as a population-level method to reduce consumption, but much groundwork was needed to set the stage. Peer-reviewed commentary and strategic science were used to articulate the public health policy rationale for sugary drink taxes, answer questions on economic and consumption impact, and offer guidance on how to best use the revenue to contribute to obesity prevention efforts. The speaker will outline the rationale for targeting sugary drinks in a public health campaign, and discuss who the change agents are and the questions they have posed in considering taxes. She will review the science and peer-reviewed commentaries used to lay the groundwork, answer questions, and address challenges and barriers. She will also discuss the technical assistance made available to legislators and advocates, legislation which has been filed, evaluation efforts, and ideas for other studies which could be of use to advocates and policy makers.

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Symposium 37D 3076

INTRODUCING STRATEGIC SCIENCE TO INFORM PUBLIC POLICY

Marlene Schwartz, PhD

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We define strategic science as research designed to inform and affect social and policy change. In this session, I will describe the process we use to conduct strategic science, including identifying key change agents, developing strategic questions to address through research, conducting strategic science and how it differs from traditional scientific research, and communicating research findings to key change agents. I will also discuss what we have learned about keys for successful implementation of strategic science.

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Symposium 38 2:10 PM-3:30 PM 3077

PEER SUPPORT AS A STRATEGY FOR REACHING THE "HARDLY REACHED"

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It has been observed that those termed "hard to reach" are better described as "hardly reached"; the fault lies not in those not reached, but in the failure to reach them. Important evidence indicates that peer support interventions ("community health workers," "coaches," "promotores," etc.) and similar approaches are often especially good at reaching those we too often fail to engage. This symposium will review examples of success in this area in asthma and diabetes. The first paper will describe "Asthma Coaches" who reached and engaged 89.6% of low-income, single mothers of Medicaid-covered children who had been hospitalized for their asthma. The Coaches sustained mothers' engagement over 2 years and reduced subsequent readmissions 52% relative to usual care. The second presentation will describe several intervention types, including reciprocal, dyadic peer support which was shown to be especially effective among those with low health literacy; trained peer coaches who were effective in maintaining clinical and patient-centered gains among inner-city Latino and African American adults with diabetes, almost 75% of whom had less than a high school degree; and lay health workers using tailored, interactive web-based tools to provide ongoing support for adult patients of a Federally Qualified Health Center. The third paper will present analyses of health coach interventions for "safety net" patients with diabetes, showing greatest differential benefit of coach versus usual care among those with initially low levels of medication adherence and self management. Presentations will also include discussion of implementation tactics that contributed to success. Serving as discussant and providing a national perspective on efforts to engage "hardly reached" groups will be Delia Pompa, the Senior Vice President for Programs of the National Council of La Raza.

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Symposium 38A 3078

ASTHMA COACHES USE NONDIRECTIVE, FLEXIBLE APPROACH TO REACH, ENGAGE, AND BENEFIT LOW-INCOME MOTHERS AND MEDICAID-COVERED CHILDREN HOSPITALIZED FOR ASTHMA

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The Neighborhood Asthma Coalition provided neighborhood- and peer-based interventions to improve asthma management and reduce emergency/hospital care in low-income neighborhoods in St. Louis. Mothers of children with asthma who were most socially isolated (numbers of family/friends can talk to about personal matters, call on for a favor) were more likely to engage in the program (attend classes, interact with peer supporters) and this engagement was predictive of reduced acute/emergency care. In a subsequent project, nonprofessional Asthma Coaches used a nondirective, flexible approach to reaching and engaging low-income mothers of children covered by Medicaid who had been hospitalized for asthma. This approach included accepting initial reservations about participation, recontacting those who declined initial participation in a nondemanding manner, flexibility thru mothers choosing key management practices on which to focus, and flexibility in mode of contact - telephone, home, neighborhood. Mothers of children hospitalized were recruited with no commitment to participate, but only to complete assessments for which they were paid. Thus, their engagement was a measure of reach of the intervention. 89.6% of mothers completed a substantive contact (discuss at least 1 of 7 asthma management practices) within 3 months of randomization and continued that engagement for the 2-year intervention, averaging 21.1 contacts. Over those 2 years, mean number of admissions per child was 0.73 in the Coach condition, a 52% reduction relative to the mean of 1.52 admissions in Usual Care ($p = 0.001$). Nondirective, flexible peer-based approaches reach, engage and benefit low-income mothers and their children with asthma, including those who too often are "hardly reached."

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Symposium 38B 3079

PEERS AND PIXELS: REACHING VULNERABLE POPULATIONS WITH CHRONIC DISEASE

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A key challenge in improving health behaviors and chronic disease management among vulnerable low-income populations with low health literacy is to develop a menu of effective modalities to extend care and support beyond face-to-face clinic visits. Our research team now has data from several RCTs showing the effectiveness of several innovative modalities: 1) reciprocal peer support between adults with shared self-management challenges and conditions which was shown to be especially effective among those with low baseline health literacy; 2) follow up of short-term community health worker-led chronic disease self-management training with longer-term support from trained 'peer coaches' which was effective in maintaining clinical and patient-centered gains among inner-city Latino and African American adults with diabetes, almost 75% of whom had less than a high school degree; and 3) lay health workers using tailored, interactive web-based tools to provide between-visit diabetes self-management support and education to adults receiving care from a federally qualified center serving Latino and African American adults in southwest Detroit. The presentation will summarize key findings on reach and benefits of each of these modalities and review practical lessons drawn to improve targeting of different approaches and to further extend their reach.

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Symposium 38C 3080

PEER COACHING FOR DIABETIC PATIENTS: WHO BENEFITS THE MOST?

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Although diabetes can be managed by medications and lifestyle changes, many of those with diabetes are not in good control of their hemoglobin A1c (A1c). In a randomized controlled trial, 299 patients with diabetes receiving care in public health clinics received peer health coaching. We compared the impact of peer-coaching on A1c between subgroups of patients defined by demographic, behavioral or psychosocial characteristics. We found the effect of coaching on patient A1c was modified by patients' level of self-management and degree of medication adherence as baseline ($p = .02$, and $p = .03$ respectively in adjusted models). Participants with "low" self-management at baseline experienced a change in A1c of -0.9% in the coached group compared to +0.3% in usual care; in contrast, there was virtually no difference in A1c change in coached vs usual care for participants with "high" self-management (-1.1% and -1.0%, respectively). For medication adherence, the change in A1c in coached and usual care groups was -0.8% vs +0.5%, respectively; for those with poor adherence and for those with high adherence, was -1.3% vs -1.1%, respectively. Peer health coaching had a larger effect on lowering A1c in patients with low levels of medication adherence and self-management support than in patients with higher levels. All of the coaches involved in the study were diabetic and many stated their reason for becoming coach was to help those who were struggling with their diabetes as they once had. Thus, patients who were struggling with medications and diabetes self-efficacy were receiving care, knowledge and empowerment from a caregiver they could relate to - one who was like them. Furthermore, coaches were in regular (twice a month) contact with patients by phone and in person and were not constrained by the 15-minute visit.

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Symposium 39 2:10 PM-3:30 PM 3081

GENOMIC ADVANCES AND PATIENT DECISION MAKING: RECENT FINDINGS AND EMERGING ISSUES

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Genomic advances have created tremendous opportunities and enthusiasm for personalized medical care. Genomic tests identify gene variants associated with rare inherited syndromes, common and chronic diseases, and drug responsiveness that may inform disease prevention, diagnosis, and management. Patients must consider the multiple risks and benefits of genomic testing as they decide whether to seek out this risk information, what types of information to learn, and how best to act upon their results. These issues are common to many healthcare decisions. Yet, the complexity, magnitude, and varying implications of the information provided by genomic testing make this decision context particularly challenging. This symposium, sponsored by the Health Decision Making SIG, highlights recent findings regarding participants' experiences with such decisions from several contexts reflecting the growth of genomic technologies, including direct-to-consumer testing, genomic tumor profiling, and whole genome sequencing. Wang begins by examining decisions about the use of genetic information, reporting on a longitudinal study of the information sharing and seeking behaviors of individuals undergoing personal genetic testing online. O'Neill describes how genomic information can influence disease management. She shares results of a longitudinal investigation of the implications of Oncotype DX, a genomic test of breast cancer recurrence risk, for patients' cancer treatment decisions. Sanderson addresses the challenge of promoting informed decision-making about genomic sequencing. She describes a randomized controlled trial of an animated decision aid about whole genome sequencing, and the impact of this aid on key decision-making outcomes. Biesecker concludes with a discussion of the broader psychological and clinical issues surrounding emerging genomic testing technologies and decision making. This symposium showcases how the science and methods of health decision-making research are critical for helping patients navigate the difficult decisions presented by genomic advances.

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Symposium 39A 3082

DECISIONS TO SHARE RESULTS AND SEEK FURTHER INFORMATION FOLLOWING ONLINE PERSONAL GENETIC TESTING

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The clinical utility of personal genetic information will depend, in part, on the decisions consumers make following receipt of their genetic results. This study examines the extent to which consumers share their test results with others, with whom they share, and predictors of sharing. Information seeking behaviors following testing were also examined. Data are from a longitudinal study of 986 participants who underwent personal genetic testing and completed 6 month follow-up surveys. At follow up, 95% of respondents indicated they had shared their results with someone. Among those who shared, the majority had discussed results with family members (96%) and friends (75%); fewer participants shared results with a primary care provider (28%) or genetics specialist (3%). Univariate analyses found that those who reported sharing results with primary care providers were more likely to be older ($p < .001$), have poorer self-reported health ($p = .001$), and were motivated to test for health reasons ($p < .001$). Feeling relieved ($p = .003$) or worried ($p = .01$) about results in the immediate weeks following the receipt of results predicted provider sharing at 6 month follow-up. Perceiving a greater number of test results as "interesting" ($p < .001$) or conveying positive carrier status ($p = .007$) also corresponded to sharing with providers. Following testing, 57% of respondents sought further information related to their results. In sum, consumers of personal genetic testing services overwhelmingly share results with family and friends, but less with providers. Reasons for not sharing and details on the type of information sought will be presented, based on responses to open-ended questions. Discussion will highlight the areas of decision support that may be needed for the cascade of decisions that consumers face when undergoing personal genetic testing.

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Symposium 39B 3083

GENOMIC RECURRENCE RISK ESTIMATES AND RECEIPT OF CHEMOTHERAPY FOR BREAST CANCER

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BACKGROUND: Practice guidelines incorporate genomic tumor profiling, using results of tests such as the Oncotype DX to refine recurrence risk (RR) estimates for the large population of breast cancer patients with early-stage, ER + disease. Patients with a high RR likely benefit from chemohormonal therapy, whereas patients with a low RR could more safely have hormone therapy but not chemotherapy. While RR can guide oncologist and patient decisions about treatment, additional patient factors may also predict treatment received.
METHOD: We prospectively assessed the effect of RR, post-disclosure perceived risk of recurrence, cancer-related distress, and perceived pros and cons of chemotherapy as predictors of receipt of chemotherapy in separate logistic regressions, adjusting for baseline values of these variables, other clinical variables and age. Participants were 85 women (mean age 56) newly diagnosed with breast cancer with low (n = 46), intermediate (n = 25) or high (n = 14) RR.
RESULTS: Women with high RR were more likely to receive chemotherapy than women with lower risk (ps < .001). While post-disclosure perceived risk of recurrence and cancer-related distress did not predict chemotherapy receipt, treatment was associated with stronger perceived pros (OR = 1.24, 95% CI = 1.03-1.49, p = .02) and marginally with lower perceived cons (p = .07). Testing the effect of individual pros and cons in separate analyses, the pro "To feel that I have done everything I can to be cured" (OR = 2.95, 95% CI = 1.08-7.06, p = .03) and the con "I am worried about the risks of undergoing chemotherapy" (OR = .28, 95% CI = .12-.69, p = .006) were most strongly associated with chemotherapy receipt.
CONCLUSION: Oncologist-patient treatment discussions should continue to include exploration of how women perceive the benefits and limitations of treatments, even in the face of genomic test results that can provide clear treatment guidelines.

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Symposium 39C 3084

IMPACT OF A NOVEL ANIMATED DECISION AID ABOUT PERSONAL WHOLE GENOME SEQUENCING: AN ONLINE RANDOMIZED CONTROLLED TRIAL

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Background: As whole genome sequencing (WGS) becomes more widely used, novel approaches are needed to help patients, research participants and the general public make informed decisions about proceeding with personal WGS. We developed a novel decision aid in the form of a 10-minute animated video about WGS with input from ethnically/racially diverse community consultants, community members, patients, and genomics experts. Our aim in the present study was to evaluate the impact of the video on key decision-making outcomes.
Method: This was a randomized controlled trial (RCT) in which online survey respondents (n = 865) were recruited via a market research company. Efforts were made to recruit ethnically/racially diverse respondents. Respondents were randomly assigned to either (1) no information; (2) the animation about WGS (https://www.youtube.com/watch?v=IXamRS85hXU&hd=1); or (3) text-based information about WGS. All completed a questionnaire.
Results: Fifty-two percent of respondents were female; mean age was 45 years; 24% were African American, 17% Hispanic, 43% White; 51% had annual income < $40,000; 44% were employed; 36% had a degree. Knowledge about WGS increased in the animation and text-based intervention groups (both p < 0.001), but did not change significantly in the no-information group. Respondents were equally satisfied with the text-based and animation intervention groups, but those in the text-based group were more likely to state the amount of information provided was "too much" (p = 0.001) and less likely to state the material was "easy to understand" (p < 0.001).
Conclusion: Our animated video about WGS had a positive impact on key decision-making outcomes among this sample of online survey respondents. We suggest that interventions such as ours may be a valuable adjunct to help patients and research participants make informed decisions about personal WGS, and may be a useful public education resource as WGS becomes more widely implemented across society.

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Symposium 40 2:10 PM-3:30 PM 3085

ADAPTIVE BEHAVIORAL INTERVENTIONS: SOME REPRESENTATIVE APPROACHES

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In an adaptive intervention, treatment is individualized by decision policies that determine how the type and dosage of treatment components should vary according to tailoring variables (e.g., measures of adherence and/or response) collected during treatment. There is an increasing interest in adaptive behavioral interventions, as they represent an effective means for optimizing interventions. The goal of this symposium is to acquaint attendees with recent advances in adaptive interventions by presenting a representative sample of interventions being developed for some important public health problems. The first talk describes an adaptive intervention for managing gestational weight gain (GWG). Control systems engineering, specifically dynamical systems modeling, is used to understand how changes in GWG for each woman result from decisions on energy intake, physical activity, and planned/self-regulatory behaviors in order to optimize the intervention. Decision rules that systematically adjust dosages based on participant response are presented. The second talk describes an adaptive intervention for smoking cessation that relies on a dynamical model and the concept of Model Predictive Control to adjust dosages of counseling and buproprion over time to reduce craving and prevent relapse. The third talk presents a novel experimental design called sequential multiple assignment randomized trial, or SMART, developed explicitly for the purpose of constructing high-quality adaptive interventions. A case study of two different SMART studies aimed at improving spoken communication in minimally verbal children with autism is presented. This talk will focus on study design considerations, including the rationale and the specific scientific questions examined for both studies, as well as a description of the adaptive interventions examined. The symposium (sponsored by the SBM Technology SIG) concludes with a discussant with extensive expertise in the use of mobile technology and systems science approaches in behavioral settings.

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Symposium 40A 3086

CONTROL SYSTEMS ENGINEERING FOR OPTIMIZING AN INDIVIDUALLY-TAILORED, ADAPTIVE INTERVENTION TO MANAGE GESTATIONAL WEIGHT GAIN

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Overweight/obese pregnant women (OW/OBPW) often exceed gestational weight gain (GWG) guidelines and thus, need effective weight management interventions. This symposium will discuss a newly NHLBI-funded, individually-tailored intervention that will adapt dosage to the unique needs of each OW/OBPW to effectively manage GWG. To optimize the intervention (i.e., make it as efficient/effective as possible), control systems engineering will be used to understand how changes in GWG for each woman responds to changes in energy intake, physical activity, and planned/self-regulatory behaviors. Our dynamical model relies on integrating mechanistic energy balance, theory of planned behavior, and self-regulation models to describe how internal processes can be impacted by intervention dosages, and in turn, reinforce positive outcomes (engaging in healthy eating/physical activity) to manage GWG. The intervention design and components (e.g., education, goal-setting, self-monitoring, engaging in healthy eating/physical activity behaviors) to manage GWG will be discussed. Unique intervention features will be highlighted such as customized GWG treatment, adaptive intervention design, validated differential equation model for energy balance to predict GWG and real-time feedback to adapt treatment, and m-health technology to promote self-monitoring and ease participant burden of collecting intensive data. Lastly, a simulated hypothetical case study from MATLAB with Simulink will be presented to illustrate the model's structure and demonstrate how this adaptive intervention will manage GWG among OW/OPBW.

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Symposium 40B 3087

DEVELOPMENT OF AN ENGINEERING-BASED OPTIMIZED SMOKING INTERVENTION

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Approximately 95% of attempts to quit smoking fail. Adaptive interventions have emerged as a way to address the chronic, relapsing nature of smoking. Adaptive interventions are personalized treatment strategies in which *decision policies* define how treatment dosages should be adjusted over time based on the levels of *tailoring variables* (eg, daily patient-reported withdrawal symptoms). Control systems engineering, a discipline concerned with moving a system from an undesirable to a desirable state, offers methods for optimization of such interventions. This work demonstrates how control systems engineering principles offer a decision framework for an optimized, adaptive smoking cessation intervention that adapts to the changing needs of a patient. Specifically, we simulate an intervention composed of counseling and bupropion that supports successful quitting in a representative patient otherwise predisposed to failure. For this, we describe an improved understanding of cessation dynamics, as captured in dynamical systems models developed in previous work using intensive data from a smoking cessation clinical trial, which informs treatment design. Additional components of the intervention will be highlighted, such as its Model Predictive Control structure, which allows systematic determination of the optimal counseling and drug adjustments to be made during the quit attempt; these decisions are made based on treatment efficacy predictions, outcome measurements (eg, cigs/day), goals (eg, cigs/day = 0), and an optimality criterion—a function quantifying intervention success, resource use, and patient care constraints over time. Finally, the flexibility of the techniques employed here will be emphasized and ongoing intervention enhancements outlined.

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Symposium 40C 3088

A CASE STUDY OF TWO APPLICATIONS OF THE SMART EXPERIMENTAL DESIGN FOR CONSTRUCTING ADAPTIVE BEHAVIORAL INTERVENTIONS IN MINIMALLY VERBAL CHILDREN WITH AUTISM

Daniel Almirall, PhD

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An adaptive intervention is a sequence of individually-tailored decisions rules that specify whether, how or when to alter the intensity, type or dosage of treatment at critical decision points in the course of care. Adaptive interventions provide clinicians with a guide for how to adapt and re-adapt treatment over time, in response to the changing needs or circumstances of the patient. They can be used to guide clinical and public health practice. Sequential, multiple-assignment randomized trials (SMART) were developed explicitly for the purpose of constructing high-quality adaptive interventions using experimental design principles. In this talk, we present a case study of two different SMART studies aimed at improving spoken communication in minimally verbal children with autism. We discuss study design considerations for both studies, including the adaptive interventions examined; and we present data analysis results from one of the studies, which sought to understand the role of speech-generating devices in the context of adaptive interventions for autism.

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Symposium 41 2:10 PM-3:30 PM 3089

MY OWN HEALTH REPORT (MOHR): ACTIONABLE AUTOMATED PATIENT-REPORT OF PSYCHOSOCIAL FACTORS AND HEALTH BEHAVIORS IN PRIMARY CARE

Sherri Sheinfeld Gorin, PhD,[1] Suzanne Heurtin-Roberts, PhD,[5] Russell Glasgow, PhD,[2] Sallie Beth Johnson, MPH, MCHES[4] and Rodger Kessler, PhD[3]

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There is a pressing need for greater attention to patient centered psychosocial issues and health behaviors in primary care, and for practical tools,study designs,and the implementation of results with clinical and policy relevance.To address this need, federal partners (NCI, OBSSR, and AHRQ) funded MOHR, a national paired, cluster (practice level) randomized, non-blinded, practical, implementation study that uses a delayed intervention design with nine pairs of primary care practices (18 total).The trial is designed to test whether primary care practices can systematically implement a standard automated set of patient reported psychosocial and health behavior items and provide patients needed advice, goal setting, and counseling in response.The aims of this symposium are to:(1) describe the design of the MOHR pragmatic trial and the multi-stakeholder approach to its development;(2) outline the process of implementation across the nine paired sites, as well as the national coordinating model;(3) examine the findings on reach from the implementation of MOHR and initial results on effectiveness; (4) highight the implications of these findings for behavioral health patients, clinicians, and researchers. Suzanne Heurtin-Roberts will describe the four phased, iterative process that was used to conceptualize, identify, recommend, and test patient reported data elements on psychosocial factors and health behaviors for the MOHR tool, and to design the trial. Russ Glasgow will delineate the general process of implementation across the highly diverse sites, including Practice based Research Networks and Federally Qualified Health Centers. Sallie Beth Johnson will share the findings on the intervention reach (percent of patients offered and completing the MOHR assessment),and preliminary effectiveness results, using patient experience surveys. Roger Kessler will discuss the lessons learned for implementing patient-centered care, the PCMH, cost effective primary care, and policy.

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Symposium 41A 3090

COLLABORATIVELY CROWD-SOURCING A PRAGMATIC TRIAL: THE MY OWN HEALTH REPORT (MOHR) PROJECT

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The past several years have seen the confluence of various policy events and trends in health care, generating the need for clinical tools to facilitate routine patient reporting on their own health status. This is especially important for behavioral and mental health factors which can easily be overlooked in the time-pressured delivery of primary care. This presentation describes the design and multi-stakeholder crowd-sourcing approach to development of the MOHR Pragmatic Trial. In 2011, based upon previous discussions at the SBM annual meeting, a consensus conference was held of 93 national experts in primary care, public health, health behavior, and psychosocial phenomena, as well as patients. Conference attendees engaged in a rigorous process to identify evidence-based, patient-reported measures that could be routinely collected to improve health and monitor health status. Following the conference, stakeholders used a collaborative process to winnow the measures to 17 items assessing 10 important health behavior and mental health domains.

With collaborative funding from AHRQ, NCI, the NIH OBSSR, these items were piloted in 2012 at several primary care practices. In the summer of 2012, a small group began to develop an automated patient reported data tool, "My Own Health Report." Between October 2012 through January 2013, academic health research teams and primary care practices from the CDC/NCI-funded CPCRNs and AHRQ's PBRNs began an iterative group process of bi-weekly meetings to design the MOHR tool, implementation process, and trial protocol. The result has been an especially collaborative pragmatic, cluster randomized implementation trial in 9 pairs of diverse primary care clinics in 6 states including both FQHC and PBRN sites. We will discuss how the project's foundational values of transparency, inclusiveness, and flexibility have influenced the multi-stakeholder collaboration that is the MOHR project.

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Symposium 41B 3091

MY OWN HEALTH REPORT (MOHR): IMPLEMENTATION PROCESS

Russell Glasgow, PhD,[2] Melissa S. Hayes, MPH,[3] Alex Krist, MD,[3] Beth Glenn, PhD,[4] Sherri Sheinfeld Gorin, PhD,[1] Suzanne Heurtin-Roberts, PhD, MSW[5] and The MOHR Study Group[5,6]

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It is often difficult to replicate research studies, in part because of a lack of transparent reporting of implementation process. This presentation will describe the general MOHR implementation plan, adaptations made, and how this was done in a rapid, pragmatic fashion.

MOHR was implemented in nine diverse primary care sites that varied on size, rural vs. urban location, whether or not a community health center, and level of electronic health record and primary care medical home integration. The implementation plan was designed to balance standardization for delivery of key intervention components and content with flexibility for local sites to adapt details of which staff, when, and how these components were integrated into clinic flow. A semi-weekly, collaborative learning approach was conducted via phone following initial web-based implementation training.

MOHR was implemented across these diverse sites in approximately 8 months from initial randomization to final data collection on an estimated 1350 primary care patients. This was possible due to decisions to use existing practice-based research networks, to delegate decision making to work groups, use of continual tracking and feedback on progress, and the willingness to make and report on adaptations.

Pragmatic research, such as the MOHR project, can be conducted collaboratively, rapidly and implemented with quality. Lessons learned and recommendations for future research will be discussed.

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Symposium 41C 3092

THE REACH OF A PATIENT REPORTED OUTCOMES TOOL FOR BEHAVIORAL AND PSYCHOSOCIAL FACTORS

Sallie Beth Johnson, MPH, MCHES,[7] Alex Krist, MD,[2] Russell Glasgow, PhD,[3] Sherri Sheinfeld Gorin, PhD,[1] Suzanne Heurtin-Roberts, PhD,[4] Melissa S. Hayes, MPH,[2] James Thompson, MD,[5] Mark Greenawald, MD[6] and Paul Estabrooks, PhD[7]

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Practical tools to assess patient-reported behavioral and psychosocial outcomes are needed for primary care to realize the meaningful use of electronic medical records, provide patient-centered care,and achieve population health management goals.We describe the reach of the My Own Health Report (MOHR) tool.Nine of 18 matched primary care clinics were cluster-randomized to implement MOHR over 4 months.Each clinic determined its own target population and method of implementation.The completion rate of the tool was 45%,60%,and 61%,respectively, regardless of reason for patient visit,(n = 2 clinics),when only chronic disease and wellness visits(n = 4 clinics),and when non-acute visits(n = 3 clinics) were targeted.Clinics that used in-person(n = 5 clinics,69% completion)or phone invitations(n = 1 clinic,63%) were more successful than those that mailed invitations(n = 3 clinics, 35%).Clinics where patients completed the MOHR during their visit(n = 5 clinics,69%)had higher participation rates when compared to clinics where patients completed the tool before their visit(n = 4 clinics,42%). When patients had assistance to complete the tool either in person or on the phone(n = 5 clinics,73%)the participation rate was higher than when there was no assistance(n = 4 clinics,37%). Finally, completion rates were 44%,54%,and68%, respectively,when the tool was completed using a paper and pencil format only(n = 1),via the web(n = 5 clinics),or via the web or paper and pencil (n = 3 clinics). Racial and ethnic minority populations (i.e.,16% African American (AA);22% Hispanic/Latino (H/L)were well represented in the sample that completed the MOHR(i.e.,26% AA,17%H/L).It appears that in person invitations and completion opportunities (by phone or in person) improve participation in the MOHR tool.

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Symposium 41D 3093

WHAT DOES MOHR HAVE TO TEACH US ABOUT PATIENT ENGAGEMENT? REFLECTIONS AND FUTURE DIRECTIONS

Rodger Kessler, PhD,[4] Russell Glasgow, PhD,[3] Alex Krist, MD,[2] Sherri Sheinfeld Gorin, PhD,[1] Suzanne Heurtin-Roberts, PhD, MSW[5] and The MOHR Study Group[5]

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Implementing patient-centered care is a stated goal of health care reform.However, engagement of patients,routine collection, and use of patient data in the process of care are not yet mature.Current findings from the MOHR project address these issues,and future work with MOHR will extend into areas currently unresearched. The MOHR assessment can be rapid and yields valid,multidimensional measurement of key behavioral issues related to morbidity and mortality.Second, this project has demonstrated that such data can be collected in multiple ways,depending on current capacity of the practice,and that it can be summarized for both patient and primary care team planning. From the perspective of the patient-centered medical home (PCMH),MOHR: 1) responds to the need for mandated behavioral screening;and 2) actualizes the opportunity for a core element of PCMH: panel-based assessment and care delivery.As part of an annual wellness visit, MOHR could produce data to identify panels of at risk patients with multiple risks,and eventually provide care responses tailored for different patients.The current status and administration of the MOHR moves in the direction of, but does not yet achieve, cost effective care. Currently we have the ability to relate certain indicators of utilization to individual MOHR scales, as an analog of cost. Longitudinal administration of the MOHR can generate change scores, a limited indication of effectiveness of health care. Further work needs to be done to use the MOHR for cost effectiveness assessment; scoring methods need to be tested and issues of utilities need to be investigated. Perhaps the greatest achievement of the current MOHR project is to demonstrate the feasibility and utility of the MOHR as a measure and method of collecting brief, valid and actionable behavioral and mental health data that should be useful clinically to facilitate whole person care.

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Symposium 42 2:10 PM-3:30 PM 3094

DISSEMINATION OF EMPIRICALLY SUPPORTED PSYCHOLOGICAL TREATMENTS FOR CANCER PATIENTS

Barbara L. Andersen, PhD,[1] William H. Redd, PhD,[2] Caroline S. Dorfman, MA,[1] Suzanne C. Lechner, PhD[4] and Rowland H. Julia, PhD[3]

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Failure to focus on dissemination and implementation is a major contributor to the disconnect between EST research and clinical practice, not only in cancer, but also in other areas of behavioral medicine. For ESTs to be used beyond the research environments in which they were tested, an important domain for attention is the therapist as their education and training is the first step to transferring ESTs to the community. The symposium will begin with a conceptual model with the aims of dissemination, implementation, and sustainability of EST delivery. Recent circumstances may provide a window of opportunity for EST delivery to all. The Commission on Cancer of the American College of Surgeons patient-centered quality standards for accreditation of cancer clinics states, by 2016 all cancer clinics must provide psychosocial services to patients and document the efficacy of doing so. Behavioral scientists and clinicians are uniquely positioned to respond to this challenge. Following introductory remarks, the symposium presents three examples of behavioral medicine researcher/clinicians successfully training clinicians to use/deliver ESTs. The first will describe three training programs for oncology professionals: screening, building supportive care programs, and training in cognitive behavior therapy. Regarding CBT training, the presenter will describe the methods and outcomes achieved, including data from 12 months post training. The second will describe ongoing Cancer to Health Training Institutes to disseminate the Biobehavioral Intervention (BBI) to mental health providers in cancer. In addition to pre/post Institute outcomes, data on post training usage will be discussed. The final presentation will provide the results of a 10-week cognitive behavioral stress management intervention adapted for underserved Black breast cancer survivors. The discussant will review these examples in the context of improved psychosocial care for patients.

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Symposium 42A 3095

DISSEMINATING EVIDENCE-BASED CANCER SUPPORT CARE INTERVENTIONS

William H. Redd, PhD

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We are currently conducting three independent series of workshops to increase up-take of evidence-based cancer supportive care. Fifty competitively selected clinicians attend two or three-day workshops at Mount Sinai (NYC) or at City of Hope (Duarte, California). Each workshop is followed by six monthly faculty-trainee conference calls to promote implementation of skills learned. An online discussion board is also provided to facilitate ongoing communication. Program evaluations include assessment of: knowledge gained, self efficacy, and institutional buy-in. Foci of the three ongoing series are: Building Supportive Care Programs, Implementing Bio-psychosocial Screening, and Training in Cognitive-Behavior Therapy (CBT). In its first year, "Building Programs" seeks to increase clinicians' understanding and implementation of supportive care programs - from determination of services to offer and budget management to overcoming institutional/community resistance. "Implementing Screening," also in its first year, seeks to enable clinicians to identify, triage, and manage potential barriers to maximizing cancer medical treatment. In addition to post-workshop conference calls, 10 pre-workshop "screening" webinars and two conference calls prepare trainees for the hands-on workshop. Two post-workshop webinars and regular conference calls facilitate screening implementation. In its fifth year, "CBT" strives to give frontline clinicians the skills needed to implement CBT to reduce patient and family distress. A total of 500 frontline cancer clinicians have been trained, with less than 25% dropout across 6 monthly post-workshop conference calls. At 12-month follow-up participation is 75%. Across all CBT knowledge scales, there is a significant increase in knowledge which is maintained at 12-month follow-up assessment. Initial program evaluations of "Building Programs" and "Implementing Screening" are equally positive. With NCI funding through the R-25E mechanism, evidence-based interventions are being disseminated to frontline cancer clinicians to enhance quality of care and clinical outcome.

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Symposium 42B 3096

DISSEMINATION OF THE BIOBEHAVIORAL INTERVENTION: FROM CANCER TO HEALTH

Caroline S. Dorfman, MA,[1] Brittany M. Brothers, PhD,[1] Kristen M. Carpenter, PhD,[4] Georita M. Frierson, PhD,[2] Rebecca A. Shelby, PhD,[3] Lisa M. Thornton, PhD[1] and Barbara L. Andersen, PhD[1]

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Hundreds of RCTs have shown psychological interventions to be efficacious for cancer patients in reducing stress, enhancing quality of life, and for some, improving health and reducing risk for disease progression. Key organizations (e.g., IOM) advocate for dissemination, yet underutilization of empirically supported treatments (ESTs) is the norm. In response, a conceptual framework for training mental health providers to disseminate and implement an EST, the Biobehavioral Intervention (BBI), is described and outcomes presented. Cancer to Health (C2H; www.cancertohealth.osu.edu) Institutes provide multi modal BBI training. Three day Institutes include didactics, small group instruction, clinical competence training, and provision of treatment manuals, among others. Post institute, further training, individual and group consultation, web and other resources are provided. This support promotes competence, retention of knowledge, adoption, and implementation. In 2012-13, 180 applications were submitted and 75 trainees (representing 25 states) were chosen. All were licensed mental health professionals (MSWs, 41%; psychologists, 40%), spending > 50% time in direct clinical service to cancer patients with the following characteristics: 35% rural vs. urban, 37% low income, and 30% non-Caucasian. Pre/post Institute outcomes and 6 and 12-month usage data will be presented. Illustrative findings include: trainees viewed the teaching and consultation as effective (92%) and would recommend C2H to others (88%). The BBI was seen as readily applicable to patients (92%) and therapists felt capable to use it (96%). Upon follow-up, trainees' self-efficacy and attitudes toward ESTs continue to increase, as does usage of BBI. In sum, an effective training model for EST dissemination is supported and the BBI, tested with breast cancer patients, is now used broadly with cancer patients.

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Symposium 42C 3097

DOES A COMMUNITY-BASED STRESS MANAGEMENT INTERVENTION AFFECT OUTCOMES AMONG UNDERSERVED BLACK BREAST CANCER SURVIVORS?

Suzanne C. Lechner, PhD,[1] Sara Vargas, PhD,[2] Nicole Ennis-Whitehead, PhD,[3] Debra Annane, MA,[1] Belinda Robertson, BA,[1] Charles S. Carver, PhD[1] and Michael H. Antoni, PhD[1]

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Project CARE, an NCI-funded randomized clinical trial, examined whether participation in an adapted cognitive-behavioral stress management (CBSM) and enhanced breast cancer education (EE) program improved psychological outcomes among a sample of underserved Black breast cancer survivors. Both group-based, 10-week interventions used in the trial were culturally adapted for Black women in the community from evidence-based interventions used in previously successful clinical trials. Participants were randomly assigned to CBSM or EE. Participants were 114 Black women (mean age = 51.1, 27-77 years) who had completed breast cancer treatment 0-12 months prior to enrollment (all stages of disease, mean time since cancer diagnosis = 14.1mo). There was a remarkable 94% retention rate from baseline to six month follow-up (mean attendance rate = 7.5 sessions, only 9 participants did not attend any intervention sessions). Contrary to hypotheses, participants in both conditions showed statistically significant improvement on indices of psychological well-being, including mood (POMS-SV), quality of life (FACT-B), intrusive thoughts (IES-R), depressive symptoms (CESD), and stress levels (PSS) over the six-month post-intervention follow-up (all repeated measure ANOVA within subjects time effects: $p < .05$) but condition x time effects were not statistically significant. This suggests that improvements in multiple measures over time may have been due to intensive training in stress management, extensive provision of breast-cancer information, or participation in an ongoing supportive group of individuals from a similar racial background. There are wide-reaching implications of this research program, including decisions about appropriate control groups, the timing of intervention delivery during the treatment trajectory, and perceived support from the research team.

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Symposium 43 2:10 PM-3:30 PM 3098

LIVING WITH CANCER IN EMERGING ADULTHOOD: WHAT QUALITATIVE RESEARCH CAN TELL US

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Emerging adulthood is a developmental state between adolescence and young adulthood (ages 18-29) where young people tend to be self-focused as they explore their identity through work, school, and relationships. According to Arnett (2006), key features of emerging adulthood are identity exploration, instability, self-focus, possibilities, and feelings of being in between a child and adult. Living with cancer during this developmental stage is "off-time in the normative life cycle (Neugarten, 1979) and likely brings unique stresses and challenges that affect resolution of these tasks.

This symposium will marry content with method to describe the unique challenges of this understudied population. All three papers use qualitative or mixed methods to examine the adaptive tasks of coping with cancer during emerging, and in one case, early adulthood, with a focus on unmet needs, emotional disclosure, and renegotiation of identity and social roles. The first paper presents findings from an interview study of undergraduates with a personal history of cancer to explore the conditions under which these young survivors feel comfortable disclosing their illness and how they handle others' reactions. The second paper examines how young testicular cancer patients navigate tensions between idealized masculinity and illness experience, and how this influences utilization of health care and support resources. The third paper examines maintenance and change in one's identity after a diagnosis of hematologic cancer in emerging and early adulthood, and how changes in one's identity as a cancer patient affects relationships with family and friends as well as life choices with regard to intimate relationships, careers, and parenting. The discussant, Dr. Lisa Rubin will both draw together the studies' findings on how cancer affects emerging adults and highlight how qualitative methods can bring out different kinds of knowledge to inform psychosocial interventions for medical populations.

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Symposium 43A 3099

DISCLOSURE EXPERIENCES OF CANCER SURVIVORS WHO ARE IN COLLEGE

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Children and adolescents treated for cancer are surviving into adulthood. Physical effects and unique psychosocial issues accompany long-term survivorship. A central psychosocial issue relates to decisions about disclosing one's cancer history. College is a critical period for identity development, social connectedness and increased independence, and, thus, is a provocative, potentially pivotal, development point for understanding cancer disclosure. This active study aims to provide insights into the previously unexplored topic of disclosure experiences among cancer survivors attending college in the United States. To date, 17 undergraduate college students with a personal history of cancer, aged 18-30 years, have participated in a semi-structured interview conducted via video chat. Participant recruitment will continue until thematic saturation is reached. Interviews were transcribed verbatim. The current sample consists of seven men and ten women. Participants' ages at diagnosis and the amount of time elapsed between cancer diagnosis and study interview ranged widely, 18 months to 22 years and 6 months to 20 years, respectively. Most participants had a type of leukemia or lymphoma. Other cancers were testicular and brain cancers, carcinoma of the tongue, dysgerminoma, and endodermal sinus and chordoma tumors. Using the Consensual Qualitative Research approach, initial identified themes are: 1) comfort with disclosure and level of openness, 2) reasons for and against disclosing, 3) chosen recipients of disclosure, 4) recipients' reactions to disclosure and participants' feelings about reactions, 5) desired reactions and 6) pre-college disclosure. Study participants varied markedly on each theme. Disclosure is a complex topic and a highly individual experience. Initial findings suggest several testable hypotheses for future research. Final findings will inform the development of a needed measure of cancer-related disclosure and will provide insights for targeted intervention development.

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Symposium 43B 3100

COPING WITH HEMATOLOGIC CANCER IN EMERGING AND EARLY ADULTHOOD

Amanda M. Marin-Chollom, MA,[1,2] Tracey A. Revenson, PhD,[2,1] Lisa R. Rubin, PhD[3] and Ian Pervil, MA[1]

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This study explores the unique psychological experiences of young adults (ages 20-49) diagnosed with a hematological malignancy (lymphoma or leukemia) in order to understand the psychological and social factors that optimize quality of life. Data were obtained from 30 patients (43% female, 52% partnered, 39% emerging adults) who participated in a 1-hour semi-structured interview and completed standard psychosocial measures of adjustment. Data were analyzed using thematic analysis, a foundational method for identifying, analyzing, and reporting patterns within data (Braun & Clarke, 2006). The data presented here focuses on how cancer impacted their identities and life choices in terms of self-image and social identity. Interview narratives highlight the ways in which participants viewed both continuity and change in key identity domains, including social and familial roles; body image; and career and family planning goals. Many of the participants expressed stagnation in forming and maintaining intimate relationships, and frustration with their sudden and indefinite inability to work or attend school. Furthermore, participants described both treatment and financial stresses that limited their new-found autonomy and mixed feelings about having parents and family involved in treatment. A key challenge within and across participants involved the need to make meaning of their illness, without having their identity subsumed by their cancer experience (e.g., "I don't always want to be known as the 20-year old who got cancer"). Participants conceptualized cancer not only an "off-time" event that shifted their sense of their life's trajectory, but one in which perceptions of time itself were upended. The findings suggest potential ways to improve quality interventions targeted at family, friends and health professionals.

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Symposium 43C 3101

MASCULINE IDENTITY IN EMERGING ADULTS WITH TESTICULAR CANCER: A VOICE-CENTERED ANALYSIS

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"Hegemonic masculinity" refers to a set of restrictive social and psychological ideals that prescribe normative behaviors and affective states for men, such as emphasis on independence, stoicism, and regulation. Many of these expectations present a mismatch with the adaptative tasks involved in coping with a life-threatening illness such as cancer. This qualitative study examines the ways in which coping responses of a cohort of emerging adults with a history of testicular cancer were aided and curtailed by the perceived requirements of hegemonic masculinity. Ten in-depth semi-structured interviews were analyzed using the Listening Guide, a qualitative voice-centered narrative method. The Listening Guide identifies harmonies and dissonances in individuals' talk about the self, attending to the multi-layered voices used to speak about inner experience. Participants aged 18-29 (M age = 25; 40% ethnic minority), with a history of testicular cancer, were recruited from a state cancer registry. Interviews probed experiences of diagnosis, treatment, aftercare, and survivorship. Results revealed tensions in relation to disclosure of cancer status, financial management of care, and utilization of sexual and reproductive health services, with implications for how men approached detection, diagnosis, treatment, and aftercare (e.g., support needs, prosthetics, fertility changes). Perceptions of normative masculine obligations - which varied across socioeconomic status, partner status, and sexual orientation - influenced disclosure of these issues. . Men's ability to renegotiate constructions of masculinity shaped their adaption to cancer and ability to meet their emotional, social, and physical health needs. Findings revealed ways in which hegemonic masculinity influences emerging adult patients' adjustment to cancer, providing a framework for providers to better serve this population.

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Friday
April 25, 2014
3:45 PM-5:15 PM

Paper Session 13 3:45 PM-4:03 PM 3102

GENDER DIFFERENCES WITH SMOKING CESSATION ONLINE INTERVENTIONS: THE QUIT-PRIMO STUDY

Julie E. Volkman, PhD,[2,1] Erin M. Borglund, MPH(c),[1] Rajani S. Sadasivam, PhD,[1] Kimberly L. Harvey, MPH,[1,2] Sarah L. Cutrona, MD, MPH[1] and Thomas K. Houston, MD, MPH[1,2]

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Background: Gender differences exist in smoking rates, quitting and smoking cessation activities. To develop future web-tailored smoking cessation interventions, it is important to understand differences in men and women's use of these websites.
Method: We analyzed gender differences among smokers registered to a smoking cessation intervention, Decide2Quit.org (D2Q), for utilization of D2Q, responses of D2Q's influence quit goals and quit rates.
Results: Over half of the 990 registrants were women (n = 628). No significant differences emerged on age, education, race and readiness to quit, but more women had a prior visit to smoking cessation websites compared to men (16.24% vs. 9.94%, p = .01) and used the Internet more (97.13% vs. 93.37%, p < .01). Men on average smoked more cigarettes per day than women (men, M = 19.11; SD = 10.06; women, M = 16.13; SD = 9.06; p < .001), but women allowed smoking in the home more than men (50.64% vs. 41.16%; p < .01). There were no significant differences in use of D2Q's sections for "Health Risk Information", "Thinking about Quitting," "Health Provider Tools," and "Library Information," but women used the "Family Tools" section more than men (34.55% vs. 25.41%, p < .01). Among registrants with access to social network tools, women were more likely to use the peer social network tool than men (12.90% vs. 8.84%, p = .05). Adjusted regressions showed women more likely than men to report D2Q influenced them to get support (OR = 1.59; 95% CI 1.04-2.43; p = .03), list reasons to quit (OR = 1.54; 95% CI 1.01-2.36; p = .05) and use behavioral strategies (OR = 1.82; 95% CI 1.19-2.79; p = .01). Six month cessation was similar in men and women.
Conclusion: Women were more likely to register, use and report being influenced by D2Q. Online based smoking cessation interventions may be influential for women, but how to engage men needs to be considered. Work funded by Grant 5R01CA129091-04 from the National Cancer Institute.

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Paper Session 13 4:03 PM-4:21 PM 3103

CRAVE-OUT! A GAME FOR DISTRACTION OF CIGARETTE CRAVINGS

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Background: Distraction from cravings can be used for relapse prevention in smoking cessation. We developed a smartphone game "Crave Out" as a distraction tool, and assessed impact on cravings in a pilot study.
Method: Crave-Out is a multi-level pattern memory challenge game. To complete challenge (level) users must remember a list of fruits and catch falling fruits in the correct order with a virtual bucket. Stickers (rewards) are provided after each challenge completed, reminding users of the benefits of quitting. After initial usability testing, current and prior smokers were recruited from outpatient and inpatient settings. Before and after game play, smokers completed a 10-item version of the Questionnaire of Smoking Urges (QSU), a validated craving measure.
Results: Smokers (n = 30) were mostly male (67%), between ages 25-44 (67%), college educated (70%), with 83% current smokers. Most had attempted to stop smoking in the past 12 months (59%), and were willing to stop smoking (67%). Smokers agreed that Crave-Out was fun (73%), challenging (67%) and helped distract from cravings (57%).
Measurement of QSU pre-game (mean = 3.24, SD = 1.65) and post-game (mean = 2.94, SD = 1.39) show decrease (change = 0.25) in cravings. Among those reporting "Game was challenging" we observed a greater decrease (Pre-game mean =3.26, SD = 2.17, Post-game = 2.69, SD = 1.66, change = 0.57)
The QSU decrease was also accentuated for prior smokers (Pre-game mean = 2.84, SD = 1.16, Post-game mean = 2.0, SD = 0.94, change = 0.84). We have now launched Crave Out on iTunes, with over 2721 downloads
Conclusion: In this pilot, Crave-Out reduced cravings. Creating a game that is challenging may be key for distraction of cravings. Supported by NCI R01 (1 R01-CA-129091)

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Paper Session 13 4:21 PM-4:39 PM 3104

USING HUMAN CENTERED DESIGN METHODS TO INFORM DEVELOPMENT OF A CONTEXT-AWARE, MOBILE SMOKING CESSATION APPLICATION

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Human centered design (HCD) methods draw insights from potential users before technology is developed in order to inform designs best suited to users' needs. Smartphone applications ("apps") that deliver real-time text message interventions for smoking cessation are increasingly available, but effectiveness is limited. As a first step toward improving effectiveness, we used an HCD method, Bullseye Diagramming, to inform design of a context-aware, interactive smoking cessation app. Participants (N = 13 adult smokers; mean age = 50; mean cigarettes/day = 15) placed printed cards describing potential functional capabilities from four empirically based categories (stimuli, data access, privacy and predictive analytics, social networking) on a bullseye (highest priority in the center, lowest outside the third concentric circle). Additionally, 11 data input activities were rated (0-10 = worst) for burden. Results indicated that the highest priority functional capacities were "see data you entered from the day before" (data access); "see how much money you save by not smoking" (data access); and "gives you tips on how to stay quit" (stimuli). Next highest rated were: "project how much money you save by not smoking" (data access); "predict when you want to smoke and send you a text message" (predictive analytics); and "compete against other app users to see who can stay smoke-free the longest" (social networking). Rated most burdensome were: "Press a button when others are smoking" and "enter the address of places where you smoke." These results strongly suggest that smoking cessation apps should include personalized continuously tailored capabilities. The data entry required for these capabilities was not viewed as particularly burdensome, supporting the feasibility of including these elements in the design. Low-cost HCD activities like Bullseye Diagramming have potential to yield high-value design insights across behavioral informatics.

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Paper Session 13 4:39 PM-4:57 PM 3105

EXPLORING BMI AND SMOKING STATUS AS INTERRELATED RISK FACTORS AMONG USERS OF WEB-BASED CESSATION

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Background: Smoking and weight status are the leading risk factors for preventable death in the U.S. Although historically smokers have had a lower Body Mass Index (BMI) than non-smokers, this trend may be shifting in the context of the obesity epidemic. This is a concern as obesity is a significant risk factor for co-morbid health outcomes among smokers. To investigate the issue of BMI among smokers, a survey was conducted of users of two online smoking cessation interventions, smokefree.gov and women.smokefree.gov.
Methods: Visitors to the websites were prompted to respond to a brief survey on demographic and smoking-related characteristics. Respondents' (N = 1171) self-reported height and weight were used to calculate their BMI. Data were analyzed using chi-square, t-test, correlation, and ANOVA to assess associations between BMI, smoking status, and number of cigarettes smoked per day (CPD).
Results: The distribution of BMI categories among sampled smokers was: underweight (1.7%), normal weight (34.5%), overweight (32.1%), and obese (31.6%). The average BMI among smoking females in this sample was 28.19 and among smoking males 27.86, which resembles those of the general U.S. population. Due to limited sample size, underweight participants were removed from the analysis. Analyses demonstrate that weight was positively associated with CPD ($r = .103$, $p < .01$). Obese smokers smoked significantly more CPD (18.32) than normal weight (15.84) or overweight smokers (15.84; $p < .01$).
Conclusions: These analyses suggest that smokers seeking cessation information have weight statuses similar to the general population and that weight status and CPD are correlated. Understanding weight patterns in the smoking population is critical to the development of synergistic smoking cessation and weight-related interventions, especially within the context of the obesity epidemic in the U.S.

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Paper Session 13 4:57 PM-5:15 PM 3106

EXAMINING THE RELIABILITY OF TEXT MESSAGING AS A MODE OF SELF REPORTING

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Background: Programs delivered by text message on mobile phones have shown some promise in helping people quit smoking. Text2Quit is one such automated, interactive, and tailored text messaging program designed to provide support, motivation, and reminders about quitting. While text messaging has been found to be an effective and satisfactory mechanism for program delivery, text messaging has not been studied as a mode of collecting survey data.
Purpose: This study aimed to examine the reliability of smoking status reported via text message as measured against the previously validated mode of smoking status reporting by web survey.
Methods: This study examined the consistency of participant response (n = 262) who reported smoking status via web survey and text message at 1 (n = 63), 3 (n = 72) and 6 (n = 55) months post study enrollment. Participants were asked, via web survey and text message, the commonly used smoking assessment question: Have you smoked at all, even a puff, in the last 7 days? All analyses were completed in 2013.
Results: The majority of participants consistently reported their smoking status at one (84.4%), three (82.2%) and six (84.2%) months post-enrollment. Moderate levels of association were found between participant reports of smoking status via web survey and text message at 1 ($\kappa = .58$), 3 ($\kappa = .66$) and 6($\kappa = .66$) months post study enrollment follow up. Using McNemar's test, a statistically significant difference in web versus text message reports of smoking status was not detected at 1 ($p = .34$) and 6 ($p = .73$) months post-enrollment, though a statistically significant difference was observed at the 3 month post-enrollment follow up ($p < .05$).
Conclusion: Results provide initial support for the use of text messaging as a reliable mode of collecting self-reported smoking status. The reliability of text messaging should be further explored and evaluated in future research.

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Meritorious Paper
Paper Session 14 3:45 PM-4:03 PM 3107

NON-SUICIDAL SELF-INJURY IN SEXUAL MINORITY WOMEN: THE ROLE OF INTERNALIZED HOMOPHOBIA AND MINORITY STRESS

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Research suggests that sexual minority women (SMW) are more likely than their heterosexual counterparts to experience suicidal ideation and suicide attempts. Little is known about the relationship between non-suicidal self-injury (NSSI), or the intentional harming of an individual's own body tissue without suicidal intent, and sexual orientation. This study aimed to (a) explore the rate of NSSI among SMW, the types of behaviors engaged in, as well as self-reported motives for NSSI; and to (b) examine the potential underlying mechanisms that place SMW at greater risk for engaging in NSSI. With the minority stress model serving as a theoretical lens, the current study hypothesized that internalized homophobia, discrimination, and victimization would be positively associated with NSSI in SMW. Online surveys were submitted by 141 SMW (aged 18 and older) across the United States (mean age = 24.6(7.7); 75.9% Caucasian; 57.4% lesbian, 31.2% bisexual, 11.3% other/not sure). Lifetime and past year engagement in NSSI was high, 64.40% and 53.20%, respectively. The average age first engaged in NSSI was 12.8(4.3). The most common NSSI behaviors endorsed included: picked at wound (30%), bit self (30%), hit self (23.6%), picked skin to draw blood (20%), and cut or carved skin (12.9%). The most common reasons for NSSI included: to stop bad feelings (64.2%), to relieve feeling "numb" or empty (62.4%), and to punish self (58.1%). With internalized homophobia, discrimination, and victimization as a three predictor model, logistic regression analyses were significant for both lifetime NSSI ($\chi2(3) = 10.80$, $p = .013$) and past year NSSI ($\chi2(3) = 14.26$, $p = .003$). Discussion of these findings will be placed in a broader social and mental health context and highlight the importance of addressing factors such as minority stress in mental health prevention and intervention efforts designed for SMW.

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Paper Session 14 4:03 PM-4:21 PM 3108

IMMIGRATION STRESSORS, PSYCHOSOCIAL-BEHAVIORAL PROTECTIVE FACTORS, AND OVERALL HEALTH OF LATINO-AMERICAN SUBGROUPS NATIONWIDE

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Objectives: Latinos constitute the largest minority population and is one of the fastest growing subpopulation in the United States. Despite surging Latino research since publicity of the National Latino and Asian American Study (NLAAS), few studies have examined subgroup differences in psychosocial-behavioral protective factors. To better address health disparities, we explored the predictive value of racial/ethnic identity, social support, and religious involvement for mental and physical health of Cubans, Mexicans, and Puerto Ricans, respectively. Methods: One-way ANOVA tests were first performed on the NLAAS database (N = 1900) to identify bivariate differences in predictive factors among the three subgroups. Tau correlations were then conducted to demonstrate correlations among predictors within each subgroup, respectively. Finally, two sets of two-step multiple regression analyses were conducted for each Latino subgroup, respectively. In Step I, demographics and SES, as controls, were regressed on outcomes in Model 1, respectively. In Step II, three potential protective factors were added in Model 2. Results: Bivariate analyses showed Mexicans scored most poorly on both outcomes and socioeconomic status. Puerto Ricans and Mexicans experienced considerably higher discrimination than Cubans who were older, had lower acculturation, and experienced greater acculturation stress. Multivariate analyses revealed positive effects of racial/ethnic identity and religious involvement in mental or physical health of Puerto Ricans and Mexicans, above and beyond those of known predictors, and demonstrated their mediating/moderating effects in the link of demographics and discrimination with outcomes. Conclusion: Theoretical explanations for observed Latino subgroup differences were sought in their varied subcultural background and differential immigration experiences.

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Paper Session 14 4:21 PM-4:39 PM 3109

A WEIGHT GAIN PREVENTION INTERVENTION REDUCES DEPRESSION AMONG BLACK WOMEN: RESULTS FROM AN RCT

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Background: Black women receive disproportionately less treatment for depression, particularly when socioeconomically disadvantaged. Obesity treatment has been shown to reduce depression; however, there is limited evidence in this high-risk population. This analysis sought to evaluate the effect of a weight gain prevention intervention on depression among obese Black women.
Methods: We conducted a randomized-controlled trial comparing a 12-month weight gain prevention intervention to usual care in the primary care setting, with follow-up at 18 months. The intervention included tailored behavior change goals, weekly self-monitoring via interactive voice response, monthly counseling calls with a registered dietitian, and a gym membership. We assessed depression with the Patient Health Questionnaire (PHQ-8). Twelve-month change in depression score and the proportion above the clinical threshold for depression (PHQ $\geq$ 10) were calculated.
Results: Participants (n = 194) had a mean age of 35.4, mean BMI of 30.2, and 20% reported depression at baseline. Most (80%) had less than a college degree and 74% had an annual household income under $30,000. Twelve-month change in depression scores was larger for intervention participants [Mean (SE): Baseline 6.3 (.47); 12 months 4.0 (.49)], relative to usual care [Mean (SE): Baseline 6.2 (.47); 12 months 5.8 (.47): p = .003]. There was a 50% reduction in those above the clinical threshold for depression among intervention participants at 12 months (11%), with no change in usual care (19%; p = .035). At 18 months, intervention participants continued to exhibit less depression than usual care (10% vs. 19%; p = .039). All effects persisted after controlling for weight change.
Conclusions: A weight gain prevention intervention improved depression outcomes among socioeconomically disadvantaged Black women, independent of weight change. The intervention, which includes no mention of mood or depression, affords clinical benefit beyond weight gain prevention.

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Paper Session 14 4:39 PM-4:57 PM 3110

THE ASSOCIATION OF OBESITY WITH DEPRESSIVE SYMPTOMS AND TRAIT ANXIETY: RESULTS FROM THE HISPANIC COMMUNITY HEALTH STUDY/STUDY OF LATINOS

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Background/Objectives: To examine the association of obesity with depressive symptoms and trait anxiety in Hispanic/Latino adults.
Methods: The sample includes 15,409 participants with complete baseline data from the Hispanic Community Health Study/Study of Latinos aged 18-74 years. Age-adjusted prevalence of elevated depressive symptoms (CES-D 10 $\geq$ 10) and higher anxiety scores (STAI $\geq$ median) were compared across body mass index (BMI) categories: normal weight (BMI = 18-24), overweight (BMI = 25-29), obese (BMI = 30-39), and extremely obese (BMI $\geq$ 40). Age-adjusted prevalence and 95% confidence intervals (CI) were estimated using linear regression. Adjusted prevalence ratios (APr; CI) were calculated using Poisson regression because of the high prevalence of the outcome variables.
Results: There was higher prevalence of high depressive symptoms in obese women (36%; CI 33-38) and extremely obese women (40%; CI 34-47) compared to normal weight women (29%; CI 26-32). After adjusting for Hispanic/Latino background, field center, age, education, marital and employment status, and current smoking, obese women had 21% (APr = 1.21; CI 1.06-1.37) and extremely obese women had 24% (APr = 1.24; CI 1.02-1.50) higher prevalence of elevated depressive symptoms compared to normal weight women. These associations were not observed in men. There was no interaction with Hispanic background. Anxiety symptoms followed a similar pattern.
Conclusions: A positive association between obesity with depressive symptoms and trait anxiety scores was observed among Hispanic women, but not men. Associations did not vary by Hispanic/Latino origin. Findings may have clinical implications for Hispanic/Latino women in obesity treatment programs.

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Paper Session 14 4:57 PM-5:15 PM 3111

BASELINE PREDICTION OF DEPRESSED MOOD AMONG AFRICAN AMERICAN WOMEN PARTICIPATING IN A PHYSICAL ACTIVITY PROGRAM

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Background: The burden of depressive symptomatology among African Americans (AA) has been associated with chronic diseases such as an increase risk for cardiovascular disease, diabetes, and disability. Fewer studies have assessed the impact of resilience and culture on depressive symptoms. Limited research on factors influencing depressive symptoms widens the health disparity gap further complicated by non-diagnosis, misdiagnosis and undertreated depressive symptoms within the AA community. It is important to determine the psychosocial and cultural correlates of depression among these AA women. Purpose: To identify predictors (resilience; acculturation; discrimination; and family support) of depressed mood at baseline among midlife AA women participating in a physical activity (PA) program. Methods: 180 urban and sedentary AA women (age 40-65 years) were recruited as part of a larger study (48-week PA intervention program). Each participant received a health examination and completed a series of study questionnaires. Baseline questionnaire items included demographic information, depression (CES-D), resilience, acculturation, discrimination, and family support for PA. Descriptive statistics were collected and multiple regressions were conducted. Results: The mean age was 53.2 years. Depression scores ranged from 0 to 37.8 with 16% (48 women) having a score $\geq$16, the cut point for depression. The two sets of predictors significantly related to depressed mood were self-reported resilience (p = .003) and the extent to which the participant embraced AA culture (p = .005). Both higher resilience and embracing AA culture were related to lower levels of depressed mood. Conclusion: The findings suggest that personal resilience and a sense of belonging in AA culture affect the level of depressed mood in these women's lives. Further research is recommended to identify interactions among these factors and PA participation, using contextual and cultural models relevant to AAs.

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Citation Paper
Paper Session 15 3:45 PM-4:03 PM 3112

CHANGES IN SYMPTOMS OF DEPRESSION AND WEIGHT LOSS IN A TECHNOLOGY-BASED INTERVENTION AMONG CHINESE ADULTS

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Background: In developed countries, obesity is related to increased risk of several health complications, including depression. Previous studies in China, however, have shown inconsistent results. We analyzed data from a 6-month randomized controlled weight loss trial in China, to determine whether weight loss was associated with changes in symptoms of depression.
Methods: A total of 123 Chinese adults, aged 30-50, BMI > 24, who used a mobile phone were recruited in the two-arm randomized controlled trial. Participants randomized to the intervention comprising assignment of tailored behavior change goals, daily text messaging, 3 group sessions, and 5 coaching calls. Anthropometric measurements and questionnaire surveys were performed at baseline and 6 months. We assessed depression with the Patient Health Questionnaire (PHQ-9). A PHQ-9 score $\geq$ 5 and $\geq$10 represented mild and moderate depression, respectively.
Results: At baseline, the mean PHQ-9 score was not different between the intervention and control groups (Mean (SE): 5.08 (0.45) vs. 4.04 (0.38), P = 0.08). The mean difference between baseline and 6-month was higher in the intervention group than that in control participants (Mean difference (SE): -1.57(0.37) vs. -0.16 (0.39), P = 0.01). After adjusting for weight change, the significant difference in PHQ-9 score change between two groups did not exist (P = 0.09). Weight loss and change in PHQ-9 scores was significantly correlated (r = 0.24, P = 0.01). For every 1 kg decrease in weight, the PHQ-9 score decreased by 0.24 units (SE: 0.10). In the intervention group, the proportion of participants with mild depression decreased significantly from baseline to 6 months (50.8% to 25.5%, P = 0.005), that is the same for moderate depression (9.8% to 0, P = 0.005).
Conclusion: The intervention had effects on depression that were mediated by weight loss. These results are helpful for developing interventions to synchronously control weight and promote mental health in Chinese population.

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Paper Session 15 4:03 PM-4:21 PM 3113

CAN TAILORED TEXT MESSAGES ABOUT PLANNING PROMOTE PARTICIPATION IN PHYSICAL ACTIVITY?

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Evidence supports the efficacy of planning for translating physical activity (PA) intentions into behaviour. Messages can motivate planning as a means to promoting PA. Tailoring the content of these messages may make them more personally relevant. Text messaging has dramatically reduced the barriers associated with tailoring messages. The purpose of the study was to determine whether tailored text messages about planning could promote PA and strengthen the PA intention-behaviour relationship. Participants were inactive adults ($n = 239$, Mage = 30.7 ± 4.8 yrs) with access to email and text messaging. Participants received generic messages about PA (GPA), generic messages about planning for PA (GPL), or tailored messages about planning for PA (TPL). PA intentions and participation were assessed at baseline (T0), after one month of receiving twelve text messages (T1) and after another month without text messages (T2). There were no differences in PA between groups over time ,$p < .05$. There was a main effect of time on PA, $F(2,438) = 7.454$, $p < .05$. Participants' PA did not differ from T0 to T1, $t(117376) = -1.176$, $p > .05$, but increased from T1 to T2, $t(19) = 2.179$, $p < .05$, and from T0 to T2, $t(34) = 2.749$, $p < .05$. At T1, the correlation between intentions and PA was not significant for participants who created at least one plan at T1, $r = 0.07$, $p > .05$ or for participants who did not create a plan at all, $r = -0.188$, $p > .05$. At T2, the correlation between intentions and PA was significant for those who planned at least once, $r = 0.229$, $p < .05$, but not for those who failed to create a plan, $r = 0.13$, $p > .05$. The difference between these correlations was not significant at T1, $z = -0.75$, $p > .05$ or T2, $z = -0.78$, $p > .05$. Although there was no advantage of message tailoring, our results support previous findings on the utility of text messages for promoting physical activity. Generic or tailored text messages about planning or physical activity may have provided a cognitive cue to remind individuals to participate in physical activity.

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Paper Session 15 4:21 PM-4:39 PM 3114

PROMOTING PHYSICAL ACTIVITY IN CHILDREN USING A PARENT-TARGETED MOBILE PHONE INTERVENTION

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Purpose: To investigate the efficacy of a 12-week mobile phone pilot intervention on physical activity levels in children.
Methods: Sedentary children aged 6-10 years were randomly assigned to an intensive or minimal intervention. All intervention aspects were delivered via mobile phone. Parents in both groups were given a goal to increase their child's activity by 6000 steps/day above baseline and recorded pedometer steps daily. Parents in the intensive intervention group received behavioral strategies and daily text messages designed to promote their child's physical activity, whereas parents in the minimal intervention did not. Physical activity (via accelerometers), body composition, TV and computer time, and enjoyment of physical activity were measured at baseline and 12-weeks.
Results: 27 children (Mean age = 8.7 yrs; Mean BMI percentile = 85; 56% Female; 59% African American) completed the study. Parents entered pedometer data 88% of the time, with no differences between study groups. Repeated measures ANOVA showed that children in the intensive and minimal intervention groups significantly increased their activity by 2546 and 1389 pedometer steps/day, respectively ($p < .02$), but there were no between group differences. There were no significant changes in steps/day, sedentary, light, or moderate to vigorous physical activity as measured by accelerometers. Parental website usage decreased significantly over time ($p < 0.002$). Regression analyses showed that regardless of study group, change in pedometer steps/day was positively related to physical activity enjoyment ($p < 0.014$), but was unrelated to changes in body composition, mood, or TV or computer time.
Conclusions: Parent targeted mobile phone interventions are feasible. Children of parents who self-monitored steps daily and were given a specific steps/day goal increased their activity, suggesting that parent-targeted mobile phone interventions have potential. Strategies to engage parents with the mobile program and more comprehensive interventions may be needed.

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Paper Session 15 4:39 PM-4:57 PM 3115

TEXT-MESSAGING TO MOTIVATE WALKING IN OLDER AFRICAN AMERICANS: A RANDOMIZED CONTROLLED TRIAL

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Background: Older minority populations can benefit from increased physical activity, especially walking. Text messaging interventions have the potential to encourage positive changes in health behavior in these groups.
Purpose: To examine if a 6-week program of motivational text messaging increases physical activity (step count) among older African Americans in an urban setting.
Design: RCT pilot study with assignment to motivational text messaging group or a control group.
Setting/participants: Thirty-six African Americans aged 60-85 years.
Intervention: The intervention group received motivational text messages three times a day, 3 days a week, for 6 weeks. Both groups received pedometers and walking manuals to record step counts. The study was conducted and data were analyzed in 2011.
Main outcome measures: The primary outcome measure was step count. The secondary outcome measure was perceived activity levels assessed by the Leisure Time Exercise Questionnaire (LTEQ).
Results: The group who received motivational text messages had greater improvements in step count (679 vs 398; p0.05) and perceived activity levels (p0.05) than the group who did not receive text messages.
Conclusions: Motivational text messaging three times a week for 6 weeks was effective in increasing step count and self-reported leisure time exercise behavior among older African Americans.

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Paper Session 15 4:57 PM-5:15 PM 3116

ADHERENCE AND WEIGHT LOSS IN A TECHNOLOGY-BASED INTERVENTION AMONG CHINESE OVERWEIGHT ADULTS

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Background: There is strong evidence that high adherence (e.g., frequent self-monitoring, goal-setting skills) is associated with weight loss in developed countries. However, there is not as much evidence in developing countries, however. We analyzed data from a 6-month randomized controlled weight loss trial in China, to test the relationship between intervention adherence and weight loss.
Methods: This is a 6-month randomized two arm intervention weight loss study. The intervention used interactive obesity treatment approach (iOTA) and comprised assignment of tailored behavior change goals, daily text messaging, 3 group sessions, and 5 coaching calls. A total of 63 Chinese adults (BMI ≥ 24, agd 30-50, current use of a mobile phone) in the intervention group had adherence data and thus were included in this study. Anthropometric measurements and questionnaires were collected at baseline and 6 months. The adherence data included tracking rate of text messaging and total goal score.
Results: The participants who lost the median 0.80 kg or more had significantly higher tracking rate than the participants who lost less than 0.80 kg. (mean difference: 14.56%, SE: 4.70%, $P = 0.003$). Total goal score of the higher weight-loss group was also greater than that of the lower weight-loss group (mean difference: 0.30, SE: 0.13, $P = 0.02$). The correlation between total goal score and 6-month weight change was significant ($r = -0.26$, $P = 0.04$). Body image dissatisfaction (perceived current image minus ideal image based on Stunkard figure rating scale) and difficult of responding to text messages was associated with the tracking rate ($P < 0.05$). The total goal score decreased along with increased year of education ($P = 0.02$).
Discussion: Adherence to tracking and behavior change goals was significantly associated with weight loss. This study supports adherence should be recorded and evaluated in implementing weight loss interventions among Chinese population. The associated factors await further studies for promoting adherence to intervention measures.

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Paper Session 16 3:45 PM-4:03 PM 3117

RACIAL DISCRIMINATION AND INFLAMMATION AMONG AFRICAN AMERICAN WOMEN: BIOBEHAVIORAL AND PSYCHOBIOLOGICAL PATHWAYS FOR CARDIOVASCULAR HEALTH DISPARITIES

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Racial discrimination has been associated with elevated levels of pro-inflammatory biomarkers, suggesting a role for discrimination in inducing immune system changes that have implications for cardiovascular health. African American women are among the most at-risk groups for CVD in the US. We assessed whether cognitive stress appraisals and coping-styles modify the association between racial discrimination and inflammation among midlife African American women. The African American Women's Heart & Health Study recruited a community sample of 200 African American women ages 30-50 residing in the San Francisco Bay area. Data collection included interviewer-administered questionnaire, computer assisted self-interview, anthropometric assessment, and venous blood draws. Blood samples were assayed for a variety of inflammatory biomarkers. Multivariate regression was used to examine associations between study variables. Anticipatory Racism Threat (aRT) is a unique cognitive appraisal process commonly reported by African Americans ($\alpha = .90$). Superwoman Schema (SWS) is a coping style commonly reported among African American women ($\alpha = .93$). There were no significant main effects of racial discrimination on inflammation. However, there was a significant interaction between racial discrimination and both aRT and SWS ($p < .05$). There was a positive association between racial discrimination and inflammation (IL-6, TNFα, hsCRP) among women reporting higher vs. lower levels of aRT ($p < .05$). There was also a significant inverse association between racial discrimination and inflammation among women reporting higher vs. lower levels of SWS ($p < .05$). The unique stress appraisals and coping styles used by African American women experiencing racial discrimination may represent novel bio-behavioral mechanisms linking racial discrimination to CV risk; and may serve as potential avenues for intervention.

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Paper Session 16 4:03 PM-4:21 PM 3118

SOCIOECONOMIC STATUS (SES) DIFFERENCES IN MACRONUTRIENT PREFERENCE IN RESPONSE TO A LABORATORY-INDUCED STRESSOR

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The present study sought to examine food consumption and macronutrient preference in response to a laboratory-induced stressor among Caucasian women aged 30-50 with varied SES. Women were recruited from a larger project focused on SES and adiposity, approaching only those lower and higher in education: vocational training/ some college/ Associate's degree or less (n = 44 lower SES; LSES) and Master's degree or higher (n = 55 higher SES; HSES). These subgroups differed on other baseline characteristics, $p < .05$: M (SD) age = 40.7 (6.5) for LSES and 38.2 (5.8) for HSES; M (SD) BMI = 33.2 (9.2) for LSES and 26.2 (5.2) for HSES; and percent employed = 56 LSES and 86 HSES. Participants completed a battery of challenging neuropsychological tests: the North American Adult Reading Test, the Stroop Test, and a star mirror tracing task. They were then permitted to rest for 30 minutes and offered a tray of snacks. Perceived stress and challenge were assessed repeatedly using 1-10 scales. Consumption was surreptitiously measured by weighing snack containers before and after the rest period. In support of the manipulation, participants' subjective stress ratings rose from pre-to-post stressor (before and after the neuropsychological battery) and decreased from post-stressor to post-rest/ eating, p values < .001. LSES women reported greater increases in stress from pre-to-post stressor than did HSES women (M difference scores = 1.52 and 0.49, $p = .003$). LSES women also perceived the star mirror tracing exercise as more challenging, M (SD) = 8.61 (1.81) and 7.54 (1.94), $p = .006$. Turning to eating behavior, LSES women consumed more food overall than did HSES women, M (SD) ounces = 2.40 (1.61) versus 1.36 (1.19), $p < .001$, and specifically more high fat, sweet food, M (SD) ounces = 1.06 (0.81) versus 0.46 (0.55), $p < .001$. These results provide a plausible mechanism for the inverse relationship between SES and adiposity among Caucasian women, suggesting that stress-induced eating could potentially mediate this association.

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Paper Session 16 4:21 PM-4:39 PM 3119

NEGATIVE LIFE EVENTS IMPEDE SUCCESS AMONG LOW INCOME, BLACK WOMEN IN AN EHEALTH WEIGHT GAIN PREVENTION PROGRAM

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Evidence implicates stress in the development and persistence of obesity, particularly among socioeconomically disadvantaged populations. Individuals who experience the stress of negative life events (NLE) may be less responsive to obesity treatment. The aims of this study are to (1) determine the prevalence of NLE among participants of the Shape Program and (2) assess whether NLE occurrence predicts 12-month weight outcomes.

The Shape Program was a RCT comparing an eHealth behavioral weight gain prevention intervention to usual care in the primary care setting. Participants reported the occurrence of 16 NLE within the past year, via self-administered surveys at baseline and after a 12-month study period. We categorized NLE occurrence as "high" ($\geq$3 events) or "low" ($\leq$2 events). Weight was collected in-clinic at baseline and 12 months; weight change $\leq$0 kg was defined as successful and >0 kg was defined as unsuccessful.

Participants (n = 194) were Black, female, overweight/obese (BMI: 30.2 ± 2.5 kg/m2). At baseline participants reported a mean NLE of 3.17 (median 3; IQR 1-5), with the two most common events being financial distress (48%) and serious difficulties with a spouse (36%). Mean NLE was comparable across groups. There was a significant group by level of NLE interaction for weight change success ($p = .002$); among intervention participants only, weight loss was greater for individuals with fewer life events, compared to those with more life events (-2.23 kg vs +0.91 kg, respectively). NLE status did not influence weight change for control participants. High NLE among intervention participants was associated with significantly lower odds of achieving successful weight change by 12 months [OR(95%CI): 0.38(0.16-0.94); $p = .036$].

Experiencing NLE prior to entering obesity treatment may reduce the chances of success among low-income, Black women. The influence of NLE should be considered in the design of future interventions that address socioeconomically disadvantaged populations.

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Paper Session 16 4:39 PM-4:57 PM 3120

PSYCHOLOGICAL VULNERABILITY AND PATHOLOGICAL AGING: SURPRISING ASSOCIATIONS BETWEEN TELOMERE LENGTH AND PSYCHOLOGICAL BURDEN

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Background: Shorter telomere length (TL) may indicate premature cellular aging. While depression has been associated with shorter telomeres, other psychological risk factors have received less attention. These associations may differ according to sex or age.

Purpose: To evaluate the association between psychological risk factors for heart disease and TL, and to examine whether chronological age and sex moderate the associations observed.

Methods: 132 healthy men and women (N = 78)(Mage = 42.48) completed the Marlowe-Crowne Social Desirability Scale, the Beck Depression Inventory II, The Beck Anxiety Inventory and the Cook-Medley Hostility Scale. Relative TL was measured by quantitative polymerase chain reaction (PCR) of total genomic DNA samples. A hierarchical linear regression was performed controlling for pertinent covariates in Block 1, psychological variables entered simultaneously in Block 2, and interaction terms entered stepwise in Block 3.

Results: Shorter TL were observed among individuals high in social desirability ($\beta = -.221$) and depressive symptoms ($\beta = -.213$), as well as in those with less hostility ($\beta = .256$), and anxiety ($\beta = .220$)(all Ps < .05). Psychological variables explained 19% of the variance over and above that explained by covariates (age, sex, exercise, alcohol consumption, systemic inflammation, and mean arterial pressure). No significant sex or age differences emerged.

Conclusions: Telomere length is associated with psychological burden though the direction of effect differs depending on the psychological variables under study. Further research is needed to delineate the reasons for these seemingly contradictory findings.

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Paper Session 16 4:57 PM-5:15 PM 3121

EMOTIONAL EATING: MORE DANGEROUS FOR SOME THAN OTHERS?

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Background: Metabolic syndrome, a constellation of risk factors for Cardiovascular Disease (CVD) and Type Two Diabetes Mellitus (T2DM), is an increasing issue in the United States and a huge drain on the public health system. In animal models, consumption of high-fat/ high-sugar (HFS) foods during emotional or stressful situations, also known as emotional eating or comfort food consumption, has been shown to increase risk of developing Metabolic Syndrome. Furthermore, chronic stress may constitute a vulnerability factor that increases an individual's susceptibility to the metabolic risks of emotional eating. Objective: To determine whether chronic stress exposure in combination with emotional eating is associated with greater metabolic risk. Methods: Utilizing a caregiver model of stress, 29 post-menopausal caregivers of a loved one with dementia, and 24 age-matched non-caregiving control women participated in the study. To assess for tendencies to engage in emotional eating, participants completed the Dutch Eating Behavior Questionnaire (DEBQ) and the emotional eating subscale was used. Metabolic risk was assessed using fasting glucose levels and waistline measurements at the narrowest point. Results: The interaction between chronic stress and emotional eating significantly predicted increased waistline circumference ($p < .001$) and elevated fasting glucose levels ($p = .03$)

Conclusions: These data suggest that women experiencing chronic psychological stress may be particularly susceptible to the deleterious effects of emotional eating on metabolic health. If confirmed, the inclusion of resilience training around stress-related emotional eating could improve the efficacy of interventions to improve metabolic health.

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Citation Paper
Paper Session 17 3:45 PM-4:03 PM 3122

WHO LOSES, MAINTAINS OR GAINS? PROFILES FROM A WEIGHT LOSS AND MAINTENANCE TRIAL

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National efforts, including Healthy People 2020, suggest losing weight through restricting caloric intake and increasing energy expenditure is necessary to improve the health of overweight and obese individuals. However, the behavioral profile of a successful dieter or successful weight loss maintainer over time is unclear. The purpose of the present analysis was to gain a better understanding of the behavioral profiles of individuals that are successful at losing and maintaining weight compared those that are unsuccessful. A latent class analysis was completed using completers (N = 359; Age = 44.39; BMI 34.65 ± 4.77; 66.6% female) of a 6 month (m) diet and 12 m maintenance period. Results showed the emergence of three classes of participants (7%, 14%, and 22% weight loss during the diet phase) which showed distinct patterns of % weight change at three follow-up time points (6 m, 12 m and 18 m). Successful dieters and maintainers (>14% weight loss) consistently attended more classes throughout the entire intervention ($p < .001$), consumed more fruits and vegetables ($p = .032$ from 0-6 m, $p < .001$ from 6-12 m, and $p < .001$ from 12-18 m), completed more minutes of physical activity (PA; $p < .001$) and took more steps ($p < .001$) throughout the entire intervention, compared to unsuccessful dieters. Furthermore, results from linear regression indicate that successful weight loss and maintenance classes (i.e., loss of greater than 14%) can be identified as early as 2 m into an intervention based on weight change ($p < .007$), class attendance ($p < .001$) and shake and entrée consumption ($p < .014$). These findings suggest that individuals who are successful at losing weight, attend class regularly, consume more fruits and vegetables, do more PA and take more steps throughout the day. This provides early recognition of individuals who need additional or different intervention strategies to improve the outcome of weight loss and maintenance.

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Paper Session 17 4:03 PM-4:21 PM 3123

PROFESSIONAL OR LAY COACHING PLUS FINANCIAL INCENTIVES FOR WEIGHT LOSS MAINTENANCE: A RANDOMIZED CONTROLLED PILOT STUDY

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We previously showed that adding an Internet behavioral program to a statewide wellness campaign enhanced weight losses; however, significant weight regain occurred during follow-up. This pilot tested whether a maintenance program involving small financial incentives plus either professional or lay coaching improves weight loss maintenance.

Shape Up 2013 was an Internet statewide wellness initiative. The first 139 Shape Up enrollees who expressed interest in the study and met eligibility criteria were given an 8-week Internet weight loss program. Those who lost ≥5% of initial body weight (N = 76; weight loss = 8.0% ± 2.1) during the program were randomized to 1 of 3 10-month maintenance interventions: newsletter control; professional coaching with small financial incentives for emailing self-monitoring data to their coach and for maintaining weight loss; or lay coaching (two participants paired to coach one another) plus small incentives when *both* participants email self-monitoring data to each other and when *both* participants maintain weight loss. The 4-month assessment is complete; intervention is ongoing.

Retention at month 4 was 99%. Participants in the two coach + incentive arms emailed self-monitoring data to their coach on 95% of coaching weeks and earned an average of $4/week, with no differences between groups. More participants in the professional (76%) and lay coach (85%) arms maintained their weight loss in full compared to control (42%; p's < .02). Moreover, the professional and lay coach arms had additional weight loss during the maintenance phase whereas the control arm plateaued (-3.3% ± 4.5, -2.1% ± 2.7, +0.2% ± 3.5; p's < .03). Overall weight losses for the professional, lay, and control groups were 11.3% ± 5.4, 10.3% ± 4.2, and 7.6% ± 4.2, with significant differences between coach and control conditions (p's < .04).

A maintenance intervention involving professional or lay coaching and small financial rewards may be an effective strategy for longer-term weight control. Final follow-up data will be presented at the meeting.

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Paper Session 17 4:21 PM-4:39 PM 3124

RECOVERY FROM WEIGHT REGAIN: 5-YEAR RESULTS FROM THE NATIONAL WEIGHT CONTROL REGISTRY

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Initial evidence from the National Weight Control Registry (NWCR), a registry of individuals who have successfully lost at least 30 lbs and maintained that weight loss for at least one year, demonstrated that few individuals recover from even small weight regains. These results were based on two-year follow-up, and it is unknown whether NWCR members are able to recover from weight regain given additional time. The current study investigated weight regain and recovery within 2,577 NWCR participants (75.7% female, mean ± SD age = 48.75 ± 11.86) who at entry into the NWCR had lost an average of 31.25 ± 15.48 kg and had kept it off 5.85 ± 7.57 years, and were followed for at least 5 years. During the first year following registry enrollment, 60.8% of these participants (n = 1566) reported regaining weight (mean = 3.69 ± 4.23 kg); of those who regained, only 13.3% (n = 208) returned to their registry entry ('baseline") weight or below by year 5. The proportion of participants returning to their baseline weight by year 5 was strongly related to the magnitude of weight regained at 1 year, $\chi2(5) = 16.32$, $p = .006$: 17.2% of participants who gained 1-3% of their baseline weight by year 1 (n = 93) returned to baseline by year 5, compared to 10.9% (n = 43) of participants who regained 3-5%, 13.9% (n = 30) for participants who regained 5-7%, 12.6% (n = 24) for those who regained 7-10%, 7.7% (n = 15) for those who regained 10% or more. At 5 years, 23.4% of participants were at or below their baseline weight; despite these weight regains, 90.2% remained ≥10% below their maximum lifetime weight. These results suggest that even highly successful weight loss maintainers have difficulty recovering from even small weight regains.

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Paper Session 17 4:39 PM-4:57 PM 3125

EMA REPORTED TRIGGERS FOR TEMPTATIONS DISPLAY DIURNAL PATTERNS

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We are using ecological momentary assessment (EMA) to study relapse after intentional weight loss during the first 6 months of a 12-month study that includes standard behavior weight loss treatment. Self-initiated surveys are completed on a smartphone when the person experiences an urge or temptation to eat beyond their dietary goals. The purpose of this analysis is to assess diurnal patterns in triggers for temptations during the intensive phase of the intervention. We partitioned the day into 24 1-hour periods labeled by the beginning of each hour on a military clock. For each trigger type, we performed logistic regression predicting whether or not that trigger applied as a function of subject ID and hour of day. Due to scarcity of self-reports before 7 AM, data collected before 7 AM were deleted before analysis. The sample ($N = 72$) was 90.3% female, 81.9% White, 58.3% married with 16.72 (2.56) years of education and a mean BMI of 33.90(4.56). A total of 1,282 temptations were reported by 72 subjects. The most frequently reported trigger was sight, smell or mention of food with the highest frequency early in the morning and lowest frequency during the late evening; this was followed by hunger/thirst, stress, habit, boredom and relaxing. Each of these was reported in >10% of the self-initiated surveys. We also observed significant diurnal patterns for sight/smell or mention of food, hunger/thirst, relaxing, and stress. These data suggest that the visual and olfactory cues of food are the most challenging temptations and are present throughout participants' waking hours with multiple peaks in their occurrence. Several temptations vary significantly by time of day suggesting that strategies need to be developed and added to standard behavior treatment to help individuals participating in a weight loss program to manage environmental exposures and external triggers that lead to high risk moments at different times in the waking hours.

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Paper Session 17 4:57 PM-5:15 PM 3126

REGULATION OF ATTENTION IN LONG-TERM WEIGHT MANAGEMENT FOLLOWING BARIATRIC SURGERY

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Long term weight loss after bariatric surgery depends on regulation of food intake and physical activity. Impulsivity and susceptibility to food reward may be risk factors for poor self-regulation of these behaviors. A sample of 24 long-term postsurgical gastric bypass patients (avg 7.8 yrs post-surgery) completed the Barratt Impulsivity Scale (trait impulsivity), the Power of Food Scale (susceptibility to food cues) and reported physical activity (calculated in METs) at their follow up appointments. Correlation analyses and hierarchical linear regression were used to determine the associations of these three measures with three weight measures: presurgical BMI, current BMI, and percent excess weight lost since surgery. Number of days since surgery was used as a covariate in regression. Total impulsivity was correlated with susceptibility to food cues when food was available ($r = .57$, $p < .01$) and present ($r = .47$, $p < .05$), but not with any weight measures. High susceptibility to food cues was also not related to weight measures, but was associated with greater physical activity ($r = .56$, $p < .01$), suggesting that physical activity may either help people resist tempting foods or counteract any additional calories that may have been eaten. Attentional impulsivity was correlated with presurgical BMI ($r = .46$, $p < .05$) and current BMI ($r = .43$, $p < .05$), but not weight lost since surgery. After controlling for time since surgery, the relationship between attentional impulsivity and current BMI approached significance ($\beta = .38$, $p = .06$). These findings suggest that ability to regulate attention is a concomitant of body weight even after participating in the most successful treatment for obesity. Obese individuals show attentional bias to food cues, and difficulty shifting and redirecting attention may lead to greater intake of palatable foods which are omnipresent in our environment. While bariatric surgery is a highly effective treatment, some individuals may benefit from complementary interventions designed to improve attention control.

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Citation Paper
Paper Session 18 3:45 PM-4:03 PM 3127

IS MORE BETTER? TEST OF A DOSE-RESPONSE RELATIONSHIP IN A PHYSICAL ACTIVITY INTERVENTION TAILORED TO POSTPARTUM WOMEN. HAWAII'S NA MIKIMIKI PROJECT

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After childbirth many women have significant reductions in purposeful bouts of Moderate-to-Vigorous Physical Activity (MVPA). Brief MVPA interventions with postpartum women have found MVPA increases; but few have: (1) included ethnic minorities, particularly Asian-Americans, Native Hawaiians & Pacific Islanders, (2) intervened over a year, or (3) tested the degree of association between dose/amount of intervention received by participants and their increase in MVPA. A 12 month randomized trial to increase MVPA in healthy, inactive moms (2-12 mo postpartum), compared a tailored, theoretically-derived MVPA intervention with personalized telephone counseling calls and a mom-centric website, to a comparison condition with standard online PA resources. Women ($n = 154$; 31 ± 5years; baby 5.5 ± 3months; 80% minorities) in the tailored condition were scheduled to receive 17 calls with a health educator to problem solve MVPA barriers, set MVPA goals, and enlist social support for MVPA. The Active Australia Survey was used to measure MVPA. Over a year women in the tailored condition significantly increased MVPA more than Moms in the comparison condition (MVPA increase = 202 vs.110 min/wk, $p = .03$), with no significant differences by race, baseline BMI, or baby's age at baseline. A linear regression of MVPA among women in the tailored condition found that every minute of phone counseling the Moms received resulted in an increase in their MVPA of about one minute per week. Over the year, Moms received on average 13 (± 4.6) calls with about 10.6 (± 4.5) minutes per call, for a total average dose = 151.9 (± 84.9) minutes. Busy new Moms were receptive to a telephone & web-based PA intervention. "Every minute counted" such that every minute spent on the telephone effectively and efficiently increased MVPA in this vulnerable population. Our results suggest future 12 mo. PA interventions include 150 minutes of dose/contacts.

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Citation Paper
Paper Session 18 4:03 PM-4:21 PM 3128

A RANDOMIZED CONTROLLED TRIAL OF A CULTURALLY/LINGUISTICALLY ADAPTED, INDIVIDUALLY TAILORED PHYSICAL ACTIVITY INTERVENTION FOR LATINAS

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Background: Latinas report high rates of physical inactivity and related chronic diseases and are in need of effective intervention.
Design: Randomized trial. Under-active Latinas ($N = 266$) received Spanish language print materials through the mail for six months. Participants were randomly assigned to receive culturally adapted, computer expert system-tailored physical activity intervention materials vs. wellness materials. The main outcome was weekly minutes of physical activity reported by the 7-Day Physical Activity Recall interview, and objectively measured activity was included as a secondary outcome.
Results: Intervention participants ($n = 132$) increased their self-reported MVPA from a mean of 1.87 min/week ($SD = 6.86$) at baseline to 73.36 min/week ($SD = 89.73$) at six months, whereas control participants ($n = 134$) increased their MVPA from a mean of 3.02 min/week ($SD = 10.30$) at baseline to 32.98 min/week ($SD = 82.82$) at six months ($p < .05$). This difference was corroborated by accelerometer readings ($\rho = 0.44$, $p < .01$). At six months, 11.36% of Intervention participants met national PA guidelines (>150 min/week of MVPA) vs. 5.97% of Control (adjusted OR = 2.34, $p = 0.07$). Moreover, these PA gains were maintained at 12 months. On average, intervention participants reported 95.79 min/week ($SD = 114.89$) of MVPA at 12 months, compared to 43.42 min/week ($SD = 88.75$) for control participants. At 12 months, 16.67% of Intervention participants met national PA guidelines vs. 5.97% of Controls (adjusted OR = 3.14, $p = 0.01$).
Discussion: Findings support the efficacy of this technology-based approach to promoting physical activity in Latinas. Future studies should evaluate the feasibility and appeal of other delivery channels such as the Internet and/or text messaging, which could further increase reach and cost-effectiveness and help eliminate health disparities in this population.

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Meritorious Paper

Paper Session 18 4:21 PM-4:39 PM 3129

A RANDOMIZED-CONTROLLED TRIAL OF SOCIAL NORMS TO INCREASE PHYSICAL ACTIVITY

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Objective: Physical activity confers numerous health benefits, yet few adults meet the recommended physical activity guidelines for basic health maintenance. This study sought to replicate and extend research using descriptive (what is commonly done) and injunctive (what is approved/disapproved) social norms to enact behavior change, in this case applied to physical activity.
Method: Young adults (N = 105) were randomly assigned to one of three social norm conditions: control, descriptive norm, or descriptive plus injunctive norm. All participants wore pedometers for eight weekdays and recorded step counts online each evening. The first two days served as a baseline. Following the baseline, the descriptive norm condition received feedback about the average number of steps taken by all participants the previous day. The descriptive plus injunctive norm condition received feedback about this average, as well as a sad face if below the average, or a happy face if above the average. The control condition received no feedback throughout the study.
Results: Repeated measures ANCOVAs revealed a significant interaction between social norm condition and time; F(5.44, 274.51) = 2.80, p < .05, η2p = .05. Simple effects analyses revealed that the descriptive plus injunctive norm condition increased steps over time; F(2.61, 78.42) = 2.84, p < .05, η2p = .09. In contrast, the control group decreased steps over time; F(2.58, 74.94) = 3.01, p < .05, η2p = .09. When split into groups based on being below or above the group mean at baseline, those initially below the mean in the descriptive plus injunctive norm condition increased steps over time; F(2.05, 30.78) = 4.22, p = .02, η2p = .22. No other changes occurred for below or above the mean splits.
Conclusion: The combined use of descriptive and injunctive social norms increases physical activity over an eight day period. These findings support further research testing this intervention strategy for a longer period of time; for different age, community, and clinical populations; and in combination with goal setting strategies.

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Paper Session 18 4:39 PM-4:57 PM 3130

PROJECT SHINE: EFFECTS OF A FAMILY-BASED PARENTING INTERVENTION ON PHYSICAL ACTIVITY AND SEDENTARY BEHAVIOR IN AFRICAN AMERICAN ADOLESCENTS AND THEIR PARENTS

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This study examined the effects of a family-based intervention for improving moderate-to-vigorous physical activity (MVPA) and sedentary behavior (SB) in African American adolescents and their parents. The intervention (Project SHINE: Supporting Health Interactively through Nutrition and Exercise) integrated Social Cognitive, Self Determination, and Family Systems Theories (behavioral skills, autonomy-support, communication, monitoring) to develop a positive family climate for health promotion. A total of 89 adolescents (12.5 ± 1.4 yrs; 61% girls; 48% obese) and their caregivers (41.5 ± 8.5 yrs; 92% females; 74% obese) were randomized to either a 6-week parenting intervention or general health program. Participants were provided with choice on behaviors and self-monitoring tools, given feedback on goals to meet national guidelines, and participated in activities to promote a positive family climate. Minutes per day of adolescent and parent MVPA were assessed using 7-day accelerometry estimates. Hours per week of adolescent SB were self-reported using a validated scale. Missing data were handled using multiple imputation (m = 20), and multilevel regression models predicting post-intervention MVPA and SB accounted for individuals nested within groups. Models controlled for baseline demographics and behaviors. There was a significant intervention effect on adolescent SB (B = -28.76, se = 9.65, p < .01) and parent MVPA (B = 9.43, se = 4.21, p < .05). No effects were found for adolescent MVPA. Secondary analyses indicated a significant intervention effect on parent-reported health communication (B = 0.52, se = 0.14, p < .01) and trends for adolescent-reported health communication (B = 0.32, se = 0.17, p = .07) and perceptions of parent support for activity at post intervention (B = 0.42, se = 0.24, p = .08). Creating a more nurturing family climate, including communication around health behaviors, may facilitate improvements in adolescent sedentary behavior and parent physical activity.

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Paper Session 18 4:57 PM-5:15 PM 3131

BEHAVIORAL INTERVENTION FOR INCREASING PHYSICAL ACTIVITY IN MULTIPLE SCLEROSIS: VARIATION IN EFFECT BY CLINICAL CHARACTERISTICS

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We previously reported that a behavioral intervention increased physical activity in those with multiple sclerosis (MS). Of note, there was inter-individual variability in the magnitude of change in physical activity that might be explained by MS type, disability status, and current use of disease modifying and symptomatic medications. This study examined the efficacy of the behavioral intervention for increasing physical activity, and the possibility that change varied by clinical characteristics of the sample. The study included 82 persons with MS who were randomly assigned into behavioral intervention (n = 41) or waitlist control (n = 41) conditions. We collected information on MS type, disability status, and disease modifying and symptomatic medications before the study. Participants completed the Godin Leisure Time Exercise Questionnaire (GLTEQ) and International Physical Activity Questionnaire (IPAQ), and wore an ActiGraph accelerometer over one week for measuring minutes of moderate-to-vigorous physical activity (MVPA) both before and after a 6-month period. We created a composite physical activity score (i.e., mean of z-scores for GLTEQ, IPAQ, and MVPA) for baseline and follow-up as our outcome measure. ANCOVA, controlling for baseline physical activity scores, indicated that participants in the behavioral intervention participated in significantly higher levels of physical activity compared with the control group following the 6-month period (F[1,72] = 10.28, p < .005). ANCOVA indicated that MS type (i.e., relapsing vs. progressive MS) (F[1,70] = 6.65, p < .01) and disability status (i.e., mild vs. moderate disability) (F[1,70] = 5.75, p < .01) moderated the effect of the behavioral intervention such that it was most effective for those with relapsing-remitting MS and mild disability. The behavioral intervention was associated with improvements in physical activity, particularly for those with mild disability and relapsing-remitting MS.

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Paper Session 19 3:45 PM-4:03 PM 3132

RESTORE: THE JOURNEY TOWARD SELF-FORGIVENESS: A PSYCHO-SPIRITUAL EDUCATIONAL APPROACH TO SELF-FORGIVENESS

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Self-forgiveness is connected to better health and well-being in a variety of general and patient populations, yet effective, brief education to promote self-forgiveness does not, to our knowledge, exist. The purpose of the present study was to design and test "Restore: The Journey Toward Self-Forgiveness", a brief psycho-spiritual curriculum for encouraging appropriate and responsible self-forgiveness. This was a randomized, wait-list controlled trial including 83 cancer patients and caregivers who were randomly assigned to either complete the Restore curriculum or be part of a waiting-list group that enjoyed light reading and/or conversation. The cornerstones of the Restore curriculum included developing a sense of self-acceptance, finding benefit in the harm done, and committing to self-improvement. A workbook was the tool used to implement the curriculum. Measures of self-forgiveness, acceptance, benefit-finding, and optimism/pessimism were collected before and after participation. Using Analysis of Covariance to control initial levels, post-session levels showed that Restore participants scored higher than wait-list controls on self-forgiveness (F(1,78) = 9.85, p < .001), acceptance (F(1,77) = 4.84, p < .05), and benefit-finding (F(1,79) = 5.28, p < .05) and lower than wait-list controls on pessimism (F(1,77) = 5.01, p < .05). Furthermore, changes in acceptance, benefit-finding, and pessimism explain a statistically significant proportion, though not all, of the Restore effect on self-forgiveness (Beta = -.08, p < .05). The present investigation provides what we believe is the first brief, evidence-based program for facilitating self-forgiveness and provides empirical support for its efficacy in individuals known to struggle with forgiveness issues. Future research should investigate the extent to which self-forgiveness promotion results in improved physical health parameters in patients, caregivers, and the general population.

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Paper Session 19 4:03 PM-4:21 PM 3133

ASSOCIATIONS AMONG DAILY SPIRITUAL EXPERIENCES, PAIN, AND TREATMENT-SEEKING BEHAVIORS IN CHINESE AMERICANS WITH CANCER

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Chinese Americans with cancer have high rates of severe pain, and unrelieved pain can impair psychosocial and physical functioning. However, few studies have assessed cancer pain and its associations with spiritual factors and treatment-seeking behaviors in culturally diverse populations. Daily Spiritual Experiences (DSE) have been linked to positive psychological outcomes (lower anxiety, depression, and perceived stress) in medically ill populations, but few studies have evaluated DSE in cancer patients with pain. This study evaluated associations among DSE, cancer pain experience, and treatment-seeking behaviors in 86 Chinese Americans. Chinese immigrant patients (63% women; M age = 57 years, range = 39-82 years; 99% Chinese-speaking only; M years of US residency = 19) Patients completed the DSE scale and measures of pain and mood. Overall, M worst pain intensity = 6/10; 69% reported moderate to severe pain-related distress and 52% reported moderate to severe mood disturbance. Logistic regression analyses including demographic, cultural, medical, and pain-related variables showed that more frequent DSE were associated with greater reported use of complementary and alternative medicine (CAM) for cancer pain, explaining 12% of the variance in CAM use ($p < .01$). However, DSE did not predict the use of conventional pain treatments; instead, pain intensity and interference were stronger predictors of Western medicine use ($p < .05$). These results show that spirituality predicted Chinese Americans' reported use of CAM approaches for cancer pain relief, but not their use of Western medicine, which was more influenced by pain experience. As interest in patient-centered care grows, understanding how patients' spiritual and cultural worldviews influence their illness behavior may help predict their engagement with healthcare systems, and how patients choose their providers.

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Paper Session 19 4:21 PM-4:39 PM 3134

RELIGIOUS COPING IN THE EMOTIONAL WRITING (EW) OF KIDNEY CANCER PATIENTS

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Although spirituality/religiosity (R/S) is associated with improved cancer adjustment, less research has examined negative religious coping and quality of life (QOL) in cancer patients. Because previous research almost exclusively relied on R/S self-report instruments, which are susceptible to self-presentation and defensive biases, the purpose of this study was to identify religious coping observed in the writing samples of kidney cancer patients participating in an EW intervention and their associations with QOL outcomes. Participants (n = 138; 60% male; 48% advanced stage; 75% white) wrote about their deepest thoughts and feelings regarding their cancer experience on 4 separate occasions and completed standard measures of R/S (Ironson-Woods R/S Index), depressive symptoms (CES-D), social support (MOS-SSS), fatigue (BFI), and sleep disturbances (PSQI) at baseline and 1 month later. Writing samples were coded for positive and negative religious coping (RC), and personal (e.g., private prayer) and collective (e.g., church attendance) religious engagement. Mean scores of the R/S Index were high (mean = 104.8, SD = 24.4) and 72% of the sample self-reported that R/S guides their daily activities "quite a bit" or "a great deal." Without an R/S writing prompt, 70% of all EW samples contained positive RC, 45.3% revealed personal and 42.3% collective religious engagement. Negative RC was rare (8%). Although positive RC and personal and collective engagement were significantly associated with the R/S Index ($P < .05$), negative RC was not. Yet, only negative RC was associated with QOL outcomes. Those using negative RC references were more likely to report sleep disturbances ($r = .21$; $P < .05$) and less social support ($r = -.19$; $P = .06$). Controlling for baseline levels, negative RC predicted poor sleep ($\beta = .18$; $P = .07$) and low social support ($\beta = -0.19$; $P < .05$) at 1 month follow-up. Behavioral coding of EW samples supported the literature suggesting positive RC is common among cancer patients. Although negative RC may be relatively rare, it may reduce patients' QOL.

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Paper Session 19 4:39 PM-4:57 PM 3135

HOW FAITH, MEANING AND PEACE AFFECT QUALITY OF LIFE (QOL) IN SURVIVORS OF CANCER

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Background: In studies on spiritual well-being (SWB) and QoL in cancer survivors, a number of investigators have failed to distinguish the specific contributions of Faith, Meaning, and Peace and have misinterpreted findings from mediation analyses. We hypothesize that Faith has both a direct relationship with QoL and indirect relationships mediated through Meaning and Peace.

Methods: Data were from the American Cancer Society's SCS-II (N = 8,405). Mediation analyses were conducted with the FACIT-Sp (subdimensions of SWB: Meaning, Peace, and Faith), SF-36 (mental (MCS) and physical (PCS) QoL), and relevant covariates. Hayes' (2011) INDIRECT macro syntax for use with SPSS provided statistics for direct and indirect effects for multiple mediators when controlling for covariates.

Results: In models that adjusted for covariates, and where Meaning and Peace were included simultaneously, the total effect of Faith on MCS, .25, $p < .001$, was comprised of an indirect effect through Meaning, .07, $p < .001$, an indirect effect through Peace, .23, $p < .001$, and a direct effect on MCS, -.05, $p < .001$. Likewise, the total effect of Faith on PCS, .07, $p < .001$, was comprised of an indirect effect through Meaning, .03, $p < .001$, an indirect effect through Peace, .04, $p < .001$, and a direct effect on PCS, -.01, ns.

Discussion: Our results demonstrate that Faith makes a direct contribution to cancer survivors' QoL as well as an indirect contribution mediated through Meaning and Peace. MacKinnon (2008) noted that, although it is common for the coefficients of mediated effects to be small, these effects are important. Based on these results, clinicians should consider screening all cancer survivors for low levels of Faith, as well as Meaning and Peace, and, where indicated, provide or recommend interventions that focus on the relevant subdimensions of SWB to improve survivors' QoL.

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Paper Session 19 4:57 PM-5:15 PM 3136

SPIRITUALITY AND ADJUSTMENT IN LATE ADOLESCENT AND YOUNG ADULT CANCER SURVIVORS

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Introduction: Research has demonstrated complex links between spirituality and cancer survivors' physical and psychological adjustment. In particular, spirituality is typically more strongly related to mental than to physical quality of life (QOL), and few aspects of spirituality are related to adherence or health behaviors. However, most of this research has been conducted with middle-aged and older adults; little is known about spirituality-well-being links in younger cancer survivors. The present study examined two dimensions of spirituality (spiritual struggle and spiritual well-being) as correlates of mental and physical QOL and health behaviors in late adolescent and young adult survivors. Methods: A cross-sectional survey was provided on the Internet and advertised across the US, containing multiple measures of spirituality and well-being. Results: In 120 respondents (ages 16-47, Mean =32.6, 88% female, 86% white), the FACIT-Sp meaning/peace subscale positively correlated with mental QOL and health behaviors (diet, sleep, adherence) while spiritual struggle was inversely to mental and (marginally, physical) QOL and health behaviors. FACIT-Sp faith correlated with better mental QOL and less alcohol use. No spiritual dimensions were related to exercise. Results held and were in some cases stronger when depression was statistically controlled. Conclusions: As is true with older cancer survivors, spirituality is related to many aspects of well-being, but relations are stronger and more consistent for meaning/peace and struggle, less so for faith. These findings are comparable to those of older survivors. Findings suggest directions for future interventions, particularly finding ways to help survivors potentiate their sense of meaning and reduce spiritual struggle in the service of better mental adjustment and improved health behaviors.

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Paper Session 20 3:45 PM-4:03 PM 3137

THE EFFECTS AND SIDE-EFFECTS OF PRESCRIPTION SLEEP MEDICATIONS (PSM) ON CANCER SURVIVORS WITH IMPAIRED SLEEP QUALITY (ISQ)

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Background: Cancer survivors with ISQ are often prescribed sleep medications; the most common are non-benzodiazepine hypnotics (NBH), benzodiazepines (BENZO), and tricyclic antidepressants (TCA). These medications have an uncertain efficacy, carry a risk of dependency, and may cause deleterious side effects. The aim of this analysis is to examine the baseline association between PSM, sleep quality, and side effects.

Methods: We previously conducted a RCT among 410 cancer survivors suffering from moderate to severe ISQ between 2 and 24 months after treatment. At baseline, participants listed all current prescription sleep medications while also completing questionnaires on sleep quality and side effects commonly experienced by cancer survivors. ANCOVA models were used to calculate associations while controlling for age, gender, and race.

Results: Over 26% of participants reported using PSM at baseline. PSM users had significantly worse sleep quality (PSQI score: PSM = 10.5 vs. No PSM = 8.6; $p < 0.001$) and insomnia scores (ISI score: PSM = 14.7 vs. No PSM = 13.3; $p < 0.01$) than non-PSM users at baseline. NBH, BENZO, and TCA users all had significant ($p < 0.02$) worse sleep quality (PSQI score) than non-users when analyzed separately. PSM users reported higher levels of fatigue (Multidimensional Fatigue Inventory: PSM = 28.9 vs. No PSM = 21.2; $p < 0.01$), memory problems (0-10 scale: PSM = 3.7 vs. No-PSM = 2.8; $p < 0.01$), and psychological distress (POMS Score: PSM = 19.6 vs. No-PSM = 12.8; $p < 0.01$).

Conclusion: PSM use was associated with ISQ along with side effects such as fatigue, memory problems, and psychological distress. However, we cannot infer causality because we performed cross-sectional analyses. Future study should examine the longitudinal association between PSM, sleep quality and side effects. Clinicians may also consider prescribing alternative therapies for ISQ such as yoga and CBT, which have proven efficacy in cancer patients with limited side effects.

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Paper Session 20 4:03 PM-4:21 PM 3138

MINDFULNESS-BASED STRESS REDUCTION FOR PERSISTENTLY FATIGUED CANCER SURVIVORS: ACUTE AND MAINTENANCE OUTCOMES FROM A RANDOMIZED CONTROLLED TRIAL

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Cancer-related fatigue (CRF) is one of the most prevalent, persistent, and disabling symptoms associated with cancer and its treatment. Discovery of its etiology has been elusive, evidence is inconclusive about its physiological mechanisms, and there are few evidence-based interventions for this vexing symptom. Mindfulness-Based Stress Reduction (MBSR) is an 8-week group meditation and yoga-based intervention that targets stress reactivity. MBSR effectively reduced CRF severity ($d = 1.53$, $p < .0001$) and functional interference ($d = 1.43$, $p < .0001$) compared to wait-list control in our pilot study of 35 cancer survivors, and these results were maintained through 6-month follow-up. The current trial provides a more rigorous test of MBSR to see how it compares to an attention control group structurally equivalent to MBSR. Breast cancer survivors ($N = 60$; stage 0-III) who were ≥ 9 months but ≤ 5 years post chemotherapy and/or radiation therapy and reporting clinically-significant CRF for at least the past 2 months were randomized to MBSR or attention control. Both interventions were equally helpful in reducing fatigue interference and severity immediately post intervention. At 6-month follow-up, outcomes from the trial's first cohort ($N = 18$) reveal that positive effects of MBSR continue to accumulate over time, resulting in a statistically and clinically significant difference favoring MBSR in reducing fatigue interference ($d = 0.98$, $p = .03$) and fatigue-related symptoms, including depression ($d = 1.25$, $p = .03$), anxiety (1.15, $p = .03$), sleep disturbance ($d = 0.77$, $p = .014$), and attentional dysfunction ($d = 1.58$, $p < .001$). Findings from this trial fill a critical gap in the evidence supporting the use of MBSR for cancer-related fatigue and associated symptoms.

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Paper Session 20 4:21 PM-4:39 PM 3139

THORACIC RADIOTHERAPY (RT) EFFECTS ON SHORTNESS OF BREATH AND FATIGUE

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Thoracic RT and chemotherapy can produce interrelated symptoms of fatigue and shortness of breath (SOB) in cancer patients during and after treatment (tx). It is unknown how changes in these symptoms over time differ by cancer and tx type. We examine SOB and fatigue in lung and breast cancer patients receiving RT and /or chemotherapy at baseline (pre-tx), post-tx, and 6month post-tx.

Analyses were performed on 133 lung (mean age 65, 42% female) and 454 breast (mean age 57, 99% female) cancer patients from a previous University of Rochester Cancer Center Community Clinical Oncology Program study. Patients completed a modified M.D. Anderson Symptom Inventory (SI) at baseline, post-tx, and 6month post-txt, with scale from 0 (no symptom) to 10 (as bad as you can imagine). Mean SOB and fatigue from the SI were calculated at all three time points for patients who received RT with/without chemotherapy and those who received only chemotherapy. Pearson's correlations and linear mixed model (LMM) analyses were performed.

SOB was significantly associated with fatigue in all groupings (all R's ≥ 0.4, p's < 0.001), and SOB was much higher in lung than in breast cancer patients. Mean SOBs from post-tx to 6month post-tx for lung cancer with and without RT were 5.1 ± 0.4 to 5.3 ± 0.5 and 5.8 ± 0.6 to 4.1 ± 0.7, respectively; and for breast cancer for RT only were 2.0 ± 0.2 to 1.3 ± 0.1. LMM showed that both mean SOB and fatigue increased significantly from baseline to post-tx and then decreased to almost baseline values at 6month post-tx for chemotherapy alone (all p's < 0.001). A similar trend was observed for mean fatigue for RT (all p's < 0.001). However, mean SOB for RT group did not return to baseline values but remained elevated even after 6month post-tx ($p = 0.77$).

These findings suggest that thoracic RT has a much longer lasting detrimental effect on SOB than chemotherapy; whereas the detrimental long-term effect of RT is not seen for fatigue.

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Paper Session 20 4:39 PM-4:57 PM 3140

CHRONIC GRAFT-VERSUS-HOST DISEASE MODERATES CHANGES IN FATIGUE AMONG ALLOGENEIC HEMATOPOIETIC STEM CELL TRANSPLANT PATIENTS

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Background: Cancer patients undergoing hematopoietic stem cell transplant (HSCT) experience decrements in quality of life following transplant, but little is known about their fatigue. To address this issue, the present study investigated the prevalence of fatigue following allogeneic HSCT and examined chronic graft-versus-host disease (cGVHD) as a moderator of change in fatigue over time.

Method: Allogeneic HSCT recipients were recruited as part of a larger study of quality of life after transplant. Participants completed self-report measures of fatigue (FSI), cGVHD symptomatology, and demographic variables pre-transplant and 3 and 12 months post-transplant. Mixed models were used to examine changes in fatigue and cGVHD symptoms over time.

Results: A total of 113 patients participated (age $M = 51$, 40% female). Of these, 67 (60%) reported clinically significant fatigue prior to transplant. Mixed models examining fatigue severity and disruptiveness and adjusting for age and gender revealed significant interactions between cGVHD and time (p values $\leq .05$). HSCT recipients reporting fewer symptoms of cGVHD at 3 months post-transplant reported greater improvements in fatigue severity and disruptiveness over time compared to patients reporting more symptoms of cGVHD.

Conclusion: Results from the current study suggest that cGVHD may play an important role in moderating the course of fatigue post-transplant. HSCT recipients with greater cGVHD symptomatology may benefit from interventions to improve fatigue (e.g., exercise).

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Paper Session 20 4:57 PM-5:15 PM 3141

DO HEALTHY BEHAVIORS HAVE A RELATIONSHIP WITH SLEEP DISTURBANCES AND FATIGUE IN TRANSPLANT CAREGIVERS?

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Cancer caregivers report re-prioritizing the patient's health needs over their own. Common problems reported by caregivers are sleep disturbance and fatigue. Fewer healthy behaviors are also reported but have not been evaluated as mechanisms for these problems. Purpose: To examine health behaviors as predictors of sleep disturbance and fatigue in caregivers. Participants: 78 informal caregivers of individuals undergoing allogeneic hematopoietic stem cell transplantation Methodology: Cross-sectional analysis of surveys completed at hospital discharge. Measures: Health-Promoting Lifestyle Profile II (healthy behaviors); Brief Symptom Inventory (distress); Caregiver Reaction Assessment (burden); Pittsburgh Sleep Quality Index (PSQI); Multidimensional Fatigue Symptom Inventory. Higher scores indicate more of each concept except PSQI: higher scores indicate poor sleep quality. Results: Adult (M = 52.4 +12.8 years) caregivers were primarily female (70.5%), white (74.4%), and married (87%). Caregiver physical activity score was the lowest of all healthy behavior scales. Controlling for age, burden, and distress, healthy behaviors did not significantly predict sleep disturbance. Controlling for age, burden, and distress, healthy behaviors ($\beta = -1.08$, $p \leq .001$) predicted total fatigue scores. Controlling for age, burden, and distress, healthy behaviors was the sole independent predictor of physical fatigue ($\beta = -6.08$, $p = .018$) and vigor ($\beta = .5.071$, $p \leq .000$). Further examination revealed that men reported lower scores than women in all categories of healthy behaviors, including significantly worse ($p < .01$) scores for health responsibility, nutrition, interpersonal relationships, and spiritual growth. Conclusions: Health behaviors such as physical activity, proper nutrition, and stress reduction may help to lessen fatigue associated with the stress of cancer caregiving. Male caregivers, who assume the role of informal caregiver less frequently than women, may be more likely to experience problems, such as fatigue, as a result of the stress and burden of caregiving.

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Meritorious Paper
Paper Session 21 3:45 PM-4:03 PM 3142

DOES A HOME-BASED DVD-DELIVERED PHYSICAL ACTIVITY PROGRAM INCREASE SELF-ESTEEM IN OLDER ADULTS: AN RCT

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Previous studies have indicated that domain-specific self-esteem plays a valuable role in maintaining activities of daily living (ADL) in older adults. Although site-based physical activity interventions have proven to be successful in attenuating mental and physical health decline in this population, such methods can be costly and limiting to many. In the present study, we examined the effects of two DVD-delivered programs on self-esteem and its sub-domains. Low active, older adults ($n = 307$) were randomly assigned to a 6-month, home based physical activity program consisting of either a DVD-delivered exercise condition focused on increasing flexibility, toning, and balance (FlexToBa) or an attentional control DVD condition focused on healthy aging. The Physical Self-Perception Profile (PSPP) was used to assess physical self-worth as well as the three sub-domains of self-esteem: physical condition, perception of attractive body, and perception of physical strength. Global self-esteem was measured using the Rosenberg Self-Esteem Scale (RSE). All items were assessed at the beginning and end of the 6-month DVD program. We found a significant group by time multivariate interaction [$F(4,300) = 4.20$, $p = 0.003$, $\eta2 = 0.05$], which was explained by significant group by time effects for physical condition ($p = 0.000$, $\eta2 = 0.04$), and physical self-worth ($p = 0.003$, $\eta2 = 0.03$). Physical condition in the FlexToBa group increased significantly over the course of the program, whereas in the attentional control group it remained relatively stable. Physical self-worth increased twice as much in the FlexToBa group as it did in the control group. In conclusion, increases in sub-domains of self-esteem through a home-based exercise program are encouraging in light of the costs associated with aging in an elderly population. Our findings suggest the need for exercise training that is easily accessible to all older adults to maintain well-being later in life.

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Paper Session 21 4:03 PM-4:21 PM 3143

DISSEMINATING FFC-AL AND DEMONSTRATING THAT HEALTH BEHAVIOR MATTERS FOR OLDER ADULTS LIVING IN THESE SETTINGS

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Assisted livings settings are residential settings that provide housing and supportive services for older and disabled adults. Individuals living in these settings engage in limited amounts of physical activity and decline functionally more rapidly than their peers in nursing homes. Function Focused Care for Assisted Living (FFC-AL) was developed to prevent decline and improve function and increase physical activity among residents living in these settings. Building off previous work demonstrating the efficacy of FFC-AL the purpose of this study was to test our ability to disseminate and implement function focused care into 20 assisted living facilities housing over 1,000 residents. The dissemination process involved teaching in-house champions from each setting how to implement a function focused care approach in their settings using our four step approach: (Step I) Environment and Policy/Procedure Assessments; (Step II) Education of Staff; (Step III) Developing Function Focused Goals for Residents; and (Step IV) Mentoring and Motivating. Steps are implemented sequentially although they overlap in that once initiated they continue indefinitely as the philosophy of function focused care is integrated and becomes routine care in that setting. The dissemination and implementation of FFC-AL was evaluated using the Reach, Efficacy/Effectiveness, Adoption, Implementation, and Maintenance (RE-AIM) model. Over a 12 month period we were able to engage 90% of our study sample and demonstrate significant changes in site specific policies, the environment and care approaches in these settings so that there was an increase focus on function and optimizing function and physical activity among residents. In addition, implementation of FFC-AL resulted in a decrease in falls and transfers to the hospital among residents. We developed a website from our resources, training videos, and are now disseminating to 100 AL settings.

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Citation Paper
Paper Session 21 4:21 PM-4:39 PM 3144

MULTILEVEL MODELING OF EXERCISE EFFECTS ON LONELINESS IN OLDER ADULTS

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Despite the prevalence of loneliness in older adults, it is rarely considered an independent outcome in clinical exercise trials. We examined the effects of an exercise intervention on loneliness over a 10-month period in a sample of older adults. Participants ($N = 127$, M age = 69.89 years) were randomly assigned to either an aerobic exercise or flexibility condition. A series of multilevel models examined intervention effects on loneliness and how changes in commonly identified correlates (e.g., physical activity, depression, perceived stress, social support) were associated with changes in loneliness over the course of the trial. An initial estimated marginal means model revealed a significant time by treatment by gender reduction in loneliness ($p = .005$). Decomposition of this interaction revealed reductions in loneliness from baseline to post-intervention in the flexibility condition, but only for women ($p = .008$, $d = .43$) and reductions in loneliness in the aerobic exercise condition but only for men ($p = .001$, $d = .69$). However, in a final multilevel regression model, loneliness decreased over the course of the ten-month intervention independent of treatment assignment. Those who reported higher physical activity, lower depression and lower perceived stress concurrently reported lower loneliness across all measurement occasions and single participants who reported average or lower social support reported greater loneliness than those who were married across all measurement occasions (pseudo $R2 = 0.38$). Interventions that offer lonely adults opportunities to simultaneously interact with others while increasing their level of activity should represent a health priority. The current findings can be used in the development of exercise interventions designs based not only on alleviating loneliness but with respect to participant gender, marital status, exercise preferences and existing social relations.

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Paper Session 21 4:39 PM-4:57 PM 3145

THE EFFECTS OF AN 8-WEEK HATHA YOGA INTERVENTION ON EXECUTIVE FUNCTION IN OLDER ADULTS

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Executive functions have been extensively studied in the physical activity-cognition literature. Fewer scientific studies have examined movement-based embodied contemplative practices such as Hatha Yoga and their effects on executive function. The purpose of this randomized controlled trial was to examine the effects of a yoga intervention on executive function processes of working memory and task switching among older adults. One hundred and eighteen participants (Mage = 62 ± 5.59) were randomized to either an 8-week Hatha yoga or a stretching control group. Participants completed the task switching paradigm, n-back and the running memory span task at baseline and following the 8-week intervention. Analysis of covariance models (ANCOVAs) controlling for age, education, attendance and baseline test scores showed significantly shorter reaction times on the task switching outcomes including the mixed (partial $\eta 2 = .04$, $p < .05$) and repeat trials (partial $\eta 2 = .04$, $p < .05$). Higher accuracy was recorded on the single trials (partial $\eta 2 = .05$, $p < .05$) as well as the working memory tests including 2-back (partial $\eta 2 = .10$, $p < .001$) and partial recall scores (partial $\eta 2 = .07$, $p < .01$) of the running span task. Regular yoga practice over 8-weeks improves working memory capacity and mental flexibility. While the underlying mechanisms can only be speculated, these results demand larger systematic trials to closely examine effects of yoga on facets of executive function as well as across other domains of cognition.

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Paper Session 21 4:57 PM-5:15 PM 3146

EFFECTS OF 6-MONTHS DVD-DELIVERED EXERCISE INTERVENTION ON FUNCTIONAL LIMITATION IN OLDER ADULTS

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Functional limitations are an important component of the disablement process in older adults. In this study, we examined the effects of a 6-month, home-based, DVD-delivered exercise intervention (FlexToBa), designed to improve flexibility, toning, and balance on functional limitations among loder adults. Low-active older adults were recruited from 83 communities in Central Illinois. Participants ($N = 307$, $M\_age = 71.01$) were randomly assigned to either FlexToBa exercise intervention group or Healthy Aging attention control group. Functional limitations were assessed at baseline and 6-months using the abbreviated function component (McAuley et al., 2005) of the Late-Life Function and Disability Instrument (LL-FDI; Jette & Haley, 2002). Age groups were classified as either <70 years or 70 and older. A 2 (condition) by 2 (age group) by 2 (time) mixed model repeated measures MANOVA examined the effect of the intervention on LL-FDI and whether the two age groups responded differently to the intervention. There was a significant effect of time on improvements of basic lower extremity function ($p = .010$), advanced lower extremity function ($p = .000$), and upper extremity function ($p = .002$). However, a significant time by group interaction indicated that the FlexToBa participants demonstrated greater gains in advanced lower extremity function than controls ($p = .013$). Finally, the older age group reported significantly greater functional limitations than the younger age group (all $ps < .002$). Improvements in advanced lower extremity function suggest that participation in flexibility, toning, and balance exercise program could improve mobility and independence of older adults. This improvement may provide a promising basis for increasing physical activity and quality of life among the older population.

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Paper Session 22 3:45 PM-4:03 PM 3147

PROJECT ICARE: CULTURALLY TAILORED INTERVENTION FOR SEXUALLY RISKY AFRICAN-AMERICAN MSM

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ICARE was a group-based multi-media intervention for high risk African-American Men who have Sex with Men (AAMSM). Rates of HIV and STI infection among AAMSM surpass Caucasians, yet AAMSM report fewer sex partners, fewer unprotected episodes per partner, and less drug use with sex. Cultural patterns and social networks may dispose AAMSM toward older, sero-discordant partners, and toward female partners. Lower rates of HIV diagnosis and treatment among AAMSM make sero-discordant partners particularly risky. Our goal was to decrease unprotected sex and to facilitate safer partner choices. Intervention: 4 two-hour group sessions of 5 - 8 participants, with 3-month follow-up. The intervention used structured, interactive multi-media sessions that addressed, e.g.: community diversity and attitudes; AAMSM sexual norms; sexual and social networks; risky partner selection and communication; safety skills; substance use; and barriers to STI/HIV testing. Participants were men age18+ who reported 2+ (male or female) sex partners and unprotected sex with at least one male in the previous 3 months. 163 men were randomly assigned to intervention or measurement-only control arms. Outcomes: Contrary to our hypothesis, at 3 month follow-up groups did not differ in sexual risk during their last encounter. However, the numbers of risky and sero-discordant partners declined more in the intervention than in the control groups ($ps < .03$), as did unprotected sex with a female partner ($p = .014$). Anecdotal evidence showed the group format helped men conceptualize and commit to changing risk. AAMSM are amenable to group-based, peer-led, multi-media interventions using discussion and self-disclosure. Evidence from this pilot-study showed the intervention to be effective on some measures of risk. We had a short follow-up time and a modest number of participants. This approach warrants expansion and replication in a larger, young population with a longer time frame.

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Paper Session 22 4:03 PM-4:21 PM

COLLECTIVISM AND RISKY SEX IN MSM: RESULTS FROM THE LA ETHNIC MINORITY MEN'S HEALTH STUDY

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Ethnic minority men who have sex with men (MSM) are disproportionately impacted by the U.S. HIV epidemic. Reducing unprotected anal intercourse (UAI) is one way to reduce HIV transmission risk. Little is known about cultural protective factors pertinent to ethnic minority MSM (i.e., collectivism) who may be at risk for HIV infection. We hypothesized a greater sense of collectivism among family and friends would be associated with less UAI, after controlling for risk factors. A chain-referral sample of 400 Latino, 393 Asian and Pacific Islander (API), and 403 African American (AA) sexually-active MSM (aged 18+) was recruited in Los Angeles County, CA from May 2008 to October 2009. Basic demographic data, as well as measures of collectivism, drug use and sexual behavior in the past six months were collected by audio computer-assisted self-interview. Logistic model regressed a binary indicator of any UAI in the past 6 months onto collectivism among family and among friends, conditional on known risk factors. In all, 36% of Latinos, 47% of APIs, and 31% of AAs reported UAI. As expected, an episode of UAI was associated with lower odds as aged increased ($OR = .978$, $p < .05$), and increased with more illicit drug use ($OR = 1.002$, $p < .05$). The odds ratio for UAI was lower for those who were living with HIV ($OR = .213$, $p < .05$). Latinos had a lower odds ratio of UAI when compared to AA ($OR = .700$, $p < .05$), but no difference emerged between Latinos and APIs. Lastly, collectivism among family, but not friends, was associated with lower odds of UAI ($OR = .970$, $p < .05$). The data suggest that more collectivism among family was negatively associated with UAI in our sample. Next steps involve investigating the mechanisms by which collectivism may manifest itself in promoting safe sex (e.g., condom use attitudes or norms or the adoption of behaviors due to group norms). Harnessing the power of the family for individuals high in collectivism may serve a prevention tool in the HIV epidemic.

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Paper Session 22 4:21 PM-4:39 PM 3149

INCREASING UPTAKE OF MEDICAL MALE CIRCUMCISION IN ZAMBIA

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Background. Medical male circumcision (MMC) is an effective strategy for HIV prevention in high-prevalence populations (up to 76% protection against HIV acquisition). In Zambia only 12% of the male population are circumcised. Despite the high levels of protection from HIV, only 20% of uncircumcised men expressed any interest in undergoing the procedure. This ongoing randomized trial seeks to increase MMC among Zambian men, balancing supply and demand for MMC services to make most effective use of scarce resources.

Methods. Participants: uncircumcised, HIV-negative men (n = 960) recruited from community health centers (CHCs; n = 12). CHCs were randomized to conduct four weekly intervention sessions on HIV prevention highlighting MMC, or a time-matched standard of care. Men could invite their female partners (n = 789) to participate in a comparable women's group. Assessments included readiness to undergo MMC using the Stages of Change model to assess attitudinal and behavioral changes over time (one year post-intervention).

Results. At baseline, most men were in Pre-Contemplation or Contemplation (87%). Although there was a significant association between baseline stage and moving to the Action stage, indicating that those reporting greater readiness at baseline were more likely to undergo the procedure (Mantel-Haenszel Chi-Square = 8.07, p = .005), this relationship was not significant in a multivariable model with study condition.The odds ratio for moving to the Action stage (i.e., undergo MMC) was 1.96 (95% CI 1.20, 3.20) in favor of the experimental condition; no change in condom use was noted following MMC in either group. There was no additional impact of partner participation on MMC decision-making.

Discussion. Preliminary results of this ongoing study suggest that the intervention is positively impacting rates of MMC without negatively affecting condom use. Policy implications, particularly concerning dissemination and implementation strategies, will be discussed.

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Paper Session 22 4:39 PM-4:57 PM 3150

MENTAL HEALTH AND HIV-RISK BEHAVIORS AMONG METHAMPHETAMINE USERS IN CAPE TOWN, SOUTH AFRICA

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South Africa has 4.6 million adults infected with HIV, the largest number of any country in the world, and has experienced increases in rates of methamphetamine (meth) use in recent years. Stimulant drugs are associated with increased rates of risky sex behaviors in the U.S., but little research has examined this association among meth users in South Africa. The current study examined the association between mental health and risky sex behaviors among meth users in Cape Town.

Meth users (n = 175) in Cape Town, South Africa were recruited to complete a questionnaire assessing sexual risk behaviors, intimate partner violence, traumatic experiences, the Breslau short posttraumatic stress disorder (PTSD) Scale, and Patient Health Questionnaire depression scale (PHQ-9). The sample was 59% male, with a mean age of 29.9 years and 88.6% of the sample reported less than a 12th grade education.

Participants endorsed a traumatic experiences related mostly to sex and violence. Fifty-five percent of the sample screened positive for PTSD and 54% of the sample reported moderate to severe depressive symptoms. Participants with PTSD had significantly higher mean depression scores (PHQ-9 = 12.22) than participants without PTSD (PHQ-9 = 8.01), t(171) = 3.90, p < .001. Of the male participants, 64% reported having unprotected intercourse in the past 3 months, and 81% of female participants reported having unprotected intercourse. Using bivariate logistic regression analyses, significant predictors of unprotected intercourse included: depression, OR = 2.57, p = 0.05; being threatened to have sex as an adult, OR = 5.00, p = 0.04; and being forced to have sex without a condom, OR = 4.00, p = 0.01. PTSD was not a significant predictor of condom use.

These results provide an empirical examination of sexual risk behaviors and mental health of meth users in South Africa, a region of the world highly burdened by HIV infection. The results point to the importance of addressing mental health in HIV prevention for meth users.

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Paper Session 22 4:57 PM-5:15 PM 3151

EXPOSURE TO HIV PREVENTION MESSAGES AND HIV/STI TESTING AMONG MEXICAN MIGRANTS

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Background: Exposure to HIV prevention messages may increase adoption of preventive behaviors and HIV/STI testing among Mexican migrants (MMIs). We investigate the prevalence of, and factors associated with, exposure to HIV prevention messages and HIV/STI testing among this population. Methods: A cross-sectional probability survey was conducted between 2009 and 2010 with MMIs traveling through the border city of Tijuana, Mexico (N = 3,390). Prevalence rates of exposure and testing were calculated. Logistic regressions were estimated to explore factors associated with exposure and associations between exposure and HIV/STI testing. Results: Overall, 21.1% of MMIs had no lifetime exposure and 34.6% had no last-12 month exposure to prevention messages. For last 12-month exposure, messages promoting condom use were most prevalent (59.6%) while those promoting fewer sex partners were the least (43.2%). Health insurance and education were associated with greater last 12-month message exposure (p < 0.05). Lifetime prevalence of HIV and STI testing were 47.4% and 20.8% respectively. Last 12-month HIV and STI testing prevalence rates were 17.7% and 8.2% respectively. Among females, exposure to lifetime messages was associated with greater odds of last 12-month HIV and STI testing (p < 0.05). Among both genders, exposure to lifetime and last 12-month STI testing messages were associated with greater likelihood of lifetime STI testing (p < 0.05). Discussion: Limited exposure to HIV prevention messages may contribute to low levels of HIV/STI testing among MMIs. Research is needed to identify effective interventions to deliver HIV prevention messages and promote HIV/STI testing among this high-risk population.

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Citation and Meritorious Paper
Paper Session 23 3:45 PM-4:03 PM 3152

MULTILEVEL MODELING OF THE IMPACT OF NEIGHBORHOOD RISK AND PROTECTIVE FACTORS ON BLOOD PRESSURE IN UNDERSERVED AFRICAN-AMERICAN COMMUNITIES

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African-Americans experience the highest rates of elevated blood pressure in the U.S., with this disparity linked to neighborhood socioeconomic disadvantage. Buffering theory posits that the negative effects of socioeconomic stress or disadvantage on health may be attenuated by positive neighborhood factors and supports. Based on a buffering hypothesis, a multi-level modeling approach tested direct and interacting relations of neighborhood contextual factors and blood pressure in African-American adults. Participants in the Positive Action for Today's Health trial (N = 434) provided perceptions of neighborhood crime and satisfaction, residential addresses for estimating neighborhood poverty, and measures of blood pressure. Participants were clustered by census block groups (N = 24), with neighborhood poverty determined for each group using 2010 census data. Perceived crime and satisfaction interacted to predict both systolic (γ = -4.15, SE = 1.90, p < .05) and diastolic (γ = -2.89, SE = 1.22, p < .05) blood pressure, such that crime was positively associated with systolic and diastolic blood pressure at lower levels of satisfaction and inversely associated with diastolic blood pressure at higher levels of satisfaction. Percent neighborhood poverty was associated with diastolic blood pressure (γ = 11.48, SE = 4.08, p < .05) with a trend for predicting systolic blood pressure (γ = 12.79, SE = 6.33, p = .06). Intra-class correlations by block group were low (.00-.01) and no random effects were estimated. The impact of perceived neighborhood crime on blood pressure may be greatest when neighborhood satisfaction is low, with residence in an impoverished neighborhood also related to higher BP in African-American adults. Given the impact of neighborhood socioeconomic disadvantage on blood pressure, public policy efforts may reduce health disparities in part by promoting neighborhood satisfaction and attending to neighborhood-level risk factors.

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Citation Paper
Paper Session 23 4:03 PM-4:21 PM 3153

BUILT ENVIRONMENT AND CARDIOVASCULAR DISEASE RISK FACTORS-A DECISION TREE ANALYSIS

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African American (AA) women have higher risk of cardiovascular disease (CVD), possibly attributed to risk factor disparities. Built environment characteristics that support physical activity (PA) may lead to improvement in risk factors and decreased CVD risk. This study used decision tree analysis to determine if built environment characteristics contributed to having multiple risk factors at ideal levels. Participants were recruited as part of a larger follow up study, and completed questionnaires and a physical assessment to measure risk factors, including smoking, body mass index, PA, dietary habits, cholesterol, glucose and blood pressure. Built environment characteristics were measured by neighborhood audit. The Classification and Regression Trees growing method grouped participants as ≥4 vs. ≤3 risk factors at ideal levels. Each risk factor was categorized as 'ideal' or 'not ideal' according to American Heart Association definitions and summed for each participant. Built environment predictors were presence and quality of PA resources (PARs), walkability, traffic and crime safety. Age and income were included as covariates. Participants (n = 30) ranged in age from 39-66 (M = 54.1 ± 7.5 yrs), and had a median household income of $66,000-76,000/year. Overall, 66.7% of participants had ≥4 risk factors at ideal levels. All participants had at least one risk factor at an ideal level, and none had all seven at ideal levels. The decision tree identified AA women with few, low quality neighborhood PARs, and who were older than 55 yrs at the greatest risk for having ≤3 risk factors at ideal levels (83.3%). Future studies with larger sample sizes should compare logistic regression models to decision tree analyses, as concordance of both methods would indicate the strongest predictors and could be used to direct community and policy CVD prevention efforts.

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Paper Session 23 4:21 PM-4:39 PM 3154

HEART OF HYPERTENSION: A COMMUNITY COLLABORATION TO DEVELOP A HYPERTENSION PREVENTION PROGRAM FOR AND WITH 25-45 YEAR OLD AFRICAN-AMERICAN MEN

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Preventive interventions are needed to help African-American men avoid early onset hypertension (HTN), a major contributor to their shorter life expectancy. To guide the design of a HTN prevention intervention for AA men, we conducted interviews (n = 30) and focus groups (n = 15) with AA men aged 25-45 to explore their daily activities and health awareness and solicit their input on the intervention. The interviews showed that men recognized their risk but lacked strategies to prevent or delay HTN, such as making lifestyle changes and having effective interactions with a physician. Based on our focus groups and earlier research with younger AA men, with community partners (a public health clinic and the YMCA) we developed and tested the feasibility of a 12-week intervention (the Heart of Hypertension) that combined individual goal setting (5 sessions for exercise and 4 sessions for diet) with 3 group sessions that incorporated cooking instruction, health education, and discussions about health with physicians who were AA. Recruitment and retention were aided by community partners, early establishment of trust with researchers, and convenience (flexible schedule, convenient locations, free parking, and text message reminders). Thirteen men participated; 11 completed the assessments; for those 11, the attendance rate was 98%. All measures (BP, weight, Healthy Eating Index, HTN knowledge, and resting and 3-minute recovery heart rates) changed in a positive direction. Participant feedback indicated that skills-based learning, individualized guidance, discussions about health issues, and social support gave the men the skills and confidence necessary to make health a priority and maintain a healthy lifestyle. This research suggests the importance of further testing to assess whether the Heart of Hypertension has potential to be an effective community-based program to address AA men's vulnerability to HTN.

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Paper Session 23 4:39 PM-4:57 PM 3155

SOCIOECONOMIC STATUS AND AMBULATORY BLOOD PRESSURE IN A SAMPLE OF BLACK AND LATINO(A) URBAN ADULTS

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Data consistently indicate an inverse relationship of socioeconomic status (SES) to blood pressure (BP). However, there are limited data on these effects in minority populations, and the available evidence suggests that the inverse relationship of SES to BP is not seen as consistently. The aim of this study is to examine the association of SES (i.e., education and poverty level) to daytime and nocturnal ambulatory blood pressure (ABP) in urban Black and Latino(a) adults.
Method: The sample included 667 American-born, English speaking Black (n = 330, 174 women) and Latino(a) (n = 337, 170 women) adults (mean age = 39.1 years). Participants completed 24-hour ABP monitoring with readings taken every 20 minutes during the day and every hour at night. All 667 had daytime readings and 323 (166 Black) of these also had nocturnal BP readings. SES was indexed with degree-based measures of education and poverty group (calculated from annual household income as compared with Census 2000 data on poverty level for equivalent types of households). Results: A series of ANCOVAs were performed with mean systolic (SBP) and diastolic (DBP) as dependent variables. Age, gender, and body mass index served as covariates. Predictors included race (i.e., Black or Latino(a)) and either education level or poverty group. Education level was not associated with daytime ASBP or ADBP or with nocturnal SBP or DBP (all ps > .12). Poverty group was not associated with daytime SBP, nocturnal SBP or DBP, but was associated with daytime ADBP (F(1,653) = 2.61, p = .05). Those living below the poverty level had higher DBP than those with the highest level of income (> 3 times the poverty level), but the effects were not significant following Bonferroni correction for multiple comparisons. There were no race differences in the SES-ABP relationship. Conclusion: Lower BP did not accompany greater access to socioeconomic resources in this sample of Black and Latino(a) adults. Stress exposure may undermine the benefits of gains in SES.

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Paper Session 23 4:57 PM-5:15 PM 3156

FOOD INSECURITY LIMITS THE EFFECTIVENESS OF BEHAVIORAL INTERVENTIONS TO REDUCE BP

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Background: Food insecurity, defined as "having limited or uncertain availability of nutritionally adequate and safe foods or limited or uncertain ability to acquire acceptable foods in socially acceptable ways", affects 15% of American households each year and is associated with diabetes, hypertension and hyperlipidemia. Poor access to healthy foods may limit the ability of the food insecure to follow dietary guidelines for managing these chronic diseases. We examined the relationship between food insecurity and blood pressure (BP) reduction in a pilot clinical trial testing the comparative effectiveness of two behavioral interventions for hypertension in a sample of diverse, low-income patients in New York City. Methods: Twenty-eight men and women with type 2 diabetes and uncontrolled hypertension were randomized to one of two 6-month interventions to reduce BP: (1) home BP telemonitoring alone; or (2) home BP telemonitoring plus telephone-based nurse case management. Food insecurity was assessed using the 6-item U.S. Household Food Security Survey. The primary outcome was 6-month systolic BP (SBP) change. Results: The mean age was 61 ± 8 years, 57% of participants were female, 100% were racial/ethnic minorities (71% Hispanic, 29% Black) and 57% were food insecure. The mean baseline BP was 155/86 mm Hg and did not differ by food insecurity status (Ps > .63). Results of a mixed effects regression analysis showed no significant difference between the two interventions; SBP decreased by about 3.5 mmHg at 6-months in both groups. However, there was a significant food insecurity X time interaction (P = .001) such that SBP decreased by 16.6 mm Hg among food secure participants and increased by 8.3 mm Hg among food insecure participants across the intervention groups. Conclusions: These findings provide preliminary support for the hypothesis that behavioral interventions for hypertension are less effective among the food insecure. Screening for food insecurity may help identify patients in need of tailored interventions to improve chronic disease management.

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Citation and Meritoriouos Paper
Paper Session 24 3:45 PM-4:03 PM 3157

BEHAVIORAL LIFESTYLE INTERVENTION DECREASES RISK IN TYPE 2 DIABETES: RESULTS OF THE CALM-D RANDOMIZED CONTROLLED TRIAL

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BACKGROUND AND PURPOSE: Excess body weight, poor glycemic control, depression, and renal function decline are independently associated with increased risk of poorer outcomes in type 2 diabetes. We tested the effect of a multicomponent behavioral intervention focused on improving diet, physical activity and stress management/coping on weight, glycemic control, renal function and depressive symptoms in a community-dwelling sample composed primarily of relatively poor ethnic minority participants.
METHODS: A sample of 111 adults with type 2 diabetes (mean age = 54.81 years, 28.8% male, 85% Hispanic, mean annual household income = $14,382) participated in a randomized controlled trial titled Community Approach to Lifestyle Modification in Diabetes (CALM-D). Eligible participants were overweight or obese, and reported pronounced symptoms of depression, but had no evidence of cardiovascular or renal disease. Participants were assigned to a 1 year, 17-session intervention (n = 54) aimed at improving diet, physical activity, and stress management, or to usual care (n = 57). Outcomes included weight, glycosylated hemoglobin (HbA1c), Beck Depression Inventory-II (BDI-II) score, and estimated glomerular filtration rate (eGFR) assessed at baseline, 6-months, and 12-months post randomization. Latent growth modeling was used to examine intervention effects on each outcome.
RESULTS: Using 'intent-to-treat' analyses, the intervention resulted in decreased weight (b = -.322, SE = .124, p = .01), HbA1c (b = -.066, SE = .028, p = .017), and depressed affect (b = - 1.009, SE = .226, p < .001), and improved eGFR (b = .742, SE = .318, p = .020) relative to usual care.
CONCLUSIONS: Multicomponent behavioral interventions targeting weight loss and depressive symptoms as well as diet and physical activity are useful in the management of type 2 diabetes and its complications.

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Citation Paper
Paper Session 24 4:03 PM-4:21 PM 3158

MOTIVATIONAL INTERVENTION FOR MINORITY YOUTH WITH TYPE 1 DIABETES

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Background: Minority youth with type 1 diabetes (T1D) are at increased risk for metabolic control problems. The purpose of this study was to conduct a pilot test of a family intervention for these youth utilizing motivational interviewing (MI).
Method: Thirty-three Hispanic and African American youth with T1D and their parents were recruited from a university-based diabetes outpatient clinic to participate in a one-year study. Mean age of youth was 13.5 years, mean duration of T1D was 6.0 years, and mean A1c was 8.89%. Fifteen families participated in the family MI program, while 18 families constituted a comparison group that received study assessments at baseline, six and 12 months. The two groups did not differ on any variable at baseline. Primary outcomes were diabetes self-management behaviors (Diabetes Self-Management Profile) and glycemic control (A1c). Diabetes-related intrinsic motivation, family support and conflict, and responsibilities for diabetes management were also measured as theory-based mediators.
Results: Youth in the intervention group participated in a mean of 6.7 family sessions over six months. Results of repeated measures ANOVAs indicated significant improvements for youth receiving MI who, relative to comparison youth, improved dietary behaviors (p < .04), management of hypoglycemia (p < .03), and blood glucose monitoring (p < .04) over time. There were no significant changes in glycemic control, but 54% of youth receiving MI improved or maintained A1c versus 31% of comparison youth. While there were no significant changes in family mediators, intrinsic motivation for diabetes management increased over time for youth in both groups (p < .001); higher baseline intrinsic motivation predicted increased self-management behaviors (r = .52, p < .01) and better glycemic control (r = -.39, p < .03) six months later.
Conclusions: These pilot findings indicate that minority youth receiving family-based MI exhibited improvements in diabetes self-management behaviors, and higher initial intrinsic motivation predicted better subsequent regimen behaviors and glycemic control.

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Paper Session 24 4:21 PM-4:39 PM 3159

EMOTIONAL DISTRESS AND DIABETES SELF-CARE: PUTTING THE PIECES TOGETHER

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BACKGROUND: Conflicting research has emphasized depression, diabetes-related distress, or positive affect in relation to diabetes self-care and risk for poor health outcomes.
METHODS: Adults with sub-optimally controlled type 2 diabetes were recruited from the South Bronx, New York City for a trial of a telephonic diabetes self-management intervention. Baseline diabetes self-care, medication adherence, depression symptoms, diabetes distress, and well-being were measured by validated self-reports. Structural equation modeling specified latent variables for depression, diabetes distress and well-being. A second-order latent variable for overall emotional distress pooled shared variance among these. Diabetes self-care was a latent variable indicated by diet, glucose self-monitoring and medication adherence.
RESULTS: Participants (n = 627, 65% female; mean[SD] age = 56[12]) were diverse (69% Hispanic; 27% non-Hispanic Black) and 77% reported household income < $20 K/year. Mean(SD) A1c = 9.1(1.9)%; BMI = 32(8) kg/m2. Depression, diabetes distress, and well-being were each significantly (p < .001) associated with self-care in preliminary models. When modeled together, only depression had an independent relationship (coefficient = -.23, p = .024). In a final model, the second-order latent variable, "emotional distress," was a robust predictor of poorer diabetes self-care (coefficient = -0.53, p < .001). Fit was good (χ2(182) = 418.55, p < .001; RMSEA = .05; CFI = .95; SRMR = .04). Tests for additional independent paths from depression (p = .919), diabetes distress (p = .656) or well-being (p = .768) to self-care were non-significant.
CONCLUSIONS: In this population of disadvantaged adults with sub-optimally controlled type 2 diabetes, emotional distress was strongly associated with poorer diabetes self-care and fully accounted for the effect of depression. Routine evaluation of emotional distress may best identify individuals at risk for poor diabetes self-care.

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Paper Session 24 4:39 PM-4:57 PM 3160

TITLE: IMPACT OF A COMMUNITY HEALTH WORKER DELIVERED INTERVENTION ON AFRICAN AMERICAN WOMEN WITH TYPE 2 DIABETES: INTERIM RESULTS FROM EMPOWER!

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Background: Rural African American women with Type 2 diabetes experience poorer health outcomes compared to Whites. To address these disparities, we tested whether a behaviorally-centered, culturally relevant intervention delivered by Community Health Workers (CHWs) improved health outcomes compared to a mail-based only intervention program.

Methods: In this twelve month randomized-controlled trial, rural African American women with uncontrolled Type 2 diabetes were enrolled in either 1) a 16-session small changes intervention delivered by trained CHWs, or 2) 16 mailings of diabetes educational materials from the American Dietetic Association (ADA). Participant data were collected at baseline, six and twelve months. Outcome measures were participant HbA1c and BMI with additional measures including self-efficacy, diabetes distress and medication adherence. We report results for the first six months of the trial.

Results: Two-hundred African American women (mean age: 52.09 ± 10.89) from impoverished rural communities participated in this trial. All participants were diagnosed with uncontrolled diabetes (mean HbA1c = 9.11 ± 1.82) and the majority of participants were obese (mean BMI = 37.69 ±8.20). At six months, both the CHW and ADA groups exhibited significant improvements in self-efficacy, medication adherence and reported a significant decrease in diabetes related distress (p's < .01). While both the CHW and ADA groups showed reductions in HbA1c (-0.19 vs. -0.22) and BMI (-0.46 vs. -0.02) respectively, neither reached statistical significance at this time point.

Conclusions: Among rural African American women with uncontrolled Type 2 diabetes, both CHW-delivered and mail-delivered diabetes coaching produce modest improvement in glycemic control, measures of distress, adherence, and self-efficacy at six months of follow-up.

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Paper Session 24 4:57 PM-5:15 PM 3161

RE-THINKING THE FREQUENCY OF BETWEEN-VISIT MONITORING FOR PATIENTS WITH DIABETES

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Background. Health systems increasingly look to mobile health (mHealth) tools to monitor patients cost-effectively between visits. The frequency of assessment services such as interactive voice response (IVR) calls is typically arbitrary, and no approaches have been proposed to tailor assessment schedules based on evidence regarding which measures actually provide new information about patients' status.

Methods. We analyzed over 5000 weekly IVR monitoring calls to 298 diabetes patients using logistic models to determine the predictability of IVR-reported physiologic results, perceived health indicators, and self-care behaviors. We also determined the implications for assessment burden and problem detection of omitting assessment items that had no more than a 5% predicted probability of a problem report.

Results. Assuming weekly IVR assessments, episodes of hyperglycemia were difficult to predict (area under the curve [AUC] = 69.7; 95% CI: 50.2, 89.2) based on patients' prior assessment responses. Hypoglycemic symptoms and fair/poor perceived health were more predictable, and self-care behaviors such as problems with medication adherence (AUC = 92.1; 95% CI: 89.6, 94.6) and foot care (AUC = 98.4; 95% CI: 97.0, 99.8) were highly predictable. Even if patients were only asked about foot inspection behavior when they had >5% chance of a problem report, 94% of foot inspection assessments could be omitted while still identifying 91% of reported problems.

Conclusions. mHealth monitoring systems could be made more efficient by taking patients' reporting history into account. Avoiding redundant information requests could make services more patient-centered and might increase engagement. Time saved by decreasing redundancy could be better spent educating patients or assessing other clinical problems.

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Friday
April 25, 2014
6:25 PM-7:45 PM

Poster Session C

C-001

THE IMPACTS OF EXPRESSIVE WRITING ON POSTTRAUMATIC GROWTH AMONG CHINESE BREAST CANCER SURVIVORS

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A growing number of studies demonstrate the importance of posttraumatic growth (PTG) and its benefits for cancer survivorship, but fewer studies tested interventions to improve PTG. Expressive writing is a brief intervention designed to improve health by prompting emotional and cognitive processes through writing. Expressive writing has been shown to confer physical health benefits for Caucasian cancer survivors, such as improved sleep quality and decreased cancer related morbidity. However, it is unknown what writing instructions promote PTG among cancer survivors. This study evaluated the impact of expressive writing on PTG using a randomized controlled among Chinese breast cancer patients in Shanghai. A total of 90 Chinese breast cancer survivors who were undergoing chemotherapy were randomly assigned to one of the three groups: a benefit-finding intervention condition to write about positive thoughts regarding their cancer experience, a self-regulation intervention condition to write about deepest feelings and coping efforts in addition to finding benefits from their cancer experience, and a neutral control writing group. Posttraumatic growth was assessed by posttraumatic growth inventory (PTGI) at baseline, and one month and two month follow-ups. Group differences emerged at the two month follow-up, $F(2, 72) = 3.97$, $p = 0.02$. The benefit finding group ($M = 72.6$, $SE = 2.7$) had higher PTG compared with the control group ($M = 61.9$, $SE = 2.7$), $t = 10.6$, $p = 0.02$, and neither group differ from the self-regulation group ($M = 66.5$, $SE = 2.6$). Analysis of the PTG subscale suggested that group difference in PTG was most pronounced in the spirituality and new possibility domains. In conclusion, focusing on positive aspect of breast cancer experience was beneficial for Chinese breast cancer survivors. Future studies should examine how to maximize the benefits of expressive writing across cultural groups to promote PTG and other health benefits.

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C-002

SOURCE-SPECIFIC SOCIAL SUPPORT AND ADJUSTMENT AMONG CHINESE CANCER SURVIVORS: GENDER AND AGE DIFFERENCES

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Introduction Spousal support has shown to influence adjustment among Caucasian cancer survivors. However, relatively unknown are the health benefits of support from other sources and the roles of gender and age in these associations. Chinese culture emphasizes interdependent and harmonious relationships between individuals, providing an opportunity to address these questions. This study investigated how source-specific support was associated with adjustment to cancer and how the associations were moderated by gender and age.

Methods Chinese cancer survivors ($N = 238$) from Beijing, China completed a questionnaire packet assessing source-specific support (family, friends, acquaintances, society, and cancer organization) and psychosocial adjustment.

Results Chinese cancer survivors perceived the highest level of support from family among all five sources. After controlling for support from other sources, support from family and society was associated with more frequent positive affect, less frequent negative affect, and higher quality of life. Support from family showed a stronger negative correlation with negative affect among males, and support from acquaintances showed a stronger negative correlation with negative affect among females. Support from society had a stronger positive association with quality of life, while support from friends had a stronger negative association among younger survivors than among older survivors.

Conclusions Findings highlight that the health benefits of social support depend on the source of support, gender, and age among Chinese cancer survivors, an understudied population. This has implications for delivering individualized healthcare services tailored to the preferences of cancer survivors with different cultural backgrounds and demographic characteristics.

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C-003

NEWSPAPER COVERAGE OF PROSTATE AND COLORECTAL CANCER SCREENING BENEFITS AND HARMS

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Background. The U.S. Preventive Services Task Force (USPSTF) controversially recommended against the PSA test in 2008 for men over 75 based on evidence that the harms of the test outweigh its benefits. Our study assessed whether newspapers' portrayal of PSA testing harms and benefits was different after the 2008 USPSTF guideline change.

Methods. We sampled news articles from the top ten U.S. newspapers by daily circulation. We included articles if they were published between 2005 and 2012 and addressed either the PSA test or colonoscopy as the main subject. We chose colonoscopy as a comparator because, relative to PSA testing, it is an efficacious screening with an uncontroversial guideline change in 2008. We coded harms and benefits in articles using a standardized form and used multiple spline regression to test for changes in mentions of harms and benefits before and after the 2008 USPSTF guideline changes.

Results. PSA articles mentioned harms of being tested more than colonoscopy articles ($M = 3.53$ vs. 1.29; $p < .01$); however, mentions of benefits did not differ between articles on the screening tests. Mentions of harms in PSA articles ($n = 222$) were stable before 2008 but increased after that time ($\beta = .17$, $p < .01$). Mentions of harms and benefits in colonoscopy articles ($n = 65$) did not change in either time period. Two newspapers' articles on PSA testing presented almost exclusively benefits.

Discussion. This study documents increased news coverage of the harms of PSA testing after 2008, suggesting a possible effect of the USPSTF guideline change. However, mentions of benefits of PSA testing have not changed and were on par with colonoscopy. As well, some U.S. newspapers were still aggressively promoting the PSA test without providing information on potential harms. These findings are important because, by electively emphasizing certain topics and events, the news media has the potential to affect the availability of information, risk perception, and screening behavior.

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C-004

THE BENEFITS OF RELIGIOUS/SPIRITUAL CHANGE DUE TO CANCER: LONGITUDINAL ANALYSES IN CANCER SURVIVORS

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Introduction: Cancer can disrupt the religious and spiritual (R/S) beliefs of survivors. While many cancer survivors report distress in the first year after treatment, the majority also report experiencing benefits. Research on benefit-finding (BF) is limited by cross sectional use of measures with positive response scales that do not account for baseline or "trait" levels of benefit-finding domains. This study examined the relationship between change in R/S beliefs due to cancer and perceived benefits of cancer controlling for BF traits and global R/S.

Method: 115 military veteran cancer survivors completed items assessing global R/S ("To what degree do you consider yourself a religious/spiritual person?") and R/S-Change (i.e., "Have your religious or spiritual beliefs changed as a result of your cancer?") 12-months post-diagnosis. The Benefit-Finding Scale (BFS) was administered 18-months post-diagnosis. Participants indicated the degree to which each item on the BFS currently described them (BFS-Trait) and the degree to which they changed on each item since cancer (BFS-Change). BFS-Change was regressed on R/S-Change controlling for BFS-Trait and global R/S using linear regression analyses.

Results: Greater R/S-Change at 12-months post-diagnosis was associated with greater BFS-Change at 18-months post-diagnosis controlling for BFS-Trait and global R/S ($b = .33$, $p < .001$). This pattern of results emerged on subscales of BFS-Change including Acceptance ($b = .31$, $p < .01$), Personal Growth ($b = .24$, $p < .05$), Family Life ($b = .28$, $p < .01$), Social Life ($b = .20$, $p < .05$), and Worldview ($b = .32$, $p < .001$).

Discussion: This study identified a longitudinal association between R/S change and benefit-finding, using a validated scale that addresses limitations of previous measures. Survivors experiencing change in R/S beliefs may benefit from support for these changes. Future research should examine the types of R/S change experienced by cancer survivors and ways these types relate to benefit-finding.

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C-005

A NOVEL COPING TOOL FOR CHILDREN WITH CANCER AND SICKLE CELL DISEASE: THE CELLIE COPING KIT

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Background: Children with chronic health conditions face significant biomedical and psychosocial challenges. Best practice recommendations suggest providing psychosocial support that is easily implemented and can be tailored to families' level of need and risk. To promote child and family resilience, we developed The Cellie Coping Kit for children with cancer and later adapted it for children with sickle cell disease (SCD). Each Kit version combines evidence-based cognitive behavioral techniques with practical strategies suggested by clinicians, researchers, and families. The current study aimed to evaluate the feasibility and acceptability of the Kit for children with cancer and SCD.

Method: Children ages 6 - 14 diagnosed with cancer ($N = 15$) or sickle cell disease ($N = 15$) and their parents completed interviews at baseline, used the Kit (cancer/ SCD version) for four weeks, and completed interviews and satisfaction questionnaires at follow-up.

Results: All families reported using the Kit. Nearly all reported that they liked the Kit (SCD: 83% children, 100% parents; cancer: 100% children and parents) and that the information was trustworthy (SCD: 92% children, 100% parents; cancer: 100% children and parents). Fewer families in the SCD group reported learning coping skills compared to those in the cancer group (SCD: 72% children, 54% parents; cancer: 86% children, 100% parents). While families in both groups used the Kit to communicate about their disease, the two groups differed in other types of usage. Some difficulties in literacy and comprehension were identified for children with SCD.

Discussion: Findings indicate reasonable feasibility and good acceptability of the tool for children with cancer and SCD. While both groups reported similar usage of the Kit, differences in implementation, comprehension, and learning were also identified. Revisions to the SCD version of the Kit may be needed to improve comprehensibility and learning outcomes.

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C-006

IMPROVING QUALITY OF LIFE: THE ROLE OF YOGA FOR PEDIATRIC CANCER PATIENTS

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Background: Enhanced research efforts over the past 30 years have resulted in improved treatment protocols for childhood cancer patients. Despite these advancements, treatments are associated with adverse psychosocial and physical side-effects. Physical activity (PA) has been shown to be a safe and effective strategy to ameliorate and potentially reverse the sequelae of cancer and its treatment in children with cancer, with yoga interventions increasingly gaining popularity as a gentle alternative. The primary aim of this pilot study was to determine the impact of a 12-week yoga intervention on health related quality of life (HRQL). Methods: Children between 5-18 years of age, receiving out-patient treatment at the Alberta Children's Hospital were recruited for this intervention. Participants attended yoga sessions 2x/week and engaged in a home-based practice 1x/week. At baseline, mid- and post-program participants completed the Pediatric Quality of Life Inventory (PedsQL) General Module, PedsQL Cancer Module and PedsQL Multidimensional Fatigue Scale. Results: The participants ($n = 8$), ranged in age from 5-17 (11.36 ± 4.01) years. Repeated-measures ANOVA's indicated improvements on psychosocial HRQL over the 12-week intervention ($p < .05$). Parents reported significant improvements in measures of their child's physical ($p = .02$), emotional ($p < .05$), social ($p < .05$), school ($p < .05$) and overall psychosocial ($p < .01$) health. Furthermore, parents reported significant improvements in their child's HRQL as related to cancer-specific symptoms and experiences ($p < .05$) and fatigue symptoms ($p < .05$). Discussion: This study may help enhance the recognition of the benefits of yoga for pediatric cancer patients. Based on parent feedback and clinic demand, an ongoing community-based yoga program (Yoga Thrive for Youth) is currently being offered for this population.

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C-007

FACILITATION OF SCHOOL RE-ENTRY AND PEER ACCEPTANCE OF CHILDREN WITH CANCER -A REVIEW AND META-ANALYSIS OF INTERVENTION STUDIES

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Background: Increased survival rates after childhood cancer stresses the importance of academic achievement and psychosocial adaption during and following treatment.

Aim: A meta-analysis of existing literature on school re-entry interventions for children with cancer and peers during treatment. Methods: We searched PubMed, EMBASE, CINAHL, PsycINFO and ERIC. Seven studies were identified aiming at either psychosocial and academic rehabilitation of children with cancer or increasing classmates' knowledge on cancer. We used the PRISMA model for reporting reviews and analyzed outcomes by meta-analyzes using Review Manager 5.2. Results: The meta-analyzes show significant effect of school re-entry programs in terms of enhancing children with cancer's academic achievement ($p = 0{,}008$) and lowering depression ($p = 0{,}05$). No significant effect was shown regarding behavior problems or social competence. Among classmates school re-entry programs decrease anxiety and increase social competences including attitudinal changes towards the sick child. However, meta-analysis was not possible to perform. Conclusion: Children are absent 40% of school days, 20% of children with cancer repeats a class and 50% describe school-related problems. Three years after diagnosis their school attendance remains irregular. The meta-analysis shows significant effect of school re-entry programs for children with cancer on academic achievement and lowering depression. Despite the increased awareness of these correlations there is a lack of comprehensive scientific documentation regarding detailed procedural descriptions of school re-entry and peer-supporting programs.

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C-008

TYPES OF UNCERTAINTY IN PALLIATIVE CARE CONSULTATIONS AMONG PATIENTS WITH ADVANCED CANCER: A QUALITATIVE STUDY

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Despite scientific advances, uncertainty remains an inherent and significant issue in clinical practice. Among patients, uncertainty can lead to emotional distress, loss of sense of control and lower quality of life. Helping patients manage uncertainty is a core domain of patient-centered care. Our understanding of uncertainty among cancer patients is limited.

We undertook descriptive analysis of transcripts from 13 audio recorded inpatient palliative care consultations among adult advanced cancer patients referred for ‘goals of care' or ‘end of life decision making.' Each transcript was read as a whole and then again line by line to code verbal expressions of uncertainty. Excerpted segments were then organized into groups. These categories were clarified and refined by an experienced qualitative research working group.

Multiple expressions of uncertainty were identified in all 13 consultations (68 total expressions, 44 by patients/families and 24 by providers). Among patients/families, sources of uncertainty were broadly divided into: (a) deficient or ambiguous information (19 expressions) and (b) inherent unpredictability of expected clinical course (25 expressions). Among physicians, communication of uncertainty centered around two themes: (a) 10 expressions of personal (lack of knowledge) or scientific limitation (gaps in medical knowledge) and (b) 14 expressions of inevitable uncertainty in predicting an individual patient's course. In eight cases, providers coped with the latter unpredictability either by assurances of certainty or negotiation of provisional decisions based on limited information.

Uncertainty is highly prevalent during consultations with advanced cancer patients. Understanding types and effects of uncertainty on advanced cancer patients will allow for development of targeted interventions to help patients manage uncertainty. This study also provides insight into ways that clinicians address uncertainty and provides a first step for developing educational communication interventions for physicians.

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C-009

OBSERVATIONAL STUDY OF CHILDREN'S COPING AND DISTRESS DURING ONCOLOGY TREATMENT

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BACKGROUND: Pediatric patients often consider treatment procedures to be the most stressful aspect of cancer. Further, their long-term psychosocial outcomes are rooted in their treatment experiences. The type of coping strategies used during treatment procedures may explain variability in the amount of distress children experience in response to procedures. We systematically observed and coded child coping behaviors and investigated the extent to which these behaviors were related to child distress during procedures.

METHODS: Participants were 41 pediatric oncology patients (21 boys, ages 3-12) at an urban children's hospital. Patients and caregivers (75% mothers) were video-recorded during treatment procedures (port starts, bone marrow aspirations, or lumbar punctures). Two judges identified and coded child coping behaviors as approach or avoidance. A sampling interval methodology was used in which every other 60-second interval was coded. Average number of intervals coded per procedure = 37.20 (SD = 27.32; range = 4-108). Parents, nurses, children, and independent observers separately rated children's pain/distress related to the procedure. Coping behaviors were summed across intervals to create a total coping behavior score for each procedure. Ratios of approach- and avoidance-to-total behaviors and approach-to-avoidance behaviors were created.

RESULTS: Higher use of approach coping and higher ratio of approach-to-avoidance coping strategies were both associated with less child pain/distress as rated by parents, nurses, children themselves, and independent observers. Child age was positively associated with approach coping behaviors; parent age was positively associated with total coping behaviors.

CONCLUSION: The type of coping strategy used by children during oncology treatment procedures contributes to the amount of pain/distress experienced in response to procedures. Interventions that teach children approach coping strategies can be used to assist families in which children are subjected to frequent and distressing medical procedures.

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C-010

RECONSTRUCTIVE STATUS, BODY IMAGE, AND PSYCHOSOCIAL WELL-BEING OF BREAST CANCER PATIENTS

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For women with breast cancer, the aim of reconstructive treatment is to facilitate restoration of body image and quality of life. While many studies have examined psychosocial outcomes of patients pre- and post-reconstruction, few have considered these outcomes during initial and interim stages of reconstruction. Our aim was to investigate the relationship between reconstructive stage and patients' body image and quality of life. The sample included 216 breast cancer patients at different points of the reconstructive process. Patients were categorized into the groups: prior to immediate reconstruction (P-IR), prior to delayed reconstruction (P-DR), early stage reconstruction (Stage 1), mid stage reconstruction (Stage 2), and late stage reconstruction (Stage 3). Outcomes of interest included body image dissatisfaction (Body Image Scale), body image investment (Appearance Schemas Inventory-Revised), body image coping (Body Image Coping Strategies Inventory), and quality of life (Functional Assessment of Cancer Therapies-Breast). Multiple regression analyses were conducted controlling for age, BMI and treatment type. All groups who had initiated reconstruction endorsed higher emotional well-being (Stage 1 $\beta = 0.53$, p = .002, Stage 2 $\beta = 0.42$, p = .08, Stage 3 $\beta = 0.59$, p = .03). The Stage 2 ($\beta = -.50$, p = .02) and Stage 3 ($\beta = -.50$, p = .07) groups endorsed decreased social support and the Stage 3 group reported increased acceptance as a coping strategy ($\beta = .53$, p = .08). We also found group differences based on reconstructive timing for patients in the pre-reconstruction phase. The P-DR group endorsed increased body image dissatisfaction (p = .004), body image investment (p = .02), and avoidant coping (p = .04) as well as decreased social support (p = .007) compared to the P-IR group. In summary, associations were observed between reconstructive stage and psychosocial well-being of patients undergoing breast reconstruction. Implications for clinical practice are discussed.

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C-011

INFLAMMATION AND DEPRESSIVE SYMPTOMS IN WOMEN WITH BREAST CANCER

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Objective: Women with early stage breast cancer (BCa) often report elevated levels of depression, which are linked to poorer health outcomes and mortality. Research suggests depression may be related to increased inflammatory processes after adjuvant treatment. Less is known about depression and inflammation in the time after surgery but before adjuvant treatment commences. Methods: Ninety women with non-metastatic BCa completed the Hamilton Rating Scale for Depression, provided blood samples, and reported demographic and health-related information. We examined relations between depressive symptoms and levels of serum inflammatory cytokines IL-1β, TNF-α, IL-6, and a composite sum inflammation variable. Composite inflammation was regressed on depressive symptoms using Linear Regression controlling for theoretically supported demographic (age, ethnicity, income, education), cancer-related (stage, planned adjuvant therapy, time from surgery to assessment), and other medication-related covariates (medication use for pain, sleep, depression, and anxiety). Results: Depressive symptoms were significantly correlated with levels of IL-1β (r[86] = 0.30, p = 0.006) and TNF-α (r[87] = 0.27, p = 0.013), and marginally with IL-6, r(90) = 0.20, p = 0.055. Depressive symptoms were significantly correlated with composite inflammation (r[84] = 0.28, p = 0.011) even while controlling for all theoretically supported covariates ($\beta = 0.43$, SE = 0.08, t(62) = 3.69, p = 0.002). The overall controlled model approached significance, F(14, 52) = 1.86, p = 0.055, R2 = .21. Conclusions: Greater depressive symptoms are related to greater inflammation in women with BCa post-surgery even before starting adjuvant treatment. These findings have implications for interventions targeting depressive symptoms in the post-surgical period.

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C-012

BUILDING MIXTEC COMMUNITY CAPACITY TO ADDRESS BREAST HEALTH

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Background: The Mixtec region is one of the poorest in Mexico. Entire communities have migrated in search of work and Mixtecs are one of the largest indigenous groups of workers in California. Many speak only their native non-written Mixteco language. This communication barrier impedes their ability to obtain appropriate healthcare, exercise their basic civil rights and participate in research.

Methods: We trained 9 Spanish Mixteco bilingual promotoras to conduct household needs assessments prior to initiating breast cancer research. Mixteco and Spanish speaking promotoras discussed the best way to ask the questions on the needs assessment in Mixteco language. They audio-recorded a Mixteco version of the questionnaire, which was provided to all promotoras to help them practice. This innovative method ensured consistent administration of the survey in Mixteco language. Face to face surveys were conducted in Mixteco or Spanish and responses were noted on Spanish language questionnaires. Surveys were done at parks, outside stores, door to door, and in schools.

Results: Respondents (N = 989) were 84% female, born in Oaxaca (85%) or Guerrero, Mexico (15%). Almost one third of respondents had children living in Mexico. 57% were able to get health care for themselves and 86-90% for their children. Most respondents acknowledged problems with transportation (97%), housing (52%), having enough to eat (59%), being able to work enough to support the family (74%), and more than 90% worried about gangs and violence, drug and alcohol problems, family violence and exposure to pesticides. Only 72% of all women ever had a breast exam, 42% of women 40 and over (N = 121) had heard of and 32% ever had a mammogram.

Conclusions: We successfully trained indigenous promotoras who were able to conduct a needs assessment in their community. This community experiences many health and social problems, including low rates of breast cancer screening. Next steps will include focus groups with men and women to discuss strategies to promote breast cancer screening that are acceptable to this community.

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C-013

MULTIPLE SYMPTOMS & INTERFERENCE: MODELING THE RELATIONSHIP

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Individuals with cancer experience multiple symptoms. The Theory of Unpleasant Symptoms (TOUS) posits that multiple symptoms have more than an additive effect. Empirical work is just beginning to clarify the complexities of this experience. A wide range of cut points for a significant #symptom (#Sxs) have been reported. The purpose of this study was t: 1) model the relationship of # Sxs and the outcome of interference and 2) to test the additive effect.

Secondary analysis was conducted on a data set of 1,106 individuals with cancer (all diagnoses mean age 60.2Y, 50.4% female, 92.3% Caucasian) at week 1 of radiation therapy. Measures included a symptom inventory and interference scale (6 items i.e.: quality of life, activity level). Variables were the #Sxs (pain, fatigue, difficulty sleeping, dyspnea, and trouble remembering), and mean interference. Multiple regression was conducted on interference, adjusting for age, gender, race and diagnosis with #Sxs and mean-centered #Sxs2 squared. The squared term, if significant and positive indicates a non-additive effect (greater than the additive effect).

Results: # symptoms at entry 0(15%), 1(11%), 2(10.4%), 3(12.1%), 4 (11.2%), 5 (7.7%), 6 (6.4%); mean interference (sd = 2.3). Overall model for interference adjusted R2 = .32. The regression analysis revealed that 1) #Sxs ($t < 0.01$) and positive and 2) #Sxs2 term was significant and positive ($t < 0.01$), confirming that the effect of #Sxs on interference is greater than additive.

Individuals began treatment experiencing multiple physical symptoms. The #Sxs experienced were significant predictors of interference. The relationship of #Sxs to interference has a greater than additive effect consistent with TOUS meaning that there is a greater than additive effect with each additional symptom reported. For clinicians, this reinforces the importance of comprehensive symptom assessment as the effects of the #Sxs on interference are much more serious as the number increases.

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C-014

SEARCH FOR MEANING IN BREAST CANCER SHORTLY AFTER DIAGNOSIS

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Survivors of traumatic life events who continue to search for a meaning in the event years later have been found to report lower levels of health related quality of life (HRQOL) than their peers. Few studies have, however, examined the search for meaning in a breast cancer experience. This study examined a group of 229 women, including a convenience sample of 57 women seeking integrative oncology (IO) treatment from local providers. Survivors were on average 13 months post-diagnosis (range 0 - 24 months), and 32% reported "frequently" feeling that they had made some sort of sense out of their cancer experience. About 45% of the women reported still engaging is search for a reason or meaning either "sometimes" or "frequently" (20% of women reported searching "frequently"). About 35% of women reported wondering "Why me?" (10% "frequently").

Search for meaning was not lower in with increasing time since diagnosis. Surprisingly, reports of having found meaning declined over time with 39% of women between 0-9 months post diagnosis reported feeling that they "frequently" feel they have found meaning which reduced to 20% among those more than 18 months post-diagnosis. Women who were between 9 and 18 months post-diagnosis were least likely of the groups to report currently engaging in frequent search efforts (12%), increasing to 20% among those 18+ months post-diagnosis.

Regression analyses found that those who reported frequent search efforts also reported lower levels of HRQOL (controlling for age, stage of diagnosis, and time since diagnosis), on the SF-36 scales assessing emotional well-being, emotional function, and social functioning ($p < 0.05$). Those who reported that they had "never or rarely" felt they had "made sense" of their condition also reported reduced emotional well-being and emotional function, they also reported having less energy / more fatigue, and perceived their general health more poorly. Longitudinal research will be needed to better understand women's search for meaning after breast cancer, and the effects of search on HRQOL over time.

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C-015

RELATIONSHIP OF DISTRESS TO SUPPORTIVE CARE NEEDS AND BLAME ATTRIBUTIONS IN HPV RELATED OROPHARYNGEAL CANCER

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Most oropharyngeal cancers are caused by the human papilloma virus (HPV). Recent studies have identified distinct demographic and behavioral characteristics of HPV + oropharyngeal cancers, including younger age, less tobacco and alcohol use, greater marijuana use, and history of oral sex or multiple sex partners. Little is known about the psychosocial factors associated with these HPV + cancers, however. Attribution theory suggests individuals who feel responsible for contracting HPV might blame themselves or believe others blame them for their cancer. This pilot study assessed the relationship of distress to supportive care needs and blame attributions in newly diagnosed oropharyngeal cancer patients (n = 43; mean age = 61; 98% male; 79% HPV+). Participants completed the Hospital Anxiety and Depression Scale, the Supportive Care Needs Survey-Short Form 34 and items assessing self blame and blame by others. There was no difference between HPV + and HPV- patients in overall level of distress and supportive care needs; 44% exceeded the cutoff for clinically significant distress. Among HPV + patients, greater distress was associated with a greater sense of blame by others ($p < .01$) and with greater psychological, physical, support-related, and sexuality-related supportive care needs (all $p < .05$). There was no association between distress and self blame in this group. In HPV-patients, greater distress had a positive association with self blame ($p < .05$) and with psychological and physical supportive care needs ($p < .05$), but no association with blame by others. Findings suggest HPV + and HPV- ororpharyngeal cancer patients have similarly high levels of distress and supportive care needs at diagnosis. However, this distress is associated with different attributions of blame in these patient groups, and the nature of the supportive care needs differ. Findings have implications for addressing distress in this clinical population and for future research.

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C-016

ANALYSIS OF DISTRESS TRAJECTORIES AMONG COUPLES COPING WITH EARLY STAGE PROSTATE CANCER TREATMENT

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Background: Common side effects of prostate cancer treatment include urinary incontinence and erectile dysfunction. These side effects can instigate or exacerbate problems in the couple relationship. Method: As part of a larger NCI-funded randomized controlled trial, we screened >600 couples coping with early-stage prostate cancer for trial eligibility with the Impact of Events Scale (IES), a commonly-used cancer specific distress measure. In total, 839 individuals [621 patients and 218 partners] were screened. Patients had initiated surgery or radiation within the past year and couples were approached for screening during follow-up visits. We used descriptive analyses to provide a preliminary illustration of couples' distress levels across time periods ranging from diagnosis to one year post-treatment. For trial eligibility, we used an IES cutoff of >16 for patients and >17 for partners. Results: 55% of patients and 56% of partners were trial-eligible prior to treatment, 32% of patients and 37% of partners at 0-3 months post treatment, 22% of patients and 32% of partners at 3-6 months post treatment, 32% of patients and 44% of partners at 6-9 months post treatment and 42% of patients and 25% of partners at 9-12 months post treatment. In 182 cases, both the patient and partner were screened for distress. Of the 182, 75% of couples demonstrated concordance (both reported distress above the cutoff or both below the cutoff) and 25% of couples demonstrated discordance (one screened above the cutoff and the other below). Conclusion: Couples may show changes in cancer-specific distress over time. Screening both patients and partners during specific periods along the post-treatment trajectory may identify couples in greatest need of clinical services.

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C-017

A QUALITATIVE ANALYSIS OF CONTINUED SMOKING AMONG PATIENTS WITH LUNG CANCER

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Despite heightened risks of treatment complications, disease recurrence, second primary cancers and mortality associated with smoking, almost 40% of lung cancer patients who smoked at diagnosis continue to smoke months later. Understanding patient-reported reasons for continued smoking can guide much-needed cessation efforts. Using data from semi-structured interviews and focus groups, this analysis identified key themes from 14 lung cancer patients (50% female; 50% African American; 50% Stage IV) who were current smokers at time of interview.

Findings represent secondary analyses of a larger study of lung cancer stigma and include the subset of lung cancer patients who identified as current smokers. An inductive, text-driven approach to thematic content analysis identified discussions of continued smoking among participants. A refined coding process identified primary themes of discussion, including: 1) Strength of nicotine addiction; 2): Attributional uncertainty about the impact of smoking on lung cancer diagnosis and prognosis; 3) Smoking as a coping strategy; and 4) Lack of provider advice and recommendation for smoking cessation. Finally, many participants noted emotional distress regarding continued smoking including experiences of guilt, shame and resignation.

These findings highlight that patients experience complex cognitions and emotional reactions to continued smoking after the diagnosis of lung cancer. Education regarding the specific risks of continued smoking and the benefits of quitting, psychosocial support for coping with emotional distress, and stronger recommendations from oncologists are likely to be crucial components of facilitating the cessation efforts of lung cancer patients.

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Meritorious Poster
C-018

ROLE OF SPIRITUALITY AND PREPAREDNESS FOR THE DEATH OF CANCER PATIENTS IN COPING WITH BEREAVEMENT

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After providing care to a patient with cancer, bereaved caregivers often experience poor mental health. Yet, little is known about resilience factors against negative bereavement outcomes. This study examined (1) the prospective effects of different components of spirituality on cancer caregivers' preparedness for the death of the patient and bereavement-specific as well as general distress, and (2) the association between preparedness and distress. A total of 113 cancer caregivers who participated in a longitudinal, nationwide survey (T1) were identified as bereaved 3 years later (T2) and provided valid data for the study variables. Spirituality (FACIT-Sp; meaning, peace, and faith) and covariates (demographics, caregiving stress, caregivers' esteem, and patient cancer severity) were measured at T1. Caregivers' preparedness for the patient's death and time since death were measured at T2. PTSD-like symptoms (IES-R; intrusion, avoidance, and hyperarousal) that are pertinent to bereavement and grief symptom intensity (TRIG) were measured as indicators of bereavement-specific distress (T2). Depressive symptoms (CES-D) and general mood disturbance (POMS-SF) were measured as indicators of general distress at T2. Hierarchical general linear modeling revealed that the meaning component of spirituality predicted greater preparedness for patients' death while peace predicted less intense grief, less intrusive and hyperarousal symptoms, and decreased depressive symptomatology (ps < .03). Preparedness was negatively related to grief intensity, avoidance symptoms, and general mood disturbance. Our results suggest that the cognitive component of spirituality (i.e., meaning) might be more instrumental in preparing caregivers for the loss of their loved one while the affective component (i.e., peace) seems to predict the overall distress they subsequently experience. Providing tailored, spiritual care to caregivers during the different phases of caregiving might significantly help them adjust to the successive challenges associated with their loss.

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C-019

PRELIMINARY RESULTS OF TWO WEB-BASED INTERVENTIONS ON SYMPTOM DISTRESS, ANXIETY AND DEPRESSION AMONG BREAST CANCER PATIENTS

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Web-based self-management support systems (SMSS) can successfully assist a wide range of patients, including cancer patients. However, they are rarely implemented in clinical practice. Therefore, the aims of the study were to test and compare the effects of a practice integrated secure e-message service (EMS), an EMS with additional features of a multi-component SMSS (WebChoice), compared to usual care on symptom distress, anxiety, depression and self efficacy after 6 month use.

167 breast cancer patients at three hospitals were randomized into: 1) the EMS (n = 45); 2) WebChoice (n = 64) or 3) a control group (n = 58) that received usual care. In the EMS patients could ask questions to nurses at the hospital they were treated, who cold pass on questions to physicians if needed. WebChoice consisted of, in addition to the EMS, self-monitoring, choice of self-management options, information resources, a forum and a blog for group discussion with other patients and a diary.

In the WebChoice-group, symptom distress (Memorial Symptom Assessment Scale), anxiety (Hospital Anxiety and Depression Scale (HADS)) and depression (HADS) were significantly reduced compared to the control group (p = .001, p = .03 and p = .03). Only depression (p = .03) was significantly reduced in the EMS group compared to controls. Self-efficacy (Cancer Behavior Inventory) tended to improve in the WebChoice group only (p = .08).

Despite the small sample size and various practice settings, the study shows that a SMSS can significant reduce symptom distress, anxiety and depression among cancer patients. An EMS, primarily answered by nurses, can in it self reduce depression. It is therefore an important component to include in SMSS, and can also effectively be used as a single intervention.

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C-020

ADDRESSING HETEROGENEITY IN SYNDEMIC EFFECTS ON SMOKING ABSTINENCE IN PERSONS LIVING WITH HIV

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Smoking cessation in persons living with HIV/AIDS (PLWHA) can have enormous beneficial effects in reducing disease burden and mortality. The application of syndemic theory can be helpful in providing a framework for understanding smoking cessation patterns since it recognizes the complex interaction of multiple epidemics and behaviors and their effects on disease burden. In this study, the presence of unobserved heterogeneity in the effects of health and individual level factors on smoking cessation in a sample of PLWHA was explored using latent class regression. Two distinctively different groups (early relapse and late relapse) characterized by significant differences in the relationships between syndemic factors and smoking cessation, as well as, in their respective duration in smoking abstinence, were identified (irr = 2.08, $p < .001$). Duration of smoking abstinence in the early-relapse group was related to non-disease specific factors (e.g., age b = - 0.25, $P < 0.05$; education b = 0.44, $p < 0.001$; nicotine dependence b = -0.33, $p < 0.001$; social support b = 0.48, $p < 0.01$). In contrast, duration of abstinence in the late-relapse group was related to HIV specific health factors (e.g. viral load b = -0.29, $p < 0.05$; AIDS defining condition b = -0.43, $p < 0.01$; cardiovascular disease b = 0.67, $p < 0.01$). Alcohol and drug use were associated with smoking abstinence in both groups, however, the effects for alcohol and drug use had opposite signs in the two groups. These findings have implications for interventions in smoking cessation. For example, members of the late-relapse group are more likely to use alcohol suggesting that intervening to reduce alcohol use may boost smoking abstinence. In contrast, members of the early relapse group may benefit from interventions focused on increasing levels of social support and decreasing nicotine dependency.

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C-021

UNDERSTANDING LIFE SATISFACTION THROUGH THE PERSONAL NARRATIVES OF YOUNG ADULT CHILDHOOD CANCER SURVIVORS

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Introduction: Many young adult childhood cancer survivors are faced with a host of medical and psychological sequelae in the years following remission. Through mixed-methods, this study sought to examine how being more agency-oriented or communion-oriented, as evidenced through spoken narratives about important events during one's cancer experience, is associated with life satisfaction.

Methods: Ninety-five young adult cancer survivors (mean age = 24.41 SD = 3.56) were interviewed about a high point, low point, turning point, vivid memory and religious experience during their cancer experience. Narratives were coded for thematic presence of agency constructs (self-mastery, status/victory, achievement/responsibility and empowerment) and communion constructs (love/friendship, mention of dialogue, caring/helping, and unity/togetherness. After the interview, participants completed an assessment battery including the Satisfaction With Life Scale (SWLS; Pavot & Diener, 1993), a 5-item self-report measure, to which participants respond to statements about their life satisfaction on a 7-point scale ranging from strongly disagree to strongly agree.

Results: Life satisfaction significantly correlated with narratives about a low point characterized by love/friendship ($r = .25$, $p = .04$), mention of dialogue ($r = .25$, $p = .04$), and a sum of all communion variables ($r = .27$, $p = .02$) present during the low point narrative. There was a significant negative correlation between life satisfaction and self-mastery ($r = -.24$, $p = .04$) during the turning point.

Conclusions: Survivors' perceptions of support and burden-sharing (as captured by our communion constructs) during a low point are meaningfully related to life satisfaction. During turning points, demonstrations of individualism and agency (such as self-mastery) are not associated with life satisfaction. Interventions and supportive care professionals working within pediatric oncology should reflect sensitivity to this, shifting emphasis from an independent approach toward a more collectivist one.

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C-022

PERSISTENT POST-SURGICAL PAIN FOLLOWING BREAST CONSERVING SURGERY: LEVELS OF PAIN AND PSYCHOSOCIAL FACTORS

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Persistent post-surgical pain is an understudied consequence of breast cancer surgery that impacts a substantial proportion of survivors. Previous studies have examined risk factors for persistent pain following mastectomy, but less is known about persistent pain after breast-conserving surgery and even less about relationships between this pain and psychosocial factors. We hypothesized that persistent pain would also be common after less extensive breast surgery, and that pain severity would be associated with psychological and surgical factors. Participants were 200 breast cancer survivors treated with breast conserving surgery (White 86%; Age M = 58 years; Stages I-IIIA; 6-16 months post-surgery). All completed measures of pain, depression, anxiety, and perceived risk of cancer recurrence at the time of a surveillance mammogram. Medical information was collected via medical records. Persistent post-surgical pain was reported by 48% of women, with 50% having mild pain (1-3/10), 35% moderate pain (4-6/10), and 13% severe pain (≥7/10). Of these women, 19% had pain daily, 37% indicated that pain interfered with daily activities, 82% worried that pain was a sign of cancer recurrence, and 19% took medication for this type of pain. Pain locations included the breast (83%), underarm (22%), and side (10%), with 26% reporting more than one pain location. Bivariate analyses showed that persistent post-surgical pain was associated ($p < .05$) with having sentinel lymph node biopsy, being White, having pain in other body locations, greater perceived risk of recurrence, and greater depressive symptoms. In multivariate logistic regression, greater depressive symptoms and having sentinel lymph node biopsy emerged as significant independent ($p < .05$) correlates of persistent post-surgical pain. These data indicate that persistent post-surgical pain is common following breast conserving surgery and suggest that psychosocial interventions should address depressive symptoms as part of ameliorating pain.

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C-023

BRIDGING THE GAP FROM PHYSICAL ACTIVITY AND CANCER RESEARCH TO PRACTICE: A KNOWLEDGE TRANSLATION STRATEGY FOR ONCOLOGY NURSES

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Background: Physical activity (PA) is recognized as an important means of improving quality of life and potentially survival outcomes in cancer populations. Recent survey research suggests, however, that results of the physical activity and cancer research have not been taken up by oncology nurses, resulting in few cancer survivors receiving recommendations and counselling for PA. The aim of this pilot trial was to test the effectiveness of a knowledge translation (KT) strategy utilizing internet-based learning modules for improving PA counselling practices of oncology nurses.

Methods: 52 oncology nurses residing in Canada and the United States were randomly assigned to a KT group or control group. The KT group completed a series of six internet-based learning modules over a period of 12 weeks. The modules provided in a user-friendly and condensed format a synthesis of the PA intervention research and guidelines for cancer survivors, general principles of PA prescription, use of motivational interviewing, and guide for PA adoption and maintenance. Outcome measures included PA counselling practices, self-efficacy for providing PA counselling, perceived barriers to providing PA counselling, and knowledge retention.

Results: Repeated measures ANOVAs indicated that, over the course of the intervention, the KT group compared to the control group reported a significant reduction in knowledge-related barriers to PA counselling (ps < .05) and improvement in self-efficacy for providing PA counselling (ps < .05). Moreover, there was a trend indicating an increase in the KT group in PA counselling practice ($p = .09$).

Significance: The KT strategy developed through this study is promising and has the potential to be an economical resource for oncology nurses for improving PA knowledge and counselling skills. A definitive phase III trial on the effectiveness of this KT strategy is warranted.

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C-024

A NOVEL, INTERACTIVE COMMUNICATIONS INTERVENTION FOR AFRICAN AMERICAN BREAST CANCER PATIENTS

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Communications interventions using interactive technologies designed specifically for African American breast cancer patients are lacking. Our touch-screen computer program uses videos of African American breast cancer survivors' stories to provide cancer information for newly diagnosed patients. In a 2-year randomized controlled trial testing program impact on clinical outcomes ($N = 227$ [107 video arm, 120 standard care/control]; mean age 56; range 33-81; 58% < \$25,000 annual income), 221 African American patients completed the first 2 of 5 phone interviews a mean (SD) 6 (13) days from first surgical post-op visit or start of neoadjuvant therapy (T1) and at 1-month follow-up (T2). We collected demographic and psychosocial data and data about patients' exposure to cancer-information resources and asked the video arm about their trust in and identification with storytellers (range 1-5). The computer logged data on duration of use, number of videos watched and actions taken (e.g., choosing videos). After training video arm patients to use the program, they kept the computer a mean (SD) 17.3 (8.6) days; patients spent a mean 139 (117) minutes watching videos and made 139 (102) actions. At T1, there were no significant differences in any variable by study arm; only 37% used the internet for cancer information. In the video arm, variables measured at T1 were not significantly correlated with duration of use or number of videos watched or actions taken at T2. At T2, the video arm reported using more cancer-information resources than controls (6.5 vs. 5.4; $p = .002$); as expected, a greater percentage of video arm patients than controls reported viewing survivor stories (86% vs. 14%; $p < .001$), and they reported high levels of trust in the storytellers as sources of cancer information (mean [SD], 4.4 [0.7]) and identification with the storytellers (mean [SD], 4.2 [0.8]). Video arm patients used the program at home early in the trial. We will examine future levels of engagement and identification with storytellers and the program's impact on clinical outcomes.

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C-025

MOTIVATIONAL INTERVIEWING TO PROMOTE PHYSICAL ACTIVITY IN BREAST CANCER SURVIVORS

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Despite documented health benefits, most breast cancer survivors (BCS) do not meet physical activity (PA) guidelines. Hence, evaluating diverse intervention approaches to promote PA in BCS is imperative. Motivational Interviewing (MI) offers a patient-centered, goal-oriented, widely supported approach to PA promotion; however, its utility has not been adequately evaluated in BCS. In a randomized-controlled trial, 66 BCS who were within 3 years post-treatment, insufficiently active, and contemplating increasing PA, were assigned to MI intervention (motivational and behavior change strategies consistent with MI principles) or active control (education and prescriptive recommendations on diet, PA, stress management). Participants completed 2 in-person and 1 phone sessions over 4 weeks. Outcomes were assessed at baseline, 6-week, and 12-week follow-up. Data analyses were conducted using multilevel modeling. The primary hypothesis was that, relative to active control, BCS in the MI intervention would exhibit a significant increase in physical activity from baseline to 6-weeks, maintained at 12-week follow-up. Contrary to the hypothesis, there were PA improvements in both groups ($p < .001$), with 60% of all participants meeting PA guidelines at 12-week follow-up. Additional analyses also demonstrated improvements in both groups on the following secondary outcomes: depressive symptoms ($p < .05$) fatigue ($p < .01$), vigor ($p < .05$), and aerobic fitness ($p < .001$). Exploratory mediation analyses indicated that the relationships between group assignment and change in secondary outcomes were not mediated by change in PA. Overall, results suggest that diverse intervention approaches can help promote PA in BCS. Future research should evaluate long-term maintenance of PA, dose-effects and mechanisms of intervention.

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C-026

UNDERSTANDING MENTAL HEALTH IN PARTNERS OF PROSTATE CANCER PATIENTS IN THE YEAR FOLLOWING TREATMENT

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Following treatment, partners of prostate cancer (PC) patients often experience poorer mental health (MH) than patients. We compared PC patients and their partner's MH at diagnosis, 1, 6 and 12 months post-prostatectomy. We also explored which specific aspects of MH showed low ratings and whether poorer MH of partners was related to patients' negative spouse behaviors (e.g., acted impatient with her). Early stage PC patients and partners ($N = 153$ couples) were recruited from the Duke University Medical Center's Urology Department. Both partners completed the RAND 36-item Health Survey which assessed MH as a composite of: role limitations because of emotional problems (RL), energy/fatigue (EF), emotional well-being (EW), and social functioning (SF). All MH scales ranged from 0 to 100. T-tests revealed (all p's $< .05$) that partners reported significantly poorer MH than patients on the full MH scale at diagnosis ($M = 71.3$ vs. 76.1), 6 ($M = 72.4$ vs. 77.7) and 12 months ($M = 72.1$ vs. 79.3) post-prostatectomy; lower EF at diagnosis ($M = 58.2$ vs. 67.5), 6 ($M = 58.8$ vs. 65.6) and 12 months ($M = 58.0$ vs. 67.9) ; lower SF at 12 months ($M = 80.6$ vs. 89.6), and lower EW at baseline ($M = 71.2$ vs. 77.7), 1 (73.3 vs. 77.8), 6 (73.8 vs. 79.2) and 12 months (74.4 vs. 81.5). Further, greater patient reports of their own negative spouse behaviors predicted lower partner EF at diagnosis ($b = -.22$, $p < .01$), 1 ($b = -.25$, $p < .01$), 6 ($b = -.31$, $p < .01$), and 12 months ($b = -.26$, $p < .01$) as well as lower partner EW at diagnosis ($b = -.31$, $p < .01$), 1 ($b = -.50$, $p < .01$), 6 ($b = -.35$, $p < .01$), and 12 months ($b = -.46$, $p < .01$), the MH domains in which there was the largest discrepancies between patients and partners. Results replicate and extend prior findings that partners of PC patients experience poorer MH and that this is in part predicted by patient's own negative spouse behaviors.

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C-027

IMPACT OF EXPERIENCES AT THE TIME OF BREAST BIOPSY ON KNOWLEDGE OF RECOMMENDED FOLLOW-UP, PERCEIVED CANCER RISK, BELIEFS ABOUT MAMMOGRAPHY, AND PREFERENCES FOR SUPPORT

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Over one million women undergo breast biopsies in the U.S. annually. Benign breast disease and a history of breast biopsy are associated with an elevated lifetime risk for breast cancer. Understanding the factors that contribute to beliefs about breast cancer screening and cancer risk are especially important for women who have undergone breast biopsy. This study examined the impact of experiences during breast biopsy (i.e., anxiety, pain, and radiologist communication) on knowledge of recommended follow-up, perceived breast cancer risk, beliefs about mammography, and preferences for support. Study participants were 86 women who received a benign result following breast biopsy (70% White; 27% African American; Age $M = 51$). Women completed questionnaires on the day of their procedure, and at 1 week and 3, 6, and 12 months following receipt of their result. Results showed that 60% of women were accurate in their recall of recommended follow-up care. There were no significant changes in perceived benefits of mammography, barriers to mammography, or perceived breast cancer risk in the year after receipt of a benign result. Results of linear mixed models showed that better perceived radiologist communication was associated with greater perceived benefits of mammography ($p = .009$) and fewer barriers to mammography ($p < .001$). Having a personal or family history of breast cancer was associated with fewer perceived barriers to mammography ($p = .02$) and higher perceived breast cancer risk ($p < .001$). Greater biopsy pain was associated with lower perceived cancer risk ($p = .03$). Women were interested in education about follow-up care ($M = 4.46$, range 1-5) and strategies for managing anxiety ($M = 4.31$, range 1-5). Findings suggest that improving aspects of the biopsy experience such as radiologist communication and pain could impact women's beliefs about mammography and perceived breast cancer risk following a benign biopsy result.

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C-028

RELIGION'S IMPACT ON ATTITUDES TOWARD CANCER SCREENING

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In an effort to address health disparities in prostate cancer, screening attitudes have been examined. Leventhal's Common Sense Model of Illness Representation (1980) suggests that cultural perspectives on illness play a central role in individual's screening attitudes and behavior. The effects of religious dimensions of culture such as Negative God Concept, God Locus of Health Control (GLHC), and perceived Consequences on attitudes toward prostate cancer screening intent and efficacy were explored in a sample of 350 African American men. Participants ranged in age from 50-70 years and did not have a previous diagnosis of prostate cancer. Moderation effects were examined using hierarchical linear regression analyses. As hypothesized, individuals with high GLHC viewed prostate cancer as having more severe consequences ($r = .16$, $p < .01$). As hypothesized, the interaction between negative God concept and GLHC was a significant predictor of screening intent ($\beta = .14$, $p < .05$, $\Delta R2 = .02$, $p < .05$). Additionally, the interaction between negative God concept and GLHC was also a significant predictor of attitudes toward prostate cancer screening efficacy ($\beta = .15$, $p < .01$, $\Delta R2 = .02$, $p < .01$). These findings highlight the potentially complex role of religiousness in health behaviors and attitudes and the importance of adopting a nuanced approach to developing culturally competent interventions.

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C-029

FEAR OR HOPE: ATTITUDES TO CANCER AMONG OLDER ADULTS IN THE UK

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Background: A century ago, the American Cancer Society set itself a goal of reducing cancer fear and raising awareness. Today, cancer is discussed widely in the media, screening is normative, and the survivorship movement is well-established. However, little is known about the distribution of fearful and hopeful attitudes in the general public. We therefore carried out a population-based survey in a large sample of older adults.

Methods: A randomly-selected sample of men and women >50 yrs from 6 countries (total n = 19,079) took part in a telephone interview for the International Cancer Benchmarking Partnership using the Awareness and Beliefs about Cancer (ABC) scale. This included 6 attitude items: 3 positively-framed (e.g. 'Cancer can often be cured') and 3 negatively-framed (e.g. 'Cancer is a death sentence'). The percent of respondents who agreed/strongly agreed with each item was calculated. Demographic details were recorded.

Results: The present results are from the UK sample (n = 6965; response rate 40%). Positive items received almost universal agreement (88-99%), regardless of age, sex, or education. Agreement with negative items was lower (12-50%). Women were more likely than men to agree that 'Most cancer treatment is worse than cancer' (57% vs. 42%; $p < .001$), but there were no other sex differences. Respondents with less education were more likely to agree with all negative items: 'Cancer is a death sentence' (27% vs. 17%, $p < .001$), 'Cancer treatment is worse than cancer' (57% vs. 33%, $p < .001$), and 'I wouldn't want to know if I had cancer' (16% vs. 5%, $p < .001$). All effects were significant in multivariate analyses. There were no differences by age, marital status or ethnicity.

Conclusion: The UK public's attitudes towards cancer reflect coexisting hope and fear, although the balance is positive. Social inequalities in attitudes highlight the importance of targeted public education campaigns.

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C-030

ILLNESS PERCEPTION IN EARLY-STAGE CHRONIC LYMPHOCYTIC LEUKEMIA

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Patient perception of chronic lymphocytic leukemia (CLL) is understudied despite its prevalence among the leukemias. The present study is one of the few to examine illness perception in CLL, in a sample of early-stage (0-II) untreated patients undergoing active surveillance. Patients (N = 112) were predominately male (56%); Caucasian (100%) with stage 0 CLL (63.1%), and mean age 61. The Brief Illness Perception Questionnaire (Broadbent et al., 2006) was used. Each item represents a domain: 1) consequences (affects one's life); 2) timeline (chronicity); 3) personal control; 4) treatment control (omitted from present study); 5) identity (experience of symptoms); 6) illness concern; 7) coherence (understand illness); 8) emotional representation (effect); & 9) causality. Items 1- 8 were rated on a 0-10 scale; item 9 was a list of casual factors. A total score determined the degree to which CLL was threatening (range: 0-70). Results suggested that patients: perceived little impact on their lives (mean:2.81); believed their disease to be chronic (mean:9.26); perceived having little control (mean:3.30); had a limited identity with CLL (mean:1.97); experienced moderate concern (mean:5.43); believed they understood CLL (mean:7.29); & reported low emotional impact (mean:3.26). Seventy-one patients listed at least one causal factor, with five emergent themes: 1) Exposure (chemicals, radiation); 2) Heredity/Genetics; 3) Stress; 4) Bad luck/God's will; & 5) Poor Health Behaviors (poor diet, smoking). Total score was 32.0, suggesting patients held a moderately threatening view of CLL. While early-stage patients may perceive their illness to have a limited physical and emotional impact, CLL remains somewhat concerning and threatening. This may be due to the low level of perceived controllability and the types of causal attributions patients identify. Important next steps are to determine illness perception for patients receiving treatment and for early-stage patients who experience disease progression over time.

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C-031

ADHERENCE TO CANCER SCREENING RECOMMENDATIONS AMONG BREAST AND COLORECTAL CANCER SURVIVORS RECRUITED THROUGH THE LOS ANGELES COUNTY CANCER SURVEILLANCE PROGRAM

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Obtaining recommended cancer screening tests is an important strategy to reduce future morbidity and mortality among cancer survivors. Few studies have comprehensively examined use of cancer screening among survivors including adherence to recommendations for surveillance screening and screening for other cancers based on age and gender. Thus, the goals of this study were to assess the use of cancer screening among breast and colorectal cancer survivors. This study was a collaboration between UCLA and the Los Angeles County Cancer Surveillance Program (CSP). Breast and colorectal cancer survivors, identified through the CSP, who were diagnosed between 1999-2009, were invited to participate in a survey via web, mail, or telephone. Data were collected from an ethnically diverse sample of survivors (n = 156; 24% Latino, 29% Asian, 15% African American; mean age 49.6 years, time since diagnosis = 8.8 years). Results revealed high rates of adherence to surveillance screening recommendations among breast (87%) and colorectal cancer survivors (79%). Screening for early detection of second cancers, based on survivor age and gender, was more variable. Although adherence to recommendations for cervical and breast cancer screening among female survivors was quite high (ranging from 78 to 93%), only 65% of breast cancer survivors over 50 had been screened for colorectal cancer. This finding may be reflective of "tunnel vision," a focus on the prior cancer diagnosis while neglecting adherence to other cancer prevention strategies. Our results suggest the need for interventions to bolster use of colorectal cancer screening among breast cancer survivors.

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C-032

USE OF AN ELECTRONIC PILLBOX AFTER ALLOGENEIC HEMATOPOIETIC STEM CELL TRANSPLANT: FIRST RESULTS ON FEASIBILITY

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By 2015, the number of allogeneic hematopoietic cell transplants (alloHCT) is expected to reach 10,000, double the number performed in 2010 (Majhail et al., 2012; Schriber, Anasetti, Heslop, & Leahigh, 2010). At present, alloHCT patients face many challenges in the transition between in-patient hospital care and self-care at home because the post-transplant medication regimen typically includes at least 24 pills per day that are central for survival with multiple intake times, severe side effects, and potential toxic drug interactions. The current study investigated the feasibility of using an electronic pillbox in the first 6 months of self-care at home after patients underwent alloHCT. Our first 18 participating patients received pillboxes pre-tested for functioning. Successful transmission of pillbox signal was measured as the percentage of time the pillbox relayed data during the patient's pillbox possession time (PPT), or time they had the device at home. All 18 patients filled the pillbox with their medication and used it in some way (100% of PPT). Eight patients kept their pillbox plugged in nearly at all times, ensuring real-time transmission of usage data (99% of PPT). Three patients unplugged the unit while travelling and did not maintain the transmission of data (64% of PPT). Two patients never plugged in their pillbox for different reasons (0% of PPT). The health conditions of two patients required continued hospital care, so their pillbox was infrequently plugged in at home (22% of PPT). For the remaining 3 patients, inconsistent transmission due to device malfunction (22% of PPT) was remedied by replacing the unit (99% of PPT). We discuss challenges associated with electronic medication monitoring, like patient travel and family-related issues, as well as a multi-faceted upcoming intervention study with text-message based adherence reminders, for which this study serves as a pilot.

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C-033

MODELS OF PATIENT NAVIGATION FOR CANCER-RELATED OUTCOMES: A NARRATIVE REVIEW

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Patient navigation is an intervention aimed at reducing barriers to receiving prompt and high-quality healthcare, especially among underserved populations. While research has evaluated the efficacy of patient navigation in the context of cancer across the healthcare and disease continua, few studies have explored which models of patient navigation are most efficacious. A narrative review identified 51 controlled studies of the efficacy of patient navigation to improve specific cancer outcomes, using a PubMed search in April 2013. Studies where the sole outcome was a psychosocial construct, such as knowledge or satisfaction, were excluded. The model of patient navigation was not described in eight cancer patient navigation efficacy studies. Among the studies that described the navigation model, patient navigation was employed to assist patients with improving outcomes during the cancer control continuum: prevention, early detection, diagnosis, treatment, and survivorship. Two main considerations were made when developing patient navigation models: 1) competence and familiarity with the target population, and 2) the professional background of the patient navigator. Taken together, the research indicates that nearly all models, whether defined by professional background or the degree to which the navigator is similar to or competent in working with the target population, are effective in improving the early detection of cancer and outcomes related to the diagnostic resolution of a cancer-related abnormality. Conversely, despite significant research it is not clear if patient navigation consistently leads to improved health outcomes in the treatment of cancer. Because of the limited number of patient navigation studies related to cancer prevention, survivorship, morbidity, and survival outcomes, few conclusions can be drawn regarding the best models of patient navigation in these stages of the cancer control continuum. Future studies should directly compare various models in the same populations and settings.

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C-034

WEIGHT HISTORY AS A PREDICTOR OF BODY IMAGE AMONG BREAST CANCER SURVIVORS

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Weight gain is common after breast cancer due to decreased physical activity and menopause related side-effects of treatment. A higher body mass index is associated with more body image concerns, but little is known about weight history and its influence on body image after cancer. This study evaluated whether maximum weight change since age 18 and weight change since breast cancer diagnosis was predictive of body image dimensions beyond the effects of demographic and treatment variables. Participants (age = 58.1 ± 8.2 years, time since treatment = 3.5 ± 2.4 years) were 179 rural breast cancer survivors enrolled in a weight control intervention. Weight history was based on self-report. The Body Image and Relationships Scale (BIRS) assessed six dimensions of body image relevant for breast cancer survivors: changes in social activities, energy and strength, discomfort/embarrassment due to appearance, body integrity, sense of control over health, and sexual attractiveness/satisfaction. Maximum weight change since age 18 ($M = 70.7$ lbs, $SD = 26.1$ lbs) was correlated with changes in energy and strength ($r = .18, p < .05$), discomfort/embarrassment due to appearance ($r = .27, p < .001$), sense of control over health ($r = .16, p < .05$), and total score ($r = .22, p < .01$). Weight change since diagnosis ($M = 14.1$ lbs, $SD = 21.9$ lbs) was correlated with changes in social activities ($r = .17, p < .05$), discomfort/embarrassment due to appearance ($r = .21, p < .01$), and total score ($r = .21, p < .01$). After controlling for BMI, marital status, age at diagnosis, time since treatment, chemotherapy, surgery type, and anti-hormone therapy, all of these associations except for sense of control remained significant (all $p < .05$). After controlling for demographic and treatment factors, maximum weight gain since age 18 was a significant predictor of sexual attractiveness/satisfaction ($p < .01$) In sum, weight gain since diagnosis and history of high weight gain prior to diagnosis contributes to and potentially exacerbates the long-term treatment-related effects on various dimensions of body image in breast cancer survivors.

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C-035

SPECIFIC PROBLEMATIC COGNITIVE TASKS IN WORKING BREAST CANCER SURVIVORS

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Currently, there are over 2.9 million breast cancer survivors (BCS) living in the United States. Many employed BCS report challenges in cognitive function, well beyond primary treatment, that are associated with reduced work ability. The present study identifies specific problematic cognitive tasks at work for BCS to better characterize how cognitive symptoms negatively impact workplace performance.
Methods: A secondary data analysis was conducted on a pooled dataset of working BCS (n = 207) and a non-cancer comparison group (NCCG; n = 194) who completed a self-report measure of work-related cognitive limitations, the Cognitive Symptom Checklist-Work-59 (CSC-W59). Measures of demographic variables and other symptoms were also included.
Results: Stepwise logistic regression analyses showed that 15% of the work tasks were significantly more likely to be problematic in BCS than the NCCG ($p < .001$), after accounting for demographic variables, symptom burden, and work stress. Significant work tasks (Odds Ratio; 95% Confidence Interval) included: remembering to perform daily routines (4.24; 1.80-9.97); remembering my train of thought while speaking (4.23; 2.64-6.77); answering questions quickly (3.78; 2.16-6.64); remembering a word I wish to say (3.04; 1.94-4.76); remembering information that's "on the tip of my tongue" (2.76; 2.73-4.42); remembering what I intended to write (2.74; 1.55-4.84); remembering the name of a familiar object or person (2.67; 1.65-4.33); understanding what I read without rereading it (2.64; 1.64-4.26); remembering things someone asked me to do (2.29; 1.44-3.63).
Conclusion: The current study identified specific cognitive tasks at work that are problematic for BCS compared to a NCCG. Many of these tasks involve working memory under stressful social conditions at work. Future interventions for cognitive symptoms in working BCS should integrate both stress and specific cognitive task training components.

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C-036

INTERNET HEALTH INFORMATION SOURCES FOR HEREDITARY COLORECTAL CANCER AND THEIR PERCEIVED TRUSTWORTHINESS

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National surveys show that the majority of adults who use the Internet have gone online to seek health information for themselves or others. Those with rare conditions, such as hereditary cancers, may use the Internet to supplement information from health care providers, who may have limited knowledge of these conditions themselves. This study assessed Internet sources used by persons with Lynch syndrome (LS), a hereditary colorectal cancer syndrome, to seek health information about their condition and the perceived trustworthiness of those sources. Thirty-two LS mutation carriers were recruited through a cancer center's clinical genetics program and through social media for in-depth, scripted phone interviews regarding their most frequently used sources for online information about LS and their levels of trust in these sources. Transcripts were coded using Atlas.ti; intercoder reliability exceeded 90%. Seventy-five percent of participants used Google, Yahoo!, or Bing to initiate online searches; 56% used medical websites (e.g., WebMD, Mayo Clinic); 47% used cancer-related organizations' sites (e.g., American Cancer Society, National Institute of Health); and 69% said they performed general searches without starting at a specific site. Although the majority (88%) said online health information was useful, levels of trust were relatively low. Thirty-four percent said they trust most information from medical sites (e.g., WebMD, others); 31% trusted online health information only when verified by a health care provider or an outside, trusted person; and 25% trusted institutional sites. A minority (16%) stated online health information is neither trustworthy nor useful. These data can guide clinicians in ascertaining patients' health knowledge acquired from the Internet in order to prevent misinformation while also introducing a broader conversation based upon patient needs for verifying online health information.

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C-037

ILLNESS PERCEPTIONS AS TARGETS OF BEHAVIORAL MEDICINE INTERVENTIONS FOR PATIENTS WITH RELAPSED/REFRACTORY CHRONIC LYMPHOCYTIC LEUKEMIA

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Background:Chronic lymphocytic leukemia (CLL) is the most prevalent adult leukemia and has no known cure. Though the disease may respond to treatment, all patients eventually relapse. Little is known about predictors of psychological and physical functioning in this population, particularly among those with relapsed/refractory disease. The way individuals perceive their illness is a key factor in the development of distress (Leventhal, 1970). Illness perceptions have been linked to psychological and physical outcomes in early stage cancer patients (Traeger et al., 2009; Sharloo et al., 2005), yet little is known about this relationship in patients with more advanced disease. Relationships between illness perceptions and mental and physical outcomes in CLL are examined.

Methods:A cross-sectional designed was used. Relapsed and treatment refractory CLL patients ($N = 65$; 70.8% male; mean age = 63.7) were assessed prior to initiation of a novel drug therapy. Illness perceptions were assessed using the Brief Illness Perceptions Questionnaire (BIPQ). Psychological outcomes included depressive symptoms (BDI-II) and cancer-specific stress (IES-R). Physical outcomes included fatigue (FSI), sleep (MOS), and pain (BPI). Linear regression analyses controlling for age and gender examined the influence of illness perceptions on psychological and physical outcomes.

Results/Discussion:BIPQ scores indicating a perception of CLL as more threatening, having more consequences and more emotional impact were related to worse outcomes on psychological measures, fatigue, and sleep ($ps < .05$). Endorsing less understanding of CLL was inversely related to all physical outcomes ($ps < .01$). These novel findings suggest illness perceptions may play a key role in advanced disease outcomes and may be suitable targets of behavioral medicine interventions to reduce distress and physical symptom burden. Longitudinal studies in advanced disease populations are needed to establish directionality of the relationships.

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Citation and Meritorious Poster
C-038

WOMEN'S INVOLVEMENT IN SHARED DECISION MAKING FOR MAMMOGRAPHY: RESULTS FROM THE HEALTH AND RETIREMENT STUDY

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Shared decision making (SDM) has been described as the "pinnacle" of patient-centered care. The Institute of Medicine and others recommend that all women should be engaged in SDM for mammography decisions. This study describes women's reported SDM involvement and compares characteristics of women reporting lower v. higher levels of SDM for screening.

We analyzed data from the 2008 Health and Retirement Survey, a nationally representative panel survey of U.S. retirees. SDM data for women >40 years, self-reporting screening within the last 2 years, were analyzed ($n = 558$). A composite score was calculated from 6 survey items that evaluated components of SDM for mammography (theoretical range 0-6).

Among participants, 68% reported screening discussions with providers. While 57% reported discussing screening advantages, only 2% reported discussing potential disadvantages. Only 21% reported that providers specifically asked about individual preferences, and 38% reported involvement in final decisions. The mean SDM score for women 50-74 years was 2.65 (sd = 1.43) and for those >75 years was 2.27 (sd = 1.35). Results from multivariable analysis suggest that younger and Black women may be more likely to report higher SDM levels.

Most women were not involved in SDM to the extent recommended. Women 75+ had low SDM scores, a concern since routine screening is not consistently recommended for this age group. Higher SDM scores for younger, Black women may reflect provider awareness of increased risk for this group. Our findings suggest a need for interventions to improve patient/provider communication and empower women to actively engage in SDM in cancer screening.

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C-039

ANALYSIS OF BEHAVIOR THEORY USE IN PHYSICAL ACTIVITY INTERVENTION DEVELOPMENT FOR BREAST CANCER SURVIVORS

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Introduction: Theory use in behavior change interventions may improve their effectiveness, yet critics question whether theory-based interventions have been sufficiently scrutinized. This study used a modified framework to assess theory use in physical activity (PA) interventions for post-treatment breast cancer survivors (BCS). The aims were to 1) evaluate theory application quality and 2) develop classifications for extent of theory use.

Methods: Studies were previously identified through a systematic search strategy. All studies were randomized controlled trials (RCTs) published 2005-2012, addressed PA behavior change and studied BCS who were 5 years or less post-treatment. Michie & Prestwich's coding scheme was adapted, applied by two coders to all studies and classified into three levels. Levels 1 & 2 indicate use of theoretical construct or theory, but no explicit link to intervention design. Level 3 indicated explicit identification of theory and use in intervention design.

Results: Ten RCTs met the search criteria. Theories used most were the Transtheoretical Model ($n = 5$) and Social Cognitive Theory ($n = 3$). Six studies were classified as Level 3; three as Level 2 and one study met the Level 1 description. The majority of studies targeted relevant theories/constructs in intervention design, but most did not measure these determinants in the evaluation.

Implications: PA behavior change is complex, however, appropriate use of theory and theoretical determinants - including personal and environmental determinants - are believed to enhance intervention effectiveness. These results suggest that theory use was considered a necessary component of design, but its use was not consistent across studies or with recommended steps for intervention planning.

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Meritorious Poster
C-040

WORKING WITH PARISHES FOR CANCER CONTROL: RECRUITMENT AND ENGAGEMENT STRATEGIES IN THE CRUZA STUDY

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Background: A number of issues make health research in Latino faith-based organizations (FBOs) challenging, such as establishing a sampling frame, recruitment, and data collection. We present activities undertaken by the CRUZA study to conduct organizational surveys among Catholic parishes in Massachusetts as part of a study designed to build the capacity of FBOs to deliver evidence-based interventions for cancer control.
Methods: We searched online archives to compile a list of 65 parishes that held Mass in Spanish, and verified these parishes with telephone calls and site visits. This was followed by a series of community engagement activities to garner leadership support at the diocesan level. Multiple strategies were used for recruiting individual parish leaders and administering the four-part survey, including phone calls, visits and survey mailings. We present descriptive statistics on survey recruitment and administration.
Results: Participating parishes varied in size (range: 60 - 7750 members; M = 2020: SD = 1830). We achieved a 75.4% participation rate (49 of 65 parishes), with 89.8% of participating parishes completing all four survey sections. Contact attempts to complete the survey ranged from 5 to 34 (M = 16.6; SD = 7.9). Of all respondent types, pastoral leaders tended to require the most contact attempts (M = 9.3; SD = 6.4) and they were the most frequent respondents (79.4%). 24.7% of respondents completed their survey section(s) during an in-person visit.
Conclusions: We achieved a high survey completion rate after employing a variety of recruitment strategies. We provide lessons based on CRUZA's experience in conducting organizational surveys among Catholic parishes.

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C-041

ORGANIZATIONAL CHARACTERISTICS ASSOCIATED WITH HEALTH PROGRAM OFFERINGS AMONG CATHOLIC PARISHES: BASELINE RESULTS OF THE CRUZA STUDY

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Background: Population-based screening for breast, cervical, and colorectal cancers is vital to reducing cancer disparities among Latinos. Evidence-based interventions (EBIs) to promote screening exist but are seldom used by faith-based organizations (FBOs).
Methods: The CRUZA study, a randomized cluster trial among FBOs, conducted surveys among 49 Catholic parishes to assess organizational characteristics associated with implementation of EBIs, prior health program offerings, and readiness to adopt EBIs adapted for Latinos in FBOs. Findings from this baseline assessment are presented.
Results: About a third (32%) of parishes reported having offered some form of health activity in the prior year. One-in-five (21%) reported having an established health ministry. Despite the number of reported parish-based health programs, no cancer control programs were reported. Overall, parish leaders believed that their parish's organizational climate was not conducive to having cancer control programs. Nonetheless, ratings of readiness to adopt these programs were high. Parishes also reported that EBIs for cancer control were highly consistent with their mission and organizational values.
Conclusions: Catholic parishes in this sample were involved in a wide range of health programs, although none specific to cancer control. Assessments of organizational characteristics associated with adoption of innovations, such as EBIs for cancer control, suggested that parishes are natural partners in cancer control efforts to reach Latinos. However, interventions to build organizational capacity may be needed if they are to successfully implement such programs.

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C-043

PREOPERATIVE HOPE AND POSTOPERATIVE C-REACTIVE PROTEIN CONTRIBUTED TO LESS DEPRESSION ONE-MONTH AFTER OPEN-HEART SURGERY

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Objectives: Open-heart surgery is highly stressful. Postoperative systemic elevation of these immune components is a body's natural healing response to trauma. However, excessive up-regulation of inflammatory factors has also been linked with stress and psychiatric symptoms. No information is known on how postoperative C-reactive protein(CRP), interleukin-6(IL-6), and cortisol are related to psychiatric symptoms following surgery. Further, Little research has investigated hope as a human strength in this regard. The present study addressed this gap concerning three outcomes (depression, anxiety, and hostility). Methods: The analyses capitalized on demographics, mental health, and medical comorbidities collected via two-wave preoperative interviews, three postoperative biomarkers, and symptoms collected one month postoperatively from a sample of 162 middle-aged and older patients, undergoing valve and/or coronary bypass graft surgery. Blood samples were collected three days postoperatively for biomarker assays. Key cardiac indices were obtained from a national database: the Society of Thoracic Surgeons' Adult Cardiac Database(STS) at the hospital. Results: Preoperative anxiety contributed to three outcomes. Patients with greater hope and elevated CRP levels reported less depression but those used avoidant coping experienced opposite. Medical comorbidities contributed to both postoperative anxiety and hostility. Patients with better preoperative cardiac function and less bodily pain reported more hostility postoperatively. Conclusion: he current finding suggests that preoperative hope may have a positive effect on postoperative symptoms, counteracting the damage of preoperative anxiety. The direction of the CRP-depression association lends support for the inconsistency in the literature on the role of CRP in cardiac patients, indicating a complex picture for CRP.

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C-044

EMOTION REGULATION AND CARDIOVASCULAR RESPONSE TO EMOTION PROVOCATION

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Emotion regulation (ER) research has examined the effects of two ER strategies, reappraisal and suppression, extensively. Generally, research has demonstrated that reappraisal produces reduced sympathetic activation as compared to suppression (Wolgast, Lundh, & Viborg, 2011). The purpose of this study was to examine whether differences in autonomic reactivity between reappraisal and suppression are due to habitual emotion regulation strategy (habitual reappraisers and suppressors), instructional set (reappraisal and suppression) or interaction effects.
The Emotion Regulation Questionnaire (ERQ) (Gross & John, 2003) was used to identify participants as habitual reappraisers and suppressors. A sample consisting of 16 habitual reappraisers (12 females) and 17 habitual suppressors (13 females) participated in the study. All participants watched two fear-evoking film clips, one under instructions to reappraise the emotional experience and the other to suppress the expression of emotion.
A series of 2 x 2 [Habitual Use (Reappraisers, Suppressors) X Situational Instructions (Reappraisal, Suppression)] mixed factors analysis of covariance (ANCOVA), controlling for sex and resting levels, were conducted on several cardiovascular and affect measures. A main effect for instructional set (reappraisal vs. suppression) was found for systolic blood pressure (SBP), F(2, 45) = 3.55, p = .04, and diastolic blood pressure (DBP), F(2, 45) = 3.37, p = .04. SBP and DBP were lower during engagement in reappraisal than suppression. However, no significant main effects for habitual use or interaction effects were observed. No significant effects were observed for other cardiovascular measures or positive and negative affect.
Results of this study are consistent with the literature in demonstrating decreased sympathetic activation during engagement in reappraisal (Wolgast et al., 2011). Future research should examine the long-term effects of reappraisal to determine if the positive benefits of reappraisal are maintained. In addition, researchers should examine the generalizability of the effects of reappraisal to natural stressors.

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C-045

USING ACCEPTANCE AND COMMITMENT TRAINING TO TREAT PATIENTS WITH COMORBID VASCULAR DISEASE AND DEPRESSION

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Background: Mental stress has a negative effect on vascular disease. The comorbidity of depression and vascular disease risk factors is a major health concern as it results in increased morbidity and mortality. Yet, depression is an underappreciated risk factor and effective treatments have rarely been investigated. Method: Thirty patients with a vascular disease risk factor and comorbid depression or anxiety were assigned to a 1-day Acceptance and Commitment Training plus Education workshop (ACT-ED) or to Wait List/Treatment as Usual (WL/TAU). Assessment of depression and anxiety, quality of life, and vascular health were completed at baseline and 24 weeks after the workshop. Results: At the 6-month follow up, participants in the ACT-ED condition exhibited significantly greater improvements in depressive and anxiety symptoms than patients in the WL/TAU group. Conclusion: A 1-day ACT-ED workshop is a promising approach to the treatment for depression and anxiety in patients with vascular disease risk factors.

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C-046

GOAL SETTING: IS THE EFFORT WORTHWHILE?

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ANCHOR was a primary care cardiovascular risk reduction intervention. Participants met with trained clinicians to discuss risk based on Framingham Risk Scores. Participants set their own behavioral goals. 1093 participants completed a year-long intervention. The present study explored the content (frequency) of words used during goal setting to determine if behavior goals corresponded with a participant's health behavior change. Word clouds provided a graphical presentation of frequency indicating that references to time (week, days, daily, minutes), behaviors (exercise, walk, food, portions, intake, eat, meals), and qualifiers (monitor, continue, increase, try) dominated goal setting. Goals were also coded to reference alcohol use, smoking, fruit and vegetable intake, and physical activity. Words referencing intent to change a behavior were identified and goals were coded according to the target health behavior. Further, positive change (the behavior moved in the desirable direction) and no change were indexed. At baseline, 976 (89.3%) participants set physical activity goals, 36 (3.3%) set alcohol related goals, 207 (18.9%) set fruit and vegetable consumption goals, and 65 (5.9%) set smoking related goals. At completion, 46% who set an activity goal, 4% who set an alcohol related goal, 52% who set a fruit/vegetable goal, and 5% who set a smoking goal were successful at changing the specified behavior. Chi square analyses revealed an association between setting a specific activity goal at baseline and successful change of that behavior ($\chi2$ (1, N = 1093) = 16.31, $p < .001$). Chi square analyses were not significant for the other behavioral goals. Findings provide exploratory information regarding patient-lead goal setting and may provide insight into the link between setting and achieving goals.

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C-047

UNDERSTANDING NON-ADHERENCE TO DIETARY SODIUM RESTRICTION AMONG PATIENTS ON HEMODIALYSIS

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Background: Prescription of a sodium restricted diet (SRD) is a key non pharmacologic intervention for blood pressure (BP) and volume management in hemodialysis (HD). However, adherence to SRD remains difficult. We sought to assess the barriers to following SRD in HD.
Method: As part of an ongoing randomized trial, stable adult patients receiving outpatient HD treatment, with average monthly systolic BP of >130 mmHg, were administered a dietary sodium survey (DSS) at baseline. The intervention consists of low sodium dietary advice along with progressive lowering of post dialysis target weight guided by clinical and fluid status measures. Barriers to SRD were measured on a scale 0-(Not a barrier) to 4-(Extreme barrier); perceived impact on a scale 1-(Definitely True) to 5-(Definitely False). Sodium intake was measured using a 3-day food diary.
Results: 12 patients (58% male, 33% black, 50% white, mean age 57 ±14) completed baseline. Mean monthly systolic BP was 154 ± 16 mmHg. 75% reported following SRD for a mean of 5.7 yrs. 75% reported 3 or more barriers and 42% reported 6 or more; 58% expressed lack of knowledge in multiple areas. Mean sodium intake was estimated at 2.4 g/day (range: 1.6-3.5). Although most patients indicated following SRD without much difficulty, sodium intake remains higher than recommended amount of 1.5 g/day.
Conclusion: While all patients indicated the importance of following SRD to varying degrees, many were not aware of its relation to fluid build-up, edema, and cardiovascular health. Barriers such as availability of low sodium foods, food preference, taste, and resolve, along with patient perceived impact of SRD diet, were important factors in adherence. A further study of these relevant factors may prove beneficial in facilitating patient adherence to SRD.

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Meritorious Poster
C-048

EFFORTFUL CONTROL & EGO-RESILIENCY: THE ROLE OF CARDIAC AUTONOMIC REGULATION

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Effortful control (EC) (Rothbart & Bates, 1998) and ego-resiliency (ER) (Block & Kremen, 1996) are dimensions that reflect ability to recover from negative affect, and may convey risk of coronary heart disease (CHD) (Kubzansky & Kawachi, 2000). Identifying elements of cardiac autonomic regulation shared by EC and ER may clarify the mechanisms by which emotion regulation contributes to cardiac health. In the present study, persons scoring low on EC and ER were each predicted to show less vagal and more sympathetic cardiac control following stress. Eighty-four volunteers (mean age = 19.6, SD = 1.8) completed the ER Questionnaire and EC scale of the Adult Temperament Questionnaire. ECG and impedance cardiography (ICG) were recorded while subjects completed each of 3 tasks: mental arithmetic, verbal fluency, and speech preparation. Each task was preceded and followed by baseline and recovery periods. Interbeat interval (IBI) and high frequency heart rate variability (HF HRV) were derived from the ECG to index heart period and cardiac vagal activity, respectively. Pre-ejection period (PEP) was calculated from the ICG to index cardiac sympathetic activation. Recovery scores were computed and entered into regression analyses. Results indicate that for mental arithmetic, EC significantly moderated the relation between HF HRV and IBI recovery, $\beta = .204$, t(78) = 2.01, p = .048. Persons scoring high in EC showed a stronger relation between IBI and HF HRV, $\beta = .594$, t(78) = 3.78, $p < .001$, than low scorers, $\beta = .085$, t(78) = .511, p = .611. Across tasks, ER moderated the relation between PEP and IBI recovery, $\beta = .232$, t(78) = 2.19, p = .031. High ER scores were associated with an increased relation between PEP and IBI, $\beta = .319$, t(78) = 3.14, p = .002, compared to that of low scores, $\beta = -.093$, t(78) = -.552, p = .582. Results suggest that persons high in EC have enhanced cardiac vagal regulation and those high in ER have increased sympathetic cardiac control. Such findings suggest that high EC should be further studied as a protective factor against CHD.

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C-049

ACCEPTANCE PREDICTS IMPROVED PSYCHOLOGICAL WELL-BEING AND PHYSICAL ENDURANCE AMONG PATIENTS IN CARDIAC REHABILITATION

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Experiential acceptance is a central component of Acceptance and Commitment Therapy (ACT), which has been effective in promoting the adoption and maintenance of health behaviors, and in reducing psychological distress. Although evidence supports the utility of ACT among cardiac patients, no prior studies have examined the influence of experiential acceptance among cardiac patients in the absence of an ACT intervention. To facilitate future intervention development among patients in cardiac rehabilitation (CR), it is important to understand the influence of experiential acceptance on outcomes of CR. A convenience sample (n = 30; mean age = 63; 21 men) of participants were recruited prior to initiating a phase-II CR program. Participants completed a series of questionnaires including the Depression Anxiety and Stress Scale, Quality of Life Index-Cardiac version (QOL), Acceptance and Action Questionnaire-II (AAQ), Cardiac-specific AAQ, and Philadelphia Mindfulness Scale. Participants also completed cardio-respiratory fitness evaluations pre (T1) and post (T2) CR. Correlation and hierarchical regression analyses were the primary modes of data analysis. Results indicated that T1 level of cardiac specific acceptance predicted increased VO2max, controlling for total number of exercise sessions attended [F(3,26) = 50.67, p < .0001, b = .18, p = .002], accounting for 6% of the variance in Vo2max change. In addition, experiential acceptance was associated with increased QOL (r = .77, p < .001), as well as lower depression (r = -.78, p < .001), anxiety (r = -.55, p < .01), and stress (r = -.65, p < .001) during the course of CR. Thus, in the absence of any ACT-related intervention, greater experiential acceptance upon entry into CR was associated with improvement in exercise capacity and QOL as well as reduced distress. Patients who enter CR with lower levels of experiential and disease-related acceptance may benefit from ACT-based interventions to improve physical and mental well-being.

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C-050

COMPARISON OF FACTOR STRUCTURE MODELS FOR THE BECK ANXIETY INVENTORY AMONG CARDIAC REHABILITATION PATIENTS

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We compared one, two, and four-factor models of the Beck Anxiety Inventory (BAI) in individuals with cardiovascular disease (CVD) enrolled in cardiac rehabilitation (CR). Individuals with CVD experience greater rates of anxiety symptoms than the general population. Anxiety symptoms have been linked to greater risk for negative outcomes following a cardiac event; however, knowledge of the role anxiety factors play in these relationships is limited. Prior research has suggested differing models of the BAI by sample. Models consisting of two-factors, cognitive and somatic, have been supported in clinical and nonclinical samples. A four-factor model, with cognitive, autonomic, neuromotor, and panic factors, has been suggested in an older adult, medical-based sample. The structure of the BAI has not been previously examined in individuals with CVD.

Participants (n = 208) completed the BAI and demographic information at the onset of CR. The majority of the sample was male (65.4%) and European American (92.2%).

Consistent with prior research, 41% of our sample reported at least mild symptoms of anxiety (BAI > 8), and the BAI proved to be a reliable measure (α = .90). Confirmatory factor analysis results suggested that the four-factor first-order model (cognitive, autonomic, neuromotor, and panic) provided the best fit for our sample (SB $\chi2(182) = 246.00$; CFI = .95; RMSEA = .04; SRMR = .07). A second-order model, with the four aforementioned factors as first-order factors, also fit our data well (SB $\chi2(184) = 248.27$; CFI = .95; RMSEA = .04; SRMR = .07), but not significantly better than the first-order model.

Our results suggest that anxiety after CVD can be evaluated based on cognitive, autonomic, neuromotor, and panic components as well as the encompassing anxiety construct. Research using the BAI to examine associations between anxiety and outcomes following CVD should examine anxiety as an overall construct, and the relationship between each of these four components and outcomes.

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C-052

ISSUES TO CONSIDER IN MEASURING CULTURAL INFLUENCES ON TYPE 2 DIABETES MANAGEMENT AMONG MEXICAN-AMERICAN ADULTS

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Many behavioral interventions strive to measure and/or address cultural constructs, particularly when working with minority populations. However, these efforts are often hampered by a lack of available, survey-based tools to assess the specific ways in which culture affects health behaviors. To this end, this study utilized cognitive interviewing to pretest new and existing survey items to query the specific pathways by which cultural attitudes and beliefs may influence type 2 diabetes management among Mexican American (MA) adults.

Thirty-three MA men and women with type 2 diabetes were recruited in Chicago to complete a 90-minute, face-to-face, cognitive interview in English or Spanish. The interview guide explored participants' responses and reactions to 89 survey items designed to assess the influence of eight cultural attributes on diabetes management: self- vs. collective disease regulation, simpatía, personalismo, familismo, gender roles, communication preferences, illness models, and time orientation. Qualitative analyses were conducted using the constant comparative method to identify major themes related to measurement issues.

Eight themes were identified that have implications for survey-based measures of cultural influences on diabetes management among MA adults: (1) distinguishing between whether diabetes can be "cured" vs. "controlled"; (2) the desire to prevent other people from knowing when one feels sick; (3) the importance of "telling it to me straight" in doctor-patient communication; (4) challenges in assessing preferences for doctor-patient communication; (5) "acceptance" of one's diagnosis as a barrier to disease management; (6) issues to consider in measuring social support; (7) how familismo does and does not influence diabetes management; and (8) approaches to measuring self- vs. shared disease management. These findings will be discussed, as well as broader implications and recommendations for measuring cultural influences on health behaviors among MA adults.

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C-053

PSYCHOMETRICS FOR THE ILLNESS INTRUSIVENESS SCALE ADAPTED FOR CHILDREN WITH DIABETES AND THEIR PARENTS

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Illness Intrusiveness (II), a useful construct for investigating the impact of, and adaptation to, health conditions, measures not only quality of life (QOL), but measures how much an individual perceives that a disease and/or its treatment interferes with their QOL, how much they attribute change in QOL to the demands of the condition. The Illness Intrusiveness Scale (IIS; Devins et al., 1990, 2010) has shown adequate reliability and validity for adults. This study assessed the psychometrics of adapting the IIS for children and adolescents with Type1 diabetes (DM1), and for their parents (for both perceived II in their child with DM and for the impact of DM upon their own QOL) (453 families). Internal consistency was .87 for the child; .89 for mothers' perceived II for their child, .91 for II for self; .86 for fathers' perceived II for their child, .90 for II for self. Factor analyses (FA) indicated that all items loaded strongly on one factor (.55-.77) for each version for DM1 (when 1 factor is forced), justifying the use of a total IIS score as a reasonable indicator of II. Standard FA criteria, including factors above eigenvalue of 1, with deletion of items not loading above .434 (for this N) on any resulting factor, indicated the following optimal factor structure for each version. Child re-self: 2 factors, accounting for 54.7% of variance (F1 = 42.9%, F2 = 11.8%), with 2 items removed (KMO = .87). Mother re-self: 2 factors, accounting for 58.9% of variance (F1 = 51.21%, F2 = 9.3%) with all items (KMO = .93). Father re-self: 3 factors, accounting for 66.1% of variance (F1 = 47.04%, F2 = 9.9%, F3 = 9.2%) with 2 items removed (KMO = .89). Mother re-child: 2 factors, accounting for 56.6% of variance (F1 = 42.13%, F2 = 10.4%) with 2 items removed (KMO = .89). Father re-child: 3 factors, accounting for 71.5% of variance (F1 = 42.3%, F2 = 17.4%, F3 = 11.8%) with four items removed (KMO = .87). Recommendations will be provided regarding the support and utility of scoring as a single total score, or by factors identified by FA, as well as item inclusion for research and clinical purposes.

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C-054

INDEPENDENT SELF-MANAGEMENT OF PEDIATRIC TYPE1 DIABETES: LONGITUDINAL RELATIONSHIP AMONG DISTRESS, SELF-MANAGEMENT BEHAVIOR, AND INDEPENDENCE

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Few longitudinal studies have compared the direction of influence among variables related to developing independence in diabetes management. This study compared the respective strength of relationships among Independence (IND) in self-care by patients, Parent-Child Conflict (CON) over DM1-management, DM-related Illness Intrusiveness (II), Self-Care activity (SC), and Glycemic control (HbA1c) over two years for 123 families from whom full data was available. The Diabetes Independence and Conflict Scale, Illness Intrusiveness Scale, Self-Care Inventory were compared across 2 years (T1, T2). The strongest predictors of T2 SC were T1 CON ($R = -.56$, $p < .001$), T1 II ($R = -.41$, $p < .001$), with T1 IND ($R = .29$, $p < .001$) significant but of weak strength in simple correlations and not contributing in multiple regression. T2 IND was predicted by T1 SC ($R = -.42$, $p < .001$), T1 CON ($R = -.33$, $p < .001$), and T1 II ($R = -.21$, $p < .001$) in simple correlations, with only T1 CON accounting for best prediction in multiple regression. Only T1 II predicted T2 CON ($R = .33$, $p < .001$), and only T1 CON predicted T2 II ($R = .26$, $p < .001$). Taken together, T1 Distress variables showed the most and strongest predictions (Cohen, 1977): T1 CON showing 1 strong, 1 moderately strong, and one weak but significant correlation with T2 variables; T1 II showed 2 moderately strong, 1 weak but significant correlation with T2 variables. In contrast, T1 SC showed only 1 moderately strong correlation, and T2 IND showed only 2 weak but significant correlations with T2 Variables. Since better T1 SC correlated with better T2 IND, and since higher IND did not predict greater T2 CON, these data suggest that families are fostering increased IND when SC is more successful, and greater IND and SC does not generate greater subsequent distress. However, higher T1 distress appears to impede development of IND and SC. Implications for interventions to prevent DM1-related distress from impeding development of better subsequent IND and SC are discussed.

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C-055

LATENT CLASS ANALYSIS OF BEHAVIOR CHANGE IN A NURSE-COMMUNITY HEALTH WORKER INTERVENTION ON DIABETES CONTROL IN AMERICAN SAMOA

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Background: Adult type 2 diabetes prevalence in American Samoa is 21.5%, compared to 11% in the U.S. We conducted a culturally-adapted, primary care-based nurse-community health worker (CHW) team intervention. The CHW group significantly improved diabetes control, compared to usual care. Intervention effects were mediated by medication adherence, healthy diet and to a lesser degree, physical activity. This analysis focuses on how intervention content relates to these outcomes.
Design: 268 type 2 diabetes patients were enrolled from a federally qualified community health center, and randomized to a CHW intervention vs. wait-list control. Current analyses focused on CHW participants only, using process data from home and group visits. Using Latent Class Models, we identified patterns of instruction on key health behaviors, i.e., classes, and tested whether these classes were associated with changes in 3 behaviors (medication adherence: % with no non-adherence behaviors, diet: $>35\%$ fat, and at least moderate physical activity: % ≥ 600 METS) and change in HbA1c.
Results: Data supported 3 classes of instruction on medication and healthy eating and 2 classes for physical activity. Participants belonging to the class that discussed medication consistently over time were significantly less likely to report adherent medication behavior at follow-up compared to the class that showed an increasing trend in discussing this topic over the last 2 months of intervention. There was a significant difference in change in HbA1c between these classes, with participants in the latter class showing a greater decrease in HbA1c over time. Similar between-class comparisons were made for physical activity and healthy eating.
Conclusions: Patterns in discussion of key health behaviors for diabetes control were identified and related to behavior change and physical outcomes. Results suggest that chronology and intensity of education sessions in a CHW intervention may play a role in changing targeted behaviors.

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C-056

ILLNESS COHERENCE AND SELF-MONITORING OF BLOOD GLUCOSE: LINKS BETWEEN UNDERSTANDING ILLNESS-RELATED FEEDBACK AND ENGAGING IN TYPE 2 DIABETES SELF-MANAGEMENT

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Self-monitoring of blood glucose (SMBG) is expected to give type 2 diabetes patients feedback needed to improve glycemic control. Evidence is mixed, however, as to whether SMBG improves diabetes self-management, particularly for non-insulin-treated patients. The Common Sense Model of illness self-regulation suggests that SMBG will improve self-management when patients understand how and when to take blood samples, and respond and use the feedback to monitor progress, i.e., when their mental models of diabetes, treatment and feedback are coherent. We investigated the relationship between illness coherence and self-management among 108 adults with treated type 2 diabetes in Bronx, New York (64% female; 62% black; 26% Hispanic; M[SD] age 57[8.9] yrs; M[SD] A1c 7.8[1.6]%). We developed a feedback-based measure of coherence and used validated self-report measures to assess diabetes knowledge, diabetes self-management, SMBG adherence, and diabetes distress. Linear regression analyses controlling for age and insulin use demonstrated significant relationships between illness coherence (i.e. understanding and use of feedback), better overall diabetes self-management, $B = 1.43$, $p = .01$ and increased SMBG adherence, $B = 3.15$, $p = .02$. Confusion over feedback was linked to greater distress ($B = .23$, $p < .001$) and higher A1c ($B = .21$, $p = .01$). Diabetes knowledge provided an overarching conceptual framework for effective self-management, as moderation analyses showed that illness coherence was significantly correlated with better SMBG adherence only for patients with higher levels of knowledge ($B = 7.21$, $p < .001$). Interpretation of feedback is an important aspect of successful diabetes self-management. Interventions enhancing both diabetes knowledge and coherence may improve self-management and glycemic outcomes.

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C-057

SELF-REPORTED HEALTH BEHAVIORS AND BARRIERS DISCRIMINATE BETWEEN TARGETED LEVELS OF GLYCEMIC CONTROL IN A DIABETES CLINICAL SAMPLE

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Recent research exploring optimal diabetes (DM) control in clinical and community settings indicates the importance of maintaining glycemic control via behavioral self-management. 2013 ADA guidelines indicate a relationship between poorly controlled HbA1c and lack of engagement in DM self-management behaviors (well-controlled HbA1c <6.5%, recommended/controlled <7%, and <8% [less stringent]). This study aimed to identify behavioral risk factors associated with level of HbA1c control. Ss were 746 adults [53.8% female, M age = 51.33 (15.12), M BMI = 31.40 (7.51)] with Type 1 (26%) and Type 2 (25.2% using /48.8% not using insulin) DM, recruited from a diabetes clinic. Chart HbA1c levels were used to group Ss as well-controlled (<6.5%), controlled (6.5-7.9%) and poorly controlled (≥8%). Associations between self-reported behaviors and HbA1c groups were examined with one-way ANOVA and Welch tests. Within the Type 1 group, Ss with poor control had higher self-reported scores on PDQ subscales for eating problems, problems administering insulin, barriers to medication and dietary adherence, and lower scores on scales for blood glucose control and dietary decision-making. Among Type 2 s using insulin, well-controlled HbA1c was associated with fewer barriers to dietary adherence and exercise and higher perceived glucose control. In Type 2 s not using insulin, poor control was associated with more prescribed medications, lower perceived glucose control, dietary decision making and eating problems scores. Across diabetes type, well-controlled HbA1c was associated with shorter time since diagnosis of diabetes. Future psychometric evaluations will consider individual item contributions to self-report measure subscale association with HbA1c levels. Patient centered measures of self-care may have utility in adding to the clinical prediction of patients' ability to reach specific glycemic control criteria.

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C-059

A MINDFULNESS MODEL OF EMOTION REGULATION IN NURSING STUDENTS: WORKING MEMORY CAPACITY AS A REGULATORY MECHANISM?

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Transitioning from education into clinical practice for nursing students is often a struggle. The emotional demands and high cognitive load resulting from an unpredictable professional work environment can be overwhelming. There is a lack of research investigating how nursing students regulate their emotions and strategies used when dealing with these cognitive and emotional demands. Integration of mindfulness training into nursing curricula could potentially facilitate the development of nursing students' working memory capacity (WMC) and improve emotion regulation (ER) skills. Although a few studies have investigated mindfulness training with nursing students, there is a lack of empirical evidence examining how dispositional mindfulness and WMC influence a nursing student's ability to regulate their emotions. Research evidence suggests that dispositional mindfulness is linked to ER. However, whether: ER is influenced by dispositional mindfulness; WMC mediates this relationship; and if these factors are different between education levels has not yet been determined in nursing students. This cross-sectional study examined the relationships between mindfulness, WMC, and ER in a pre-licensure nursing student population from a Georgia university. Two questionnaires and a WMC task were completed by the convenience sample (n = 80). A path model of the relationships between mindfulness, WMC and ER was tested. Mindfulness was positively associated with ER and WMC. Mediational path analyses using structural equation modeling revealed a direct effect of mindfulness on ER and WMC but WMC did not mediate the indirect effect of mindfulness on ER. Furthermore, mindfulness was significantly different between the first semester students having the highest level of mindfulness and the fourth semester students having the lowest level of mindfulness. Dispositional mindfulness may influence ER and WMC in nursing students, but the downward trend in mindfulness from first semester to last is concerning. Nurse educators may consider using mindfulness training to enhance mindfulness, WMC and ER.

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C-061

ANXIETY SENSITIVITY IN RELATION TO SLEEP QUALITY AMONG HIV-POSITIVE INDIVIDUALS

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Sleep disturbance is one of the most prevalent symptoms reported by HIV + individuals (Hudson et al., 2008). Further, among individuals with HIV, sleep disturbance has been associated with poorer antiretroviral medication adherence, viral load, greater HIV symptom severity, and higher rates of negative psychological symptoms (e.g., Babson et al., in press; Junqueira et al., 2008; Saberi et al., 2011). While the prevalence and consequences of sleep disturbances among individuals with HIV have been established, relatively little work has investigated malleable factors that may confer greater risk of sleep disturbances among this population. The purpose of the present study was to explore the role of a malleable psychological vulnerability factor, anxiety sensitivity (AS), in terms of its impact on disturbed sleep among individuals with HIV. Though initial empirical work among non-HIV samples has shown AS to confer greater risk for sleep disturbances, their relation among individuals with HIV has heretofore been unexplored. Self-report data on AS (Taylor et al., 2007) and sleep (Buysee et al., 1989) were collected among a sample of 136 HIV + individuals (80.9% male; Mage = 47.75 years). Findings indicated that HIV + individuals higher in AS reported greater global sleep disturbances ($p < .001$). Specificity analyses revealed significant associations between AS and perceived sleep quality and self-reported sleep duration (p's < .001). Findings provide novel evidence of a relation between AS and sleep disturbance in HIV + individuals and suggest the clinical utility of assessing AS among individuals with HIV. Beyond determining those at greatest risk, findings suggest that interventions geared towards reducing AS (e.g., Keough & Schmidt, 2012) may be beneficial in terms of improving sleep quality and associated outcomes among individuals with HIV.

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C-062

CHOOSING PREVENTION: THE CASE FOR INVOLVING USERS IN MICROBICIDE DEVELOPMENT

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Background: User experience is critical to whether or not individuals choose to use microbicides. Understanding experience patterns of product users is critical to development and impact of prevention products.

Design: The overall goal was to identify sensory perceptions women experience and discriminate during vaginal gel use, and identify patterns in experiences that help predict use. 204 participants used 4 vaginal gels (with differing properties) and chose a preferred product. 20+ validated User Sensory Perception & Experience (USPE) scale scores differentiated gels across experiences during coital activity. Latent class modeling identified patterns of USPEs based on participant responses to their choice product.

Results: Data support 4 classes of USPEs (preferred experiences), with frequencies as follows: 0.14, 0.28, 0.25, 0.33 (frequency refers to the posterior probability of belonging to each class). Class 1 is characterized by lower than average scores on initial penetration, lubrication and perceived wetness, but higher scores on intravaginal awareness and messiness (compared to 2/3 of remaining classes). Class 2 had the highest overall averaged mean scale score, with the exception of initial penetration, on each USPE scale. The Class 2 experience overall would appear to be the most noticeable experience from a user perspective: higher lubrication, stimulation and wetness sensations, and a higher degree of messiness and leakage. Qualitative interpretations can also be made for classes 3 and 4. There were no between-class differences in sociodemographics, nor prior STD infection or hormonal contraceptive use.

Discussion: Vaginal microbicide effectiveness is predicated on optimal drug delivery AND use adherence. Both drug delivery and use are impacted by biophysical properties of vaginal gels. Clinical trials have been challenged by low adherence, obviating proof of concept. By understanding the correspondence between product properties and the user experience elicited by those properties, the likelihood of adherence and greater impact on the HIV pandemic could be realized.

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C-063

FRAILTY AND MEDICAL COMORBIDITIES IN HIV-INFECTED OLDER ADULTS

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While the number of HIV-infected older adults (HOA) in the US has increased in the last 20 years, research has not focused on this population's health needs. Rates of frailty (fatigue, sarcopenia, low activity) and disability (impaired function/activities of daily living) have not been evaluated among HOA and HIV-infected younger adults (HYA); factors associated with these syndromes are unknown. This study describes prevalence of frailty and disability among HOA and HYA and examines medical comorbidities as a factor associated with these syndromes.

The CFAR Network of Integrated Clinical Systems (CNICS), a longitudinal, patient-reported dataset, included patients with HIV (n = 7156) reporting on comorbidities, frailty, and disability. 40% of the sample were HOA (i.e., age $\geq$50). We compared demographics, prevalence of frailty and disability, and chronic comorbidities between HOA and HYA and used multivariate logistic regression to test association of comorbidities with frailty and disability.

HOA were more likely to be White (69 vs 64%, p < .01) and female (14 vs 13%, p = .04) than HYA. 52% of HOA reported symptoms of frailty compared to 44% of HYA (p < .01). In bivariate analyses, HOA reported more impairment in mobility (30 vs 19%, p < .001), self-care (10 vs 6%, p < .01), and physical activity (28 vs 24%, p < .01). Cancer (10 vs 5%, p < .01) and having 2 or more comorbidities (11 vs 3%, p < .01) were more prevalent in HOA. Age (p < .01), being White (p < .01), female gender (p < .01), and having 2 or more non-cancer comorbidities (p < .01) were associated with frailty. The same variables were associated with disability.

This study illustrates that HOA are a vulnerable population at risk for frailty and disability; however, these syndromes are prevalent among HYA at a higher rate than in the general population of adults under age 50. Comorbidities are associated with frailty and disability. Future research should focus on screening for risk of frailty using comorbidities and develop interventions to prevent frailty and disability in HOA and HYA.

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C-064

PSYCHOMETRIC ASSESSMENT OF HIV-RELATED STIGMA AND HIV-RELATED FEAR MEASURES AMONG A LATINO CHURCH SAMPLE

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HIV-related stigma is a major barrier to HIV prevention among Latinos. Churches are ideal places to implement HIV-related stigma reduction interventions because they play an important role in Latino culture. No research exists examining the reliability and validity of measures HIV-related stigma in the Latino church setting. This study adapted existing measures of HIV-related stigma and developed a HIV-related fears measure to assess the psychometric properties in a Latino church sample. Participants completed a questionnaire that included demographics, existing HIV-related stigma measures (general, religious, and social distance HIV-related stigma), and a new measure of HIV-related fears (fear of testing, fear of rejection, and acceptance of HIV + individuals) developed from results of interviews and focus groups. Participants were 353 church members in a large Midwestern city (62.3% female, 83.3% heterosexual, 98.9% Latinos, mean age = 38.28 years [SD = 11.94], and 68% had a high school education or less). Cronbach's α analyses demonstrated good reliability for general HIV-related stigma, religious HIV-related stigma, social distance stigma, and acceptance of HIV + individuals (α = .77 - .80) and fair reliability for fear of HIV testing and fear of rejection (α = .62 - .65). Factor analysis using structural equation modeling showed fair model fit for the 3-factor HIV-related stigma measures ($\chi2$ = 411.061, df = 132, p < .0001, CMIN/DF = 3.114, RMSEA = .077 (.069, .086), p < .001, CFI = .907) and for the 3-factor HIV-related fears scale ($\chi2$ = 206.967, df = 62, p < .0001, CMIN/DF = 3.338, RMSEA = .082 (.069, .094), p < .001, CFI = .855). Results demonstrating good reliability and fair model fit for the HIV-related stigma and HIV-related fears measures suggest that these measures may be useful in inquiries with Latino church-based samples.

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C-065

DRUG USE STIGMA AND HIV TRANSMISSION BEHAVIORS: AN UNDERSTUDIED BARRIER

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In the context of HIV prevention, both drug use and HIV stigma are well-established barriers to behavior change. Comparatively little work has evaluated the impact of stigma resulting from drug use on behaviors that increase risk of HIV transmission. The current study developed and validated a measure of drug use stigma across two diverse HIV-affected populations. Study 1 (N = 84) was comprised of HIV-negative patients accessing methadone maintenance therapy (MMT) in New Haven, CT and Study 2 (N = 83) contained HIV-positive patients with a history of substance use accessing HIV medical care (HMC) in the Bronx, NY. The measure assessed three processes through which drug use stigma may manifest to impact behavior: enacted stigma (experiences of discrimination due to drug use history), anticipated stigma (expectations of experiencing discrimination in the future), and internalized stigma (endorsement of self-devaluation due to one's drug use history). Enacted and anticipated stigma was measured for three potential sources of stigma: family and friends, health care providers, and community systems identified via elicitation work as being related to patients' treatment success (i.e., employment for MMT patients and community-based organizations/case managers for HMC patients). Logistic regression analysis was used to evaluate each stigma process (i.e., enacted α = .901-.939, anticipated α = .872-.898, internalized α = .889-.917) independently for its effects on HIV transmission behaviors. Among MMT patients, increased odds of recent injection drug was significantly predicted by experiencing greater enacted stigma from family and friends (β = .847, CI95% = 1.224 - 4.692). With HMC patients, increased odds of recent non-adherence to antiretroviral therapy was significantly predicted by experiencing greater internalized stigma (β = .129, CI95% = .000 - .259). Future work targeting HIV transmission behaviors may be strengthened by attending to stigma related to patients' drug use history.

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C-066

HEALTH MESSAGES AND HIV TEST ACCEPTANCE IN WOMEN

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Background: In order to maximize HIV testing rates it is important to identify optimal approaches to health messaging about testing.

Methods: Adult women from urban health clinics completed audio, computerized surveys. Data collected included demographics, sexual behavior, and attitudes about HIV testing (e.g., perceived obstacles to testing). Participants were randomized into 1 of 4 groups: 1. information-only control message; 2. 1-sided message (emphasis on benefits of testing); 3. 2-sided message-trivial (acknowledgement of inconvenience, followed by refutation and emphasis on benefits); 4. 2-sided message-serious (acknowledgement of fear of getting a positive test result, followed by refutation and emphasis on benefits). Women were then offered free oral fluid rapid HIV tests, with acceptance/refusal as the outcome variable. Data were analyzed via logistic regression with the control message as the reference.

Results: Of 1919 women recruited (ages 18-64), 20% were Latina, 44% non-Latina Black, and 36% non-Latina White. 60% had a high school education or less. 83% accepted HIV testing. Neither the trivial nor the serious 2-sided message group (acceptance rates = 83% & 82%, respectively) differed from the control group (86%) in test acceptance, but the 1-sided group (80%) had a lower rate of testing than the control (86%): OR = .66 (95%CI = .47-.93). We identified significant moderating variables, with the reactance effect to the 1-sided message most notable for women who came into the study already perceiving high obstacles to testing (OR = .52, 95% CI = .30-.93) and those who had more than 10 lifetime sexual partners (OR = .45, 95% CI = .21-.97).

Conclusions: These results suggest that 1-sided advocacy of HIV testing may have a "boomerang" effect particularly for those individuals who most need to be persuaded to get tested (i.e., those who have pre-existing concerns about testing and those who are most behaviorally at risk for HIV). The lack of an effect for the 2-sided messages may have been due, in part, to the high baseline test acceptance rate in this sample, which created a ceiling effect.

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C-068

COMPARING MEDICATION ATTITUDES AND REASONS FOR MEDICATION NON-ADHERENCE IN PATIENTS WITH MOOD AND PSYCHOTIC DISORDERS

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Introduction: Attitudes towards medication and reasons for non-adherence have been investigated in various psychiatric populations but direct comparisons between diagnoses are rarely made. This study compared medication attitudes and reasons for non-adherence prior to and following treatment in a sample of non-adherent patients with primary Mood Disorders (MD) ($N = 82$) and Psychotic Disorders (PD) ($N = 30$).

Methods: The sample consisted of patients with moderate psychopathology and poor adherence pooled from 3 studies that evaluated Customized Adherence Enhancement (CAE), a modular psychosocial intervention. Attitudes were measured before and after treatment using the Attitude toward Mood Stabilizers Questionnaire (AMSQ), the Drug Attitude Inventory (DAI), and the Rating of Medication Influences (ROMI). Adherence was measured using the Tablets Routine Questionnaire (TRQ).

Results: Patients had negative attitudes towards medication and limited insight into illness prior to treatment yet no significant differences between groups were found. After treatment, MD scored higher than PD on Difficulty with Routines subscale of AMSQ ($t = 2.4(40.1)$, $p = .02$). Repeated Measures MANOVAs showed significant within subject changes on combined attitude scores (Wilks' Lambda $\lambda = .73$, $F(3, 71) = 8.83$, $p < .001$) and TRQ and BPRS (Wilks' Lambda $\lambda = .79$, $F(2, 61) = 8.27$, $p < .01$) but no between subject interaction. MD group was more likely to be assigned the Medication Routines module than PD group ($p = .019$). Both groups reported an increase in adherence to medications.

Conclusions: The study showed similar medication attitudes between MD and PD groups prior to treatment and both groups improved on adherence, attitudes and symptoms following CAE. MD patients reported more difficulty with routines following treatment, which might be explained by PD group's receiving long acting injectables, reducing the complexity of routines. Limitations and ideas for future research are provided.

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C-069

ACADEMIC PERFORMANCE AND ITS RELATIONSHIP TO SCHOOL CLIMATE, RATES OF DEPRESSION, AND ENGAGEMENT IN VIOLENT BEHAVIORS AMONG ADOLESCENT YOUTH

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Research suggests that depression is a risk factor for youth engagement in violent and opposing behaviors. Currently 11% of adolescents in the US are diagnosed with a depressive disorder, with females experiencing greater rates than males. Adolescents spend a notable proportion of their day at school; the need to understand the role of the school environment regarding the treatment of depression is crucial. This is particularly important since research has also demonstrated that school climate factors can impact the learning process and effect academic success. Data on depression, engagement in opposition and violent behaviors, school opportunities for prosocial involvement, and school rewards for prosocial involvement were collected annually from adolescent youth from two middle schools and one high school at four time points (2009 - 2012) on a range of risk behaviors using a validated instrument ($n(2012) = 2,357$; $n(2011) = 2,235$; $n(2010) = 2,378$; $n(2009) = 2,351$). Data were also collected on demographics and academic performance. Across all four years, correlations confirmed a significant positive association between depression, engagement in violent behaviors, and engagement in opposition behaviors, and a significant negative association with youth perception of opportunities and rewards for school prosocial involvement. MANOVAs on each dataset (2009 - 2012) examined differences in these behaviors across levels of academic performance. Overall and for each year, a significant effect of academic grades on rates of depression, engagement in opposition behaviors, engagement in violent behaviors, and school opportunities and school rewards for prosocial involvement was observed. These trends remained consistent while controlling for gender. Findings support the need for school-based interventions to treat depression and subsequently increase academic success. Depression can be treated by focusing on improving student prosocial engagement at school in addition to clinical recommendations for therapy and medication.

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C-070

AFRICAN AMERICANS' NARRATIVES OF STRESSFUL RESPONSES TO RACIAL MICROAGGRESSIONS

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African Americans(AA) have comparatively earlier onset, later diagnosis and under-treatment of illness. Overt racism has decreased, but subtle, interpersonal racism is increasingly common. Racial microaggressions, are defined as daily slights, stereotyping, indignities, exclusions and micro-insults directed, intentionally or unintentionally, toward AAs by Euroamericans. Arguably, accumulated distress of such interactions increases allostatic load, reaching a threshold and causing diverse, serious illnesses. Our narrative study, framed by Critical Race Theory, entailed face-to-face, semi-structured interviews. Ten ($M = 4$, $F = 6$) AA adults (21-62) were presented microaggression examples (overidentification, colorblindness, denying racism, assuming criminality, profusely praising intelligence, etc.) eliciting stories of these interactions. We then asked about physical/mental responses to the incidents, and how participants interpreted and handled them. Narrative thematic analysis revealed stress-involved problems, including musculoskeletal pain, sensing "blood pressure going up," anger, depression, anxiety, GERD, insomnia, hypervigilance, hopelessness, and traumatic stress, attributed to microaggressions. Subjective interpretations were diverse, and overtly racist incidents were also described. Most incidents occurred at work, but consequences and reactions affected home, family, and social relationships, with much time spent in ruminating on the events. Coping strategies included giving white people (WP) "a pass," social avoidance, explaining to WP, laughter and direct confrontation. Participants described having been parented protectively, with warnings that such interactions with Euroamericans are inevitable. This study somewhat unravels the subjective link between subtle racism and attributed physiologic changes explored as a socio-psycho-biological "link" between interpersonal microaggressions and disparities. The consequences of subtle racism are underestimated. If they occur in a health care context, avoidance, non-adherence and distrust may result.

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C-071

PHYSICAL HEALTH AND EXPOSURE TO TRAUMATIC EVENTS: TRAINING MEDICAL PROVIDERS ON THE BEHAVIORAL ASPECTS OF PATIENT CARE

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Introduction: Exposure to trauma (e.g., child abuse, domestic violence, sexual assault, violent crime) often has serious long-term health effects. As such, training healthcare professionals in this area is extremely important. Methods: Self-report survey were collected from patients ($n = 248$) seeking outpatient medical and dental care at a large, urban medical center. The survey included: Trauma Life Events Questionnaire, Center for Epidemiological Studies Depression Scale, Brief Symptom Inventory Anxiety Subscale, SF-36 health survey version. In-depth patient interviews ($n = 20$) were conducted to further understand the role of traumatic events on behavioral coping and healthcare utilization. Results: Many participants reported interpersonal trauma as children (e.g., physical abuse, 20%; sexual abuse 23%) and adults (domestic violence, 28%). Participants also reported violent crime (e.g., murder of loved one, 16%; robbery with weapon, 22%, stranger physical assault, 13%). Exposure to interpersonal violence and violent crime were both significantly correlated ($p < .05$) with physical health-related work impairments [$r(243) = 18$, $r(241) = 13$, respectively] and limitations on social activities [$r(243) = .21$, $r(241) = .18$, respectively]. Many participants experienced natural disasters (41%) and serious motor vehicle accidents (26%), but these were not significantly associated with physical health, work or social limitations. Qualitative patient interviews confirmed the importance of trauma type on physical health and behavioral coping. Survivors of interpersonal violence and violent crime reported negative ways of coping (e.g., smoking, overeating); only survivors of interpersonal trauma felt their history influenced their engagement in routine medical care (e.g., fear that physical touch by a provider would retrigger trauma). Conclusion: Health symptoms and behavioral coping may differ based on trauma type. Implications for provider training will be discussed.

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C-072

RELIGIOUSNESS MODERATES RELATIONSHIP OF NEGATIVE EMOTIONS TOWARDS GOD AND RELIGIOUS ASCETICISM IN EATING DISORDER PATIENTS

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Asceticism is an important psychological trait that has been assessed in eating disorders and has been associated with limited improvement during treatment. Despite the potential importance of asceticism in the spiritual lives of patients, the religious dimensions of asceticism have not been examined. Religious Asceticism is the merging of faith ideals and beliefs about religious virtue through self-punishment. The following study explored Religious Asceticism in newly-admitted eating disorder patients and their emotions toward God. Participants were 64 female patients with a mean age of 24.0 (SD = 9.1) at an eating disorder treatment center in Southern California. Religious Asceticism was found to be positively associated with Anger towards God ($r = .52$, $p < .01$) and Positive Emotions towards God ($r = .61$, $p < .01$). Intrinsic Religiousness moderated the relationship between Religious Asceticism and Anger towards God ($\beta = -1.05$, $t = -2.27$, $p = .03$) so that clients with lower religiousness had greater levels of Anger towards God and Religious Asceticism. However, Intrinsic Religiousness did not moderate the relationship between Religious Asceticism and Positive Emotions towards God ($\beta = -0.14$, $t = -0.4$, $p = 0.66$). These findings indicate that the relationship between Religious Asceticism and negative emotions towards God are dependent on degree of religiousness and suggest negative emotions towards God may be a particularly salient consideration in understanding asceticism in some clients.

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C-073

THE INFLUENCE OF RESILIENCE, OPTIMISM, AND COPING ON QUALITY OF CARE IN DEMENTIA CAREGIVERS FROM LATIN AMERICA

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Dementia caregivers have reduced mental and physical health, but research is beginning to examine the personal strengths of caregivers who thrive in the face of caregiving demands. This study investigated the influence of resilience [Resilience Scale for Adults (RSA)], coping [Sense of Coherence-13 (SOC-13)], and optimism [Life Orientation Test-Revised (LOT-R)] on the quality of care provided [Exemplary Care Scale (ECS)] by 130 dementia caregivers in Argentina and Mexico. A series of regressions suggested that greater resilience was associated with ECS Provide (provision of exemplary care) [$F(5, 124) = 9.14$, $p < .001$, $R^2 = .27$], and RSA Family Coherence was uniquely significant [$\beta = .328$, $p = .002$]. Greater resilience was also associated with ECS Respect (respect for the care-recipient's autonomy and wishes) [$F(5, 124) = 6.70$, $p < .001$, $R^2 = .21$], and again, Family Coherence was uniquely significant [$\beta = .343$, $p = .002$]. Greater optimism was related to ECS Provide [$F(1, 128) = 16.67$, $p < .001$, $R^2 = .12$; $\beta = .339$, $p < .001$] and ECS Respect [$F(1, 128) = 12.05$, $p = .001$, $R^2 = .09$; $\beta = .293$, $p = .001$]. Better coping was associated with ECS Provide [$F(3, 126) = 3.10$, $p = .029$, $R^2 = .07$], with SOC Meaningfulness as uniquely significant [$\beta = .228$, $p = .030$]. Better coping was related to ECS Respect [$F(3, 126) = 6.65$, $p < .001$, $R^2 = .14$], and both Manageability [$\beta = .237$, $p = .039$] and Meaningfulness [$\beta = .236$, $p = .020$] were uniquely significant. Dementia caregivers with high resilience (especially family cooperation), optimism, and coping (particularly the ability to derive meaning from adversity) are more likely to provide exemplary and respectful care. Interventions that bolster these personal strengths may enhance caregiving and ultimately improve care-recipient outcomes.

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C-074

COLLEGE STUDENTS' REASONS FOR DEPRESSION NONDISCLOSURE IN PRIMARY CARE

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Major depressive disorder is a common problem with an estimated lifetime general population prevalence of 16.2% (Barbui & Tansella, 2006). Despite the availability of efficacious treatments, depression remains under detected and undertreated in primary care. Shortcomings in treatment likely stem from many factors, including patients' reticence regarding depressive experiences (Bell et al., 2011; Corrigan, 2004; Menke & Flynn, 2009). The current study expanded existing work (Bell et al., 2011) by examining college students' likelihood of and reasons for depression nondisclosure in primary care. Undergraduates ($n = 108$) read a vignette describing a person with depression and completed measures of disclosure barriers and mental health stigma. Analyses indicated that 26% of respondents would NOT disclose depression symptoms to their primary care providers, and that an additional 13% indicated ambivalence about disclosure. Sixty-two percent of women stated they would disclose depressive symptoms, while only 38% of males stated they would do so ($\chi 2 = 9.42$, df 4, $N = 92$, $p = .051$) Similar to Bell et al., approximately 51% of respondents sanctioned medication fears as a disclosure barrier, while roughly 50% sanctioned uncertainty about how to initiate a depression discussion as a nondisclosure reason. Reports of anger toward the vignette character varied with disclosure willingness ($F(2, 95) = 3.82$, $p < .05$), suggesting that nondisclosers feel more stigma than disclosers ($\eta 2 = .07$). Whereas college students' depression care attitudes may have softened in recent years, many remain hesitant to disclose depression. Primary reasons for nondisclosure include medication fears, stigma, and a lack of clarity about initiating the depression conversation. These results reaffirm the importance of well-prepared primary care providers who initiate depression assessment and discussion and who present patients with information about the full range of treatment options, including efficacious alternatives to medication.

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C-075

WHY DOES PLACEMENT OF ALZHEIMER'S PATIENTS INTO LONG-TERM CARE IMPROVE CAREGIVERS' WELL-BEING? EXAMINATION OF PSYCHOLOGICAL MEDIATORS

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Caregiving of Alzheimer's Disease (AD) patients is associated with chronic stress and elevated depression. Placement of the care receiver (CR) into a long-term care setting may be associated with improvements in caregiver well-being and quality of life; however, the psychological mechanisms underlying this relationship are unclear. This study evaluated the roles of activity restriction and personal mastery in mediating placement-related reductions in caregiver depression. In a five-year longitudinal study of 126 spousal AD caregivers, we used multi-level models to evaluate placement-related changes in depression, activity restriction, and personal mastery in caregivers who placed their CRs into long-term care relative to caregivers who never placed their CRs. The Monte Carlo Method for Assessing Mediation was used to evaluate the indirect effect of activity restriction and personal mastery on post-placement changes in depression. Placement of the CR was associated with significant reductions in depression ($p = .016$) and activity restriction ($p < .001$), as well as increased personal mastery ($p = .012$). Lower activity restriction ($p < .001$) and higher personal mastery ($p < .001$) were associated with reduced depression. Furthermore, both activity restriction and personal mastery significantly mediated the effect of placement on depression. Placement-related reductions in activity restriction and increases in personal mastery are important psychological factors that help explain post-placement reductions in depression. These findings hold implications for future caregiver interventions involving personal mastery and activity restriction, as well as decision making regarding placement of CRs.

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C-076

WEIGHT CYCLING AND BODY DISSATISFACTION IN EMERGING ADULTS

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The transition from adolescence to adulthood is a unique time for the development of weight-related health behaviors. Emerging adults (EA) are not only at risk for weight gain and obesity, but also for body dissatisfaction (BD) and unhealthy weight control practices. Data indicate factors such as perceived societal pressure, self-esteem and weight-related teasing may contribute to the development of BD in EA. Less is known, however, about the effects of weight cycling among this age group, which may be an important consideration in weight control efforts with EA. In this study we examine whether history of weight cycling contributes uniquely to BD in EA, above variables previously demonstrated to be associated with increased BD. A non-treatment seeking sample of 18-25 y/o (N = 588, mean age 20.9 + 1.5, mean BMI 23.7 + 3.7, 71% female, 67.6% non-Hispanic White) completed self-report demographics, height, weight, and validated measures of thin-ideal internalization, perceived sociocultural pressure, weight-related teasing, self-esteem, weight cycling, and BD. A hierarchical multiple regression revealed that after controlling for gender and race, weight status was associated with BD, $F(3, 369) = 37.18$, $p < .001$; Δ R2 = .136. Perceptions of societal standards (thin-ideal internalization and perceived sociocultural pressure) and self-esteem accounted for additional variance in BD, $F(7, 369) = 63.90$, $p < .001$; Δ R2 = .319, $p < .001$. Further, weight cycling contributed unique variance in the model $F(8, 369) = 58.95$, $p < .001$; Δ R2 = .014, $p = .001$. Overall, the final model was significantly related to BD and accounted for 55.7% of the variance. Findings suggest that weight cycling may play a meaningful role in the development of body dissatisfaction among 18-25 year olds; however, future studies should examine this relationship prospectively. Additional research is needed to determine risk and protective factors for the development of body dissatisfaction among EA with a history of weight cycling, and to determine how best to address body image and weight cycling within healthy weight programs targeting this unique age group.

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C-077

HOSPITAL SETTING, TRAINING, AND ATTITUDES TOWARD SUICIDE PREVENTION IMPACT EMERGENCY MEDICINE PROVIDERS' KNOWLEDGE ON SUICIDE RISK FACTORS

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Background: Emergency departments (EDs) are a common treatment setting for behavioral emergencies. Approximately 6-12% of medical patients seeking ED treatment present with co-morbid suicidal ideation. There are currently no evidence-based guidelines for the assessment of ED patients with heightened suicide risk. To better inform suicide risk assessment, this project investigated the impact of workplace and provider factors on attitudes toward suicide prevention and knowledge of suicide risk.

Method: Health care providers (n = 92) from two hospitals (urban academic medical center [n = 57] vs. suburban community hospital [n = 35]) in Wisconsin completed an online survey that assessed providers' demographic information, attitudes toward suicide prevention, and knowledge of suicide risk factors.

Results: Providers at the academic medical center (vs. community hospital; $p = .01$) and physicians/advanced practice providers (vs. nurses/social workers; $p = .01$) reported higher knowledge of suicide risk factors. Half of the sample (52.2%) experienced the suicide of a loved one in their personal life, but this did not impact knowledge of risk factors or suicide prevention attitudes. Across all ED providers, there was a negative relationship between knowledge of risk factors and suicide prevention attitudes ($r = -.38$, $p < .001$).

Conclusion: ED providers' workplace and attitudes toward suicide risk assessment impacted their knowledge of suicide risk factors. Knowledge was higher for providers at the larger, urban ED and for physicians/advanced practice providers. More positive attitudes toward suicide was related to higher knowledge of risk factors across providers. These results underscore the importance of considering contextual factors in the treatment of psychiatric issues in a general medical setting. Implications of findings and recommendations for ensuring adequate knowledge on suicide risk across hospital settings and providers will be discussed.

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C-079

TRANSFORMING CULTURE AND RESEARCH: OPERATIONALIZING CULTURE AND ITS RELATIONSHIP TO HEALTH AND WELLBEING OUTCOMES

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To measure "culture" as a nominal, dichotomous variable reflects superficial and simplistic conceptualization and operationalization of the concept and construct. Consequently, it is not surprising that such analyses finds culture to contribute negligible, explanatory weight to the variance of health outcomes. Such practice renders culture irrelevant to the risk factors known or suspected to impact disease prevalence, morbidity, and mortality in diverse population groups. The nominal approach inadequately measures culture altogether. NIH's OBSSR funded a project to change science when researchers consider culture, a fundamental human process, as a factor in health outcomes. As culture is a process, nominal/dichotomous variables miss scientifically-grounded concepts and methods that account for variations in health outcomes within and across populations. This project provides multiple approaches by which to integrating culture, a dynamic human process, into research. These multiple variables require that we reassess how we frame health issues, how we design interventions, how we measure the impact of interventions, for whom, and why. Each step will require further theorizing and research, but this report provides a first step by providing guidelines and building the foundation needed to pursue this line of inquiry to identify the fundamental role of culture in framing behavior and ways of life that influence mental and physical health and well-being, and hence to increase the positive impact of our interventions.

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C-080

SYSTEMATIC REVIEW OF CONTROL GROUPS IN YOGA INTERVENTIONS

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Comparison groups are essential for accurate testing and interpretation of intervention trials. However, selection of appropriate comparison groups for psychological and behavioral interventions can be challenging. The selection of comparison groups for yoga interventions is particularly difficult because yoga comprises a very heterogeneous set of practices and the mechanisms of effect have not been conclusively established. We use a review of comparison groups used in yoga research to make specific recommendations for future research. Method: We conducted a systematic review of the control and comparison groups used in published randomized controlled trials (RCTs) of yoga. We located 128 RCTs that met our inclusion criteria. Results: 65 RCTs included a passive control and 63 included at least one active comparison group. Active comparison groups comprised non-yogic physical exercise (43%), relaxation/meditation (20%), counseling/psychotherapy (12%), education (16%), and medical interventions (9%). Discussion: The choice of specific control or comparison conditions is informed by both practical and theoretical considerations and strongly constrains the interpretation of study findings as well as the mechanisms through which such effects may be produced. We conclude with recommendations for future research for yoga and, by extension, other mind-body interventions.

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C-081

DOES IT HELP TO SELF-AFFIRM?: A META ANALYTIC REVIEW OF THE EFFECTS OF SELF-AFFIRMATION ON BEHAVIORAL INTENTIONS AND HEALTH BEHAVIORS

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It has been well-documented that focusing one one's important values, attributes, or past actions, a process known as self-affirmation, reduces biased processing of potentially threatening information; however, it remains less clear whether self-affirmation leads to actual changes in behavioral intentions and health behavior. The aim of the present study was to use meta-analytic techniques to quantify the magnitude of the effect of self-affirmation on health intentions and behavior, and to develop an empirical basis for the assumption that changes in intentions arising from self-affirmation should translate into behavioral changes.

A systematic database search was conducted for studies comparing participants who self-affirmed prior to reading a threatening health message relative to those who did not self-affirm. Data from 12 experimental studies were included. The aggregate effect sizes for both intentions and behavior were significant and medium in size (Intentions: $d = .42$, 95% CI = .17 - .67, $p < .01$; Behavior: $d = .35$, 95% CI = .16 - .54, $p < .01$). Moderator analyses indicated that the type of health behavior, measurement of health behavior, type of self-affirmation manipulation, nature of the control condition task, mode of presentation of the health message, and the specificity of the health message did not moderate the effect on health intentions; but, the specificity of the health message moderated the effect of self affirmation on health behavior.

The results suggest that self-affirmation has the potential to help individuals improve a wide array of health behaviors, including high-risk behaviors such as smoking and alcohol use. By providing evidence that self-affirmation has an effect of similar magnitude on behavioral intentions and health behavior, the present review provides a stronger basis for the assumption that an increase in health intentions arising from self-affirmation should translate to a change in behavior than has been present in past research.

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C-083

BEHAVIORAL AND EMOTIONAL RESPONSES TO SUPPORT AND CONTROL AMONG GAY MEN AND LESBIAN WOMEN

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Health-related social support and control are two ways whereby romantic partners can promote healthy eating behaviors, yet research has focused primarily on these types of involvement among individuals in opposite-sex relationships; little is known about the frequency and responses to support and control in same-sex relationships. This study thus examined how often individuals in same-sex relationships received dietary support and control from their partners, and how they responded behaviorally (compliance, resistance) and emotionally (appreciation, hostility, guilt) to such attempts. We further sought to understand how relationship quality moderated these associations. The sample for this study was comprised of 144 gay men and 135 lesbian women in same-sex relationships with a mean age of 34.11 years (SD = 11.7). Results from survey data revealed that lesbian women reported receiving more frequent support and control from their partners compared to gay men (support: 93.3% vs. 90.9%; control: 81.5% vs. 76.4%, respectively). Consistent with previous research, linear regression analyses that controlled for age and BMI revealed that lesbian women responded more positively to their partners' support and persuasion control tactics, and more negatively to their partners' pressure control tactics (range of βs = .26-.63, all ps < .05). In contrast, gay men did not demonstrate a consistent pattern of responses to their partners' support and control attempts, reporting both positive and negative behavioral and emotional responses, regardless of the tactic used (range of βs = .19-.50, all ps < .03). Relationship quality buffered the negative effects and amplified the positive effects of control attempts for gay men (range of interaction βs = -.16–.21, all ps < .04), whereas relationship quality was not important for lesbian women's responses to support or control attempts. Findings from this study may increase awareness of the importance of partners' involvement in eating behaviors among individuals in same-sex relationships.

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C-084

IDENTIFYING DIETARY PATTERNS IN CHINESE ADOLESCENTS USING A VALIDATED FOOD FREQUENCY QUESTIONNAIRE

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Objectives: To identify major dietary patterns for Chinese adolescents.

Methods: At phase I, a validation study was conducted in a random sample of 408 8th graders in Wuhan, China, where nutrient intake estimates from a self-administered, 7-day, 124-food item FFQ were compared to those obtained from multiple 24-hr recalls across seasons. At phase II, the validated FFQ was administered to 1799 students and a factor analysis approach was used to quantify dietary patterns.

Results: At phase I, the energy-adjusted correlation coefficients for reliability of two FFQs were adequate (ranging 0.34-0.6, mean of 0.46), and were similar across seasons. Validity coefficients between FFQ and 24-hr recalls were acceptable (mean of r of 0.32, ranging 0.15-0.73, mean of κ coefficients of 0.48, ranging 0.43-0.6). At phase II, two major dietary patterns were identified from the factor analysis, labeled "sweets-meat" and "vegetable-soy." The "sweets-meat" pattern included food groups/items of sweets, organ/processed/red meat, fast food, poultry, soft drinks, dairy, and fruit. The "vegetable-soy" pattern consisted of vegetables, garlic, and soy products. The items found under our "sweets-meat" and "vegetable-soy" pattern were similar to patterns (i.e. "Western" and "Prudent") reported in other studies. Results of identified patterns were consistent from the analyses of random split-half procedure, further supporting the meaningfulness of our patterns.

Conclusions: Using data from a validated FFQ, a factorial analysis showed two major dietary patterns. As adolescence is an important time for establishing long-term food habits, identifying these patterns may provide insight for targeted interventions to promote healthy eating behaviors and reduce disease risk in the future.

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C-085

ASSOCIATIONS OF BASELINE DEPRESSIVE SYMPTOMS WITH ADHERENCE TO STUDY ASSESSMENTS AND CHANGES IN DIETARY TARGETS IN A HEALTH BEHAVIOR INTERVENTION AMONG WOMEN

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Background: Depressive symptoms can influence adherence to study assessments as well as level of change achieved by study interventions. The aim of this study was to test the relationship of depression to adherence and dietary change among women in a telephone counseling intervention.

Methods: Data from the Women's Healthy Eating and Living Study were analyzed (n = 2,796). Participants were classified as having depressive symptoms by using an established cutoff of ≥8 on the Center for Epidemiologic Studies Depression short-form (CES-D-SF). Adherence was determined by completion of dietary assessments and attendance to clinic visits at 1-year follow-up. Dietary change at 1-year was measured using 24-hour dietary recalls with blood carotenoid levels (umol/L) as a biomarker.

Results: Baseline depressive symptoms in control, but not intervention, participants predicted lower levels of completing dietary assessments (OR = 0.40; 95% CI: 0.23-0.68) and attending clinic visits (OR = 0.52; CI: 0.34-0.81). Within the intervention group, baseline depressive symptoms scores of ≥8 (vs. <8) were associated with smaller changes in total carotenoid levels among (1) participants who were below the median split for carotenoids at baseline (54% vs. 90%; p = 0.0003) and (2) those who were not following dietary guidelines for fruits and vegetables at baseline (i.e., 5-a-day) (40% vs. 62%; p = 0.004). Depressive symptoms were not associated with dietary changes among intervention participants who needed to make smaller changes in their dietary pattern to meet study targets.

Conclusion: A tailored telephone coaching intervention can overcome the effect of depressive symptoms in lowering adherence to study assessments. Such coaching also has the potential to reduce the effect of depressive symptoms on dietary change among those who need to make the most change to achieve dietary targets.

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C-086

PATTERN RECOGNITION APPROACH TO BEHAVIORAL INTERVENTIONS: AN APPLICATION TO A DIETARY TRIAL

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Introduction: Behavioral interventions are typically implemented over time and include multiple components. Patients' responses to intervention components can vary substantially, leading to different outcomes. A fuzzy-model and multiple-imputation-based pattern recognition approach is developed to characterize these variations during a trial and to clarify the efficacy of such interventions.
Method: Our approach was demonstrated using nutritional data from a randomized controlled trial, comparing the efficacy of two interventions to dietary change among participants with metabolic syndrome (N = 240). The two arms follow 1) the American Heart Association (AHA) dietary guidelines that target multiple dietary goals, or 2) a single dietary change that focuses exclusively on increasing fiber. Data were collected at baseline, 3, 6, 12 months after randomization. We characterized participants' response to the intervention using 32 dietary variables, and compared our approach to Gaussian mixture and Bayesian approaches to validate identified patterns. We also examined if these patterns relate to demographics and predicted anthropometric, physiological, and psychosocial outcomes.
Results: Our approach detected 3 district trajectory patterns with varied degrees (High [M/SD]: 51.3/8.5, Medium: 41.5/8.4, Low: 31.4/8.5) in terms of average dietary quality scores over time, and displayed the highest clustering accuracy compared to other two approaches. Each arm has a similar number of participants with each pattern. Employment status, body weight, waist circumference, insulin resistance, HDL cholesterol, and dietary self-efficacy were significantly different among participants with these patterns and their differences are in ordered degrees (small, medium, large) over time.
Conclusion: This new approach uncovers finer and important relationships missed by traditional approaches. Our approach could extend to other behavioral interventions, providing new evidence on varied response patterns that may be clinically important for a targeted intervention.

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C-087

FINDINGS FROM A SECOND YEAR FEASIBILITY STUDY OF A GARDENING AND NUTRITION EDUCATION PROGRAM TARGETING LOW INCOME YOUTH

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The Dan River Partnership for a Healthy Community, a community-academic coalition, has been collectively advancing a community garden initiative for several years. Following initial success of program delivery, the objective of this quasi-experimental study was to explore the effectiveness and program implementation of a theory-driven experiential gardening and nutrition education program to low socioeconomic youth. In partnership with academic researchers, Cooperative Extension, and 4-H, the 8 week program was delivered to 22 youth, primarily African American (91%), ages 8-14 at 3 facilities participating in the USDA Summer Feeding Program. including a housing authority, Boys & Girls Club, and structured summer camp. The matched contact control group included 3 similar sites (n = 71). Outcomes included willingness to try fruits and vegetables (FV), FV self-efficacy, expectations, and knowledge. Implementation indicators included the degree to which the learning objectives were met, (assessed via a 4-point Likert scale; 1 = not met, 4 = met completely), attendance rates, and field notes of facilitators and barriers to implementation. Improvements ($p < 0.05$) were observed for willingness to try FV, expectations for eating FV, and gardening and nutrition knowledge. However, these improvements were also significant in the matched contact control. On average, meeting objectives scored 3.61 (.28) and average attendance was 52%. The structured summer camp had the highest degree of objectives met and the highest attendance rates. Expansion of the program to three sites, and addition of matched control sites, with varying characteristics, has provided insight into organizational factors that are conducive to program implementation. The involvement of staff facilitated lesson delivery, while lack of organizational structure hindered implementation. Future efforts will further engage community partners to interpret findings and identify best practices to effectively engage youth in the area.

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C-088

WEIGHT LOSS INTENTION, DIETARY BEHAVIORS, AND BARRIERS TO DIETARY CHANGE IN VETERANS WITH LOWER EXTREMITY AMPUTATIONS

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People with lower extremity amputation (LEA) have a high burden of obesity. Weight control for people with LEA is imperative to prevent further declines in physical functioning, but may be especially challenging due to physical activity limitations. Consequently, dietary changes may need to take on greater importance. The purpose of this study was to assess the dietary patterns, barriers to healthy eating, and weight loss strategies in this population to guide design of effective weight loss interventions. We conducted a cross-sectional study (n = 150) in Veterans with LEA from the Pacific Northwest. Data were collected from a self-administered mailed survey that asked about their amputation, whether they were currently trying to lose weight, usual dietary patterns, weight loss strategies, and barriers to changing their eating habits. Body mass index (BMI, kg/m2) was estimated based on self-reported height and weight and adjusted for level of LEA. Mean age of participants was 66 years, 37% had an amputation due to trauma, and amputation level was 35% toe/partial foot, 36% transtibial, and 29% transfemoral. Over 75% of participants were overweight or obese. Nearly half reported that they were trying to lose weight, and the % was especially high among those who were obese, were <55 years of age, and had better mental health scores. Data from this study, however, also indicate that despite weight loss intentions, few participants reported following a systematic or comprehensive weight loss plan. More frequently eating lean sources of protein and vegetables were the only 2 dietary behaviors associated with weight loss intention. However, more than half of those trying to lose weight consumed fast food meals or snacks at least 1 time per week and fruit consumption was relatively low. Obesity is a common problem in persons with LEA, despite a desire for better weight control. Research that develops and tests a comprehensive approach to weight loss that addresses barriers faced by people with LEA is needed.

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C-090

RELIABILITY AND CONCURRENT, PREDICTIVE, AND CONSTRUCT VALIDITY OF THE STRATEGIES FOR WEIGHT MANAGEMENT (SWM) MEASURE FOR ADULTS

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This study assessed reliability and concurrent, predictive, and construct validity of the Strategies for Weight Management (SWM) measure. The SWM is a 20-item questionnaire that assesses use of recommended strategies to promote reduced energy intake and increased energy expenditure related to weight management in adults. Baseline and six-month data were collected from 404 overweight or obese adults (mean age = 22 years, 70% female, 68% ethnic minority) involved in a weight loss study that aimed to reduce weight by intervening in diet and physical activity behaviors. Internal consistency was assessed using Cronbach's alpha. Validity tests were assessed using linear regressions to examine the relationship between the SWM and the following outcome measures: 1) weight, 2) diet (i.e., percent of energy from dietary fat; percent of whole grains from total grains; vegetables, excluding legumes; fruit; discretionary oil and solid fat; and added sugar) measured by the Diet History Questionnaire II; and 3) weekly energy expenditure in leisure time physical activity (kcal/wk, min/wk) measured by the Paffenbarger Physical Activity Questionnaire. The results indicate that the SWM has strong internal consistency ($\alpha = 0.89$ for total score, $\alpha = 0.74$-0.85 for the subscales). The SWM subscales and total score predicted select concurrent, predictive, and construct relationships for diet and physical activity outcomes. For example, total score at baseline ($b = -0.20$, $se = 0.09$, $p = 0.03$) and change in total score ($b = -0.39$, $se = 0.08$, $p < 0.001$) consistently predicted percent weight loss, with the exception of concurrent relationships. Because significant predictive and construct relationships with total score and percent weight loss were found, these results suggest that the SWM is a valid measure to assess weight loss strategies. Future research should investigate validity and reliability in other samples.

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C-091

INFLUENCE OF INDIVIDUAL AND ENVIRONMENTAL VARIABLES ON THE RELATIONSHIP BETWEEN BMI AND HEALTH-RELATED QUALITY OF LIFE IN OVERWEIGHT/OBESE ADOLESCENTS

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Introduction: Overweight/obese adolescents are at risk for lower health-related quality of life (HRQOL). These analyses were the first to examine the role of individual and environmental-level variables on the relationship between BMI (kg/m2) and HRQOL in adolescents.
Methods: Linear regressions were performed to conduct mediation and moderation analyses on the relationship between BMI and HRQOL in overweight/obese adolescents (N = 205, mean age = 13, Female = 57%, Hispanic = 77.9%). HRQOL was measured by the Pediatric Quality of Life Inventory. Hypothesized mediators included depression, measured by the Center for Epidemiologic Studies Depression Scale, body image, measured by the gender-specific Body Dissatisfaction subscale of the Eating Disorder Inventory, and self-esteem, measured by the Rosenberg Self-Esteem Scale. Anglo-acculturation, measured by the Short Acculturation Scale for Hispanics-Youth, and environmental perception, measured by parent-proxy report of the Neighborhood Environment Walkability Scale, were hypothesized moderators.
Results: Body image mediated the relationship between BMI and HRQOL (b = -0.34, SE = 0.17, adj R2 = 0.19, p = 0.051), and self-esteem was a partial mediator (b = -0.37, SE = 0.17, adj R2 = 0.24, p = 0.027). Depression was not a mediator. No significant moderation effects were found.
Conclusion: The finding that individual-level factors influenced the relationship between BMI and HRQOL extends previous research. The finding that body image mediates and self-esteem partially mediates this relationship presents new targets for future interventions beyond targeting only BMI.

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C-092

EXPLORATORY AND CONFIRMATORY FACTOR ANALYSES AND DEMOGRAPHIC CORRELATE MODELS OF THE STRATEGIES FOR WEIGHT MANAGEMENT (SWM) MEASURE FOR ADULTS

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Introduction: Weight management behaviors, such as improving diet and increasing physical activity/reducing sedentary behavior, are effective methods to reduce overweight and obesity. Therefore, there is a need for a self-report measure that assesses use of recommended strategies to promote reduced energy intake and increased energy expenditure related to weight management.
Methods: Exploratory (EFA) and confirmatory (CFA) factor analyses were conducted on the Strategies for Weight Management (SWM) instrument, a 35-item questionnaire that assesses use of recommended behavioral strategies for reducing energy intake and increasing energy expenditure to promote weight management in adults. EFA involved data from 404 young adults (mean age = 22 yrs, 70% female, 68% ethnic minority), and CFA involved data from 236 adults (mean age = 42 yrs, 75% female, 84% ethnic minority). Correlate models were used to assess the associations between SWM factor/total scores and demographics using linear regressions.
Results: EFA suggested a four-factor model: strategies categorized as targeting 1) energy intake, 2) energy expenditure, 3) self-monitoring, and 4) self-regulation). CFA indicated good fit of this model (χ2/df = 2.0, CFI = 0.90, SRMSR = 0.06, and RMSEA = 0.07, CI = 0.06-0.08, R2 = 0.11-0.74). The final model included 20 items. Correlate models revealed weak associations between the SWM scores and age, gender, Hispanic ethnicity, and relationship status in both samples with the models explaining only 1-8% of the variance (betas = -0.04-0.29, p < 0.05). The highest associations accounted for only 5-8% change in scores.
Conclusions: These analyses found the SWM shows promising psychometric qualities in two diverse samples. Further research to validate the SWM is underway. Use of the SWM may promote weight management and ultimately provide better understanding of the recommended strategies associated with better weight management.

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Meritorious Poster
C-093

GENDER DIFFERENCES IN THE PREVALENCE OF BINGE EATING AND CARDIOVASCULAR RISK FACTORS

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To date, there have been mixed data regarding gender differences in the prevalence of binge eating disorder (BED). While the prevalence of overweight and obesity is high among individuals with BED, less is known regarding other cardiovascular risk factors, particularly in regard to gender. The current study examined gender differences in binge eating, along with cardiovascular risk factors including overweight and obesity, in a community sample. Participants (N = 435) were recruited across several regions of the United States using online advertisements. The Eating Disorder Diagnostic Scale was used to measure binge eating symptoms. Participants self-reported height, weight, and diagnoses of hypertension and hyperlipidemia. Demographics were as follows: 15.1% African American, 1.2% American Indian/Alaska Native, 7.4% Asian American, 5% Biracial/Multiracial, 64.7% Caucasian, 6.5% Hispanic/Latino, 0.2% Native Hawaiian/Pacific Islander. Participants ranged between18-72 years old (M age = 33.4,SD = 13.5). The sample was 62% female.
In total, 13.3% of the sample endorsed binge eating symptoms. Approximately 6.8% of the sample met criteria for BED; 6.5% endorsed subclinical symptoms. The range of BMI for the sample was 16.5-68.4 (M = 27.5,SD = 7.7). More than half of the sample was above a healthy weight (28.7% obese, 27.7% overweight). Although women reported significantly higher levels of binge eating symptoms than men (t = -1.95,p < .05), men had higher BMIs than women (t = 2.3, p < .05). Men also reported higher rates of hypertension (χ2 =17.8,p < .000), and hyperlipidemia (χ2 =14.2,p < .000).
Contrary to expectations, binge eating status did not cluster with cardiovascular risk factors. These data suggest that vulnerability to some weight-related syndromes may differ by gender. Additional research is needed regarding the psychological and physiological consequences of binge eating symptoms among women. Further investigation may determine if differential screening processes for men and women in medical settings may help target appropriate behavioral medicine interventions.

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C-094

THE MEDIATING ROLE OF COGNITIVE AVOIDANCE IN ANXIETY AND BINGE EATING SYMPTOMS

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Theory suggests negative affect is a key determinant in the development and maintenance of binge eating. Further, some suggest binge eating may function through a process of cognitive-avoidance to limit the extent to which features of negative affect, such as anxiety, may appear salient. The current study hypothesizes that the relation between binge eating symptoms and anxiety will be mediated by cognitive avoidance. The sample (N = 308) completed the anxiety subscale of The Depression Anxiety and Stress Scales, the White Bear Symptom Inventory, and the Eating Disorder Diagnostic Scale online. Approximately two-thirds (65%) of the sample identified as Caucasian; one third identified with one or more ethnic or racial minority groups. Other demographics included M age = 33.4,SD = 13.5, 62% female.
Anxiety (M = 7.56, SD = 8.15) in this sample was higher compared to non-clinical volunteers, and classified in the mild range. Binge eating symptoms were also higher compared to community-based samples. Cognitive avoidance (r = 0.30, p = 0.000) and anxiety (r = 0.33, p = 0.000) were significantly positively related to binge eating symptoms at medium effect sizes, respectively. A hierarchical regression analysis, following Baron and Kenny's recommendations for mediation, was performed. The model controlled for differences in binge eating by sex. Anxiety was the first hypothesized variable entered, and demonstrated a significant main effect (β = 0.32, p = 0.000, f2 = 0.12). Cognitive avoidance was entered second as the mediator (β = 0.19, p = 0.004, f2 = 0.14). After entering cognitive avoidance, anxiety experienced a reduction in beta weight, but remained significant (β = 0.24, p = 0.000). A Sobel test supported partial mediation (2.85; p = 0.004). These data suggest that although cognitive avoidance may have an important role in binge eating, it does not completely account for the impact of anxiety. Additional research is needed to examine whether cognitive avoidance may have particular importance in the relation of anxiety and binge eating for subgroups of individuals (e.g., women).

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C-095

INFLUENCE OF BASELINE PSYCHOSOCIAL FUNCTIONING ON WEIGHT LOSS AMONG OBESE ADULTS

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Research suggests that psychosocial functioning is associated with weight loss success. Yet, few studies have studied the impact of socioemotional functioning at higher BMIs. Even fewer have examined this among patients receiving intensive medical intervention (IMI). The Heads Up Demonstration Project is evaluating an IMI for people with BMI 33-60 kg/m2. Phase 1 of the IMI consists of a 16-week 800-900 kcal liquid low calorie diet (LCD). This study examined the relationship between baseline psychosocial functioning and weight loss at LCD end.

All participants ($n = 228$, 82% female, 57% White, BMI = 45.48 + 5.86 kg/m2) are insured by the Louisiana Office of Group Benefits. Psychosocial variables were: quality of life, depressive symptoms, and the emotional influence of food. Total weight loss was 14.2 + 5.31% at the end of the LCD. There were significant main effects for race ($p < .05$) and gender ($p < .0002$), but a non-significant interaction. Pairwise comparisons revealed White males had significantly greater weight loss than White and Black females ($p < .0008$; $p < .0001$). White females and Black males had greater weight loss than Black females ($p < .0001$; $p < .009$). Correlation analyses revealed significant associations between percent weight loss after 16 weeks and level of disinhibition ($r = 0.12$, $p < 0.05$) and restraint ($r = -0.14$, $p < 0.03$) for eating as measured by the Three Factor Eating Questionnaire. Findings suggest that higher pre-treatment overeating was significantly associated with more weight loss at the end of the 16 week LCD; those reporting less restraint at baseline (e.g., unable to eat less than desired) also lost more weight. The results appear to conflict with control of eating; a behavior necessary during the LCD phase. The weight loss outcomes may be explained by recent evidence indicating restrained eaters do not eat less than unrestrained eaters. Additional explanations and analyses will be explored.

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C-096

BARIATRIC SURGERY: ETHNIC DIFFERENCES IN POST-SURGICAL EXCESS WEIGHT LOSS

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Objectives: Ethnic minorities have higher rates of obesity and lose less excess weight than Whites following medical and surgical weight loss interventions. The objectives of this study were to examine ethnic differences in weight loss surgery (WLS) outcomes and to explore ethnic differences in appointment attendance and insurance type. Methods: In this study 250 individuals were evaluated for WLS at a large medical center (Age, $M = 46.3$; White 66%; Black 32%; BMI, $M = 50.1$). One-year post-operative data was available for 146 patients. Linear regression analyses examined the relationship between race, percent excess weight loss (EWL), insurance type, and post-operative appointment attendance. Results: Results indicate significant ethnic differences in EWL. Ethnic minorities had significantly lower EWL than Whites after controlling for insurance, education, and age ($R2 = .176$,$=-.227$, $p = .007$). Insurance type was found to be related to EWL ($r = .200$, $p = .017$). Insurance type was also related to race with more ethnic minorities having federally funded insurance ($r = -.175$, $p = .007$). There were no significant differences between ethnicity and post-operative appointment attendance ($R2 = .039$,$=-.070$,$p = .272$). Conclusions: Although WLS is still an effective intervention for ethnic minorities, they lost significantly less weight than Whites. Interestingly, factors such as compliance with post-operative attendance and insurance type did not account for the ethnic differences in weight loss. Findings suggest unique characteristics associated with ethnicity may explain these differences and future research should explore possible cultural differences in diet and metabolic factors which may contribute to less weight loss in minority groups.

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C-097

PREVALENCE OF OBESITY AND SMOKING AMONG WOMEN OF CHILDBEARING AGE (18-29 YEARS) UTILIZING 2007-2008 NHANES DATA

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Obesity trends are stabilizing even though Americans overall are not becoming skinnier. Obesity is directly linked to varied chronic problems specifically diabetes the seventh leading cause of death in the United States. Smoking is also a problem linked to severe health problems for the smoker and those living with the smoker. Although a significant drop in the smoking rate has been achieved in the past two decades, about one of five Americans continues to smoke. The health issues that result from obesity (e.g., diabetes) plus smoking often lead to a lethal combination. Obesity linked with diabetes plus smoking is specifically problematic for women of childbearing age. The deleterious effects on mothers and babies can range from poor diabetic control to small for gestational age babies.Therefore, the aim of this study using the 2007-2008 National Health and Nutrition Examination Survey (NHANES) targeting women ages 18 to 29 years was to assess the prevalence of: 1) obesity using the Body Mass Index categories, and 2) self-reported current smoking. Utilizing SAS (ver.9.3), descriptive statistics were generated for 542 women. Approximately 34.16% ($n = 185$) of the women were classified as obese (> 30 BMI), 23.86% ($n = 129$)as overweight(<25 but less than 30BMI) with 16.4%, ($n = 89$) of the women current smokers. Among those women with current smoking data ($n = 88$), 39.8% were obese ($n = 35$); and 31.9% ($n = 28$) overweight. The prevalence of obesity in this group is approximately 58% while smoking prevalence was lower. However, prevalence of obesity among those overweight or obese who smoked was 72% exposing these women to a greater risk for diabetes/smoking/problems associated with childbearing Therefore, intervention strategies are needed to address the dual risks of obesity and smoking in women 18-29 years of age.

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C-098

INDIVIDUAL AND HOUSEHOLD PREDICTORS OF ADOLESCENTS' ADHERENCE TO A WEB-BASED INTERVENTION

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PURPOSE: Adherence to lifestyle behavioral modification interventions, while understudied, is one of the most important issue to address as these interventions will not work if participants are not adhering to them. This study examined the individual and household factors that predicted adherence to a web-based lifestyle familial intervention targeted at overweight/obese adolescents and their families.

METHODS: A total of 160 overweight/obese adolescents and one of their parents enrolled into an 8-month web-based lifestyle modification intervention. Individual factors included constructs from the Theory of Planned Behavior (attitudes, subjective norms, and perceived behavioral, and expectation) and from Self-Determination Theory (relatedness, autonomy support, and autonomous motivation). Household factors included measures of food/beverage availability and parenting practices, styles and environment. Structural equation modeling was used to examine predictors of adherence.

RESULTS: Adherence to the intervention was 38.1% (Standard Deviation (SD) = 32.8%) in the first 4 months and 18.0% (SD = 24.2%) in the last 4 months. We explained 26% of the total variance in adherence, of which 18% was accounted by some of the individual and household factors and the remaining was accounted by income. Both autonomous motivation and parenting practices (i.e., breakfast practices) directly predicted adherence. As well, relatedness and autonomous motivation indirectly predicted adherence via autonomous motivation. In addition, household income moderated these effects.

DISCUSSION: Our findings support the utility of Self-Regulation Theory in predicting adherence but also highlight the important role of household environment in facilitating change in behaviors. Both individual and household factors should be targeted for improving adherence to lifestyle behavior modification interventions targeted at adolescents.

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C-099

MESSAGES COMMUNICATED BY MOTHERS ON WEIGHT OR WEIGHT-RELATED BEHAVIORS TO ADULT DAUGHTERS

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Given that obesity clusters in families, particularly among mothers and daughters, learning how families talk about weight-related issues is important for promotion of communication that supports attitudes and behaviors leading to healthy weight-management. This study conducted in-depth interviews with fifteen overweight and adult daughters to gain their perspectives on the topic of mother-daughter communication on weight or weight-related behaviors. Accounts from daughters revealed that when mothers worked to manage their weight, daughters sought and followed their mothers' advice on eating and exercise. Moreover, daughters with mothers who similarly engaged in weight management behaviors perceived their mothers' messages related to weight as supportive. An important element of the mother-daughter relationship was open communication where the topic of weight management was discussed frequently and explicitly. Doing so allowed daughters to rely on their mothers for motivation which came in the form of supportive statements consisting of specific recommendations on weight management practices, encouragement to attempt or continue weight management practices, empathy with the struggle of managing weight, and affirmation of practices conducive to weight management. Results from this study have implications for dyad-based nutrition and physical activity interventions for women.

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C-100

RELATIONSHIPS BETWEEN MEDICAL ILLNESS AND MOOD IN A BARIATRIC POPULATION

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Approximately 1/3 of adults are obese and this is the 2nd leading cause of preventable death. An aggressive approach for treating obesity is bariatric surgery. The present study examined relationships between medical illness and previous weight loss attempts via the Weight & Lifestyle Inventory (WALI) and overall levels of anxiety and depression. It is postulated that those with more medical issues may report higher levels of anxiety and/or depression which may impact prior weight loss attempts. As a part of a pre-surgical evaluation, 133 subjects completed the WALI and the HADS. Subjects were 20-64; 55% Caucasian with a mean BMI of 45.3 kg/m2. 45% had a history of psychological problems, 20% endorsed depressive symptoms, 7% had moderate symptoms of depression and 10% reported moderate - severe anxiety on the HADS. 100% report having at least 1 medical diagnosis; 64% report having 4 or more. 8% report taking at least 1 medication, 16% taking 2 medications, 17% report taking 3 medications and 48% report over 4 medications. Results indicate there are correlations (<.01) between psychological issues and depression, hopelessness and loss of interest. Correlations (<.01) were found between depression, loss of interest and hopelessness. There was a significant correlation (<.01) between the depression score on the HADS-D and # of medical problems, # of meds listed and with the HADS-A. Results further indicate that there are correlations (<.05) between # of medical problems and history of psychological issues, depression, hopelessness and loss of interest. Correlations (<.05) indicate those taking more medications are more depressed than others. Results indicate those with more medical issues and more medications may also be experiencing higher levels of depression and anxiety. There was no significance between # of weight loss attempts and any psychological variables, # of medical problems or # of medications taken. It may be that this population reports higher levels of prior weight loss attempts to look favorable while seeking approval for surgery.

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C-101

SMARTPHONE-DELIVERED INTERVENTIONS FOR BINGE EATING DISORDER

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Binge eating disorder (BED), characterized by recurrent episodes of overeating and a sense of loss of control, is associated with a variety of health concerns, psychiatric comorbidities, and functional impairments. While Cognitive Behavioral Therapy (CBT) can be an effective treatment for many patients with BED, a large percentage of patients continue to engage in regular or episodic binge eating after a full course of treatment. Smartphone applications (apps) may be particularly well-suited to enhance CBT for BED, due to the capability of apps to collect information about binge triggers and episodes in patients' natural environment (Ecological Momentary Assessment; EMA) and to provide interventions in the moment of an urge (Ecological Momentary Intervention; EMI). With the aim of developing an app to enhance CBT for BED using EMA and EMI, our team systematically reviewed current therapeutic apps for eating disorders (EDs), and conducted focus groups with a diverse group of patients with BED (n = 10), and experienced clinicians (n = 10) to obtain feedback on a prototype of an app designed to enhance CBT for BED. Our review found that no apps currently exist specifically for the treatment of BED. Three apps that that are geared for ED treatment provide features such as learning modules and capability to self-monitor, but do not utilize EMA or EMI. Focus groups showed that patients valued features that utilized advancements in smartphone technology (e.g., reminders to self-monitor, provision of coping skills upon request). Clinicians and patients agreed that the use of EMA would provide valuable information about binge triggers and episodes. Ability to customize all aspects of the app (e.g., timing of prompts to record, personalized interventions) were emphasized as essential features by patients and clinicians. Overall, patients and clinicians believed EMA and EMI features would directly facilitate behavior change if incorporated into a therapeutic app. A thematic analysis of focus group feedback and implications for app development will be discussed.

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C-102

A CULTURALLY-RELEVANT APPROACH TO RECRUITMENT OF AFRICAN AMERICAN FAMILIES IN PROJECT FIT

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African Americans face disproportionally higher prevalence rates of overweight and obesity and are at a greater risk for developing obesity-related chronic illnesses. Despite the need for effective interventions, recruiting African Americans for weight loss interventions is challenging. Adopting a culturally-sensitive ecological recruitment approach may address this challenge. This study describes recruitment strategies utilized by the Families Improving Together (FIT) for Weight Loss randomized controlled trial. Project FIT evaluates a culturally-tailored, motivational plus family weight loss program versus a comprehensive health education program on reducing weight in African American adolescents. To date, 93 families have enrolled in Project FIT. Adolescents in the sample (65% female, Mage = 13.6 years, SD = 1.8 years) were overweight or obese, with an average BMI percentile of 96.7 (SD = 3.3). Adults in the sample (93% female) were, on average, 42 years (SD = 7), with most identifying as mothers (89% mothers, 7% fathers) and with 53.3% having an annual income of $39,000 or less. Recruitment efforts were guided by a culturally-relevant ecological systems model to build connections within the African American community. Partnerships were developed with local organizations, including churches, healthcare providers, and school districts. To further increase awareness within the community, advertisements were aired on culturally-targeted radio stations. Recruitment also included efforts to reach families at festivals and events that were attended by a broad demographic of families. Community partnerships and culturally-relevant recruitment strategies were found to be most effective, yielding 41% and 40% of the families who enrolled in FIT, respectively. Other recruitment efforts around festivals and events yielded 17% of enrolled families, with flyers accounting for an additional 2% of families. These recruitment outcomes support the use of culturally-relevant approaches to recruiting underserved populations.

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Meritorious Poster
C-103

A SOCIAL CLIMATE AND BEHAVIORAL SKILLS APPROACH TO PROCESS EVALUATION: THE FAMILIES IMPROVING TOGETHER (FIT) FOR WEIGHT LOSS TRIAL

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Process evaluation is designed to inform program implementation and may lead to more effective weight loss program delivery for youth. The present study demonstrates how theory was used to guide the assessment of dose (completeness of program delivery) and fidelity (extent to which program is delivered as intended) in the Families Improving Together (FIT) for weight loss randomized controlled trial. Project FIT is evaluating a culturally tailored, motivational plus family weight loss (M + FWL) program versus a comprehensive health education (CHE) program on weight loss in African American adolescents. To date, 93 overweight or obese youth (65% female, M age = 13.6 ± 1.7 yrs) and their parents (93% female, annual income 53.3% ≤ $39 K) have enrolled. Social Cognitive, Self Determination and Family Systems theories guided the conceptualization of essential elements for the facilitator and group interactions related to developing a positive social climate and behavioral skill building. An observational rating tool was used to assess implementation of group sessions by trained observers. Dose was rated using items (0 = no, 1 = yes) pertaining to delivery of program components. In the M + FWL program, items (1 = none to 4 = all) assessed facilitator and group fidelity to climate based and behavioral elements. A priori criteria were set at ≥75% for dose and ≥3.0 for fidelity. Preliminary data indicate acceptable dose of program components (100% in M + FWL and CHE) and high fidelity (facilitator communication = 3.7 ± 0.3; communication modeling = 3.9 ± .10, autonomy support = 3.5 ± 0.4; social support = 3.3 ± 0.5; positive group climate = 3.3 ± .3; behavioral skills = 3.3 ± 0.6). This study provides an innovative framework for assessing program implementation of climate-based and behavioral theoretical elements for weight loss programs for underserved, minority families.

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C-104

BODY IMAGE DISSATISFACTION PREDICTS WEIGHT LOSS IN THE SMALL CHAN GES AND LASTING EFFECTS (SCALE) WEIGHT LOSS TRIAL

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Background: Body image dissatisfaction has been shown to motivate engagement in weight loss efforts. However, data are lacking on the relationship between body image dissatisfaction and actual weight loss among obese adults. Methods: The SCALE trial is an ongoing 1 year behavior change weight loss study among 410 Black and Hispanic adults with a BMI ≥ 25 kg/m^2 recruited in New York City. Participants were asked to identify their current and ideal body size at study enrollment using the Stunkard figure rating scale, a scale of 9 human silhouettes ranging in size from underweight to morbidly obese. Body image dissatisfaction was calculated as the difference between the numbered Stunkard figure identified as ideal and current body size (score > 0 indicated a desire to be thinner). Weight loss was calculated as the difference between weight measured at study enrollment and study close-out. A dichotomous weight loss variable was defined as weight loss or no weight loss. Students t-tests were used to analyze the difference in mean values of continuous variables. A multivariate logistic regression model was used to assess the relationship between body image dissatisfaction and the dichotomous weight loss variable adjusted for age, gender and race/ethnicity. Results: To date 110 participants have completed the SCALE trial (90% women, 51% Black, 59% Hispanic, mean BMI at enrollment 33.3 kg/m^2). Participants who lost weight at study close-out had significantly greater body image dissatisfaction at study enrollment compared to participants who did not lose weight (body image dissatisfaction 2.58 vs. 2.00, p = 0.02). In a fully adjusted logistic regression model, for every 1 unit increase in body image dissatisfaction participants had a 47% increased odds of weight loss (p = 0.04). Conclusion: In interim analysis of SCALE data, participants who lost weight had greater body image dissatisfaction at study enrollment compared to those who did not lose weight. Our data suggest that perception of current and ideal body size among overweight/obese adults may predict weight loss success.

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C-105

WEEKDAY AND WEEKEND DIFFERENCES IN ENERGY INTAKE AND EXPENDITURE AMONG WEIGHT LOSS PARTICIPANTS

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The present study examined patterns in dietary intake and physical activity among overweight and obese adult weight loss participants, and explored whether these differences were associated with weight loss. Self-monitoring data (i.e., calories from breakfast, lunch, dinner, alcoholic and nonalcoholic beverages, snacks, total caloric intake and expenditure, activity expenditure, minutes exercised, and caloric deficit) were obtained from 90 behavioral weight loss program participants. On weekends (Friday through Sunday), adults consumed more calories from breakfast, dinner, and alcoholic beverages, consumed more total calories per day, and burned fewer calories. Greater caloric intake on weekdays and weekends was associated with less weight loss. Calories expended from exercise, as well as overall energy expenditure, were not associated with weight loss. Findings suggest that despite significant differences in eating patterns between weekdays and weekend days, it is the total calories consumed, not differences in weekday and weekend eating patterns or individual meals, snacks, and beverages, which is important for weight loss.

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C-106

THE ROLE OF FUTURE THOUGHT IN WEIGHT CONTROL

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To attain body image satisfaction, college students are willing to use unhealthy weight control strategies despite risking their future health. The value placed on future versus the immediate present may impact daily health-related behaviors. The aims of this study were to assess potential predictors of healthy and unhealthy weight control strategies and the role of future thought in the association between body image and health behavior.

College students (N = 209; Mage = 21.12, SD = 3.942; 42.6% male; 84.7% Hispanic) completed measures assessing demographics, weight control and body change strategies, body image importance and satisfaction, and temporal orientation. Inferential analyses included two hierarchical regression models with healthy dieting strategies and eating practices as the dependent variables, gender and weight as control variables in the first step, body image constructs in the second step, and temporal orientation in the third step of model 1 and 2.

In model 1, greater likelihood of using healthy dieting strategies was associated with being female (B = 1.74, p = .045) and increased weight (B = .020, p = .057) in step 1, lower body satisfaction (B = -.862, p = .002) and greater body image importance (B = .128, p = .021) in step 2, and marginally associated with lesser immediate orientation (B = -.195, p = .055) in step 3. In model 2, greater likelihood of binge eating was associated with greater body image importance (B = .134, p = .054) in step 2 and greater immediate orientation (B = .278, p = .031) in step 3.

Since time perspective accounted for significantly more variance than body image in predicting the use of healthy dieting strategies, future research should further explore cognitive processes associated with weight control. With the increase in obesity prevalence in the U.S. and among Hispanic populations, further exploration of cognition may be warranted as these types of cognitions may impact the adoption of healthy or unhealthy weight control practices in order to achieve body satisfaction.

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C-107

DO DEMOGRAPHIC VARIABLES AND HEALTH LOCUS OF CONTROL PREDICT CHOICE OF WEIGHT LOSS INTERVENTION?

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Approximately 70% of United States adults are considered overweight or obese. Weight loss interventions are essential to improving overall health and reducing the medical, psychological, and financial consequences commonly associated with obesity. Behavioral weight management and bariatric surgery represent two effective, yet distinct, options for treatment-seeking obese individuals, although little is known about the factors that predict the decision to pursue one over the other. The aim of this study was to determine if demographic variables and health locus of control, two logical predictors of weight loss intervention choice, impact obese patients' decisions regarding treatment.

Forty obese individuals ($M = 33$ years) pursuing bariatric surgery and 39 individuals ($M = 45$ years, pursing behavioral weight management were recruited through treatment programs in an urban northeast city and completed measures of demographic information and HLOC. Independent t-tests found that behavioral weight loss patients were younger in age ($t(2, 77) = -2.0$, $p = .04$), had lower BMI ($t(2, 77) = 8.6$, $p > .001$), and fewer comorbidities $t(2, 77) = 3.3$, $p = .002$) compared to pre-bariatric patients. No differences were found for gender, age of obesity onset, and number of previous weight loss attempt types. A hierarchical logistic regression was used to determine if HLOC dimensions predicted weight loss intervention choice, while controlling for age and obesity-related variables. Results indicated that BMI ($B = -.42$, $p < .001$) and external-others HLOC ($B = 42$, $p = .03$) were significant predictors of intervention choice, while internal HLOC, external-doctors HLOC, and external-chance HLOC were not. Findings suggest that patients pursuing behavioral weight management may depend more on the external support of important others for weight loss compared to patients pursuing bariatric surgery. Findings also highlight the importance of including external HLOC dimensions when examining behavior change.

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C-108

WEIGHT HISTORY, PHYSICAL, AND MENTAL HEALTH: DOES GENDER MATTER?

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Objective: To examine potential gender differences among weight-related behaviors, physical, and mental health in an adult, treatment-seeking population. Method: Overweight and obese participants entering into a weight loss study ($N = 402$; 48.4 ± 11.9 years; 62% women) completed baseline questions regarding weight history, health behaviors, physical and mental health, and associated functional impairment. Results: 90% of both male and female participants rated their biological parents as slightly or very overweight. Both groups reported variable self-weighing frequencies (avg >1x/week) and similar average highest/lowest ever weight ranges (~72 lbs; men:247/174; women:209/137). However, women reported an earlier onset of overweight (25 ± 13.8 vs 28 ± 14.2), more weight cycling ($p < .05$), and more rapid weight regain than men. Women also reported a greater frequency of physically and mentally unhealthy days per month (4 vs 3 days and 5 vs 3 days, respectively) and greater functional impairment attributed to these concerns (8 vs 6 days) than men. Further, women were nearly 3 times as likely to report frequent mental health distress than men (11.5% vs 4.5%). Conclusion: Important differences exist among men and women regarding weight history, health behaviors, physical, and mental health that should be explored at baseline, as they may contribute to treatment and weight loss maintenance issues in treatment-seeking adults.

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C-109

5 KEYS FOR HAPPY, HEALTHY FAMILY EATING: BRIDGING THE RESEARCH-PRACTICE GAP IN CHILDHOOD OBESITY PREVENTION BY PARTNERING WITH PARENTS AND COMMUNITY STAKEHOLDERS

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Previous research suggests that parents may play a complex role in childhood obesity, with parental over-control of eating putting a child at particular risk for increased weight. Interventions to reduce such control have been developed, yet a research-practice gap exists in which recruitment of parents for interventions has proven challenging. Using a previously studied intervention ("5 Keys") to reduce parental over-control of eating as a model obesity prevention program, the current study was comprised of two inter-related sub-studies. The aim of the first was to bridge the research-practice gap by building community-research partnerships and interviewing parents and community stakeholders to help elucidate barriers to parent participation in obesity prevention interventions. All processes were carefully tracked and interviews were qualitatively analyzed to identify prominent themes. The aim of the second was to examine the effectiveness of 5 Keys in the sample successfully recruited for the study. Measures given at baseline and post-treatment assessed change in parental over-control of eating and parent satisfaction with the intervention. In the first study, 11 collaborations were built and 30 interviews were conducted. Key themes regarding parents' hesitation to participate in obesity prevention initiatives were: lack of time; and desires for "convenient", family-based interventions. In the second study, 10 overweight parents completed the 5 Keys intervention, with four demonstrating clinically meaningful reductions in parental pressure to eat and mean satisfaction with the intervention calculated as 27.0 ± 5.54 out of a possible 32. Recommendations are made to help researchers engage with community partners and parents in refining obesity prevention interventions that can be disseminated in community settings.

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C-110

PERCEPTIONS OF ROLE MODELS AND NORMS FOR HEALTHY WEIGHT

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Background. Social norms and role models are important for understanding health behavior changes. Descriptive norms predict behavior when injunctive and subjective norms are strong. Limited research has examined these factors in relation to healthy eating and physical activity (PA). Methods. Incoming college freshmen ($N = 99$; mean age = 18.0 years; 62% female; Mean BMI = 23.0 ± 4.4) were recruited via electronic methods to complete an online survey. Questions included height and weight, role models for healthy eating and physical activity (PA), social acceptability of healthy and unhealthy behaviors, and perceptions of peer weight status. Results. Descriptive Norms: Incoming freshmen overestimated the percent of current undergraduates that were underweight (13.5 vs. 4.8), overweight (23.6 vs. 19), or obese (8.2 vs. 6) and underestimated the number of current undergraduates of normal weight (54.7 vs. 70.2). Subjective Norms: 9.5% said their closest friend was overweight, with 75% reporting having at least a few friends who trying to lose weight. Injunctive Norms: When asked about perceptions of healthy and unhealthy targets, 59.2% reported it was socially acceptable to sit > 6 hrs/day, do < 150 minutes of PA/week (54.2%), drink high calorie beverages > 1/week (70.2%), not eat breakfast (63.1%), eat high fat snacks (60.1%), have quick-order foods > 2/week (59.2%), and to not eat 5 fruit/vegetables/day (52%). Role Models: The top three reported role models for healthy eating were Friends (31%), Mother (26.2%), and Celebrity (13.1%). For PA, the top three role models were Friends (35.7%), Celebrity (17.9%) and Siblings (15.5%). Discussion: Incoming college freshmen report Friends and Celebrities as their most preferred role models for both healthy eating and PA. More than ½ of the students reported it was socially acceptable to engage in unhealthy behaviors and underestimated % of future peers who are of normal weight. Further studies are needed as to changes in these role models throughout college, as well as ways to alter perceptions to form more realistic norms.

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C-112

INCENTIVE DESIGNS FOR WORKSITE WELLNESS PROGRAM ENGAGEMENT

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Background: Worksite health and wellness programs help employees make healthy lifestyle changes. Employers often use carrot or stick approaches to encourage engagement including direct payments or increased medical premium contribution for participation. The incentives are designed to increase employee completion of biometric screenings, health assessments, and lifestyle coaching.
Methods: This study compared employee engagement in telephone coaching as a function of the incentive design at two large U.S. companies of similar employee size and geographic distribution. Company A's (Co-A) wellness program incented coaching for all employees with $150 payable immediately in a cash gift card. Company B's (Co-B) wellness program targeted employees at highest risk (i.e., cholesterol ≥ 240, blood pressure ≥ 140/90) and used a punitive incentive strategy of $300 paid in the future via reduced contributions for medical coverage. Study inclusion criteria were U.S. employees age 18-65, eligible to receive wellness benefits throughout the 2012 benefit year, and completing both a HRA and biometric screening. This resulted in a sample of 5,174 at Co-A and 6,635 at Co-B. The study primary outcome was completing one or more sessions of lifestyle coaching.
Results: Engagement in coaching was higher for Co-A than Co-B (44.6% vs. 8.9%, $\chi2 = 1995.3$, $p < .001$, OR = 8.2). Fewer employees at Co-A with high risk cholesterol engaged in coaching compared to Co-B (44.6% vs. 54.9%, $\chi2 = 6.75$, p = .009, OR = .66). However, more Co-A employees with high blood pressure engaged in coaching compare to Co-B (41.3% vs. 34.8%, p = .053). Co-A engaged more obese employees compared to Co-B (43.7% vs. 13.9%, $\chi2 = 260.5$, $p < .001$, OR = 4.8), although obesity was not directly targeted at either company.
Conclusions: The population approach to engagement combined with more immediate incentives, resulted in more overall engagement and comparable engagement of high-risk employees compared to a targeted high-risk approach. In addition, the population approach engaged a much higher proportion of employees not considered high-risk, but who may still have elevated risk factors.

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C-114

LINGUISTIC PATTERNS OF BEREAVED PARENTS DURING PARENT-PHYSICIAN FOLLOW UP MEETINGS: AN ACTOR-PARTNER INTERDEPENDENCE ANALYSIS

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To investigate potential benefits of follow-up meetings between physicians and bereaved parents after the death of a child in the pediatric intensive care unit, we examined associations between parents' word use during the meetings and their perceptions of the meetings. Positive coping has been related to the use of positive emotion words (PEW) and cognitive process words (CPW) (Pennebaker, 2003). Thus, we expected parents' perceptions of the meeting (how helpful it was and whether it would help them cope with the death) to be related to their own and their spouse's use of PEW and CPW. We analyzed transcripts of video recordings of 35 follow-up meetings (54 bereaved parents and 23 physicians) held 3.4 (±1.5) months after the child's death. Transcripts were divided into five equal time segments. Using Linguistic Inquiry Word Count (LIWC) software, we assessed how many PEWs (e.g., "love," "nice") and CPWs (e.g., "cause", "ought") occurred in each segment. Parents reported their perceptions of the meetings on a survey conducted within a week of the meeting. We used responses to two items ("the meeting was helpful" and "the meeting will help me cope with the death") as dyad-level covariates in a longitudinal Actor-Partner Interdependence Model to model word use change over time. Results showed that parents' word use was not associated with their own perceptions and mothers' word use was not associated with father's perceptions. However, fathers' PEW was positively associated with mothers' helpfulness perceptions and negatively associated with mothers' coping perceptions. Fathers' CPW was negatively associated with mothers' helpfulness perceptions and positively associated with mothers' coping perceptions. In summary, parents' word use was not related to their own perceptions of the meeting; however, fathers' word use was related to mothers' perceptions. Findings suggest that fathers' talk has a greater influence on perceptions than does mothers'.

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Citation and Meritorious Poster
C-115

SOCIAL RELATIONS AND ALL-CAUSE MORTALITY

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Background: Social support and social network size have been inversely associated with mortality risk in previous research, although less is known about the importance of different sources of support and optimal social network size.
Purpose: To examine the associations between relative, friend, and partner support, as well as size of weekly social network, on mortality risk in the Aerobics Center Longitudinal Study (ACLS).
Methods: Adult ACLS participants (n = 12,712) completed standardized questions regarding their sources of social support (relatives, friends, spouse/partner), and the number of friends and family members they had contact with at least once per week. All questionnaires were completed in 1990, and participants were followed until December 31, 2003 or death. Cox hazard ratios were calculated, controlling for age, gender, body mass index, smoking and alcohol status, and presence of hypertension, high cholesterol, and diabetes at baseline.
Results: Participants (75% men) averaged 53 years of age at baseline and were followed for an average of 13 years. Participants reporting family support had an 18% lower risk of mortality as compared to participants reporting no family support (HR .821, 95% CI .697-.966). Participants reporting spousal/partner support had a 19% lower risk of mortality as compared to participants reporting no spousal/partner support (HR .809, 95% CI .664-.984). Support from friends was not significantly related to mortality risk (HR .908, 95% CI .755-1.092). Participants reporting being in contact with ≥4 or ≥5 friends on a weekly basis had significantly lower odds of dying than those in contact with < 4 or <5 friends, with the greatest risk reduction (15%) apparent when contact was with ≥5 friends as compared to < 5 friends (HR .853, 95% CI .748-.973).
Conclusions: In this sample, perceived support from one's spouse/partner and relatives was protective against mortality, whereas perceived support from friends was not. Interestingly, despite these findings, maintaining weekly social interaction with a small network of friends had a protective effect.

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C-116

OUTDOOR TEMPERATURE AND COGNITION IN MULTIPLE SCLEROSIS

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INTRODUCTION: Among patients with Multiple Sclerosis (MS), warmer outdoor temperatures are associated with increased fatigue and more frequent clinical exacerbations. Consistent with these findings, Leavitt and colleagues recently published an article in the highly acclaimed journal Neurology reporting a significant association between warmer outdoor temperatures and poorer cognitive status in MS patients. No other studies exist on this topic. The present study attempted to replicate this finding in two larger independent samples of MS patients in the Midwest.
METHODS: MS participants in sample one (n = 79) were recruited through a large specialty clinic at a university medical center. MS participants in sample two (n = 124) were recruited through advertisements in the local Multiple Sclerosis Society newsletter, at a private neurology practice, and by word-of-mouth. Consistent with the methodology used by Leavitt and colleagues, cognitive status was assessed using a composite index of cognition that included validated measures of processing speed and verbal learning. Average outdoor temperatures for testing dates were determined through an online historical weather database.
RESULTS: There were no significant relationships between cognitive status and average outdoor temperature in sample one (r = .038, p = .74) or sample two (r = .091, p = .32).
CONCLUSIONS: Despite having large samples with adequate statistical power, no significant association was found between outdoor temperature and cognition. Results from this study cast doubt upon the generalizability of Leavitt and colleagues' recent findings. These discrepant outcomes may be due to differences in geographical location, differences in sample characteristics, variance in access to air conditioning, or some as of yet undefined moderating factor. This study demonstrates the complexities of these relationships and the need for more conclusive research.

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C-117

GENERATIONAL DIFFERENCES IN TECHNOLOGY UPTAKE AMONG HOMELESS VETERANS

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BACKGROUND: Little research exists on homeless and unstably housed veterans' usage of information technology (cell phones, texting, internet), or how it varies by generations.
METHODS: We conducted a cross-sectional survey of veterans enrolled in homeless programs in Massachusetts. We examined differences in access to and use of technologies by generation - Older Boomers (born 1946-1955), Younger Boomers (1956-1964), Gen X (1965-1976), and Gen Y (1977-1990) using Fisher's exact test.
RESULTS: Surveys were completed by 106 homeless Veterans aged 22-66 years. Nearly all (96%) were male, 74% were white, and 60% had annual household income < $12,000. Most (89%) had a cell phone. In general, older generations used technologies less than younger generations. For example, cell phone use was 84% for Older Boomers, 89% for Younger Boomers, 93% for Gen X, and 100% for Gen Y. Similarly smart phone access trended upwards through the generations from 26% for Older Boomers to 78% for Gen Y (p = .015). Text messaging ranged from 62% to 100% (p = .024). Internet use increased with each generation (62% to 100%, p = .013), with a large 22% difference between Older and Younger Boomers, and most of the homeless used computer labs where they were staying or at local libraries. Interestingly, we did not see a linear increase in email use: Older Boomers (65%), Younger Boomers (78%), Gen X (100%), but GenY usage fell (78%).
CONCLUSIONS: While homeless often lack stable addresses and landline phones, we found a majority use cell phones and the Internet. When developing communication strategies, programs serving the homeless should consider offering clients modality choices (email, texting, phone calls) and make computers available and provide technology training to reduce disparities in access to services, especially along generational lines.

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C-118

APPRAISAL OF PROBLEM BEHAVIORS, QUALITY OF RELATIONSHIP AND ROLE STRAIN IN FAMILY CAREGIVERS

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Background: Family members are critical resource to persons with chronic illness. Without the care provided by family members to individuals with chronic illness, it would be impossible for them to remain in the community. Although, it is well documented that chronic stress affects physical and psychological health of individuals, there are variations in response to caregiving. The purpose of this study was to examine the relationships of caregiver's appraisal of problem behaviors, and quality of relationship with care-recipient on caregiver role strain.
Methodology: A descriptive correlational design was used. One hundred women family caregivers who were living with and caring for person diagnosed with Alzheimer's disease participated in the study. Appraisal of behavior problems was measured using the Revised Memory and Behavior Problem Checklist (Teri,et. al., 1992). The quality of relationship between caregiver and care recipient was measured using the 15-item Mutuality Scale (Stewart & Archbold, 1994). Family caregiver's role strain was measured with Caregiver Role Strain (CRS: Stewart & Archbold, 1994). Descriptive statistics and multiple regression analyses were used.
Results: The analysis showed that the regression of role strain on quality of relationship and Appraisal of problem behaviors accounted for 30% of the variance and was significant at the .000 level. There was a negative relationship between role strain and mutuality (r = -.347, p = .001). Mutuality accounted for 10% of the variance. There was a positive relationship between appraisal of problem behaviors and role strain (r = .471, p = .001). Stressful appraisal of problem behaviors accounted for 20% of the variance. The findings support the need to address areas of caregiver's appraisal of problem behavior thru education and intervention to enhance the quality of relationship between caregiver and care recipient.
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C-119

EHRS, ELECTRONIC PATIENT-PROVIDER COMMUNICATION AND THE PREVALENCE OF HEALTH EDUCATION PRACTICES

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Background: Electronic Health Records (EHRs) and Internet consults with patients (eVisits or Secure Messaging) have the potential to advance continuous and coordinated preventive services. However, the association between implementation of these tools and health education provision in clinical practices has not been assessed.
Methods: In the 2010 National Ambulatory Medical Care Survey, a sample of 1,289 office-based, non-federally employed health care providers and their patients, health education events were reported by providers on a patient record form. We calculated a health education score (range = 0-100) for each patient by dividing the number of health education categories the patient received by the number of health education categories appropriate for that patient.
Results: Patients (N = 31,229) were 43.2% female and 63.2% White (M = 24.3 patients per provider), with 42.6% having providers that had neither an EHR nor did internet consults (neither), 45.6% with providers that either used an EHR or did Internet consults (either), and 7.0% with providers that both used an EHR and did internet consults (both).
59.3% of patients received no health education. "Other" was the most frequently reported type of education (26.3%), then, in decreasing order, nutrition (11.5%), exercise (8.2%), injury prevention (3.8%), weight reduction (3.5%), tobacco use (3.1%), stress management (2.8%), and asthma education (1.0%). No significant differences in patient education scores were seen by patient sex or race.
We found a dose-response association between technology adoption and health education scores. Patients in practices with both technologies had the highest score (M = 12.2, SD = 16.3), followed by those either technology (M = 9.9, SD = 14.1) and then lower education scores (M = 8.9, SD = 14.5) among patients from practices that had implemented neither technology (Mann-Whitney U, p = < 0.01 comparing both and neither, and either and neither).
Conclusions: National implementation of EHRs and Internet consults is associated with greater levels of documented health education.

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C-120

BASELINE PREDICTORS OF SINGULAR ACTION AMONG MULTIPLE RISK FACTOR INTERVENTION PARTICIPANTS

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In a Multiple Risk Factor intervention, for pairs of co-occurring risk behaviors, treated participants are significantly more likely to change both behaviors in the pair. However, surprisingly, when only one single behavior within the pair (i.e., singular action) occurs, the treatment and control groups are almost equally likely to change a single behavior. This study assessed whether baseline Stage of Change, Effort, and Severity were predictors of singular action in participants at risk for three pairs of behaviors (Sun Safety & Smoking; High-fat Diet & Smoking; High-fat Diet & Sun Safety) at 24 months. This study also assessed which of these three effects contributed most to the prediction of singular action. Pooled data were analyzed from three randomized controlled trials for cancer prevention using Transtheoretical Model computer-tailored interventions (N = 9,079) that assessed the efficacy of school, worksite, medical office-based, and home-based prevention programs for multiple behavior change. The sample was 43.9 years old (SD = 10.7), 90.8% White, and 62.8% female. Analyses included a series of logistic regressions. Across all 3 behavior pairs, stage of change, effort, and severity were consistently related to singular action at 24 months. Among those at risk for smoking and diet, Smoking Habit Strength (OR = 0.71 [0.53, 0.94], p < .05) and Negative Affect Temptations (OR = 1.12 [1.04, 1.20], p < .01) were significant predictors of change on Diet at 24 months. Further, baseline Smoking severity was related to change on Diet at 24 months (OR = 0.90 [0.82, 0.99], p < .05). Among those at risk for sun and diet, baseline Sun Pros (OR = 1.05 [1.02, 1.09], p < .01) and Cons (OR = 1.03 [1.00, 1.06], p < .05) were significant predictors of singular action on Diet. Also, baseline Sun severity predicted change on Diet (OR = 0.98 [0.95, 1.00], p < .05). Intervention implications for individuals with multiple health risk behaviors in population-based interventions will be discussed.

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C-121

LONGITUDINAL TRENDS IN REFERRALS TO A HOSPITAL-WIDE MEDICAL PSYCHOLOGY CONSULTATION/LIAISON SERVICE

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Psychosomatic psychology focuses on the inextricable relationships between biomedical, psychological, personality, and behavioral factors. Although a burgeoning area of clinical practice, there is a paucity of literature examining medical providers' requests for psychological services. This study examined longitudinal trends in referral questions to a medical psychology CL team providing hospital-wide services to surgical, emergency room, trauma, and medical units, including analysis of demographic variables and services provided.

Referral data were collected over a 26.5 month time period (7/1/2011-9/13/2013) from a diverse urban university teaching hospital located in the Southeastern US. During this time, 1,645 unique consultation requests were ordered for 1,332 patients, with a total of 2,375 patient contacts. Four percent of requests pertained to patients on inpatient psychiatric units, with 96% of requests for patients on medical units. Requests were sorted into one of 20 categories including: evaluations for psychopathology, psychological testing, evaluations to establish capacity to provide informed consent, pre-surgical evaluations, and coping with medical illness. Providers most often requested evaluations for cognitive capacity (n = 447, 28.3%) and mood disorders (n = 435, 27.6%), and least often requested evaluations for eating disorders (n = 3, .2%) and custody (n = 1, .1%). The mean number of visits per request was 1.7, with a range of 1 to 26. The average number of orders placed per month was 62.07, with the most orders being placed in 10/2012 (n = 84) and the least orders being placed in 12/2011 (n = 39). 385 orders were placed between 7/1/2011 and 12/31/2011, 645 in 2012, and 614 between 1/1/2013 and 9/13/2013.

The results of this study elucidate the significant demand for a diverse range of psychological services in a busy urban hospital. This wide range of daily requests highlights the critical role that psychologists play in helping medical teams and patients make crucial healthcare decisions by considering interrelated biomedical and psychological factors.

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C-122

INFORMATION TECHNOLOGY: SUPPORTING AND SHAPING HEALTHCARE DELIVERY

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Background: Contemporary state of the art healthcare facilities are incorporating technology into their building design to improve communication and patient care. However, technological innovations may also have unintended consequences. Purpose: This study seeks to better understand how technology influences interprofessional communication within a hospital setting. Methods: Nine focus groups were conducted with a range of healthcare professionals including nurses, patient care techs, attending physicians, resident physicians, medical students, chaplains, social workers, and physical therapists. The focus groups explored providers' experiences working on two floors of a newly designed hospital and included questions about the ways in which technology shaped communication with other healthcare professionals. All focus groups were recorded, transcribed, and coded to identify themes. Findings: While technology supported communication in some instances, technology frequently seemed to impede in-person collaboration. Documentation in the electronic medical record oftentimes replaced verbal communication. Further, the use of different charting modalities and templates served as barriers to communicating between specialties and limited confidence that other providers had received one's notes. Limitations in technology - including limited computer availability, documentation complexity, and sluggish signing in processes - also were identified as barriers to effective and timely communication between providers. Implications: With reliance on technology increasing, it is important to understand the vital role that technology plays in shaping interprofessional communication. Technology should be recognized for the critical role it plays in patient care and resources should be appropriately allocated to identify ways to improve technology so that it strengthens, rather than inhibits, communication.

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C-123

INFORMATION-SEEKING IN RESPONSE TO DECLINING HEALTH IS MODERATED BY PSYCHOLOGICAL DISTRESS

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PURPOSE: Individuals with chronic or newly diagnosed health conditions are more likely than those without them to seek out health information. While information-seeking is typically viewed as an adaptive coping response, it can also elicit mental discomfort and dissonance. These negative affective reactions may deter individuals already struggling with elevated levels of psychological distress from engaging in information-seeking. The current study tested the hypothesis that psychological distress moderates the relation between declining health status and information-seeking behavior. METHOD: Data from the Health Information National Trends Survey (HINTS) 4 Cycle 2 dataset were analyzed using logistic regression. Participants (N = 3,630) rated their current health status, level of psychological distress, including anxiety and depression subscales, and whether they had engaged in health information-seeking. RESULTS: Controlling for education level and gender, the odds of seeking health information increased as self-reported health status declined (OR = 1.23, p = .023). Psychological distress, depression, and anxiety did not have a main effect on the odds of seeking health information (ps > .10). However, distress and its depression subcomponent moderated the relation between health status and information-seeking (distress: OR = 0.94, p = .026; depression: OR = 0.88, p = .025). At high levels of distress, health status was unrelated to the odds of seeking health-related information (distress: OR = 1.01, p = .92; depression: OR = 1.03, p = .82). At or below average levels of distress, declining health status was related to greater odds of information-seeking (distress: OR = 1.45, p = .006; depression: OR = 1.51, p = .003). CONCLUSION: These findings suggest that psychological distress alters individuals' response to declining health. While non-depressed individuals respond by seeking out health-related information, those with elevated levels of psychological distress do not demonstrate such a reaction, perhaps as a means of avoiding the mental discomfort associated with information-seeking.

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C-124

RANDOMIZED CONTROLLED TRIAL OF WRITTEN EXPRESSIVE DISCLOSURE IN INDIVIDUALS WITH IRRITABLE BOWEL SYNDROME

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Objective. Irritable Bowel Syndrome (IBS) is a painful and often debilitating functional gastrointestinal (GI) disorder that affects roughly 15% of the population (Drossman et al., 1993) and costs the United States $1.35 billion annually in direct costs alone (Inadomi, Fennerty, & Bjorkman, 2003). Quality of life (QOL) of individuals seeking medical care for IBS is comparable to that of individuals with diabetes and end stage renal disease (El-Serag, Olden, & Bjorkman, 2002), and there is no universally effective medical treatment. The benefit of written expressive disclosure (WED) to health has been documented in a wide range of clinical populations. We aimed to test the efficacy of WED for reducing GI symptoms in individuals with IBS.

Methods. Adults (N = 106) recruited via ResearchMatch were screened using Rome III criteria for IBS. Eligible individuals were randomly assigned to write about either: (1) their deepest thoughts and feelings about the most stressful or traumatic life event of the past five years of their life (Trauma-writing condition), (2) their deepest thoughts and feelings about their IBS (IBS-writing condition) or (3) their time management in an objective manner (Control condition). Participants completed four 20-minute writing assignments over the course of two to six weeks. GI symptoms were measured via the IBS Severity Scoring System at baseline and one month post writing.

Results. A one-way ANCOVA revealed a significant effect of writing instruction on GI symptom improvement, controlling for GI symptom severity at baseline F(2, 102) = 3.291, p = .041. Planned contrasts revealed that the Trauma-writing condition demonstrated significantly greater symptom improvement compared to the Control condition (p = .023) and marginally greater improvement compared to the IBS-writing condition (p = .054). The IBS-writing and Control conditions did not significantly differ on symptom improvement (p = .722).

Conclusions. These findings suggest that expressive writing about a stressful or traumatic life event may improve GI symptoms in adults with IBS.

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HEALTH-RELATED FACTORS AMONG FEMALE COLLEGE STUDENTS BY SEXUAL ORIENTATION

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Lesbians and bisexuals may have an increased risk of many health disparities when compared to heterosexuals. Purpose: The purpose of this study was to examine multiple health-related factors by sexual orientation identity among a national sample of female college students. Methods: Participants were 26,964 self-identified lesbian, bisexual and heterosexual female college students aged 18-24 years who completed the National College Health Assessment Fall 2008/Spring 2009 survey. Hierarchical binary logistic regression analyses were used to examine the odds of health-related factors occurring by sexual orientation identity. Adjusted odds ratios, 95% confidence intervals and a Bonferroni-adjusted alpha of .001were used to determine statistical significance. Results: Lesbians and bisexual women compared to heterosexual women had higher odds of: (1) considering suicide (AORlesbian = 2.11; AORbisexual = 2.05); (2) smoking (AORlesbian = 1.77; AORbisexual = 1.52); (3) having an unhealthy BMI (AORlesbian = 1.83; AORbisexual = 1.34); (4) not having a gynecological exam (AORlesbian = 3.08; AORbisexual = 1.26); (5) not binge drinking (AORlesbian = 0.51; AORbisexual = 0.65); and (6) not using a condom or other protective barrier for oral sex/vaginal and anal intercourse (AORlesbian = 5.57; AORbisexual = 1.29). When compared to heterosexual women, bisexual women had significantly higher odds of: (1) feeling too depressed to function (AOR = 1.52); (2) being diagnosed with depression (AOR = 1.87); (3) using marijuana (AOR = 1.57); (4) having > 2 sexual partners in the past year (AOR = 1.98); and (5) eating five daily servings of fruits and vegetables (AOR = 0.58). Additionally, lesbians were significantly more likely to be verbally threatened than heterosexual women (AOR = 1.71) and significantly less likely than bisexual women to have a gynecological exam (AOR = 0.46) or use a condom/protective barrier during sex (AOR = 0.25). Conclusion: In conclusion, lesbians and female bisexual students experience disproportionately higher rates of many negative health-related factors than their heterosexual counterparts.

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C-126

COPING IMAGERY TECHNIQUE PRODUCES GREATER RELAXATION THAN AUTOGENIC TRAINING - BRAIN PHYSIOLOGICAL INVESTIGATION

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Method: Sixteen healthy adults (20.53 ± 8.71 yrs) were randomly assigned to 1) Coping Imagery (CI) (N = 8) and 2) Autogenic Training (AT) (N = 8) conditions. All the subjects went through 1) rest (3 minutes), 2) treatment (CI or AT for 10 minutes), and 3) rest (3 minutes) periods and their sixteen channels EEGs (electroencephalogram) based on the International 10-20 Method were recorded. Two three-minute-segments were extracted from the treatment stages (CI or AT) and thus creating four physiological data sets for each subject. Fast Fourier Transformation was applied to each EEG file and spectral power of alpha and beta frequency bands were computed. Results: Mixed Design ANOVAs for alpha power demonstrated the main effects of stages of measurement at F3, F4, (frontal lobes) T3. T4 (temporal lobes), O1, O2 (occipital lobes), as well as the main effects of interaction between measurement stages and groups at F4, T6 (temporal lobe), O1, and O2. Post-tests suggested that Coping Imagery group had significantly higher alpha power than Autogenic Training group during the second half of treatment at F3, F4, and O1. Mixed Design ANOVAs for beta power demonstrated the main effects of the interaction between measurement stages and groups at F4, T6, O1, and O2. Post-tests suggested that Coping Imagery group had significantly higher beta power than Autogenic Training group during the second half of treatment condition at O1 and O2. Discussion: The results from alpha power indicated that Coping Imagery technique was more effective in producing relaxation state than Autogenic Training technique while the results from beta power confirmed the active imagery process that is reflected in the activation of occipital lobe during the coping imagery. Further investigation will lead to a deeper insight into the application of coping imagery in Alternative Medicine.

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MUSIC WITH 1/F FLUCTUATION CAUSES GREATER HAPPINESS AND RELAXATION - BRAIN PHYSIOLOGICAL INVESTIGATION

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Method: Seventeen healthy adults (8 males & 9 females; 20.53 + 8.71 yrs.) listened to 3 pieces of 2-minute-long computer generated music with $1/\sqrt{f}$ fluctuation (white noise), 1/f2 fluctuation (brown noise), and 1/f fluctuation (pink noise) each. Their sixteen channels EEGs based on International 10-20 Method were measured. Self-reported Six Basic Emotions (happiness, sadness, anger, fear, disgust, and surprise) on 10-point-Likert scale were measured before and after each music. Analyses: Fast Fourier Transformation (FFT) and Fractal Dimensional Analysis were applied to the EEGs corresponding to the four epochs of each music piece (30 seconds each). Mixed Design ANOVAs were applied to alpha power, beta power, and fractal dimensions of each EEG channel by using gender as between factor and epochs of measurement as within factor. Another set of Mixed Design ANOVAs were applied to the differences in each of the Six Basic Emotions before and after each music piece. Results: ANOVAs demonstrated that EEG alpha power was significantly higher in females than in males at T3 (left temporal lobe) during Pink Noise ($p < .05$) while EEG Fractal Dimension was significantly lower in females than in males at T3 during the Pink Noise ($p < .05$). Further, self-reported Happiness was significantly higher during Pink Noise than during White Noise or Brown Noise ($p < .01$) while Sadness was significantly lower during Pink Noise than during White Noise or Brown Noise ($p < .01$) regardless of gender. Discussion: Basic Emotion results suggested the general relaxation effect of music with 1/f fluctuation (pink noise). EEG results suggested that females are more responsive to the relaxation effects of Pink Noise than males as they process the auditory perception at temporal lobe. Further neurophysiological investigation is expected for the purpose of therapeutic application.

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EMPLOYMENT, EDUCATIONAL EXPECTATIONS, AND FEAR OF NEIGHBORHOOD CRIME AMONG ADOLESCENTS

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Fear of neighborhood crime has been associated with a number of adverse outcomes yet the determinants of fear are not well understood and often unrelated to actual crime rates. Using the Project on Human Development in Chicago Neighborhoods (PHDCN) dataset, this research found that among adolescents, lower educational expectations were associated with increasing neighborhood fear while working and having a parent who worked were associated with lower levels of fear, while controlling for individual- and neighborhood-level covariates.

Fear was lower for those who expected to go to some college ($\beta = -0.10$, $p = 0.05$) and for those who expected to graduate from college ($\beta = -0.13$, $p < 0.004$) when compared to those who expected to finish no more than high school. These results are significant when controlling for household income and neighborhood SES. So, even when controlling for socioeconomic factors, adolescents who do not expect to attain more than a high school diploma felt more fearful.

In addition, both having a primary caretaker who either worked or went to school and having held a job oneself at any point in the past year were significantly associated with lower levels of neighborhood fear ($\beta = -0.06$, $p = 0.05$ and $\beta = -0.09$, $p = 0.01$, respectively) after controlling for all other covariates. Perhaps those who work feel more confident in their assessment of their neighborhood conditions or their ability to protect themselves and feel less fearful. Or, those who feel less fearful may be more apt to seek employment, suggesting caution in interpreting the causal direction of this association.

These results suggest a need for additional research to determine causality in this relationship and also to further elucidate the relationship between one's assessment of life opportunities fear of crime even after controlling for individual and neighborhood SES.

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C-129

IMPORTANCE OF PATIENT-CENTERED COMMUNICATION IN FACILITATING PATIENT ENGAGEMENT AMONG INDIVIDUALS WITH MULTIPLE CHRONIC CONDITIONS

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We evaluated data on the patient-centeredness of care delivered to individuals living with multiple (≥2) chronic conditions (MCC) in the U.S. and examined the association between patient-centered communication (PCC) and patients' self-efficacy for taking care of their health.
NCI's 2012 Health Information National Trends Survey collected self-reported data on a diagnosis of 7 chronic illnesses (cancer, diabetes, hypertension, heart disease, arthritis, chronic lung disease, and depression/anxiety). Responses to items mapping onto NCI's 6 function PCC framework (fostering relationships, exchanging information, making decisions, addressing emotions, enabling self-management, managing uncertainty) and patients' self-efficacy were also collected. Analyses were based on data from 3,000 respondents who had at least one medical visit in the past year.
Overall, 48% of respondents were diagnosed with MCC. Significant deficits in PCC were reported (e.g., 1-in-6 were rarely involved in decisions as much as they wanted; 1-in-5 rarely received needed attention to their emotions). PCC scores, however, did not vary by number of chronic illnesses. A third of respondents reported limited confidence (not at all/little/somewhat confident) in taking care of their health. Self-efficacy significantly decreased with the number of illnesses ($P < 0.001$). In analyses adjusted for patient characteristics, the PCC scale score was positively associated with patient self-efficacy ($P < 0.001$); the strength of this relationship increased with number of chronic illnesses (regression coefficient for PCC ranged from 0.15 for no condition to 0.25 for 3+ conditions).
The increasing burden of MCC in the U.S. is likely to result in diminished patient efficacy in taking care of their health. Efforts at improving the patient-centered aspects of care are likely to facilitate greater patient engagement in this important patient population.

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PROVIDING TO THE PROVIDERS: BEHAVIORAL STRATEGIES TO INCREASE QUALITY OF LIFE AMONG INDIVIDUALS WITH DISABILITIES

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Nearly one out of every five Americans currently has a documented disability. Studies have shown that the built environment is linked to quality of life among individuals with disabilities. Unfortunately, many of these individuals struggle to live in their homes independently due to a lack of home livability modifications. Home and Community-Based (HCBS) Medicaid Waivers are designed to provide services and supports to people with disabilities such as home accommodations. This study's purpose was to investigate factors of home livability and quality of life among people that receive the HCBS Medicaid waiver in Central Alabama. There were 143 respondents of a pre-tested survey mailed to primary caregivers of people with disabilities that participated in the study. As part of the survey, caregivers responded to eleven questions about factors of home livability. Within the sample, 58% of individuals with disabilities received Medicaid HCBS services, 55% were African American, and 83% had an annual income of less than $20,000. Chi Square analysis showed a significant association ($p = .002$) between those who receive HCBS Medicaid waiver and caregiver perceived global quality of life. Further, descriptive statistics were used to determine that approximately 90% responding "not sure" to home livability questions about: maneuverability of doorways and hallways; adequate lighting in hallways and staircases; and appropriate placement of light switches, electrical outlets, and thermostats. Although the HCBS Medicaid Waiver provides invaluable services for people with disabilities, findings indicated that caregivers do not have adequate knowledge about characteristics of home livability. There is a need to provide caregivers with accurate, accessible information about home modification and livability to help them increase the quality of life of the person for whom they care.

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C-131

COLONIA RESIDENTS' PERCEPTIONS OF WATER QUALITY IN DONA ANA, NM AND EL PASO, TX

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Colonias are unincorporated settlements along the U.S.-Mexico border which emerged without the governance and services normally provided by local government. Consequently, water lines and systems do not reach all colonia residents, and even when they do reach, many residents live in substandard housing not meeting county building codes and, therefore, not qualifying for hook up to public water. Alternative water sources for these colonia households include water wells and hauled water stored in tanks. This study examined colonia residents' perceptions & concerns regarding water quality in their home. Methods. Promotoras recruited participants who relied exclusively on hauled or well water. Participants. Forty-seven colonia residents participated across five focus groups, two in El Paso, TX and three in Dona Ana, NM. Instrumentation. A survey assessed demographics, water source characteristics, and access to potable water. Focus group questions assessed residents' perceived water quality, concerns for domestic use, current water treatment practices, and preferred filtration systems. Procedure. Participants completed consent forms and a survey, and then participated in a focus group discussion lasting approximately one hour. Upon completion all participants received a gift card. Analyses. A thematic analysis was conducted on the focus group responses using two independent coders. Results. Although water quality, concerns, and treatment practices were reported by both El Paso and Dona Ana colonia residents, the former referred to hauled water stored in large water tanks (i.e., water deposited and stored for months at a time) while the latter referred to well water(i.e., some very old and others of insufficient depth for good filtration). Overall, impoverished colonia residents spend a great deal of their income purchasing additional drinking water, filter and appliance/pump replacements. They also revealed a need for health education on water safety and proper water treatment procedures.

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C-132

A MIXED METHODS STUDY OF MEDICATION SELF-MANAGEMENT IN A SAMPLE OF FRAIL URBAN OLDER ADULTS

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Background: The treatment of individuals with multiple chronic conditions represents the single largest driver of Medicare costs. The use of prescription drugs is a major component in the management of chronic disease in the United States; and yet, most older adults do not take their medications as prescribed. Medication nonadherence (MNA) among older adults carries significant consequences, such as increased risk for ED visits, hospital admissions and/or nursing home admissions. Despite over 30 years of research much is still unknown about factors that predict MNA in older adults, as well as the interventions that effectively improve patients' medication self-management. A growing number of scientists argue that research on health behaviors should incorporate diverse methodologies to gain a broader understanding of the complexities of chronic disease self-management. The present study answers this challenge by using a mixed methodology to examine patterns of MNA in a population of older adults.
Purpose: This research used a combination of quantitative and qualitative data from a larger study of a 12-month-long nurse medication management intervention to describe and explain:
(1) The significant individual- and family-level factors associated with MNA in a sample of 273 urban older adults; and (2) The processes involved in the older adults' medication self-management.
Methods: The study used a sequential mixed-methods design: Phase 1 used quantitative methods to identify the individual and family-level factors that significantly predicted MNA at baseline and over time; and Phase 2 used qualitative methods to identify themes in the medication self-management process and to explain the quantitative findings.
Results: Several individual- (e.g., MMSE, GDS, & physical functioning) and family- (someone living in the patient's home) level characteristics predicted risk for MNA at baseline and over time. Qualitative analyses identified several themes that elucidated the quantitative findings. Both clinical and policy implications are presented as part of the findings.

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C-134

THE RELATION BETWEEN PAIN, SOCIAL SUPPORT, AND ALCOHOL CONSUMPTION IN OLDER ADULTS

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Alcohol can enhance effects and negatively interact with medications to manage pain. Older adults are at greater risk for negative effects due to slower alcohol metabolism, increasing the time during which medications can interact with alcohol. Older adults often take multiple pain medications, further increasing risk for adverse or even fatal effects. Using data from the 2010 Psychosocial and Lifestyle Questionnaire and the pain battery of core questions from the 2010 Health and Retirement Study, this cross-sectional study examined if self-reported social support (i.e., positive versus negative) mediated the relationship between pain (i.e., intensity, constant versus flare-ups, impact on life domains, and medication use) and drinking. Of the 779 nationally representative participants who reported having experienced pain lasting more a week or more, 379 (48.7%) were included in analyses due to missing data on key variables. Sample participants were 67.2 years of age ($SD = 0.5$), 56.4% were women, 92.9% used either over-the-counter (OTC) or prescription (RX) medications for pain (33.2%, OTC; 19.4%, RX; and 43.2%, both), and 59.6% drank alcohol. Negative perceived social support partially mediated the link between average pain intensity and drinking status ($\beta = -0.04$, $p = .0035$) and partially mediated the link between pain's impact on life domains and drinking status ($\beta = -0.025$, $p = .02$). Specifically, negative perceived social support partially mediated the association between the impact of pain on social activities and drinking status ($\beta = -0.02$, $p = .004$) and the association between impact of pain on work and drinking ($\beta = -0.0145$, $p = .06$). Neither type of medication use was related to drinking status. Results suggest that negative perceived social support may be salient for older adults living with chronic pain. Recognizing that facets of social support influence drinking within this population may aid in tailoring interventions to prevent risky health behaviors that can interfere with medication use and treatment.

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C-135

ANXIETY ASSOCIATED WITH REDUCTION IN DISABILITY WITH OPTIMIZED ACUTE TREATMENT FOR MIGRAINE

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Acute treatments, including abortive medications (triptans), medications for associated symptoms (anti-emetics) and rescue medications (non-steroidal anti-inflammatories) are considered the first line treatment for episodic migraines. Optimized Acute Treatment (OAT) includes individualized treatment planning, education about migraine, and the optimal use of acute medications. Anxiety is comorbid with migraine and may influence the effectiveness of OAT. This study investigates the role of anxiety in changes in migraine-related disability during OAT.

232 frequent migraine sufferers received 5 weeks of OAT as part of the larger Treatment of Severe Migraine trial. Participants completed questionnaires including anxiety (Beck Anxiety Inventory, BAI), and disability (Migraine Specific Quality of Life, MSQ, and Headache Disability Index, HDI) during clinic visits at baseline and after one month of OAT. Correlations among variables were examined. Regression examined changes in disability over OAT, and whether anxiety moderated these changes.

Higher BAI scores were correlated with higher disability (all $ps < .01$). OAT was associated with decreases in all measures of disability (all $ps < .01$). A significant baseline BAI X Time interaction ($t = -2.22$, $p < .05$) modified a main effect of baseline BAI on MSQ Role Restriction ($t = 4.23$, $p < .01$), indicating that higher scores on the BAI lead to larger drop in MSQ Role Restriction during OAT. A significant baseline BAI X Time interaction ($t = -2.14$, $p < .05$) modified a main effect of baseline BAI on HDI ($t = 5.31$, $p < .01$), indicating that higher scores on the BAI lead to a larger drop in HDI during OAT. No other interactions were significant ($ps > .05$).

OAT was associated reductions in migraine-related disability. Higher baseline anxiety was associated with higher disability, but was associated with larger reductions in restricted role functioning during OAT.

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C-136

RESILIENCE, SELF-EFFICACY, AND PAIN IN PERSONS AGING WITH LONG-TERM PHYSICAL DISABILITY

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Persons aging with physical disability often experience pain secondary to their primary impairments that may negatively impact participation in activities and contribute to depression. Resilience and self-efficacy may be factors that protect against adverse effects and promote successful aging. The current study used structural equation modeling to examine the associations among measures of resilience (Connor-Davidson Resilience Scale), self-efficacy about disability (University of Washington Self-Efficacy scale), pain interference (PROMIS Pain Interference-SF), and depression (PROMIS Depression-SF) in a large national sample ($N = 820$) of individuals with spinal cord injury, post-polio syndrome, muscular dystrophy, or multiple sclerosis, who also endorsed chronic pain. Participants were 20 to 91 years old ($M = 56.0$, $SD = 12.7$), predominately White, and 62% were women. The model had an acceptable global fit to the data [$X2(1136) = 2942.01$, $CFI = .94$] and accounted for 61% of variance in self-efficacy, 49% of variance in depression, and 60% of variance in pain interference ($ps < .001$). Resilience was positively associated with self-efficacy ($\beta = .78$) and negatively associated with depressive symptoms ($\beta = -.49$; $ps < .001$). Greater self-efficacy was associated with less pain interference and depressive symptoms ($\beta = -.34$ and $-.15$, respectively). Self-efficacy partially mediated the relationship between resilience and depression ($\beta = -.12$) and fully mediated the relationship between resilience and pain interference ($\beta = -.26$). Being middle-age and older was associated with greater pain interference, and middle-aged participants reported the lowest self-efficacy ($ps < .005$). The findings suggest that resilience and self-efficacy are important factors to consider in persons aging with physical disability. Middle-aged individuals with disability may be particularly vulnerable to detrimental effects of pain, and increasing resilience and self-efficacy in this age band is an important goal for intervention.

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USING MINDFULNESS MEDITATION TO IMPROVE PAIN MANAGEMENT IN COMBAT VETERANS WITH TRAUMATIC BRAIN INJURY

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This pilot study examined the effectiveness of mindfulness meditation (iRest®) for managing chronic pain in U.S. Veterans who had sustained a traumatic brain injury in Afghanistan or Iraq. iRest is used clinically at Veterans Affairs (VA) hospitals nationwide and data are needed to validate the health benefits patients report. Veterans at the War Related Illness and Injury Study Center were randomly assigned to receive iRest ($n = 4$) or routine treatment ($n = 5$) for 8 weeks. Measures were administered at baseline (B), endpoint (E) and 4-week follow-up (F). Study measures included the Defense and Veterans Pain Rating Scale to assess pain intensity and pain interference with daily life, Visual Analog Scale (VAS) to measure pain intensity and Patient Global Impression of Change (PGIC) scale to evaluate change in activity limitations, symptoms and quality of life.

Veterans in the iRest group showed decreased pain intensity (23-42%) and interference (34-41%) across all measures and time points. Effect sizes were large from B-E and B-F for pain interference ($d = 1.09$-1.21) and medium to large for pain intensity ($d = 0.76$-1.19). VAS pain intensity decreased from B-F ($p = .041$) and pain interference improved from B-E and B-F ($p = .013$; $p = .032$). No significant findings were detected among controls.

PGIC ratings for the iRest group at E ($M = 5.50$, $SD = 0.58$) and F ($M = 5.50$, $SD = 0.58$) indicated an average response of ‘5' (‘moderately better') to ‘6' (‘a definite improvement'). The mean control group response was a ‘2' (‘hardly any change at all') at E ($M = 2.20$, $SD = 1.30$) and F ($M = 2.00$, $SD = 1.00$). Between group differences were significant at E, $t(7) = 4.66$, $p = .002$ and F, $t(7) = 6.17$, $p = .000$.

iRest is a promising approach for managing chronic pain and improving quality of life in Veterans. Further research is warranted to confirm the efficacy of iRest as a viable treatment approach.

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C-138

A COMMUNITY-BASED, QUALITY IMPROVEMENT INTERVENTION FOR SYMPTOM CONTROL IN CHINESE AMERICAN CANCER PATIENTS

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Chinese Americans are the largest Asian subgroup in the US and they include many immigrants who are medically and economically underserved. Studies show that Chinese Americans present with advanced illness and high symptom distress, have poor access to adequate care for cancer symptoms, and have complex barriers to adequate symptom-oriented care. In this ongoing community study, we are developing and testing a rapid-cycle quality improvement (QI) model to improve pain among underserved Chinese American cancer patients, and evaluating factors that influence its uptake and sustainability. The systems-based intervention incorporates repeated "plan-do-study-assess" QI cycles, including: pain screening, follow-up and early treatment for pain, referral and provider education. Ethnic Chinese patients and providers from 4 oncology practices are the intervention targets. Initial data show that pain screening by providers improved from 24% to 80% of 4,033 patients presenting for care, with 55% of patients with moderate pain receiving follow-up appointments within 7 days and 85% with severe pain receiving immediate clinical attention. Intervention effectiveness will be determined by 2-week longitudinal surveys in patients with pain > 4. This will evaluate the processes of care and whether pain declines over the 2-week period. Of 1,467 patients screened, 89% reported cancer symptoms, with fatigue (56.1%), dry mouth (55.9%), difficulty sleeping (48.3%), and pain (43.4%) the most prevalent. Overall, 39.0% reported severely distressing symptoms (pain, 37.7%, insomnia, 37.9% and anorexia, 40.0%). These results show that a community-based QI program for cancer pain can be implemented in Chinese Americans. It may alleviate the high symptom burden in this population and clarify the demographic, cultural and other factors that facilitate or impede change in symptom care.

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C-139

SPOUSAL MINDFULNESS AND SOCIAL SUPPORT IN COUPLES WITH CHRONIC PAIN

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Objectives: Mindfulness is a key ingredient of interventions for pain including Mindfulness-Based Stress Reduction, ACT for pain, and CBT for pain. Research has shown that mindfulness can enhance one's emotion regulation and promote more effective pain coping, even after controlling for level of pain and acceptance of pain. Yet, little research has examined mindfulness in the context of the social environment. Given that patients' relationships with others have an important role in their pain adjustment, the goal of this study was to examine the extent to which mindfulness relates to social support in a sample of couples with chronic pain.

Methods: The sample included 51 couples in which one partner had chronic pain. Three facets of mindfulness (i.e., non-reactivity, acting with awareness, non-judging) were assessed by questionnaires in patients and spouses. Patients also reported on their pain adjustment, pain-related psychological flexibility, and perceptions of spousal support.

Results: Only one facet of patients' mindfulness (i.e., non-reactivity) was related to their perceptions of their spouses as being emotionally responsive to them ($r = .41$, $P < .01$). Spouses' non-judging and non-reactivity were negatively correlated with punishing spouse responses ($r = -.28$, $P = .05$ and $r = -.34$, $P < .05$, respectively). In addition, spouses' acting with awareness was positively correlated with patients' reports of perceived partner responsiveness and instrumental support and negatively correlated with patients' reports of punishing spouse responses ($r = .36$, $P < .01$, $r = .36$, $P < .01$, and $r = -.28$, $P < .05$, respectively), often over and above the contribution of patients' own mindfulness or pain-related psychological flexibility.

Discussion: Spouses' mindfulness, especially as it pertains to acting with awareness, was most consistently associated with patient perceptions of spousal support. These findings suggest that acting with awareness should be examined further including the possible contributions this type of mindfulness may make to healthy relationship behaviors in the context of chronic pain.

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QUALITY OF LIFE RATINGS BY NONCARDIAC CHEST PAIN PATIENTS ACROSS TWO MEDICAL SETTINGS

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The syndrome of noncardiac chest pain (NCCP), chest pain without identifiable organic cardiac etiology, is present in multiple medical settings. Research on NCCP has been conducted with cardiology-presenting patients. However, to capture a complete representation of NCCP, comparative research must be conducted across medical settings. Previous research from our lab has examined chest pain characteristics and related factors among NCCP patients in cardiology and gastroenterology. Findings suggest that NCCP patients presenting in both settings report differential vigilance to and avoidance of cardiorespiratory sensations. Findings also indicate that gastroenterology-presenting patients report more pain and more interference from pain than do cardiology-presenting patients. The present study seeks to explore similarities and differences between these populations as related to quality of life (QOL). We hypothesized that gastroenterology-presenting patients would report lower QOL across all QOL domains.

Data for this study were from two separate and independent studies examining the syndrome of NCCP. Group 1 consisted of 78 gastroenterology-presenting patients, whereas Group 2 consisted of 200 cardiology-presenting patients. Groups did not significantly differ in age, ethnicity, or gender. Group 1 reported lesser QOL on Energy/Fatigue ($F = 10.41$, $p < .01$), Social Functioning ($F = 13.97$, $p < .001$), Pain ($F = 40.92$, $p < .001$), and General Health ($F = 38.81$, $p < .001$) subscales. However, Group 2 reported lesser QOL on Physical Role Functioning subscale ($F = 30.95$, $p < .001$). Significant differences were not found between the groups on Physical Function ($F = 1.36$, $p = .25$), Emotional Role Functioning ($F = .23$, $p = .63$), and Emotional Wellbeing ($F = .74$, $p = .39$) QOL subscales. These findings suggest that there may be notable differences in the subjective experiences of NCCP patients according to presenting medical setting. Knowledge regarding these differences will be valuable in developing treatments for and conceptualizations of NCCP.

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GENDER DIFFERENCES IN JOHN HENRYISM AND TREATMENT UTILIZATION IN SICKLE CELL DISEASE PATIENTS

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Sickle Cell Disease (SCD) is a chronic condition often requiring high levels of healthcare utilization including recurrent emergency room and clinic visits and hospitalizations. While some research has demonstrated a high level of utilization among those with SCD, other research has suggested that a large proportion of patients are able to cope with their disease without seeking inpatient care (Tanabe et al., 2010). Given these differences, it is important to understand what factors influence healthcare utilization in this population. Coping is one important factor in this regard; and, John Henryism (JH), a pattern of active coping has been associated with better health outcomes in African Americans (Bonham et al., 2004). To date this association has not been described in individuals with SCD. The current study examined the relationship between JH and healthcare utilization in a sample of 82 adult SCD patients(54% female). Healthcare utilization was characterized as no (0), one (1) or two or more (2+) hospitalizations over the previous year. Active coping was assessed using the John Henryism Active Coping Scale (JHAC-12). The range of JHAC scores differed for males and females; therefore models were conducted separately by gender. ANCOVAs, controlling for age and education level, revealed that females with no or one hospitalization over the previous year, had higher JHAC scores compared to females with two or more hospitalizations ($p < .03$). This pattern did not emerge in males even with the exclusion of covariates. These data offer partial support for the role of active coping in minimizing healthcare utilization, particularly among female SCD patients and extend previous findings of the potential beneficial role of JH to this population.

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TESTING A MODEL OF PHYSICAL ACTIVITY MAINTENANCE: A PILOT STUDY

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Regular exercise confers numerous benefits for all facets of health and thus, there is considerable interest in improving adherence to nationally recommended guidelines. Historically, intervention programs have successfully encouraged initiation of exercise; however, fostering long-term exercise maintenance has proven a more difficult task. With only 50% of individuals starting an exercise program sustaining it for more than six months, research specifically studying the constructs underlying exercise maintenance is sorely needed. Until recently, a cogent theoretical model specific to exercise maintenance has been lacking from the literature. The Physical Activity Maintenance Model (PAM) was developed to address this knowledge gap but has been understudied. A pilot study was conducted to test the proposed mediational constructs from the PAM and inform the development of a longitudinal exercise intervention study. $N = 203$ participants (67.5% female) ages 18-32 responded to a survey assessing exercise specific behavior, goals, motivation (intrinsic and extrinsic), and self-efficacy. Path analysis revealed significant relationships between current exercise behavior and two of the four measured exogenous PAM variables: intrinsic motivation for exercise and exercise self-efficacy. The fit of this model was adequate, Santorra-Bentler $\chi^2(1, N = 201) = 2.66, p > .05$, CFI = .99, RMSEA = .095 (90% CI 0.00 - 0.24). Next, a binary logistic regression analysis was performed to predict adherence to recommended exercise guidelines for more than a year. The PAM constructs accounted for a moderate proportion of variance in exercise maintenance, Nagelkerke R^2 = .220. Among the individual predictors, a significant odds ratio was observed for intrinsic motivation for exercise, OR = 1.035 (95% CI 1.01 - 1.06), $p = .008$ and a notable trend was observed for exercise self-efficacy OR = 1.02 (95% CI 1.00 - 1.04), $p = .055$. Results suggest that greater levels of exercise intrinsic motivation and self-efficacy may influence current exercise behaviors and increase the likelihood that exercise behaviors will be maintained long-term.

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C-144

EXERCISE FOR HEALTH ANXIETY: NEW PERSPECTIVES ON HEALTH LOCUS OF CONTROL

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To date, findings on the relationship between health anxiety and exercise have been mixed. The present study hypothesized that Health Locus of Control (HLOC) would moderate the relationship between exercise and health anxiety such that high levels of exercise would be associated with lower levels of health anxiety for individuals with greater internal HLOC and lower levels of chance and powerful others HLOC. Female undergraduate students (N = 202) completed self-report questionnaires measuring exercise, HLOC, and health anxiety. Multiple regression methods were used to examine interactions among the variables using exercise and HLOC as predictor variables and health anxiety as the dependent variable. Dimensions of HLOC (internal, chance, and powerful others) were examined separately. Results indicated that our hypothesis was partially supported. Chance HLOC ($\beta = .35, p < .001$) and powerful others HLOC ($\beta = .27, p < .001$) were significant predictors of health anxiety; however, interactions among chance and powerful others HLOC with exercise were not significant. There were no significant main effects related to internal HLOC or exercise, although the interaction between exercise and internal HLOC was a significant predictor of health anxiety ($\beta = -.18, p = .01$). Results suggest that relationships among exercise and health anxiety depend upon levels of internal HLOC. For those with high internal HLOC, greater exercise was associated with decreased health anxiety; however, for those with low internal HLOC, greater exercise was associated with elevated health anxiety. In other words, for healthy, well-adjusted individuals, who have a tendency to have greater Internal HLOC, exercise results in decreased health anxiety. However, for those with low internal HLOC, who tend to be high on measures of somatization, they interpret normal bodily sensations during exercise as evidence of pathology, which increases their health anxiety. Our findings imply a specific subset of individuals may benefit most by including exercise interventions in their care.

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SYMPTOMOLOGY PROFILES AND PREDICTORS OF CHANGE FOR ADULTS WITH RELAPSE-REMITTING MULTIPLE SCLEROSIS ACROSS 30 MONTHS

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A number of co-occurring symptoms are associated with relapse-remitting multiple sclerosis (RRMS), yet little is known about "profiles" reflecting the totality of the RRMS symptomology, or the extent to which such profiles change over time. The purpose of this study was to examine an array of physical and mental health outcomes, simultaneously, with the aim of identifying latent RRMS profiles and demographic/ behavioral predictors of change. A battery of questionnaires was administered to 256 participants (Mage = 45.9; SD = 9.7; 83% female) at baseline and 30-month follow-up. The battery included self-report scales for assessing anxiety, depression, pain, fatigue, and mental and physical quality of life (QOL), as well as a standard demographic/clinical scale, the Multiple Sclerosis Walking Scale-12 (MSWS-12), Godin Leisure-Time Exercise Questionnaire (GLTEQ), and Patient Determined Disease Steps (PDDS). Latent transition (mover-stayer) analyses revealed two distinct profiles at each time point. The majority (81.4%) remained or "stayed" in the same profiles across time; 56.7% were characterized by the favorable psychosocial profile, i.e., the highest mental and physical QOL, lowest pain, fatigue, depression, & anxiety scores; vs. 24.7% who exhibited the least favorable scores). Among "movers" 17.9% shifted into a more favorable profile whereas <1% shifted into a less favorable profile. Significant predictors of class membership included MSWS-12, age, education (at time 1 only), and PDDS (time 2 only); gender, income, duration of symptoms, and GLTEQ were not significant. The results suggest that the majority participants did not experience substantive changes across a range of psychosocial variables, but the observable changes that did emerge appeared to be a function of walking and PDDS. Physical activity interventions and holistic approaches designed to treat multiple, concurrent mental and physical symptoms are likely to encourage the most positive psychosocial changes among individuals living with RRMS.

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C-146

TITLE: US VS THEM: AN EXPERIMENTAL TEST OF THE EFFECT OF GROUP DIVERSITY ON MOTIVATION IN PHYSICAL ACTIVITY

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Purpose: Recent research of social networks has shown the powerful influence of the interpersonal environment on physical activity behavior. The purpose of this study is to test basic psychological mechanisms of interpersonal influence (indispensability) and the effect of social category diversity on motivation for physical activity. The following are preliminary results. Method: Participants include 38 undergraduate students from a large Midwestern university (16 m, 22f). In a 2 (Gender) x 3 (Condition: Individual, Same Social Category, Different Social Category) x 2 (Block) experimental design, subjects first performed a series of five abdominal plank exercises until exhaustion. On a second block, subjects either performed the same exercises again either alone or with a confederate virtual partner from either the same university or from a different university. Subjects in partner conditions were working toward team scores, where the team score was defined by the time of the person who quit first. The performance of the virtual partner was manipulated to always be greater than the subject, rendering the subject the ‘weak link'. The main dependent variable was performance on Block 2, after controlling for performance on Block 1. Results: Participants were more motivated (p = 0.10) when exercising with someone from the same social category (M = 62.92 s, SE = 2.68) than with someone from an outgroup (M = 54.29 s, SE = 4.46). Females were less motivated (p = 0.01) when paired with a partner from a different social category (M = 41.13 s, SE = 7.32; CI = 26.28-56.08) than males (M = 67.43 s, SE = 5.71, CI = 55.77-79.09). There were no differences between groups in self-reported intrinsic motivation. Conclusions: Preliminary results suggest that group diversity may undermine one's motivation during partnered exercise, especially for females. However, exercising with a superior partner does not undermine one's intrinsic motivation to exercise compared to when exercising alone.

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THE DEVELOPMENT AND MAINTENANCE OF A COMMUNITY-BASED EXERCISE PROGRAM FOR LOW-INCOME URBAN ADULTS

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Limited access to fitness facilities in low-income urban areas has been identified as a contributor to low levels of physical fitness.

Purpose: To describe a community-based exercise program located in low-income urban communities and to characterize adult membership.

Methods: 170 members > age 18 completed interviewer-led surveys of demographic characteristics, exercise self-efficacy (ESE), and quality of life (QOL). Members also completed a fitness evaluation.

Results: The program was created by a university, public school, and hospital partnership. Participant mean age was 50 yr + 12.5, 66% were Black, 72% were female, 66% completed some college or greater, and 79% had an annual household income < $40 K and supported 2.2 dependents. The average BMI was 35 + 7.6. This sample had moderate levels of confidence for exercise and low levels of fitness per ACSM age and gender guidelines. Racial differences occurred in BMI, resting heart rate (RHR), blood pressure and social functioning (QOL) p < .05. Gender differences occurred in BMI, RHR, flexibility, completed treadmill test stages, ESE, and vitality (QOL). Age group differences occurred in BMI, partial curl-up, social functioning (QOL), mental health (QOL), and completed treadmill test stages. Across age groups, younger adults (age 18-44) showed poor physical fitness and physical functioning comparable to older adult levels (age > 65). Members were representative of their communities using US Census data demonstrating this population will utilize exercise resources that are accessible.

Conclusion: This is one of the few studies that compares race, gender, age, psychosocial and physical characteristics of members enrolled in a low-cost fitness program. In this observational study, results demonstrate a need for low-cost fitness centers for low-income adults. This program can serve as a model where communities and organizations leverage their resources to address fitness disparities through strategic collaboration.

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HABIT STRENGTH MODERATES THE EFFECTS OF FACILITATED ACTION PLANNING ON PHYSICAL ACTIVITY BUT NOT SEDENTARY BEHAVIOR

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Although many people intend to be active, many also fail to follow through with their intentions. Action plans are a technique which can close the gap between intentions and behavior; however, most studies only deliver action planning interventions at a baseline session. Given the changing context of daily life, developing daily action plans may be a useful tool to increase physical activity or limit or interrupt sedentary behavior. Recent evidence suggests that habit strength may influence the effectiveness of action planning interventions. We designed this study to examine the moderating influence of habit strength on daily action planning effects on physical activity and sedentary behavior. A 2 by 2 factorial design was used with experimental factors corresponding to planning interventions for engaging in physical activity (factor 1) and limiting or interrupting sedentary behavior (factor 2). For one week, university students (n = 195) logged on to a website at the end of each day to complete (a) a questionnaire about their behavior during the day (b) planning intervention(s) corresponding to their randomly-assigned experimental condition, and (c) a measure of behavioral intentions for the following day. Action planning increased physical activity in those with weak habits (b = 114.53, SE = 58.89 when habits were 1.05 SD < M) but decreased physical activity in those with strong habits (b = -127.04, SE = 59.09 when habits were 1 SD > M) compared to those that did not create action plans. A similar pattern was observed for sedentary behavior; however, this effect was a non-significant trend. This work helps to inform dual process theories of motivation, and ultimately interventions, by revealing that daily planning is an effective tool for behavior change, but effects are selective as a function of habit strength. Action planning appears to be useful tool for those with weak habits, but may be iatrogenic for those with strong habits.

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Meritorious Poster
C-149

DEVELOPMENT AND RELIABILITY TESTING OF A HEALTH ACTION PROCESS APPROACH INVENTORY FOR PHYSICAL ACTIVITY PARTICIPATION AMONG INDIVIDUALS WITH SCHIZOPHRENIA

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Individuals with schizophrenia tend to have high levels of cardiovascular disease, obesity, and diabetes. Physical activity (PA) levels are also lower than the general population. Research is urgently required in developing evidence-based behavioural interventions for increasing PA in this population. One model that has been increasingly used to understand the mechanisms underlying PA is the Health Action Process Approach (HAPA). The purpose of this study was to adapt and pilot-test a HAPA-based inventory that reliably captures salient, modifiable PA determinants for individuals with schizophrenia. Initially, twelve outpatients with schizophrenia reviewed the inventory and provided verbal feedback regarding comprehension, relevance of the items, and potential new content. A content analysis framework was used to inform modifications to the inventory. The resultant inventory underwent a quantitative assessment of internal consistency and test-retest reliability. Twenty-five outpatients completed the inventory on two separate occasions one week apart. All but one scale (risk perceptions (chance) at Time 1 only, $\alpha = 0.62$) showed good internal consistency (Cronbach's $\alpha = 0.80$-0.98). The majority of scales showed significant and good or better test-retest correlations (r = .84-.96; ps < .05). Outcome expectancies ($r_{\text{likelihood}} = .32$; $r_{\text{value}} = .38$; ns) and risk perceptions (likelihood; r = .21; ns) showed poor test-retest reliability. In a preliminary assessment of criterion validity, task self-efficacy (r = .41; p < .05) was significantly associated with self-reported minutes of moderate to vigorous PA. With minor adjustments, the HAPA-based inventory should serve as a suitable assessment of determinants of PA participation among people with schizophrenia. A future study will use an objective measure of PA (accelerometry) in a prospective design to complete validation of the inventory.

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ASSESSING THE EFFECTIVENESS OF A SOCIAL MARKETING CAMPAIGN DRAWING PARENTS' ATTENTION TO THEIR CHILD'S PHYSICAL ACTIVITY

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ParticipACTION is a Canadian, non-profit organization dedicated to promoting active living. The purpose of this study was to evaluate ParticipACTION's 2011 "Think Again" campaign in the context of the hierarchy of effects model (HoEM). The campaign aimed to draw parental attention to the amount of physical activity their child is getting relative to physical activity guidelines (PAG). According to the HoEM awareness and attention are critical first steps to behavior change. Data were drawn from "Think Again" campaign evaluations conducted among parents with children between the ages of 5-18 yrs (3-months post-campaign launch (T1), N = 946; 15-months post launch (T2), N = 780). Chi square tests revealed that at both time points more parents aware of the campaign knew the PAG than parents unaware of the campaign (ps < .005). ANCOVAs revealed that at T2, parents aware of the campaign were more likely to agree that their children were not active enough compared to parents unaware of the campaign (p < .005, d = .16). Parents' aware of the campaign had small but significantly stronger intentions at T1 and T2 (ps < .05, ds ≥ .09), greater attitudes and perceived behavioral control (PBC) at T1 (ps < .001, ds ≥ .19), greater performance of parental support behaviors (PS) at T1 and T2 (ps < .05, ds ≥ .28) yet slightly lower PBC at T2 (p < .001, d = .06) compared to parents unaware of the campaign. In conclusion, the campaign appeared effective for increasing parental knowledge of PAG and awareness of children's physical activity levels - key campaign outcomes. In addition, the campaign seems to have affected other HoEM outcomes including intentions, PS, and initial PBC and attitudes. Additional intervention strategies are needed to produce larger effects.

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WALKING IN FAITH: A WEB-BASED PHYSICAL ACTIVITY PROGRAM FOR CLERGY

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Clergy are positioned to promote and model health behaviors to a large segment of the population, yet are disproportionately affected by obesity and chronic disease. Physical activity (PA) offers one approach to addressing the health issues of clergy, but rarely are clergy the targeted population of physical activity interventions. The purpose of this study was to evaluate the effectiveness of Walking in Faith, a 12-week, web-based physical activity intervention culturally-tailored for clergy. Clergy from multiple denominations in Central Pennsylvania were recruited to participate in the study. Participants were randomly assigned to receive the intervention (n = 24) or to a wait-list control group (n = 20). Behavioral (PA, PA promotion through sermons and counseling), health-related (body mass index), and psychosocial variables (PA self-efficacy, social support, self-regulation, outcome expectations) were assessed at baseline and 3-months. An ANCOVA was used to assess changes between groups with baseline measures serving as covariates. Participants were mostly male (60%), white (97%), married (91%), with a mean age of 48.4 years (SD = 9.8), and had achieved a Master's degree or higher (81%). At 3-months, the intervention group showed a significant improvement in PA self-efficacy (p = 0.013), outcome expectations (p = 0.034), and PA promotion through sermons (p = 0.003) and counseling (p = 0.001). Although weekly energy expenditure attributable to all PA and moderate-to-vigorous PA improved for the intervention group, the changes were not statistically significant. There were no significant differences between intervention participants that completed all of the lessons and those that did not. This study showed that targeting the health behaviors of clergy could have positive influences on behavioral and psychosocial variables. That clergy in the intervention group showed a significant increase in PA promotion during sermons and counseling is of importance to those interested in the role of clergy in health promotion in faith-based settings.

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PATIENT PERCEIVED AUTONOMY SUPPORTIVENESS FROM PHYSICIAN IS POSITIVELY ASSOCIATED WITH TRUST IN PHYSICIAN

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Background: Autonomy support (AS) may explain why some patient-centered behaviors (relationship building and exploring illness) have been associated with patient trust. We hypothesized that perceived AS would be positively associated with patient trust among patients of physicians enrolled in a counseling intervention to promote physical activity.

Methods: A cross-section of patients was interviewed at a community health center before their appointment, at three times. Patients reported their perceived AS and trust in physician, using items from the Healthcare Climate Questionnaire and trust subscale of the Patient Care Assessment Survey, respectively. We used linear regressions to test the association of patient characteristics and AS with patient trust accounting for clustering of patients within physicians.

Results: Of the 325 patients, 70.5% were female, 60.0% had ≤ high school education, 69.9% identified as Black non-Hispanic, 60.9% had public insurance; and the average age was 43.2 years. AS at time two (p = 0.0437) and three (p = 0.0050) were significantly greater than time one. However, there were no statistical differences in patient trust across time. Age was significantly associated with patient trust controlling for time (beta = 0.0098; 95% confidence interval = 0.001, 0.018). AS was significantly associated with patient trust controlling for age (time1 = .4827; 95%CI = 0.178, 0.787: time2 = 0.4988; 95% CI = 0.195, 0.803: time3 = 0.3708; 95% CI = 0.159, 0.582).

Conclusion: We found that a counseling intervention increased perceived AS, and perceived AS was positively associated with patient trust. Physician use of AS skills such as being less controlling and offering choices, may foster a more trusting relationship, especially for older underserved patients.

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AGE, PHYSICAL ACTIVITY, AND QUALITY OF LIFE IN DUALLY ENROLLED MEDICARE/MEDICAID OLDER ADULTS

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Background: Engagement in physical activity delays the progression of age-related functional decline and changes in mood, thereby improving quality of life (QOL). Limited research has described relationships between age, engagement in physical activity, and quality of life among dually enrolled Medicare/Medicaid older adults. Purpose: To determine relationships between age, structured and unstructured physical activity, and QOL in the study population. Method: This secondary path analysis included 337 African American (31%) and White (69%) subjects aged 65 and older. Each had 1 deficit or greater in activities of daily living, 2 deficits or greater in instrumental activities of daily living, and 1 or more chronic conditions. Structured and unstructured physical activities were self-reported in minutes per week. Results: Subjects had a mean of 9.3(SD = 2.8) chronic conditions. Most (73%) received in-home services for meals and personal care. As age increased, both emotional and physical QOL (β = .227, p < .00; β = .145, p < .01) benefited from physical activity. Age had no correlation with structured physical activity (e.g., walking) or unstructured physical activity (e.g., housework). More minutes per week of structured and unstructured physical activity (β = .128, p < .05; β = .114, p < .05) correlated with better emotional QOL. More minutes of structured physical activity correlated with better physical QOL (β = .226, p < .00), but not emotional QOL.Conclusion: In a group of frail, dually enrolled Medicare/Medicaid adults, regardless of age, participation in structured and unstructured physical activity improved emotional QOL, and structured physical activity improved physical QOL.

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IMPACT OF A PHYSICAL ACTIVITY PROGRAM ON THE COGNITIVE FUNCTION OF CHILDREN WITH ADHD AND DISRUPTIVE BEHAVIOR DISORDERS

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Attention Deficit Hyperactivity Disorder (ADHD) is characterized by, and Disruptive Behavior Disorders (DBD) are associated with, impairments in executive function (EF). This study tested the feasibility and impact of a physical activity (PA) program on EF in 6-12 year-old children with ADHD and DBD living in a community of concentrated urban poverty. Students were randomized to a 10-week evidence-based after-school PA program (n = 19) or a comparable but sedentary attention control group (n = 16). The Behavioral Rating Inventory of Executive Function (BRIEF), Automated Working Memory Assessment System - Short Version (AWMA-S), and STOP-IT inhibition task were collected at baseline and posttest. An intent-to-treat linear mixed effects model tested group x time interactions, Cohen's d was calculated for change over time within and between groups, and correlations were run between participation indicators and change scores. Feasibility was evidenced by 89% retention, 63% attendance, and 74% average maximum heart rate (HR). Neither the primary outcome, BRIEF Global Executive Composite (d = .22), nor secondary outcomes, BRIEF subscales (d = -.12-.54), AWMA (d = -.41-.27), and STOP-IT (d = -.17) differed between groups over time (ps > .05). Within-group effects in PA (d = .29-.95) were comparable to previous studies in ADHD, however, controls evidenced similar growth (d = .53-1.27). HR was related to improvement on STOP-IT (r = .78) and AWMA (r = .31-.81) in PA and attendance was related to improvement in visuospatial AWMA (r = .47-.72) and three BRIEF scales (r = .62-.77) in controls. Findings suggest after-school PA programs hold promise as a feasible tool and space for simultaneous physical and mental health promotion in children with ADHD and DBD, though documented cognitive benefits may derive from other important program features such as consistent routines, engaging activities, and positive social interactions.

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THE ROLE OF PATTERN OF CHANGE IN MOTIVATIONAL READINESS IN THE ASSOCIATION BETWEEN INTERVENTION DOSE RECEIVED AND ADOPTION OF PHYSICAL ACTIVITY

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Background: A randomized control trial (RCT) was conducted, which included comparison of a theory-based (Social Cognitive Theory and Transtheoretical Model), tailored-internet physical activity (PA) intervention with a standard-internet condition (existant public domain PA resources). Previously published findings demonstrated that although there were no between-group differences in mean change in PA, intervention received (number of logins) significantly predicted PA outcomes at 6 and 12 months. The aim of the present study is two-fold: to identify patterns of change in motivational readiness (Mpattern) and to explore whether Mpattern mediated the effect of intervention dose on PA outcomes. Methods: Participants were ($n = 163$) healthy, sedentary (≤ 90 minutes of PA per week), adults (≥ 18 years-of-age) enrolled in one of the two internet arms of the parent RCT. Motivational readiness was assessed monthly via self-report questionnaire. Latent Class Analysis (LCA) was used to identify Mpattern. As a preliminary step, we assessed associations between logins and Mpattern as well as Mpattern and mean PA at follow-up. Results: A three class model was best supported by the data and suggested that participants either had (1) increases in motivational readiness (32%), (2) consistent and low (pre-contemplative and contemplative) motivational readiness (46%), or (3) motivation which peaked early and then declined (22%). Class 1 showed significantly higher mean logins over 6 months than classes 2 or 3 ($p < .001$). Further, those in class 1 had significantly higher minutes of PA at 6 months ($p = .005$) and trended towards having significantly higher minutes of PA at 12 months ($p = .09$). Conclusion: Intervention dose received is significantly associated with latent class of motivational readiness pattern and PA outcomes. A full mediation model is forthcoming.

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THE PHYSICAL ACTIVITY ACCEPTANCE QUESTIONNAIRE (PAAQ): A VALIDATED MEASURE OF THE ABILITY TO TOLERATE ACTIVITY-RELATED DISCOMFORT

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Background: Physical activity (PA) is essential for health, but many adults find PA adherence challenging. Emerging research indicates that experiential acceptance of psychological (e.g., boredom) or normative physical discomfort (e.g., fatigue) related to PA may influence an individual's ability to begin and sustain a program of exercise. The aim of this study was to evaluate the psychometric properties of the Physical Activity Acceptance Questionnaire (PAAQ), a 12-item self-report measure of PA-related experiential acceptance and commitment to healthy behavior change. Method: The PAAQ was administered to three distinct samples (total $N = 418$): (1) overweight and obese individuals enrolled in a weight loss program ($n = 282$), (2) women with a history of breast cancer ($n = 83$), and (3) adults engaged in a PA promotion intervention ($n = 53$). Each sample completed additional self-report measures; sample 1 participants also wore accelerometers to objectively measure moderate-to-vigorous PA at baseline and after 6 months of behavioral treatment. Results: The PAAQ demonstrated high internal validity for its total score ($\alpha = 0.89$) and two subscales (Cognitive Acceptance $\alpha = 0.86$, Behavioral Commitment $\alpha = 0.85$). Test-retest reliability demonstrated high consistency in PAAQ scores over one week ($p < 0.0001$). This measure also showed convergent validity with measures of mindfulness, self-reported physical activity levels, and accelerometer-verified levels of moderate-to-vigorous PA ($ps < 0.02$). The PAAQ showed predictive validity for objectively-verified PA levels among individuals attempting to increase physical activity over 6 months ($p = 0.004$). Conclusions: The PAAQ demonstrates sound psychometric properties. Experiential acceptance may be an important component of physical activity promotion among adults.

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BATTER UP! FEASIBILITY OF LEVERAGING ONLINE FANTASY SPORTS LEAGUES TO PROMOTE PHYSICAL ACTIVITY

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The popularity of active video games (AVGs) has skyrocketed over the last decade. However, research suggests that the most popular AVGs, which rely on synchronous integration between players' activity and game features, often fail to promote physical activity outside of the game or for extended periods of engagement. This limitation has led researchers to consider AVGs that involve asynchronous integration of players' ongoing physical activity with game features. Rather than build another AVG de novo, we selected an established sedentary video game uniquely well suited for the incorporation of asynchronous activity. Online fantasy sports (FS) were selected for several reasons. (1) Traditional FS are extremely popular (>34 million players in North America), supporting high potential reach. (2) FS have established enduring appeal, supporting prolonged engagement. (3) The basic features of traditional FS are in the public domain and thus amenable to augmentation. Finally, (4) traditional FS are a sedentary activity, but thematically already involve the asynchronous physical activity of professional athletes. To assess the feasibility of augmenting FS with players' asynchronous physical activity, we conducted a 13-week pilot study of a physical activity promoting fantasy sports intervention ($n = 9$; 100% male; mean age 34.90 years). Participants wore an accelerometer and participated in an online fantasy baseball league. Privileges within the game were made contingent on meeting weekly physical activity goals. Mean steps/week increased significantly from the 1-week baseline period ($M = 8{,}678$) compared to the 12-week assessment ($M = 11{,}364$), $t(8) = 2.63$, $p < .05$. Further, participants rated augmented fantasy baseball as significantly more enjoyable than traditional fantasy sports, $t(8) = 4.43$, $p < .01$; 100% reported interest in participating in another augmented fantasy league. Social factors were frequently cited as motivating physical activity. Limitations and strategies for further testing will be discussed.

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A VIEW FROM THE COUCH: PERCEPTIONS OF SEDENTARY BEHAVIOUR IN THE MORE- AND LESS-ACTIVE

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The past decade has seen increasing awareness that excessive sedentary behaviour (SB) - sitting or lying down - is related to negative health outcomes, including all-cause mortality and metabolic disorders. This risk-related evidence has been met with calls for action, mass media coverage, and both epidemiological and behavioural description. However, Biddle has argued that we lack a sound psychological understanding of SB. With this in mind, the purpose of the current study was to provide a preliminary examination of individuals' perceptions of SB relative to level of physical activity (PA). Participants ($N = 81$) completed an online survey, including questions on how they define SB, perceived risks and benefits of, desire to change, and level of PA. Comparisons were drawn between sufficiently-active (SA) and insufficiently-active (IA) respondents, under the general view that IA individuals would view SB as less unhealthy. Analysis showed no differences (chi-squared = 0.550, $p > 0.05$) between SA and IA on how they defined SB, with participants most-frequently describing it as a lack of PA in contrast to unhealthy sitting. MANOVA (Wilk's lambda = 0.034, $p < 0.001$) and follow-up ANOVA indicated that SA and IA respondents significantly differed in their perceptions of SB, including engagement ($d = 0.96$, $p < 0.001$), norms ($d = 0.73$, $p < 0.01$), and desire to change ($d = 0.64$, $p < 0.05$). Results ran contrary to expectations for perceived health: SA participants reported SB as less unhealthy ($d = 0.87$, $p = 0.001$). Findings suggest at least two implications. First, given that respondents tend to define SB as "insufficient activity", interventionists may need to specifically emphasise the risk of excessive SB (e.g., sitting) to elicit motivation to change. Second, perceptions of SB may be moderated by PA level. Further examination into SB perceptions is warranted, such as whether SB fulfills psychological outcomes (e.g., rest and recovery, earned relaxation) in SA versus IA individuals.

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LATIN DANCE AND HEALTH EDUCATION: INFLUENCE ON COGNITIVE FUNCTION

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Disparities exist between Latinos and non-Latino whites in cognitive function, putting Latinos at increased risk for dementia and disability. Physical activity (PA) can improve aspects of cognition and protect against disability. However, older Latinos are not physically active at recommended levels. Dance is a culturally appropriate form of PA for older Latinos that challenges individuals both cognitively and physically. A pilot randomized controlled trial used a subsample of the official Spanish version of the Uniform Data Set (UDS) of the National Institute on Aging Alzheimer's Disease Center Program to test the impact of the BAILAMOS© dance intervention on cognition. Participants were randomly assigned to the 4-month, twice-weekly dance intervention; or to a health education control group. Participants were low active, older, Spanish-speaking Latinos, $N = 44$, $M(SD)$ age = 64.9(5.9), 81.8% female, 81.8% Mexican, Years in US = 31.2(16.8), years of education =7.0(4.3). A repeated measures multivariate ANOVA revealed an overall multivariate effect $F(11,32) = 3.54$, $p < .05$. Follow-up univariate analyses found an effect for several measures of cognition, including a Logical Memory test ($p < .05$), in which the dance group improved significantly more than the health education group; and Digit Modalities test in which both groups significantly improved over time ($p < .05$). Results indicate that participation in regular dance has the potential to improve aspects of cognitive functioning. It is possible that regular dance may have improved episodic memory (Logical Memory test) and psychomotor speed and visuospatial function (Digit Modalities test) as dancing requires participants to recall and execute a dance sequence in a timely manner and in response to others' actions. Both conditions were exposed to structured and routine learning, which may have influenced cognitive function. Future studies should examine these relationships in a larger trial.

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DO URBAN POP-UP PARKS HURT BUSINESS? ASSOCIATION OF PROXIMITY TO A POP-UP PARK ON SALES AND CUSTOMER FOOT TRAFFIC

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Background: Park availability has been associated with improved physical, mental, social and economic outcomes. Given that park space can be limited in urban areas, temporary "pop-up" parks (PP) may be an innovative alternative. Research about PP is limited. A PP of 16,174.5 ft2 was created in a small urban community on a downtown block that was temporarily closed due to construction. Community residents expressed concerns about the impact of the PP on local businesses. The association of proximity to the PP on sales and customer foot traffic was examined.

Methods: During the park period (7/19-8/25/13), structured interviews were conducted with owners, managers and employees of street-level businesses in the 8-block shopping district of downtown Los Altos, CA. Respondents reported changes in sales and foot-traffic compared to the previous month (with no PP) and to the same time last year. A pedestrian-enhanced street network in ArcGIS determined walking distance (WD) from each business to the PP. Logistic regression estimated the effect of WD on sales and foot traffic.

Results: All street-level businesses in the study area were interviewed ($n = 95$). Mean walking distance to the PP was 290.7 ± 199.5 ft. Compared to the month before the PP, most businesses reported no change in sales (S) (60.5%) or foot traffic (FT) (70.0%); a quarter reported decreases (S = 25.5%, FT = 16.1%) and fewer reported increases (S = 9.6%, FT = 9.7%), (not reported S = 4.4%, FT = 4.2%). Results were similar for the previous year. WD was not significantly associated with reported changes in sales or foot-traffic.

Conclusion: Given the potential benefits of increased park use, such as improved health and quality of life, our finding that WD to PP was generally not associated with changes in sales or foot traffic is promising. Further research to assess the economic, health and social impacts of PPs in downtown areas is warranted.

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WHY DO PEOPLE VISIT TEMPORARY URBAN POP-UP PARKS AND DO THE REASONS VARY WITH TIME OF DAY?

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Background-Urban park use has been associated with improved health and may increase community social capital but competing land-use interests may limit the availability for such community resources. Temporary "pop-up" parks (PP) may be an innovative alternative. To understand factors that make PP attractive, this study examined reasons for visiting an urban PP located on a temporarily closed street block in Los Altos, CA and variations in reasons based on time of day.

Methods-During the 5-week PP period structured interviews were conducted with PP-users on 2 randomly selected weekdays and weekend days (8 am to 8 pm). Participants answered "What is your reason for visiting the park today?" Open-ended responses were coded into 10 categories and weighted as many respondents reported >1 reason. Frequencies per category were analyzed by hour.

Results-Respondents ($N = 147$) were primarily female (54.4%) and adult (66.9%), but also included children and adolescents (12.5%) and seniors (20.6%). 221 reasons for visiting the PP were provided (mean per respondent = 1.5 ± 0.6). Total weighted responses were to: eat or drink at a local business (32.6%), socialize with others (16.9%), engage in active leisure-time (e.g. play) (14.9%) or sedentary leisure-time (e.g. read) (13.1%), visit non-food local businesses (6.8%), enjoy time outside (5.6%), attend organized PP events (4.6%) (not offered hourly), visit out of curiosity (3.0%), work (1.7%), or because they liked park facilities/equipment (e.g. chairs) (0.8%). Buying food or drink locally was 1) the most frequent reason for visiting the PP, 2) the only reason reported for every time period (higher between 9 am-10 am) and 3) the most frequently provided reason every hour except between 2 pm-3 pm and 6 pm-7 pm (active leisure) and 4 pm-5 pm (social).

Conclusion-The connection between the built environment and health is increasingly acknowledged so identifying reasons why people visit PP and how these vary across the day may be valuable for urban planners and policymakers. Further PP research is warranted.

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PREGNANCY-SPECIFIC ANXIETY AND PSYCHOSOCIAL DIMENSION: PREDICTORS OF BIRTH OUTCOMES

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The most persistent causes of infant morbidity and mortality are preterm birth (PTB) and low birth weight (LBW). Both psychosocial and medical factors contribute to PTB and LBW. Based on the 2008 Surgeon General's and the 2007 IOM recommendations for assessment of prenatal anxiety and psychosocial factors, particularly in high risk women, an exploratory study of PTB risk factors was conducted.

Method. Sample: 80 multi-ethnic hospitalized gravidas at high risk for PTB and LBW. Self-report questionnaires and medical record data included: pregnancy-specific anxiety, dyadic couple relationships, and obstetrical/birth outcomes. General Linear Modeling (GLM) was conducted to determine the effects of psychosocial adaptation to pregnancy, dyadic relationships, and coping responses on birth outcomes: Birth Weight, Gestational Age, and the Apgar 5-minute score to assess newborn health at birth.

Results. GLM was used to determine specific psychosocial scale covariates of birth outcomes. GLM results showed that Birth Weight (BW) and Gestational Age (GA) were predicted by maternal anxiety concerning Preparedness for Labor (PrepL) and Fears about Labor (FearsL): pain, helplessness, and loss of control, after adjusting for maternal age, parity, ethnicity, prior premature births, coping responses, and dyadic relationships: PrepL/BW, increased by 74.44 gms, $p = .02$; PrepL/GA, increased by 0.45 weeks, $p = .007$; FearsL/BW, increased by 86.38 gms, $p = .08$; FearsL/GA, increased by 0.50 weeks, $p = .05$.

Conclusions. Higher maternal anxiety about being prepared for labor and delivery, and fears concerning labor were predictive of shorter gestational age and lower newborn birthweight in hospitalized high-risk gravidas. The results suggest that high-risk gravidas may benefit from additional assessment of fears and from supportive knowledge and counseling regarding labor and delivery fears in order to decrease PTB and LBW.

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PREVALENCE OF PERINATAL DEPRESSIVE SYMPTOMS IN A SAMPLE OF ADULT WOMEN OF MEXICAN ORIGIN

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The extent depressive symptoms affect Hispanic women during pregnancy is not well understood. A meta-analysis by Bennett et al. (2004) found a prevalence of depressive symptoms in pregnancy of 6.5% to 12.9% across trimesters and 25% to 47% for women of lower socioeconomic status. A study of Hispanic women by Diaz et al. (2007) reported a decreasing linear trend across the perinatal period. Depressive symptoms in pregnancy are comparatively prevalent to the 13% prevalence for postpartum depression (O'Hara & Swain, 1996). The present study was a 10 month prospective study of a community sample of adult pregnant women of Mexican origin living on the US and Mexico border (n = 129). We assessed self-reported depressive symptoms twice; once in the third trimester of pregnancy and three to seven weeks postpartum, with two depression measures. The Beck Depression Inventory II (BDI-II) was a repeated measure and the Postpartum Depression Screening Scale (PDSS) assessed postpartum specific depressive symptoms. Results showed the typical participant was 24 years old (SD = 5), born in the US, graduated US high school, predominately multiparous (n = 80), Medicaid insured, and term at delivery. Depressive symptoms point prevalence in the third trimester of pregnancy was 28.7% (n = 37). Most participants (71.3%) screened minimal symptoms, 18.6% (n = 24) had mild symptoms, 7.8% (n = 10) had moderate symptoms; and 2.3% (n = 3) reported severe symptoms based on published BDI-II cut points. In the postpartum period, depressive symptoms prevalence dropped to 7.8% using the BDI-II; however, with the PDSS, point prevalence was 43.3%. Using published PDSS cut points, 56.7% had normal adjustment, 31% (n = 40) had significant depressive symptoms, and 12.4% (n =17) were positive for probable DSM-IV postpartum depression diagnosis. The prevalence of depressive symptoms in pregnancy was consistent with Bennett et al. (2004) for lower socioeconomic status and with O'Hara & Swain (1996) for probable DSM-IV diagnosis.

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MULTIPLE BEHAVIORAL RISK FOR CHRONIC DISEASE IN RURAL WOMEN

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Objective: U.S. rural women engage in multiple lifestyle behaviors that increase risk for chronic disease. Although these behaviors have been studied individually, their co-occurrence has not been investigated. We examined 10 demographic and health-related factors associated with the co-occurrence of smoking, BMI, and low levels of physical activity (PA).

Data and Methods: Computer-assisted personal interviews were used to collect data for Rural Families Speak about Health, an epidemiologic study of 444 rural U.S. women. Multinomial logit analyses examined the association between demographic and health variables and the dependent ordinal risk factor variable with 3 levels (0 risk factors, 1 risk factor, 2+ risk factors). Bivariate associations between risk factor bundles and the 10 demographic and health variables were explored.

Results: Twenty-five percent of the sample engaged in 2+ unhealthy behaviors. The combination of smoking and low PA was most prevalent (12%), followed by high BMI and low PA (7%) and high BMI and smoking (6%). Older age (OR = 1.03, CI = 1.003-1.04) and lower income (OR = 0.732, CI = 0.545, 0.983) were significantly associated with a risk factor step increase (0 to 1, or 1 to 2+). Compared to those with low PA, smokers were likelier to be non-White and younger and report higher financial distress and better self-rated health. Compared to those with high BMI, those with low PA were likelier to report less financial distress, better health, high school diploma/GED, and White race. Combined risk factor bundles that included smoking were associated with lower income.

Conclusions: Understanding risk factor combinations among rural women can aid clinicians and public health professionals in tailoring multiple behavior interventions to prevent chronic disease. Women with lower income and older age have increased risk for multiple unhealthy behaviors and should be targeted. Interventions that include smoking cessation combined with improvements in nutrition and PA are warranted.

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PERCEPTIONS OF THE ROLES OF BEHAVIOR AND GENETICS IN DISEASE RISK: ARE THEY ASSOCIATED WITH BEHAVIORAL CHANGE?

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This study examined national trends in behavioral change and how they are associated with beliefs about the role of genetics and behaviors in determining disease risk. The data are from the Health Information National Trends Survey (HINTS 4). Weighted multinomial logistic regression models were conducted to examine whether perceptions surrounding the role of behaviors and the role of genetics for obesity, heart disease, diabetes, and cancer were associated with behavioral change. Behavioral change was assessed for exercise, weight loss, fruit intake, vegetable intake, and soda intake. Findings indicated that overall, greater perception of the role of behaviors in determining obesity, heart disease, and diabetes were significantly associated with behaviors involved with weight loss, increasing exercise, and increasing vegetable intake. In addition, beliefs that the role of genetics in determining cancer was either "a little" or "a lot" were more likely to predict weight maintenance behaviors in comparison to those who answered "somewhat." The study's findings highlight the need for strategies that will increase the public's awareness and knowledge of the role of modifiable risk factors such as diet and nutrition for chronic health conditions; these public health strategies have large potential for inducing health promotion and lifestyle changes.

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COMPETITIVE HYPOTHESIS TESTING OF THE HEALTH BELIEF MODEL AND THE THEORY OF PLANNED BEHAVIOR: USING OBSERVATIONAL AND EXPERIMENTAL STUDIES ON THE FLU VACCINE

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The Health Belief Model (HBM) hypothesizes perceived susceptibility and perceived severity have independent effects on health behavior outcomes, whereas the Theory of Planned Behavior (TPB) hypothesizes susceptibility and severity have an interactive effect. Yet, no studies to date have systematically tested these competing hypotheses (Brewer & Gilkey, 2012). We did so using data from two different studies. First, in a prospective observational study, participants (N = 311) reported their perceptions of flu susceptibility and severity during the fall and then reported in the spring whether they received a flu vaccine (yes/no). Second, in an experiment participants (N = 204) were recruited from Amazon's Mechanical Turk and randomized to one of four conditions in a 2 (susceptibility: high, low) X 2 (severity: high, low) design embedded within a fictional news story about a mutated strain of the flu virus. After reading the story, participants reported their vaccination intentions. The findings across the two studies were consistent with the HBM-derived hypothesis of independent effects. In the observational study, perceived susceptibility had a significant effect on vaccination, OR = 3.03, 95%CI = 2.12, 4.35, although perceived severity did not, OR = 1.00, 95%CI = 0.70, 1.43. Contrary to the TPB-derived hypothesis, however, the severity x susceptibility interaction was not significant, OR = 1.21,95%CI = 0.77, 1.90. In the experiment in which severity and susceptibility were manipulated, susceptibility had a significant effect on vaccination intentions ($p < .0001$, $d = 0.64$), although the effect of severity was not significant ($p = .55$). Again, however, we did not find support for the TPB-derived hypothesis of a significant susceptibility x severity interaction ($p = .50$). Our findings suggest that the HBM assumptions about the independent effects of susceptibility and severity are more accurate than the TPB assumptions, in the context of decisions about the flu vaccine. Implications for theory refinement and interventions will be discussed.

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MONOGAMOUS RELATIONSHIP STATUS AND CONDOM USE: FEWER PARTNERS BUT MORE SEX

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Young adults in the United States are disproportionately affected by sexually transmitted infections (STIs) partially due to higher risk behaviors, such as unprotected sex and multiple partners. There are often long term consequences of untreated STIs. Human Papillomavirus (HPV), one of the most common STIs, is definitively linked to cervical cancer and increasingly associated with vulvar, vaginal, penile, anal, and oropharyngeal cancers. As HPV can be transmitted via various types of sexual contact, the current study sought to examine the rates of different sex acts and condom use in an at risk population.

Participants were 422 women (Mage = 18.87 years, SD = 1.64) who completed demographic and sexual behavior questionnaires as part of a larger research protocol. All participants were sexually active within the past year, and 22% were currently in a monogamous relationship (M = 15.86 months, SD = 12.76). Women reported an average of 2.62 (SD = 1.94) sexual partners over the past year. Vaginal sex was the most common sex act over the past 90 days (M = 12.13, SD = 14.47). Oral sex was less common (M = 6.04, SD = 8.63), and anal sex was rare (M = .18, SD = .76). Overall, condom use was low; on average women used condoms for 61.91% (SD = 40.4) of vaginal sex, 35.53% (SD = 47.80) of anal sex, and only 8.36% (SD = 25.58) of oral sex.

There were significant differences in behaviors between single women and those in a monogamous relationship. Single women reported more sexual partners over the past year (t = -4.807, p < .01), however, women in monogamous relationships reported more vaginal (t = 4.271, p < .01) and oral sex (t = 2.436, p < .05) over the past 90 days. There were no significant group differences in condom use for any type of sex.

Findings suggest that women commonly engaged in vaginal and oral sex, but that condoms are only used two thirds of the time during vaginal sex and significantly less during anal and oral sex. There were no differences in condom use based on relationship status. Results highlight the need for continued interventions to increase condom use, with a specific emphasis on safe oral and anal sex.

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SEXUAL RISK-TAKING: DENIAL OR WISHFUL THINKING?

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Perceived susceptibility to a health threat is an important component of most models of health behavior. Research, however, reveals that young adults and teens often engage in sexual risk-taking despite perceiving themselves at significant risk. In order to reduce the dissonance caused the inconsistency between perceived susceptibility and sexual risk-taking, some individuals seem to resort to dismissing or ignoring risks (O'Sullivan et al., 2010). This study evaluated the role of denial and wishful thinking in sexual risk-taking among college students. The Denial and Disengagement subscales of the COPE Inventory, the Magical Ideation Scale, measures of health threat seriousness and perceived susceptibility, a composite measure of sexual risk-taking over the preceding 6 months, and a cognitive dissonance measure were administered to 264 undergraduate students. The findings revealed that 70% of participants viewed STIs and unplanned pregnancy as "very serious" threats. Although most perceived themselves at low risk, nearly half reported one "casual" partner and only one-third of participants "always" used condoms. Of the one-third who reported significant cognitive dissonance, most reported some emotional distress because of this inconsistency. Perceived susceptibility, denial, mental disengagement, behavioral disengagement, and magical thinking were used as predictors of sexual risk-taking in multiple regression. The model, accounting for 13% of the variability in risk-taking, was significant (R = .36, adjusted R2 = .11, p < .001). Denial and perceived susceptibility were significant predictors of sexual risk-taking. Other analyses revealed that those who reported higher sexual risk-taking viewed protective behaviors, such as consistent condom use and minimizing one's number of sexual partners, as more burdensome than those who reported lower risk-taking.

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DISENTANGLING THE INTENTIONS GAP: THE INFLUENCE OF PSYCHOLOGICAL FACTORS ON CONDOM USE

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Individuals between 15 and 24 years of age have low rates of condom use and account for 50% of all new cases of sexually transmitted infections (STIs). Theory posits that condom use intentions are the most proximal determinant of condom use. However, research suggests that this relation is moderate at best. Factors such as depression, posttraumatic stress, and sensation seeking are negatively related to condom use, but their influence on the intentions-condom use association is not well understood. This study prospectively examined the influence of depressive symptoms (Depression, Anxiety, and Stress Scale; Lovibond & Lovibond, 1995), posttraumatic stress (PTS; Posttraumatic Checklist for Civilians; Weathers, 1991), and sexual sensation seeking (SSS; Sensation Seeking Scale; Kalichman & Rompa, 1995) on condom use among college students who reported intentions to use a condom with their relationship partner. Thirty-two college students (69% Caucasian, 69% female, M_{age} = 21.09) completed online surveys at baseline and one month follow-up. Multiple regression revealed that baseline depressive symptoms, PTS, and SSS significantly predicted condom use with a relationship partner at one month follow-up, adjusted R^2 = .18, F (3,28) = 3.26, p = .04. Among those who intended to use condoms, higher levels of PTS were associated with less condom use (t (28) = -2.67, p = .01), while higher levels of depressive symptoms were associated with more condom use (t (28) = 2.31, p = .03) with a relationship partner. These findings are incongruent with social cognitive theories, illustrating the complex relation between psychopathology and condom use. It seems that depressive symptomology may contribute to a sexual decision-making process that facilitates condom use with a relationship partner. Future research should examine mechanisms that may account for this process.

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PSYCHOMETRIC PROPERTIES OF PITTSBURGH SLEEP DISTURBANCE INDEX IN CHINESE BREAST CANCER PATIENTS

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Background: The Pittsburgh Sleep Disturbance Index (PSQI) is an instrument used to measure the quality and patterns of sleep. This study aimed to evaluate the psychometric properties of the PSQI in Chinese breast cancer patients.

Methods: Participants were 197 Chinese breast cancer patients (mean age = 49.4 years, SD = 7.9). They filled in the PSQI and self-reported measures on perceived stress, anxiety, depression, fatigue, pain, and quality of life. The PSQI assesses seven components of sleep: subjective sleep quality, sleep latency, sleep duration, habitual sleep efficiency, sleep disturbances, use of sleeping medication, and daytime dysfunction over the last month. Each component is scored on a 0 to 3 Likert scale, with higher scores denoting poorer sleep. The one-factor structure of the PSQI was evaluated via robust maximum likelihood confirmatory factor analysis using Mplus 7.11. Reliability and construct validity of the scale were assessed.

Results: The revised one-factor model provided a good fit to the data (χ2(13) = 21.44, p > .05, CFI = .978, TLI = .965, RMSEA = .057, SRMR = .042). Factor loadings were statistically significant and ranged from .36 to .84. The global PSQI factor score had a satisfactory reliability coefficient (α = .79) and was significantly and negatively correlated with perceived stress, anxiety, depression, fatigue, pain severity, and pain interference (r = .29 - .51, p < .01) and negatively correlated with quality of life (r = -.56, p < .01).

Conclusion: The results demonstrated satisfactory psychometric properties for the one-factor structure of the Chinese PSQI in terms of factorial validity, reliability, and construct validity in the breast cancer patients.

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MAJOR SLEEP PROBLEMS: A SURVEY TO IDENTIFY COLLEGE STUDENTS AT RISK FOR POOR SLEEP

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Sleep problems are common in college students (Center Disease Control, 2013) and appear causally related to poor memory consolidation and academic failure (Genzel et al., 2013). Numerous studies have investigated how factors such as gender, chronotype, and on versus off-campus living affect sleep in college populations (Hicks, Fernandez, & Pellegrini, 2001a, 2001b; Lau et al., 2013), however, there appear to be no published studies identifying academic major as a risk factor for poor sleep. In this study, a sleep survey that included the Pittsburgh Sleep Quality Index (PSQI) was administered to 439 undergraduate students (69% female), approximately 35% of the student body of a liberal arts and sciences university. The majority of students (64%) reported poor quality sleep (PSQI Sleep Quality Index >5) while 85% experienced daytime dysfunction due to sleepiness. Approximately 17% met criteria for sleep onset insomnia (i.e., > 30 minutes). Stress related rumination was the most common factor in prolonging sleep onset. Sleep quality and Total Sleep Time (TST) varied significantly by academic major with nursing students having the worst sleep quality (PSQI Sleep Quality Index, M = 7.55) with significantly less reported TST (M = 5.3 hrs, SD = 1.41) than other majors $\chi 2$ (1) = 0.01, p = .02. The nursing major may place the greatest demands of all majors at the university as it has the most competitive admission requirements, the highest tuition, and require field placement and shift work. Such demands appear to parallel the challenges of medical school students who have been found to experience sleep deprivation due to clinical duties and university load (Genzel, et al.) These findings suggest that specific fields of study, such as nursing, may predispose students to be at increased risk for poor sleep. The implications regarding targeted health programs to promote improved quality sleep and learning are discussed.

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LONGITUDINAL TRAJECTORIES OF SMOKING DECISIONAL BALANCE FOR SMOKERS: CONDITIONAL AND UNCONDITIONAL MODELS FOR INTERVENTION EFFECTS

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Decisional balance (DB) is a key construct in the Transtheoretical Model (TTM) and is an important mechanism that can help explain behavior change. DB reflects an individuals' evaluation of the pros (advantages) and cons (disadvantages) of smoking. This study examined longitudinal trajectories of smoking DB and intervention effects on these trajectories. A population-based RCT (N = 2974, 56% female, 68% Caucasian) for adult smokers (mean age 41.8 years) assessed pros and cons (4-items each) at 3 time points: baseline, 12 months and 24 months. Latent growth curve modeling fit baseline level and linear slope to the data well for both pros [$\chi^2(3) = 4.549$, CFI = .999, RMSEA = .013] and cons [$\chi^2(3) = 7.897$, CFI = .996, RMSEA = .023]. Interestingly, a significant negative slope was found for both pros (standardized intercept: $\mu = -0.293$, z = -5.125, $p < .001$) and cons ($\mu = -0.324$, z = -4.862, $p < .001$). The TTM intervention group was added as a covariate on the baseline level and slope of each model. No significant association was found between treatment group and baseline levels, supporting the effectiveness of randomization. These conditional models also fit well for both pros [$\chi^2(4) = 4.819$, CFI = .999, RMSEA = .008] and cons [$\chi^2(4) = 8.546$, CFI = .996, RMSEA = .020]. A significant intervention effect was supported for the slope of pros (standardized path: $\gamma = -0.123$, z = 2.189, $p = .029$), but not for cons. Contrary to TTM-based and empirical expectations based on cross-sectional data, the cons showed negative growth and no treatment effect. These results found that this TTM intervention reduced the pros but did not increase the cons of smoking over time. Results underscore the importance of examining longitudinal trajectories of intermediate outcome variables to enhance future behavioral interventions and contribute new understanding.

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STRESS AND SMOKING: CHANGES IN CIGARETTE SMOKING AFTER BEING EXPOSED TO A NATURAL DISASTER

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The role of stress on smoking has extensively studied in the literature. Studies suggest that individuals may smoke as a way to cope with life stress. Most studies, however, have focused on the role of perceived stress and smoking as a way to deal with stressors. Fewer studies have examined the role of major events and smoking behavior and even less the role of natural disasters. In the present study we examined the role of exposure to a major earthquake on smoking behavior. Participants in the study were 513 adults (65.7% females, mean age 46.86, SD = 16.80) who were in the zone where the earthquake hit in February 27 in 2010 in the south of Chile (8.8 on Richter scale and ranked 6th in the world) and had been evaluated the previous year as part of a major study. Participants were asked both on previous and after the earthquake they smoked and how many cigarettes they smoked per day. They were also asked how much fear they felt when the earthquake hit, exposure to other minor (e.g., being disconnected from relatives, not having electricity) and major (e.g., being exposed to riots, having to sleep outside) stressors associated with the earthquake. We also examined perceived support previous to the earthquake. We found that almost 5% started smoking after the earthquake, and a similar percentage stopped smoking after the event. We found that exposure to major events after the earthquake was associated with greater smoking chance. We also found an interaction between fear and social support reported before the earthquake. All these findings suggest that increasing smoking rates after an earthquake depend on the exposure of other events. They also suggest that social support plays a protective role when facing this type of event. Further discussion focuses on the role of stress on health behaviors.

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CIGAR, CIGARILLO, AND LITTLE CIGAR (CCLC) USE AND OTHER RISK BEHAVIORS AMONG YOUTH IN MARYLAND

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OBJECTIVES: Cigar, cigarillo, and little cigar (CCLC) use is prevalent among adolescents, especially among youth who also smoke cigarettes. In Maryland, while rates of cigarette smoking among underage high school youth significantly decreased over the past decade (23.0% in 2000 to 14.1% in 2010), CCLC use has steadily increased with 2010 estimates (13.9%) comparable to cigarettes (14.1%). This study examined CCLC use among underage youth in Maryland.
METHOD: Data were derived from the 2010 Maryland Youth Tobacco Survey. Youth (N = 62,777) were classified into one of four groups: 1.) DUAL: users of both CCLC and cigarettes (5.8%), 2.) CCLC ONLY: CCLC users without cigarette use (3.5%), 3.) CIGS ONLY: cigarette use without CCLC use (5.1%) and 4.) NO USE: no use of CCLC or cigarettes (85.6%). This study explored group differences on demographics, use of other substances and engagement in other risk behaviors.
RESULTS: As expected, the NO USE group engaged in less risky behaviors relative to the other groups (p's < .001). DUAL users were more likely to be boys, White and reported the highest rates of current alcohol use (85.6%), binges (75.1%) and marijuana use (78.2%), relative to all other groups (p's < .001). DUAL users also were significantly more likely to report engaging in risky behaviors (e.g., riding in car with someone who had been drinking) relative to the other groups (p's < .001). CCLC ONLY and CIGS ONLY users reported similar rates of past month alcohol (72.3% vs. 72.2%) use and binges (52.4% vs. 53.8%), however CCLC ONLY users were more likely to have reported past month marijuana use relative to CIGS ONLY users (63.5% vs. 53.0%). Youth who used CCLC ONLY and CIGS ONLY reported comparable rates on risk-taking behaviors.
CONCLUSIONS: DUAL users reported the highest rates of past month alcohol use, binge drinking and marijuana use relative to youth who exclusively used CCLC or cigarettes. Prevention and intervention efforts targeting youth CCLC users should address unique characteristics, needs, and risks of these users.

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C-182

PHYSICAL ACTIVITY, SMOKING URGES, AND MOOD IN YOUNG ADULTS

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Physical activity (PA) is increasingly used as an adjunctive component to smoking cessation treatment in younger age groups. Better understanding the context in which PA influences smoking cessation targets, such as urges to smoke, in younger populations is necessary for improving interventions. This study examined the effects of vigorous PA (VPA) on urges to smoke in a young adult sample enriched for past smoking. Specifically, this study assessed whether VPA was associated with less intense urges to smoke and if VPA might function to reduce the link between affect and smoking urges. Data come from the 5-year assessment of a longitudinal study examining the context of youth smoking. Participants were 190 ethnically diverse young adults (53.7% female; 91.1% current smokers) who completed an ecological momentary assessment week, during which they were randomly prompted to answer questions about their mood (i.e., positive and negative affect) and urges to smoke. They then completed a 7-day PA recall (PAR) to obtain an assessment of PA over the same week. The PAR differentiated days on which participants engaged in self-reported VPA. Body mass index was used as a control. Mixed effects regression models revealed that between-subjects VPA predicted lower urges for males but not females, $p < .05$. Results also revealed a three-way interaction between between-subjects VPA, positive affect, and gender, $p < .05$. Follow-up analyses showed that among males engaging in less VPA, low positive affect was associated with stronger urges to smoke, $p < .05$. Among males engaging in higher VPA, the association between low positive affect and urges was not significant. The interaction between PA and mood was not significant for females. Similar effects were not observed at the within-subject level for the described analyses or when evaluated for negative affect either between- or within-subjects. Results suggest important gender differences in the link between PA and smoking and a possible mechanism by which PA reduces smoking urges. Results also emphasize the need for gender-tailored interventions.

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C-183

EFFECTS OF A TTM-TAILORED SMOKING CESSATION PILOT STUDY IN WOMEN SMOKERS WITH AND AT RISK FOR HIV

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Since 42% of women with and at risk for HIV smoke, effective cessation interventions are sorely needed. Transtheoretical model (TTM) tailored cessation interventions have been efficacious in non-HIV populations. We piloted a computer-delivered multimedia TTM-tailored cessation feedback intervention delivered every 6 months over 2 years to smokers participating in the Chicago Women's Interagency HIV Study, of whom 95% enrolled [N = 111, 75% HIV+, 89% black, M = 41 years (SD = 8), 76% high school equivalent or less, 75% below poverty line, 76% unemployed, M = 8 cigarettes/day (SD = 7),Fagerstrom score M = 4.2 (SD = 2.3), 56% Depression (CESD) > =16, 57% Body Mass Index > =25]. Stages of change at baseline were: 34% Precontemplation, 47% Contemplation, and 19% Preparation. Baseline TTM construct measures were psychometrically sound, supporting their use for intervention and assessment purposes in this cohort. Among those enrolled, 93.7% returned for session 2; 89.2% for session 3; 87.4% for 4; and 80.2% (n = 89) completed the last session; 88% found the program easy to use, helpful, interesting and would recommend it to others, supporting its acceptability. Baseline stage of change was not related to retention. Paired sample t-tests revealed significant ($p < .05$) shifts in quitting, stages of change, and TTM constructs over the 2 year study. The quit rate was 13.6%, which is higher than the 4% expected without intervention and lower than the 20-25% quit rates found in non-HIV samples. TTM-tailored computer-delivered treatment was feasible, acceptable, and significantly increased cessation-related effort and quitting in diverse women smokers with and at risk for HIV. The importance of providing motivationally tailored interventions to low income, minority female smokers with and at risk for HIV, and the need for future intervention enhancement and randomized controlled trials is highlighted.

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C-184

SMOKING CESSATION BEHAVIORS AMONG U.S. ADULTS WITH AND WITHOUT COPD: FINDINGS FROM THE 2011 BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM

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Quitting smoking is important to avoid the development of and complications from COPD. This study examined whether smoking and cessation behaviors differed between adults with 1) COPD, 2) asthma (no COPD), 3) other chronic conditions-only, or 4) no chronic conditions. Data came from the 2011 Behavioral Risk Factor Surveillance System; 488,909 adults aged >18 years provided information on smoking and chronic disease status; 9,571 current smokers and recent quitters (quit <1 year) in five states responded to additional questions about cessation behaviors. Prevalence of smoking by disease status was computed for both the total and five-state samples; prevalence of past-year quit attempts and cessation resource use was computed by disease status. Bivariate and multivariable logistic regression was performed to identify correlates of past year quit attempts among those with COPD. In the five-state sample, 47.3% of adults with COPD were current smokers versus 23.1% of those with asthma, 28.8% of adults with other chronic conditions, and 20.0% of those with no chronic conditions. Those with COPD did not differ significantly from those with asthma, other chronic diseases, or no chronic disease in having made a past year quit attempt (59.7% compared to 64.0%, 61.5%, and 53.9%, respectively). Smokers with COPD were significantly more likely than those with asthma ($p < 0.05$) and those with no chronic disease ($p < 0.001$) to have used cessation treatment resources, such as a quitline, program, health professional counseling, or medication. Smokers with COPD who tried to quit in the past year were more likely than other groups to use treatment resources. However, approximately 40% did not make a past-year quit attempt.

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C-186

THE MEANING OF MINDFULNESS PRACTICE ON EVERYDAY LIVING: A MIXED METHODS INVESTIGATION

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The purpose of this study was to examine the meaning of mindfulness practice on everyday life in healthy individuals through objective, previously validated scales measuring degree of mindfulness and through rich accounts of personal experiences elicited during interviews. Subjects. Seventeen individuals reporting long-term mindfulness practice participated in the study. They were all free from chronic disease and diagnosed mental illness, and came from a variety of backgrounds including different educational levels, professions, and civil status. Methods. The study followed a convergent parallel design in which qualitative and quantitative data was collected and analyzed concurrently but separately, and then merged into an overall interpretation. Face-to-face interviews were conducted in which the major questions (1) "What is mindfulness?" and (2) "What has been the impact of mindfulness practice in your life?" were asked, followed by some probing questions on the same topic. Quantitative instruments included the Mindful Attention and Awareness Scale (MAAS), the Kentucky Inventory of Mindfulness Scale (KIMS), and the Freiburg Mindfulness Inventory (FMI). Results. Participants' definitions of mindfulness was diverse. The majority of participants were able to express in their own words the dimensions measured by quantitative scales. However, the dimension that was most commonly expressed was "insightful understanding." Moreover, interviews provided a rich description of the meaning of mindfulness practice in everyday life including the cultivation of positive emotions, positive changes in personality, awareness of one's potential, enhancement of harmonious relationship with others including spouses and parents, ability to feel more energetic with less sleep time, and sense of happiness. Conclusion. Based on participants' descriptions, the Western concept of mindfulness may differ with the Eastern concept of mindfulness. Nonetheless, participants' accounts provide support that the practice of mindfulness in Western healthy practitioners provides meaningful and positive changes in life.

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C-188

THE ROLE OF BODY IMAGE IN PSYCHOPHYSIOLOGICAL RESPONSES TO STRESS

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Negative body image is prevalent amongst women (Cash & Henry, 1995) and has been associated with health related psychological and behavioural factors (Grogan, 2006). Body image dissatisfaction has been shown to moderate psychological responses to body image relevant threats (Groesz, Levine & Murnen, 2002; Ferguson, 2013). Recently the moderating role of body image in physiological responses to stress has been investigated (e.g. Ginis, Strong, Arent, & Bray, 2012). To extend the psychobiological understanding of body image, this study investigated whether body image impacts psychophysiological (including mean heart rate (mean HR) & high frequency heart rate variability HRV (HF-HRV)) responses to a modified Trier Social Stress Test and a body image speaking task. Results indicated no significant difference for mean HR between body image or procedure groups, indicating a similar magnitude of physiological response across group and condition. Interestingly, a three way interaction for HF-HRV, body image group, and procedure groups was found (F(5, 36) = 2.90, $p < .05$, $\eta_p^2 = .29$). Across stress tasks, high body image participants demonstrated quadratic patterns of HF-HRV indicative of situationally appropriate responding. Conversely, low body image participants appeared to regulate inefficiently. Taken together, these findings suggest that although individuals in the high and low body image groups demonstrated similar magnitudes of physiological response under stress (via mean HR), the mechanism by which they achieved these responses differed between groups. As such, our results suggest that possessing a positive body image may allow situationally appropriate responding during stress, while possessing a negative body image may predispose the individual to regulatory inefficiency during stress. These preliminary results demonstrate the need for further research into the psychophysiology of body image.

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C-189

MEDIATORS OF THE RELATION BETWEEN OBJECTIVE, SUBJECTIVE, AND NEIGHBORHOOD-LEVEL SES AND PERCEIVED HEALTH

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Background: Objective, subjective, and neighborhood-level measures of socioeconomic status (SES) are all associated with health. Low SES may lead to poor health through greater stress and more health compromising behaviors (HCBs). The purpose of the present study was to investigate whether perceived stress and HCBs mediated the relation between the three types of SES and perceived health.

Methods: Participants were 508 patients (46% female, 68% Black) from a public clinic. Participants completed a computerized survey assessing objective SES (income, education, employment); HCBs (diet, activity, substance use, sexual risk); perceived stress; and perceived health. They also indicated their social standing relative to others (subjective SES) and provided their current address to determine census tract SES (per capita income, % college educated, % employed). HCBs were summed. Structural equation modeling determined the direct and indirect effects of objective, subjective, and neighborhood SES on perceived health.

Results: The sample was socioeconomically disadvantaged (51% income < $15000/year) and lived in low SES neighborhoods (median per capita income $14,200). Controlling for demographics, lower objective SES (95% CI = .06, .34) and subjective SES (95% CI = .11, .30) were related to poorer health; neighborhood SES was unrelated to health. The model explained 21% of the variance in health. There were significant indirect effects of: (a) objective SES on health through stress (95% CI = .01, .09); and (b) subjective SES on health through HCBs (95% CI = .003, .04) and stress (95% CI = .02, .11).

Conclusions: Lower objective and subjective SES were associated with greater stress; lower subjective SES was also associated with more HCBs. Greater stress and more HBCs, in turn, were associated with poorer perceived health. Neighborhood SES was not associated with perceived health. Interventions that reduce stress and improve HCBs could help to improve the health of socioeconomically disadvantaged individuals.

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C-190

THE SELF-DETERMINATION THEORY APPROACH IN PRACTICE: TESTING A BRIEF STRESS REDUCTION PROGRAM FOR MEDICAL CENTER EMPLOYEES

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This stress reduction program is a brief intervention (4 weeks, 1 hour/week) with its foundations in Self-Determination Theory (Deci & Ryan, 2000; Ryan & Deci, 2000), an empirically supported approach to motivation that helps to support basic psychological needs for optimal functioning and well-being. Sessions focused on 1) providing an overview of stress and its impact on psychological and physical health, 2) helping participants assess their life balance and the extent to which their needs are being met in their work and other life domains, and 3) helping participants create action plans for increasing daily vitality as well as stress reduction. Experiential exercises were used to promote mindfulness and related practices (e.g., stretching, breathing, muscle relaxation) to support both stress reduction and increasing vitality. One hundred fourteen employees of a large medical center (14 men, 100 women) enrolled and completed measures in at least one time point (baseline or end of program), with 77 completing measures at both. Results of a paired samples t-test showed that participants significantly reduced their stress from baseline to the end of the program [t (76) = 3.69, p < .001; scale scores = 18.42 to 16.08, respectively; effect size Cohen's d = .42), suggesting that participants' levels of perceived stress are reduced in the short-term while they are participants in the stress reduction program. Moreover, participants reported that the program helped them overall to gain a new perspective and learn how to better cope with their stressors (M = 4.10, SD = .70, Range = 2.25 - 5). The merits of this motivationally-focused intervention are discussed in the context of other theoretical approaches to stress reduction.

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C-191

PILOT STUDY OF A NEW AVOIDANT COPING BEHAVIOR MEASURE FOR HISPANIC ADULTS

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Background: Avoidant coping is established as a serious problem especially for young adults in terms of dealing with stressful events. Purpose: A coping scale was developed to assess avoidant coping behaviors based on responses to an encountered "Difficult Life Problem" by Hispanic adults from the community (leaders, residents, and drug users.) The Aguirre, Lara, Armedariz, and Spraberry (ALAS) Avoidant Coping Scale is a 22-item scale that was tested for its psychometric properties and relationship with resilience. Items were assessed using a Likert scale (1-5) on how likely a participant would engage in an avoidant coping behavior during a hypothetical "difficult life problem", with higher scores reflecting more avoidance. Methods: An online questionnaire was administered to 280 Hispanic undergraduates, a sample that consisted of 68% women with 92.5% of participants between the ages of 18-25 years old. The outcome variable of resilience was measured using the Connor-Davidson Resilience Scale (2003). Gender, Problem Solving (PS) Coping Scale scores (Castro, 2012), and ALAS scores were put into a hierarchical linear regression model to find significant predictors of resilience. To assess psychometric properties, an exploratory factor analysis (EFA) was conducted. Results: A significant negative relationship was found between the ALAS and resilience scores, STD β = -.384, p < 001. These results provide support that the ALAS predicted resilience scores beyond models that accounted for gender and the PS Coping scale with an adjusted ΔR^2 = .104, p < .001. The EFA for the set of items yielded three factors: drug use, alcohol use, and avoiding stressful situations. This subscale of avoiding situations and people was the only significant predictor of resilience scores. Conclusion: Results suggest that the ALAS may have been assessing two different types of coping: self-medication and situation avoidance. Overall, the ALAS measure appears to be an important and inverse predictor of resilience and has clinical application implications.

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C-192

HORMONAL CONTRACEPTIVES AND MARKERS OF PHYSIOLOGICAL STRESS: DIFFERENCES IN DIURNAL CYCLE ACTIVITY OF SALIVARY ALPHA AMYLASE IN WOMEN ON DIFFERENT TYPES OF HORMONAL CONTRACEPTIVES

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Activation of two key physiological systems, the Hypothalamic-Pituitary-Adrenal axis and the Autonomic Nervous System, are indicative of stress reactivity. Classically, and in recent literature, these systems are measured using cortisol and salivary alpha amylase, respectively. Evidence also indicates that both HPA axis and ANS activity follow distinct diurnal patterns. Moreover, evidence indicates that individual differences including sex, menstrual cycle activity, and use of hormonal contraceptives elicit differences in diurnal cortisol activity. While the influence of hormonal contraceptive use on diurnal cortisol is well-established, the influence of hormonal contraceptive use on sAA has not yet been investigated. The current study investigated the diurnal cycle activity of cortisol and salivary alpha amylase in 37 college-aged females who were on and off hormonal contraceptives. Consistent with previous literature, women on hormonal contraceptives showed blunted free cortisol responses. Women on hormonal contraceptives also showed significantly greater salivary alpha amylase responses, although only at evening and morning collection times. Interestingly, women using higher dose, multiphasic hormonal contraceptives showed significantly higher levels of sAA over the course of the day than did women on low-dose, monophasic hormonal contraceptives. These results suggest a preliminary model for the influence of hormonal contraceptive use on diurnal ANS activity.

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C-194

DIFFERENCES IN LIFETIME MARIJUANA USE'S INFLUENCE BASELINE INTERLEUKIN-6 LEVELS IN MIDDLE-AGED AFRICAN AMERICANS

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Research examining the relationship between marijuana and cytokine function has been well developed at the biochemical literature. However, scant literature exists regarding this relationship between inflammatory markers and marijuana use in public health or behavioral studies and is virtually nonexistent in African American samples, without neurological diseases. The current study examined the differences in serum interleukin-6 (IL-6), a marker of inflammation, between those who have only used marijuana in their lifetime, those who have used marijuana and other drugs and those who have never used drugs in a community-based sample of middle aged, African Americans. Participants included 169 African American adults (50.3% female), with a mean age of 45.68 years (SD = 11.72) from the Washington, DC metropolitan area. Serum was drawn upon entry into the study and the participants completed a demographic questionnaire, which included drug use history. Employing analysis of covariance, adjusting for demographic and physiological covariates, significant differences were found between the subgroups (F = 3.08, df = 2, $p < 0.05$). The marijuana only subgroup (M = 2.20, SD = 1.93) had significantly lower IL-6 levels than their never used drugs subgroup (M = 3.73, SD = 6.28). The current findings extend previous cellular and biochemical literature, which identifies an inverse association between IL-6 and marijuana use. Examining this relationship in the psychological and behavioral literature could be informative to the development of clinical interventions for inflammatory diseases.

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C-195

AGE AND CHRONIC DRUG USE MAY INCREASE SUSCEPTIBILITY TO TRICHOMONAS VAGINALIS AMONG MIDDLE AGE AND OLDER ADULTS

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While the majority of sexually-transmitted infections (STIs) occur among young adults, recent studies have reported the highest rates of Trichomonas vaginalis among middle age and older adults. While factors influencing trichomoniasis risk in this age cohort remain largely unknown, illicit drug use has been associated with increased incidence of STIs. Further, the number of middle age and older adults using illicit drugs has increased significantly in recent years suggesting the need to understand the relationship between drug use and STIs in middle age and older adults. The present study explored correlates of biologically confirmed T. vaginalis in a sample of adults age 45-68 years who use illicit drugs. We examined the relationship between past six-month drug use (marijuana, nasal heroin, smoked crack, injection heroin, and problem drinking), sexual risk behaviors (condom use at last sex, past six-month multiple partnerships and past six-month alcohol and drug use before or during sex) and T. vaginalis. The prevalence of T. vaginalis in this sample (19%) exceeds previously-reported rates among middle age and older adults. Past six-month drug use was high (75%), with participants reporting an average of 26 years of illicit drug use, and crack was the most commonly reported drug. Condom use at last sex was low (33%), and other sex risk behaviors were moderately frequent. Participants that tested positive for T. vaginalis were more likely to have used marijuana (AOR = 3.18, 95% CI: 1.10-9.25, p = .034) and crack (AOR = 4.24, 95% CI: 1.46-12.31, p = .008) in the past six months. Notably, sex risk behaviors were not associated with T. vaginalis, nor was drug use associated with sex risk behaviors in this sample. Age-related immune decline is hypothesized to contribute to the high T. vaginalis prevalence in this and recent studies of middle age and older adults. Further, we postulate that drug-related immunomodulation may confer greater trichomoniasis susceptibility among adults who use drugs.

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C-196

HYPOCHONDRIASIS SYMPTOMS AND PRESCRIPTION DRUG MISUSE

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In recent years, the non-medical use of prescription drugs (i.e., without a doctor's prescription) has increased dramatically, particularly in young adults. Motivations to misuse prescription drugs include to get high and to try something new. Some people that report using prescription drugs without a doctor's prescription do so for medical reasons (e.g., pain relief) consistent with how the medications might be prescribed. However, people with somatoform disorders might be inclined to believe they need prescription medications when a physician would not agree. The present study examined hypochondriasis, other psychological characteristics often associated with substance use, and the non-medical use of prescription drugs (NMUPD) in a sample of 758 young adults (ages 18-25). Overall, 29.7% of participants reported lifetime NMUPD. These individuals scored significantly higher in hypochondriasis (M = 34.10, SD = 7.34) than individuals who did not report lifetime NMUPD (M = 32.41, SD = 7.34), t(756) = 2.94, $p < .01$. Individuals who reported NMUPD also scored higher in sensation seeking, impulsivity, and hopelessness. In a multivariable logistic regression analysis, hypochondriasis scores significantly predicted NMUPD after accounting for age, gender, race/ethnicity, year in school, fraternity/sorority membership, chronic disease status, hopelessness, impulsivity, and sensation seeking, OR = 1.03 (95% CI = 1.01, 1.05), $p < .05$. The present study identifies hypochondriasis as a robust correlate of NMUPD. Prevention programs for NMUPD may benefit from taking into account the influence of hypochondriasis.

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C-197

PREVENTING ALCOHOL AND MEDICATION INTERACTIONS IN COLLABORATION WITH PHARMACISTS

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Purpose: Adversely combining alcohol and medication can result in problematic medication interactions, exacerbated health problems, poor medication adherence/safety, and increased substance misuse risk. This research aims to reduce alcohol and medication interactions (AMI) among rural older adults through an educational health campaign and behavioral change intervention based in rural pharmacies.
Methods: To obtain pharmacists' perspectives, an online survey was distributed through the Kentucky Pharmacist Association and the Kentucky Pharmacy Registry in tandem with qualitative research interviews in targeted rural counties.
Results/Implications: The survey of 253 pharmacists/techs found that 49% consider that the most important AMI messages is that AMI can be dangerous and life threatening and 27% indicated the importance of AMI communication with doctor/pharmacists. Participants also reported that major barriers to AMI prevention programs are financial costs and stigmatization, while a financial incentive is a major motivator. N = 21 qualitative research interviews indicated much interest in working on preventing AMIs in the community among older adults. Ongoing analysis has indicated a need for increased clarity in the community about AMI outcomes knowing that individuals are not easily willing to change their alcohol consumption behaviors. When creating interventions, participants indicated the need to take advantage of the close relationships the community has with pharmacists and understanding the local problem. Interview participants suggested using health improvement messages, flagging high risk clients, and using multimedia and health fairs as mediums for distribution. These data will be used to create, test, and implement educational and behavioral change intervention(s) to prevent AMI among older adults in the community.

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PSYCHOLOGICAL DISTRESS AMONG CAREGIVERS OF CHILDREN UNDERGOING HEMATOPOIETIC STEM CELL TRANSPLANT

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While pediatric hematopoietic stem cell transplant (HSCT) can provide life-saving treatment, there are many physical and psychosocial challenges. Caregivers may experience psychological distress, particularly in the time preceding HSCT. The study examined the prevalence of psychological distress among primary caregivers of children preparing to undergo HSCT. Caregivers (N = 201) completed a structured psychiatric interview (SCID) assessing major depression (MD), panic disorder (PD), and generalized anxiety disorder (GAD), Beck Depression Inventory, Beck Anxiety Inventory, and Impact of Events scale, a measure of posttraumatic stress symptoms (PTSS), at the time of HSCT. Among caregivers, 27% met at least one SCID diagnostic criteria. The most common SCID diagnoses were MD (18%), followed by GAD (15%), and PD (3%). Depression scores were primarily in the mild range (M = 11.9, SD = 7.90) with 15% of caregivers reporting symptoms in the moderate to severe range. Anxiety scores were primarily in the mild range (M = 11.6, SD = 10) with 20% of caregivers reporting symptoms in the moderate to severe range. Among caregivers, 54% reported clinically-significant PTSS. Self-reported distress and SCID diagnoses were not related to caregiver age, education, marital status, income, child age, gender, diagnosis, or time to find a donor. Mothers reported greater anxiety (p = .006) and depression (p = .031) and were more likely to be diagnosed with MD (p = .05) than other caregivers. Hispanic caregivers reported greater depression (p = .015) and PTSS (p = .009) than non-Hispanic caregivers. Caregivers with a history of mental health treatment reported greater depression (p = .04). In summary, caregivers of children undergoing HSCT may be at increased risk for psychological distress and factors such as relationship to child, ethnicity and prior mental health treatment may impact level of distress.

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C-200

FACTORIAL INVARIANCE OF DECISIONAL BALANCE AND SELF-EFFICACY MEASURES TO UNDERSTAND KIDNEY PATIENT DECISION MAKING FOR PURSUING LIVING DONOR KIDNEY TRANSPLANT

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Living donor kidney transplant (LDKT) is the ideal treatment option for end-stage renal disease (ESRD); however, the decision process to pursue LDKT is complex and challenging. Particular patient demographic subgroups, including racial minorities, females, and people with low levels of educational attainment, are less successful in pursuit of LDKT. Effective interventions to improve disparities in transplant require psychometrically sound measures that generalize to all demographic subgroups. This study examines the factorial invariance of LDKT Decisional Balance and Self-Efficacy measures among transplant-eligible ESRD patients (n = 483; 56% male, 58% white, and 56% with a college degree or higher). A sequential approach is used to evaluate the equivalence of measurement models across race (black/white), gender (male/-female), and education level (no college/college degree or higher) using multiple-group confirmatory factor analysis. Four levels of invariance were examined: Configural (no constraints), Weak (Pattern; factor loadings constrained), Strong (factor loadings and intercepts constrained), and Strict Factorial Invariance (factor loadings, intercepts, and error variance constrained). Pursuit of LDKT was measured using the Transtheoretical Model framework. Decisional Balance, consisting of two correlated subscales (Pros and Cons), and Self-efficacy, a single factor scale, were examined. Strict Factorial Invariance was found for Decisional Balance across race and gender as well as for Self-Efficacy across race, gender and education. Strong Factorial Invariance was found for Decisional Balance across levels of education. Measures had good fit across race, gender and education, indicating strong support for their use with subgroups to measure decision constructs and help guide interventions for patients with the LDKT decision process.

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Saturday
April 26, 2014
8:40 AM-10:10 AM

Citation Paper
Paper Session 25 8:40 AM-8:58 AM 4001

THE WHOLE-OF-SCHOOL APPROACH FOR PHYSICAL ACTIVITY: SCHOOL PRACTICES AND ASSOCIATIONS WITH STUDENT PHYSICAL ACTIVITY IN A NATIONALLY REPRESENTATIVE SAMPLE OF SECONDARY STUDENTS

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In 2013, the Institute of Medicine called upon schools to take a whole-of-school approach to physical activity (i.e., schools incorporate physical activity throughout the school day, including before and after school). Using data from the Monitoring the Future (MTF) and Bridging the Gap (BTG) studies, we examined the degree to which US secondary schools are implementing practices recommended in the whole-of-school approach and whether adolescents who attend schools with greater levels of implementation are more likely to obtain 60 minutes a day of physical activity. MTF annually surveys a nationally representative sample of students attending US middle and high schools. BTG collects data on the school practices in these same schools, which are self-reported by the school administrators. Six different school practices related to physical activity were summed to form a whole-of-school index in 8th and 10th/12th grade schools for school years 2010/11 - 2011/12. Multilevel linear regressions were implemented to examine whether the whole-of-school index was predictive of the number of days that adolescents achieved at least 60 minutes of physical activity. All models controlled for a number of covariates at the individual and school level. Results indicate that a low proportion of schools implemented all 6 practices at either the middle or high school level. Among 8th graders, adolescents who attended schools with higher scores on the whole-of-school index were physically active for at least 60 minutes on more days ($p < .05$). The relationship was not significant in 10th/12th graders. This study suggests that the whole-of-school approach is a promising strategy to increase the number of days that middle school students are active for at least 60 minutes. However significant work is needed to increase the number of schools who are adopting the whole-of-school approach.

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Citation Paper
Paper Session 25 8:58 AM-9:16 AM 4002

MAOA-STRESS INTERACTIONS ON DIETARY PATTERNS IN CHINESE ADOLESCENTS

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Monoamine oxidase A (MAOA) regulates food intake by modulating serotonin and dopamine metabolism. Our previous replication research confirmed the genetic effects of the 30-bp tandem repeat (uVNTR) MAOA polymorphism on body mass index (BMI) in a Chinese adolescent population and suggested potential genetic interactions with negative stress experience. In this analysis, we continued to examine the population effects of experiences with negative stressors from school, family, peers, violence and negative health situations, MAOA uVNTR Polymorphism, and their interactions on the dietary patterns derived from a validated 124-item food frequency questionnaire. The sample consisted of 1,018 randomly selected Chinese adolescents of 11-15 years old. Using factor analysis, we identified 2 major dietary patterns. The first factor, labeled as "sweet-meat pattern", was characterized by high intake of sweets, organ/processed/red meat, fast food, poultry, soda, dairy, fruits and cereals, whereas the second factor, the "vegetable-soy pattern", was characterized by high intake of varied vegetables, nuts, and soy products. After adjustment of age, pubertal status, parental education, total energy intake and school random effects, significant gene-stress interactions on high intake of "vegetable-soy pattern" were found. Carrying high function alleles (3.5 or 4 repeats) significantly weakened the association of negative stress experience with high intake (i.e. high factor scores) of "vegetable-soy pattern" (beta for interaction: -0.3 ± 0.09, $p = 0.0008$). Consistent results of gene-stress interactions were observed in boys and girls and in specific food components of "vegetable-soy pattern" when analyzed separately. Our findings strongly indicate that MAOA can modulate the effect of negative stressors on dietary behaviors, which might have broad practical implications in obesity prevention.

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Citation Paper
Paper Session 25 9:16 AM-9:34 AM 4003

PATHWAYS LINKING SHORT SLEEP DURATION TO CHILD OBESITY IN LOW-SES HOUSEHOLDS

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Obesity disproportionately affects children from low socioeconomic status (SES) homes. This case-control study sought to identify aspects of the home environment and child and caregiver behaviors that discriminate low-SES households (98% ethnic minority) with predominantly overweight/obese children ages 6-13 ($n = 55$) from those with only normal weight children ($n = 48$). Caregivers and children jointly reported on child sleep duration, screen time, and intake of obesity-promoting foods. Anthropometric measurements and staff audits of the foods, media, and sports equipment in the home were conducted. Of all factors assessed, shorter sleep duration emerged as the strongest correlate of child overweight/obesity status ($OR = 0.45$, $p < .01$). Path models examined direct and indirect associations involving sleep duration and overweight/obesity status. The best-fitting model (model $\chi^2 = 9.51$, $p = .58$, $CFI = 1.00$), accounting for 26.4% of variance in overweight/obesity status, included an indirect effect ($b = 0.07$, $p < .01$) such that greater screen time was related to shorter sleep duration ($b = -0.15$, $p < .001$), and shorter sleep duration was related to child obesity ($b = -0.44$, $p < .001$). Shorter sleep duration was associated with a more chaotic home environment ($b = -0.06$, $p = .03$. Screen time was inversely related to parental monitoring of media use ($b = -0.28$, $p < .001$). Alternative models in which the sleep-obesity association was mediated by dietary intake or physical activity, or moderated by the presence of obesity-promoting foods, media, or sports equipment in the home, were not supported. Findings suggest that sleep duration may be a critical intervention target in child obesity interventions for low-SES populations.

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Citation and Meritorious Paper
Paper Session 25 9:34 AM-9:52 AM 4004

DIAGNOSTIC SEVERITY AND FUNCTIONAL LIMITATIONS CONTRIBUTE TO INCREASED PREVALENCE OF OBESITY IN AUTISTIC YOUTH

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Background: Limited evidence suggests that obesity occurs at a higher rate in individuals with autism spectrum disorders (ASD); however, available research is limited by methodological concerns, including inadequate examination of diagnostic severity and functional limitations.
Objectives: Using a nationally-representative sample, evaluate ASD diagnosis as a risk factor for obesity, examine the role of environmental and behavioral factors in observed obesity rates, and assess whether functional limitations and diagnostic severity contribute to the likelihood of obesity in youth with ASD.
Methods: We used data from the National Survey of Children's Health (NSCH) 2007. Children age 10-17 (n = 41,902) were included in analysis (ASD diagnosis n = 464; no ASD diagnosis n = 41,438). Binary logistic regression models examined the impact of ASD diagnosis, environmental, and behavioral factors on likelihood for obesity, and the role of functional limitations and diagnostic severity in obesity rates for youth with ASD.
Results: Children with ASD were more than twice as likely to be obese than children without ASD (Unadjusted OR = 2.19; 95% CI = 1.78, 2.71), with a prevalence of 25.4% in ASD compared to 13.5% in non-ASD youth (p < .000). In addition to ASD diagnosis, sociodemographic (e.g., poverty, race/ethnicity) and behavioral (e.g., screen time, physical activity) factors were associated with increased rates of obesity (p < .000). Among youth with ASD, those with a moderate (OR = 1.26, 95% CI = 0.77, 2.05) or severe ASD diagnosis (OR = 2.37, 95% CI = 1.19, 4.71) were more likely to be obese compared to those with a mild diagnosis.
Conclusions: ASD diagnosis appears to be a significant risk factor for obesity. Furthermore, among youth diagnosed with ASD, symptom severity and functional limitations appear to enhance this risk. Heightened efforts at early identification and intervention are warranted to prevent and treat obesity among youth with ASD, particularly in those with more severe ASD-related symptoms and impairment.

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Paper Session 25 9:52 AM-10:10 AM 4005

RANDOMIZED CONTROLLED TRIAL OF A MOTIVATIONAL INTERVIEWING INTERVENTION IN PEDIATRIC OBESITY: THE MI VALUES STUDY

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Objective: We examined findings from the MI Values study, a motivational interviewing (MI) intervention implemented within a multidisciplinary pediatric obesity treatment program, TEENS.
Methods: Participants (N = 99) were primarily African American (73%) and female (74%); M age = 13.8 ± 1.8 years; M BMI z-score = 2.4 ± 0.3. Adolescents were randomized to two MI (n = 58) or education control (n = 41) sessions, implemented at weeks 1 and 10 of TEENS participation. All participants continued with TEENS (biweekly nutrition education and behavioral support, and 3x/week of supervised physical activity [PA]). At baseline and 3-months, anthropometrics were obtained, and participants completed 48-hour dietary recalls, the Physical Activity Recall, and a timed treadmill test. Repeated measures ANCOVAs examined group (MI or control) differences in outcomes at 3-months, using an intention to treat approach.
Results: There were no baseline group differences. At 3-month follow-up, both groups demonstrated significant reductions in BMI z-scores (-.03) and increases in PA (+1.1 hour/day) and treadmill time to exhaustion (+50.5 secs; all ps < .05). MI participants reported greater 3-month reductions in caloric intake (-280 kcal/day) than controls (-22 kcal/day; p = .015). No other group effects were found.
Conclusions: We previously reported that MI participants demonstrated better adherence to TEENS (overall and to dietitian and behavior support visits) than controls. An important extension of those findings is determining if increased adherence translates to improved treatment effects. Data suggest that MI is associated with improved dietary intakes, consistent with better adherence to dietitian visits. Overall, MI can be an effective adjunct to pediatric obesity treatments. Studies with larger samples are needed to determine if MI can significantly enhance BMI and other health outcomes, via greater adherence to behavioral intervention. Implications for obesity treatment with underserved adolescents will be discussed.

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Paper Session 26 8:40 AM-8:58 AM 4006

APPLICATION OF AN ADAPTIVE INTERVENTION PROTOCOL IN A WEIGHT MANAGEMENT TRIAL

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Introduction: In intervention trials, the adaptive intervention design allows for participant-specific modifications to the intervention protocol based on a priori decision rules regarding participant levels on indicator variables. Scant information exists to help investigators select the indicator variables on which to adapt a given protocol, set thresholds of those indicators, and determine the resources needed to implement the adapted protocol.
Purpose: Describe the application of an adaptive intervention protocol in the first year of an adolescent weight management trial.
Method: In an intervention trial to determine the efficacy of family-based, group-delivered behavioral interventions to reduce BMI in urban youth, an adaptive protocol was developed in which thresholds for adaptions in the standard protocols were made on four tailoring variables: binge eating status, baseline obesity level, parent level of involvement, and excessive weight gain during the study. The adapted protocols consisted of a predetermined number of 20-minute individual coaching sessions in addition to the standard protocol (25 group sessions of 1.5 hrs. each).
Results: In the first year of the trial, 121 participants (mean age = 12 years; 59% female; 79% African American) were enrolled in the intervention. Twenty-five percent of the participants (N = 30) required an adaptive protocol (12% for binge eating, 11% for excessive weight gain during the study, 5% for morbid obesity, and .01% for lack of parent/guardian involvement). Four participants required an adapted protocol for more than one indicator variable. The 30 adolescents needing an adapted intervention averaged one hour more intervention dose than those not having an adapted intervention.
Conclusion: Tailoring research behavioral interventions using an adaptive protocol design requires minimal resources. Adaptive intervention designs can be feasibly incorporated into behavioral weight management protocols and still preserve replicability and precise measurement of intervention dose.

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Paper Session 26 8:58 AM-9:16 AM 4007

WEIGHT GAIN PREVENTION IN THE SCHOOL WORKSITE SETTING: RESULTS OF A MULTI-LEVEL CLUSTER RANDOMIZED TRIAL

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Worksites are an important setting in which to implement weight gain prevention initiatives to address the obesity epidemic. School worksites are particularly well suited to programs targeting the physical and social environment. School employees comprise 5% of the nations' workforce, yet few worksite health promotion programs have targeted school worksites. The purpose of this study was to examine the effectiveness, reach and implementation of a weight gain prevention intervention among public school employees. A cluster randomized trial was conducted between 2009 and 2012 among 782 employees in 12 central Massachusetts public high schools. A multi-level intervention targeted the nutrition and physical activity environment and policies, the social environment and individual knowledge, attitudes and skills. The intervention was coordinated at each site by an onsite coach, typically a school nurse, and overseen by an employee advisory board. The intervention was compared to a print and electronic materials only condition. Differences in change in weight and body mass index (BMI) at 24-month follow-up were compared. Implementation of physical environment, policy and social environment strategies at the school and interpersonal levels, and intervention participation at the individual level were assessed in intervention schools. At 24-month follow-up, there was a net change (difference of the difference) of -3.03 pounds (p = .04) and of -.48 BMI units (p = .05) between intervention and comparison conditions. The majority of strategies at each level were successfully implemented by all intervention schools, although establishing formal policies was challenging. Employee participation in programs targeting the physical and social environment was maintained over time.

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Paper Session 26 9:16 AM-9:34 AM 4008

PREDICTING MEANINGFUL OUTCOMES TO MEDICATION AND SELF-HELP TREATMENTS FOR BINGE EATING DISORDER IN PRIMARY CARE: THE SIGNIFICANCE OF RAPID RESPONSE

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This study examined rapid response among obese patients with binge eating disorder (BED) who participated in a randomized clinical trial testing the effectiveness of self-help cognitive-behavioral therapy (shCBT) and an anti-obesity medication (sibutramine), alone and in combination, in primary care settings. 104 obese patients with BED (73% female, 55% non-white) were randomly assigned to one of four treatments (balanced 2-by-2 factorial design): sibutramine, placebo, shCBT + sibutramine, or shCBT + placebo. Treatments were delivered by generalist primary care physicians and the medications were given double-blind. Independent assessments were performed by trained and monitored doctoral research clinicians monthly throughout treatment, post-treatment (4 months), and at 6- and 12-month follow-ups (i.e., 16 months after randomization). Rapid response, defined as 65% or greater reduction in binge-eating by the fourth treatment week, was used to predict treatment outcomes. Rapid response characterized 47% (N = 49/104) of patients and was unrelated to demographic and baseline clinical characteristics. Rapid response was significantly associated prospectively with remission from binge eating at post-treatment (51% versus 9% for non-rapid responders; chi-square = 22.9, $p < 0.001$) and at both 6-month ($p < 0.002$) and 12-month ($p < 0.01$) follow-ups. Mixed effects model analyses revealed that rapid response was significantly associated with greater decreases in binge eating frequency, eating disorder psychopathology (EDE global scores), depression, and with greater percent BMI loss. Our findings, based on a diverse obese patient group receiving treatment for BED in primary care settings, indicate that rapid response to treatment has prognostic significance through 12-months following completion and discontinuation of treatments. Rapid response has clinical implications for stepped care treatment models for BED.

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Paper Session 26 9:34 AM-9:52 AM 4009

THE IMPACT OF MINDFUL EATING BEHAVIORS ON WEIGHT LOSS IN OVERWEIGHT AND OBESE ADULTS

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It has been suggested that cultivating mindful eating behaviors, such as enhancing awareness of hunger and satiety, making conscious (rather than habitual) food choices, and eating slowly with focused attention to a meal, may be a valuable strategy to improve weight loss. PURPOSE: To examine the relationship between changes in mindful eating behaviors and weight loss over an 18-month behavioral weight loss intervention (BWI). METHODS: Data are a post-hoc analysis from a RCT in which participants (N = 231; BMI = 32.6 ± 3.5 kg/m2; age = 18-55 yrs.) completed interventions differing in delivery approach that included group sessions, a decrease in energy intake (1200-1500 kcal/d), and physical activity progression to 300 min/wk. Weight and eating behaviors (Eating Behavior Inventory (EBI)) were measured at 0, 6, 12, and 18 mos. A mindful eating score (MES) was created from 7 select EBI items evaluating mindful eating behaviors on a 5-point Likert scale. RESULTS: In the pooled analysis, weight loss at 6, 12, and 18 mos. was -10.0 ± 6.1 kg, -10.0 ± 8.1 kg, and -8.5 ± 8.3 kg, respectively. MES improved by 5.3 ± 4.7 at 6, 4.7 ± 5.1 at 12, and 4.6 ± 5.0 at 18 mos. indicating an increase in mindful eating behaviors. Regression and partial correlation analyses adjusted for baseline weight and MES were completed. Results revealed a significant inverse relationship between change in MES and change in weight at 6 ($r = -0.39$, $p < 0.001$), 12 ($r = -0.38$, $p < 0.001$), and 18 mos. ($r = -0.36$, $p < 0.001$), with standardized beta values at 6 ($\beta = -2.52$ kg, $p < 0.001$) , 12 ($\beta = -3.44$ kg, $p < 0.001$), and 18 mos. ($\beta = -3.16$ kg, $p < 0.001$). CONCLUSIONS: An increase in the use of mindful eating strategies over time was significantly associated with greater weight loss in overweight and obese adults. Future studies should examine whether a more specific focus on mindful eating techniques and behaviors will enhance weight loss during a long-term behavioral intervention.

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Paper Session 26 9:52 AM-10:10 AM 4010

EFFECTS OF A SMALL CHANGES APPROACH FOR WEIGHT LOSS IN VETERANS: 24-MONTH OUTCOMES

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Little is known about weight loss in predominantly male populations with multiple complex co-morbidities. The present study tested whether a Small-Changes (SC) intervention, delivered by non-clinician coaches in a group or over the phone promoted greater weight loss compared to the current weight management program (MOVE!) in the Veterans' Health Administration (VHA). Weight changes at 12 and 24 months were compared across the three arms.

481 overweight or obese (M = 36.5; range 25.2-63.0) middle-aged (M = 55; range 23-87) mainly male (85%) Veterans were recruited from two VHA medical centers and randomized to either 1) the SC-group program, 2) the SC-phone program, or 3) the MOVE! weight management program. For both of SC treatment arms, during the first year of intervention, contact was weekly (3 months), bi-weekly (6 months), then monthly (3 months). During the second year, contact was bi-monthly. MOVE! consisted of weekly meetings for the first 3 months followed by ad hoc sessions.

At 12-months, all three arms lost significant ($p < .01$) weight. Participants in the SC-Group arm lost marginally more weight (M = -2.8 kg [95% CI, -3.8 to -1.9]) compared to those in the SC-Phone (M = -1.4 kg[95% CI, -2.4 to -0.5]) or MOVE! program (-1.4 kg[-2.3 to -0.4]). By 24 months, participants in the SC-Phone arm exhibited greatest net weight loss (M = -1.95[95% CI, -3.20 to -0.69]) but there were no significant differences between groups (M = -1.10[95% CI, -2.30 to 0.09] & M = -1.57 [95% CI, -2.86 to -0.29] SC-Group and MOVE!, respectively).

Both SC treatment approaches resulted in significant weight loss at 24 months in this challenging population. However, all three treatment approaches showed comparable effects. Bi-monthly treatment in the 2nd year may not have been sufficient to maintain the advantage of the SC-group seen at 12 months. Qualitative data will be described to help provide insights to challenges faced by this population.

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Paper Session 27 8:40 AM-8:58 AM 4011

FOGO WELLNESS: PROMOTING PHYSICAL ACTIVITY AND FRUIT AND VEGETABLE CONSUMPTION THROUGH A COMMUNITY-BASED LIFESTYLE MODIFICATION PROGRAM

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There is evidence for the use of cognitive behavioral programs to improve health-related behaviors including physical activity (PA) and nutrition. However, there is less evidence of large-scale programs that combined components of both PA and nutrition. A total of 121 participants enrolled in a 16-week lifestyle modification program held in a community based setting conducted in a large group format. Height, weight, and physical fitness (6-minute walk test, 30-second chair stand) were measured as a part of pre- and post- program assessments, as well as the participants' levels of PA and nutrition self-efficacy, stage of change, social support, as well as enjoyment of PA and the consumption of FAVs. From baseline to post program, significantly findings included a decreases in mean body weight (189.1 to 188.3 lbs; $p < .001$) and BMI (31.8 to 31.5; $p < .001$). Statistically significant increases scores were observed in the 6-minute walk (540.8 to 616.5 m; $p < .001$), 30-second chair stand (13.3 to 19.5 repetitions; $p < .001$), and consumption of FAVs (3.1 to 4.9 servings/day; $p < .001$). Improvements were also seen in nutrition/PA self efficacy ($p < .05$), and nutrition/PA stages of change ($p < .01$). Mean scores for PA social support significantly increased in family and friend participation ($p < .01$), and family reward mean scores($p < .01$). A lifestyle modification program based on cognitive behavioral approaches can be successfully implemented in a community-based setting with a large group format to improve PA and FAV behaviors and attitudes.

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Paper Session 27 8:58 AM-9:16 AM 4012

TRANSFORMATION FOR HEALTH: OBESITY PREVENTION INTERVENTION AMONG HISPANIC CHILDREN IN WEST TEXAS

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Background/Objectives: Over 39% of elementary students in East Lubbock Community are overweight or obese and over 57% of the students are Hispanic. The purpose of this study is to investigate effects of using Transformation for Health (TFH) concept to prevent and control overweight and obesity among young Hispanic children in West Texas.
Methods: Total 756 young school aged Hispanic children (Kindergarten to the 3rd grade) and their parents (N = 626) from 644 families in Lubbock and El Paso were recruited and grouped into two groups, control and intervention. The participants in the intervention group participated in three components of intervention: nutritional education, exercise activity, and gardening projects at home and at school. Outreach to homes of selected subsamples in each site was conducted by trained bilingual Community Health workers (CHWs). Standardized anthropometric measurements, foods and beverages intake, parents' acculturation and subjective nutrition knowledge, and sedentary behaviors were measured at baseline and the 4th, 10th, 16th and 22nd month.
Results: Over 70% of children at all sites and all schools had TVs in their bedrooms. Group mean of average daily total screen time was 3.3 to 5.2 hours across all groups and sites, well above the recommendation of two hours or less. Children who had a TV in their bedrooms spent more time watching TV, had more frequent fast food intake and higher sugar-sweetened beverage intake, and had less parental support of physical activity. Group mean of daily consumption of fruits and vegetables was 2.8 to 3.3 cups across all groups and sites. The intervention program slowed the rate of increase in BMI percentile and in body fat percentage and was effective in increasing parent's support for physical activity, as well as in reducing children's intake of sweetened beverages.
Conclusion/Discussion: Using bilingual CHWs was an effective way for childhood obesity prevention among Hispanic children in West Texas.

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Paper Session 27 9:16 AM-9:34 AM 4013

RANDOMIZED TRIAL OF SINGLE- VERSUS MULTI-COMPONENT DIETARY GOALS ON WEIGHT LOSS AND DIET QUALITY IN INDIVIDUALS WITH METABOLIC SYNDROME

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A single-goal dietary recommendation to increase fiber intake (≥30 g/day) was compared to the multi-component American Heart Association (AHA) dietary guidelines for individuals with metabolic syndrome (N = 240). Follow-up visits were conducted at 3-, 6- and 12-months. Participants in both groups lost weight (3.5 ± 0.9 vs. -4.4 ± 0.8 lbs) at 3 months, and weight loss was maintained at 12 months by both groups (both ptime <0.001). There was no group difference in weight loss (pgroup = 0.92). Diet quality scores significantly increased for the high fiber group and the AHA group (4.5 ± 1.2 vs. 3.3 ± 1.2 at 3 months; 8.0 ± 1.3 vs. 6.0 ± 1.3 at 6 months; 5.2 ± 1.3 vs. 5.4 ± 1.3 at 12 months; ptime < 0.0001), though there were no significant group differences. The high fiber group significantly increased their intake of total dietary fiber (7.1 ± 1.1 vs. 2.7 ± 1.1 g/day at 3 months, pgroup = 0.006), insoluble (5.5 ± 0.8 vs. 2.7 ± 0.8 g/day, pgroup = 0.013) and soluble fiber (1.7 ± 0.3 vs. -0.1 ± 0.3 g/day, pgroup = 0.005) compared with the AHA group. There were significant group-time interactions for both fasting insulin and HOMA-IR (both pinteraction = 0.03), with greater decreases at 12 months (insulin: 3.6 ± 1.2 vs. 1.7 ± 1.2 IU; HOMA-IR: -1.0 ± 0.3 vs. -0.3 ± 0.3) in the high fiber group compared with the AHA group, respectively. The high fiber group generally reported higher satisfaction and confidence adhering to the diet than the AHA group (p = 0.02). Focusing exclusively on increasing fiber for individuals with the metabolic syndrome led to weight loss comparable to multi-component dietary recommendations, and resulted in greater improvements in insulin resistance. Simplified dietary messages that focus on increasing intake of a healthy component of the diet may result in comparable outcomes and better adherence than more complex dietary guidelines.

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Paper Session 27 9:34 AM-9:52 AM 4014

ENERGY BALANCE, WEIGHT AND DEPRESSION AFTER LIFESTYLE INTERVENTION FOR PATIENTS WITH COMORBID TYPE 2 DIABETES AND DEPRESSION

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Depressive symptoms are more common in patients with type 2 diabetes (T2DM) than in the general population and have a significant negative impact on T2DM self-care and outcomes. Patients with T2DM and depression are less likely to adhere to diet and exercise regimens than patients without depression. This study examined change in an estimated energy balance index (i.e. caloric expenditure minus caloric intake) over 12-months in a RCT evaluating the efficacy of a lifestyle intervention versus standard care (SC). The intervention was designed to reduce weight, increase physical activity, and improve stress management in overweight/obese T2DM patients with significant depressive symptoms. It also examined whether change in energy balance was associated with change in weight and depressive symptoms. The analyses included 111 participants (M age = 55, 70% female, 85% Hispanic). Latent growth modeling showed a significant difference in the slope of energy balance in the intervention compared with the control condition, with the intervention condition improving by 0.35 more standard units per month than the control group (p = .002). Improvement in the control condition was not significant (p = .08). Improvement in energy balance was associated with weight reduction (β = -.60,p = .002), but not with depressive symptom reduction (β = -.27,p = .17). However, the depression and energy balance intercepts were significantly associated (β = -.43,p = .01), such that greater initial depression was associated with less optimal energy balance for weight reduction at baseline. All analyses adjusted for age, gender, and education. Results indicate that an estimate of energy balance may be a useful measure of adherence to dietary and physical activity recommendations in lifestyle interventions for T2DM patients, and that improvements in this index are associated with simultaneous weight reduction. More work is needed to understand how the energy balance index may associate with depression and other psychosocial variables, while also considering directionality and temporality.

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Paper Session 27 9:52 AM-10:10 AM 4015

EFFECTS OF A GROUP-MEDIATED AND STRUCTURED LIFESTYLE INTERVENTION ON PSYCHOSOCIAL COGNITIONS IN OBESE ADOLESCENTS

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The high prevalence of obese youth is a persistent health concern in Canada. In addition to increasing risk for progression to type 2 diabetes and cardiovascular disease, obesity is associated with physical inactivity and psychosocial distress. Social cognitive theory identifies human behaviour as a reciprocal interaction between personal factors, behaviour and the environment. Thus, engaging in behaviour, such as physical activity (PA), is influenced by social cognitions including outcome expectations (OE), self-efficacy (SE), satisfaction and enjoyment. The REACH study (#NCT00934570) assessed a two year comprehensive, structured lifestyle intervention, which included an initial 12-week group-mediated cognitive-behavioural component, on quality of life, OE, SE enjoyment of PA and satisfaction with PA-related outcomes. Sixty-nine youth (10-16 years, BMI >95th percentile) were randomized to moderate or vigorous intensity exercise for 12 weeks. Group exercise continued weekly in the community. Nutritional and behavioral counseling were provided monthly for the first year, and then quarterly for the second year. Sixty one subjects (88%) completed 6 months, 47 (68%) 12 months, and 29 (42%) 24 months. Overall, repeated measures ANOVA showed improvements from baseline to 2 years for quality of life (p = 0.01, η2 = 0.41), satisfaction with self (p = 0.03, η2 = 0.75), satisfaction with physical capacity (p = 0.02, η2 = 0.80), PA enjoyment (p = 0.01, η2 = 0.46), and barriers from PA (p = 0.00, η2 = 0.19). Paired samples t-tests revealed that barrier (t (15) = -2.81, p = 0.01, η2 = 0.33) and task SE (t (15) = -4.60, p = 0.00, η2 = 0.58) increased from baseline to 6 months, with the former decreasing from 6 months to 1 year (t (21) = -2.67, p = 0.01, η2 = 0.24). This lifestyle and group-mediated self-regulatory skills intervention was effective at improving quality of life and some psychosocial constructs in obese youth over an extended period of time.

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Citation Paper
Paper Session 28 8:40 AM-8:58 AM 4016

PHYSICAL SYMPTOMS CAN PRECEDE PTSD SYMPTOMS IN A LONGITUDINAL PROSPECTIVE STUDY OF SOLDIERS DEPLOYED TO IRAQ AND AFGHANISTAN

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Objectives: Post traumatic stress disorder (PTSD) is associated with increased physiological arousal and more physical symptoms, like nausea or pain. What is not known is if physical symptoms precede PTSD symptoms. We hypothesized that during combat, physical symptoms and anxiety are associated through learning. Then, physical symptoms after combat can trigger anxiety, thereby increasing PTSD symptoms.

Method: We tested whether physical symptoms preceded PTSD symptoms or vice versa using a prospective longitudinal study of reservist soldiers deployed to Iraq or Afghanistan (n = 790). Physical symptoms were assessed at four time points (pre-deployment, immediately post-deployment, 3 months post-deployment and 1 year post-deployment). PTSD symptoms (PCL-C) were assessed at the last three time points. A measure of negative affect was used to account for anxiety symptoms at pre-deployment. The data were analyzed using a cross lag panel model.

Results: Greater physical symptom severity was associated with more PTSD symptoms at each of the three subsequent waves ($\beta = .15, .15, .28$; all ps < .05). At only one time point were PTSD symptoms (immediately post-deployment) associated with greater physical symptoms at the next wave (3 months post-deployment; $\beta = .28$, $p < .05$).

Discussion: To our knowledge, this is the first study to show that increased physical symptoms can precede increased PTSD symptoms. We will discuss implications and limitations of this work for psychological theory and treatment, namely early identification of Veterans who may go on to have clinically significant PTSD symptoms.

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Citation Paper
Paper Session 28 8:58 AM-9:16 AM 4017

A PROSPECTIVE ANALYSIS OF STIGMA AS A PREDICTOR OF DEPRESSION TREATMENT PREFERENCES, MENTAL HEALTH TREATMENT ENGAGEMENT AND CARE QUALITY

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Stigma is often cited as a reason why people with depression avoid treatment or seek treatment in primary care (PC) rather than specialty mental health (SMH) settings. Despite stigma's characterization as a treatment barrier, few studies have tested explicitly the prospective relationships between stigma and actual care engagement. In a secondary analysis of a longitudinal dataset including 761 VA PC patients with probable major depression, we defined stigma by asking whether patients would accept a depression label and tested stigma's concurrent and prospective relationships with patients' depression treatment preferences, depression care behavior, and depression treatment adequacy. Results indicated that a sizeable minority (8%) of PC patients with depression reported stigma at baseline. In a series of adjusted logistic regression analyses, patients who reported stigma were less likely to prefer depression treatment from SMH providers (psychiatrists: OR = 0.27, 0.15-0.49, p < .001; psychologists/social workers: OR = 0.31, 0.18-0.54, p < .001). Presence of stigma at baseline predicted lower likelihood of medication use for an emotional problem at 6 months (OR = 0.19, 0.09-0.40, p < .001), lower likelihood of care from a SMH provider (OR = 0.23, 0.10-0.52, p < .001) and care in a SMH clinic (OR = 0.19, 0.07-0.50, p < .001) between baseline and 6 months, and lower likelihood of adequate depression care (≥4 therapy visits and/or antidepressants) at 6 months (OR = 0.24, 0.10-0.55, p < .001). These results indicate that stigma likely plays a significant role in many patients' choices about care engagement and treatment adequacy. Finally, because patients who experience stigma might avoid SMH care but still seek treatment in PC, these results reaffirm the importance of PC-Mental Health integration efforts to support depression management.

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Paper Session 28 9:16 AM-9:34 AM 4018

BRIEF BEHAVIORAL ACTIVATION FOR DEPRESSED VETERANS IN PRIMARY CARE: A PILOT STUDY OF EFFECTIVENESS AND ACCEPTABILITY

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Depression is the most common referral problem seen by behavioral health providers (BHPs) in integrated primary care (IPC) settings. Many BHPs use elements of behavioral activation (BA) to treat depressed patients, but the effectiveness of a brief BA intervention at reducing depressive symptoms has not been evaluated. This pilot study evaluated the effectiveness and acceptability of a manualized 4-session BA intervention (BA-PC) for depressed veterans seen in primary care. Participants were 17 veterans (94% male, 82% White, M age = 60, SD = 6) who were seen in primary care at the Syracuse or Rochester VA and reported at least moderate symptoms of depression on the Patient Health Questionnaire-9 (PHQ-9). BHPs delivered BA-PC through four, 20-30 minute sessions every 2-3 weeks. BA-PC emphasized systematically engaging in pleasurable and meaningful activities. Participants completed the PHQ-9 at baseline and 4-week follow-up, when they also completed the Client Satisfaction Questionnaire and measures of acceptability. Twelve participants (71%) completed BA-PC, with 4 out of 5 dropouts being due to medical problems or transfer to specialty care. Among completers, BA-PC resulted in a reduction in depressive symptoms between baseline ($M = 17.0$, $SD = 5.0$) and follow-up ($M = 12.4$, $SD = 6.3$), $t(11) = 2.82$, $p = .02$, $d = .81$. Over half of participants reporting suicidal ideation at baseline experienced a reduction by follow-up. Participants reported a high level of satisfaction with BA-PC overall (M = 27.3 out of 32, SD = 3.9) as well as the format, length, and materials used. The results of this pilot study preliminarily support the effectiveness of BA-PC with veterans with moderate-severe depressive symptoms. BA-PC is a promising intervention for IPC due to its combination of brevity, effectiveness, and veteran acceptability.

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Paper Session 28 9:34 AM-9:52 AM 4019

EVALUATING VETERANS' ILLNESS COGNITIONS TO IMPROVE CARE OF MEDICALLY UNEXPLAINED SYMPTOMS

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Illness cognitions predict behavior and outcomes in many illness populations, including veterans with medically unexplained syndromes (MUS). Some researchers posit that veterans' potentially unique MUS illness cognitions should be characterized in order to improve treatment-interventions, but others contend that etiological and maintenance factors may be universal. This study was designed to address this debate and to further characterize the MUS illness cognitions of recently returned veterans in order to improve outcomes. Veterans (n = 243) responded to postal surveys asking about any MUS they may have, including their illness cognitions (the IPQ-R), treatment behaviors, and quality of life. Correlations, regression, and coding of qualitative data were conducted. 69.5% experiencing chronic symptoms reported that a provider described them as medically unexplained. Over half of veterans experiencing each listed symptom thought the symptom was related to their MUS, ranging from 51.4% of those with back pain to 84.2% of those with paralysis. For every symptom, a greater proportion of those who attributed the symptom to their MUS rated it as severe compared to those who did not attribute it to their MUS. As found in civilians with MUS, the strongest predictors of functioning were number of symptoms associated with, consequences of, and emotional responses to MUS. These belief-domains, along with chronicity and personal control beliefs, predicted veterans' ability to work and to spend time with family. Most IPQ-R domains (except for illness coherence, cyclical timeline beliefs and personal control) predicted treatment adherence, intended adherence, and expected improvement. Secondary gains and perceived stigma were not associated with outcomes. This study was the first to evaluate veterans' MUS cognitions using the IPQ-R and their association with outcomes important to returning veterans. The results have ramifications for intervention design, and a discussion of the universality of Veterans' beliefs of MUS to civilian beliefs of MUS will be presented.

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Paper Session 28 9:52 AM-10:10 AM 4020

SYSTEM CHANGES TO FACILITATE THE IMPLEMENTATION OF EVIDENCE-BASED PSYCHOTHERAPY AS A FRONT-LINE TREATMENT

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The Veterans Health Administration has identified several Evidence-Based Psychotherapies (EBPs) for the treatment of depression, anxiety, insomnia, and PTSD. Although EBPs are recommended as a front-line treatment, in practice these treatments are typically offered secondary to medication management. This presentation describes how the Access Model (Stirman et al., 2010) was used as a framework in the development of an EBP Team to facilitate the implementation of EBPs throughout a VA Medical Center and 7 Community-Based Outpatient Clinics. The EBP team is an interprofessional team consisting of psychologists, social workers, professional counselors, and marriage and family therapists. Providers are trained to effectively deliver EBPs for insomnia, depression, anxiety, and PTSD via in-person sessions and telemedicine. The EBP team promotes the evidence-based practice process optimizing shared-decision making. All Veterans referred to the EBP team attend an informational session in which they are fully informed of treatment options available. Veterans and providers work collaboratively to select a treatment which matches needs and interests. The EBP team meets weekly to review treatment progress and adjust treatment plans as needed. Providers engage in weekly EBP consultation. Treatment outcomes are regularly reviewed to assess team strengths and areas of improvement. To date, 333 Veterans have attended an EBP informational session. Scores on screening measures indicate that 65.7% have moderate to severe depressive symptoms, 78.2% have moderate to severe anxiety symptoms, 78.3% have moderate to severe insomnia, and 65.6% have a positive screen for PTSD. Of the Veterans who attended an informational session, 60.1% started or are scheduled to start an EBP, 12.3% declined treatment, and 7.51% did not show for sessions or could not be reached. The remainder are being scheduled. In a one-year period, these system changes resulted in a three-fold increase in the percentage of Veterans who have received an adequate dose of an EBP.

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Paper Session 29 8:40 AM-8:58 AM 4021

AN INTERNET-MEDIATED WALKING PROGRAM FOR VETERANS WITH COPD

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Background: People with chronic obstructive pulmonary disease (COPD) tend to be less physically active than people without COPD. A sedentary lifestyle is associated with poor outcomes in COPD.

Objective: To test the efficacy of an automated internet mediated walking intervention for veterans with COPD.

Methods: 238 Veterans with COPD were recruited nationally and enrolled in a randomized controlled trial to an Internet-mediated pedometer-based exercise intervention or a wait-list control. Intervention participants uploaded daily step-count data to the study server at least once a week and logged into the study web site to view motivational messages, informational tips, individually tailored goals and feedback, and to interact in an online community. Multiple linear regression models assessed the effect of study arm on average daily step count at 4 months.

Results: 94% of subjects were male, with mean age 67 ± 9 years. Two hundred and ten out of the 238 study participants had step-count data at 4 months, with 201 meeting the study criteria for valid 4-month daily step counts. Those in the intervention group showed significant increase in their daily step count on average by 447 steps while those in the control group had a decrease in their daily step count of 346 steps. The difference in step counts at four months between the two groups was significant (746 per day; $p = 0.007$) adjusting for baseline daily step count, age, sex, rural/urban status, MMRC dyspnea score, and current smoking status.

Conclusions: Persons with COPD can increase daily walking with the use of an internet-mediated pedometer-based walking intervention.

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Paper Session 29 8:58 AM-9:16 AM 4022

THE USE OF A TELEHEALTH INTERVENTION TO IMPROVE COPING WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE

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Chronic obstructive pulmonary disease (COPD) is associated with increased morbidity and mortality and reduced quality of life (QoL). We conducted a randomized, dual-site controlled trial with allocation concealment and blinded outcome assessments at two tertiary care teaching hospitals (Duke University Medical Center and Ohio State University) with assessments at baseline and 4 months. Three hundred twenty six patients completed a battery of QoL instruments, pulmonary function tests, and functional measures and were randomized 1:1 to Coping skills training (CST) or COPD Education (COPD-ED).The CST group exhibited greater improvements in QoL compared to COPD-ED ($P = .001$), including less depression ($P = .002$) and anxiety ($P = .030$), and better overall mental health ($P = .021$), emotional role functioning ($P = .003$), vitality ($P < .001$), and social functioning ($P = .023$). The CST group also showed greater improvements in pulmonary QoL ($P = .040$), less fatigue ($P < .0001$), and less shortness of breath ($P = .068$), compared to COPD-ED, and demonstrated greater improvement in distance walked on the 6 Minute Walk Test ($P = .030$); there were no treatment group differences in changes in FEV1 ($P = .796$). Time to event analysis showed that there was no treatment effect on time to first medical event ($P = .430$) nor were there treatment group differences in the total number of medical events ($P = .210$).

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Citation Paper
Paper Session 29 9:16 AM-9:34 AM 4023

IMPACT OF A QUALITY IMPROVEMENT PROGRAM ON QUALITY OF LIFE IN HEART FAILURE: THE VALOR IN HEART FAILURE STUDY

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Heart failure (HF) is associated with high mortality and poor quality of life (QOL). Adherence to medications and dietary recommendations is low in HF patients and often is due to environmental, patient and provider factors. We evaluated whether a quality improvement program (QIP) could improve QOL in HF patients compared to current best practice (CBP) using a quasi-experimental prospective pre-test post-test design. Inpatients with HF in the pre-test phase received CBP during and following discharge. Those in the post-test phase received a QIP that included a discharge checklist that coordinated care from different disciplines, structured care during the post-discharge visit, and 3 monthly counseling calls to promote medication and diet adherence based on the Transtheoretical Model and Prospect Theory along with checklists to self-monitor their symptoms and adherence behaviors. Patients in both phases completed the SF-36 to assess quality of life at 3 months post-discharge. We enrolled 136 inpatients with HF (68 in the CBP pre-test group and 68 in the QIP post-test group.) There were no baseline differences between the two groups. The median physical component scores were 31.61 for CBP and 35.55 for QIP at 3 months. Additionally, median physical role functioning scores were 50.00 for CBP and 53.13 for QIP, while median general health scores were 41.00 for CBP and 57.00 for QIP at 3 months. Wilcoxon rank sum tests revealed that physical component, physical role function, and general health scores were significantly higher (indicating better QOL) in QIP compared to CBP at 3 months (p-values = 0.048, 0.046, and 0.009, respectively). A comprehensive behavioral intervention targeting patient adherence to medication and diet through counseling and checklists as well as provider behavior shows promise in improving general health in patients with HF, who typically report low QOL. Physical functioning may also potentially be improved by this type of intervention.

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Paper Session 29 9:34 AM-9:52 AM 4024

PHYSICAL ACTIVITY PATTERNS DURING AND AFTER CARDIAC REHABILITATION: LINKING THEORY-BASED VARIABLES

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The purpose of this study was to investigate physical activity patterns during and after cardiac rehabilitation. We also aimed to test if these patterns differed on self-determination theory (SDT) and self-efficacy theory (SET) constructs. Participants (N = 129) were adults (mean age = 62 years; 68% men) who participated in a 4-month(m) cardiac rehabilitation program and were followed for 8 m (i.e., baseline to 12 m). Participants answered validated questionnaires to assess SDT and SET constructs at the end of cardiac rehabilitation (4 m) and follow-up (12 m). The Godin Leisure Time Exercise Questionnaire was used to assess physical activity at baseline, 2 m, 4 m, 6 m and 12 m. Latent class growth modeling was used to determine physical activity patterns from baseline to 12 m. Separate MANOVAs were conducted for SDT and SET. Three physical activity patterns emerged: highly active maintainers (10%); moderately active non-adherers (53%); and inactive (36%). Differences by physical activity pattern were found at 4 m (V = .21, F(8, 248) =3.65, p < .05) and 12 m (V = .20, F(8, 248) =3.42, p < .05) on SET constructs. Specifically, highly active maintainers had higher levels of task self-efficacy at 4 m compared to both groups and higher 12 m task self-efficacy than inactive individuals. For SDT variables, only 12 m differences were found (V = .25, F(10, 246) =3.48, p < .05). Moderately active non-adherers had higher levels of identified and integrated regulation than inactive individuals. The findings give insight to the theoretical variables that relate to physical activity patterns in adults participating in cardiac rehabilitation. Exercise specialists working in this setting should attempt to foster greater task self-efficacy and integrated and identified regulation to help inactive individuals increase their physical activity levels during and after cardiac rehabilitation.

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Paper Session 29 9:52 AM-10:10 AM 4025

MEDIATORS OF EXERCISE MAINTENANCE AFTER CARDIAC REHABILITATION

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Maintaining exercise after completion of Phase II cardiac rehabilitation (CR) is challenging for many patients. Little is known about the mediators of interventions promoting exercise maintenance among these patients. In a randomized controlled trial, we offered a 6-month telephone-based exercise counseling program to help patients adhere to exercise prescriptions provided at CR discharge. 130 patients (mean age = 63.6 years, SD = 9.7, 21% female) were randomized to the intervention (Exercise Group) or contact control (Control Group). The telephone counseling was based on the Transtheoretical Model and Motivational Interviewing. We reported previously that the intervention significantly improved exercise participation compared to the Control Group at 12 months post-CR discharge. At CR discharge and at 6 and 12-month follow-ups (6 M, 12 M), participants completed self-reported measures of exercise (7 Day PAR), constructs from the Transtheoretical Model (self-efficacy, behavioral processes of change, and decisional balance for exercise) and two additional constructs: social support from family and friends and exercise enjoyment. We first examined the intervention effects on the constructs at 6 M. Using multiple mediation models controlling for baseline exercise and all potential mediators, we then examined the change in each construct at 6 M as a mediator of intervention effects on exercise participation at 12 M. The intervention increased social support from friends at 6 M (*'a'* path in mediation) (b = 3.82, SE = 1.66, p = 0.02). Surprisingly, decreasing support from friends at 6 M mediated greater exercise participation in the Exercise Group at 12 M (*'ab'* path in mediation) (b = -0.11, 95% CI:-0.22, p = 0.004). Although our intervention improved social support from friends at 6 M, this construct functioned as a suppressor variable in mediation. We conclude that hypothesized mediators may have unexpected and novel effects in exercise maintenance interventions among patient populations.

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Meritorious Paper
Paper Session 30 8:40 AM-8:58 AM 4026

EXAMINING THE EFFECT OF A 'GIST-BASED' COLORECTAL CANCER SCREENING INFORMATION LEAFLET: A MULTI-CENTRE RANDOMISED CONTROLLED TRIAL

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Uptake of colorectal cancer (CRC) screening is low, particularly among deprived groups. Simplifying the content of information materials used to convey the screening offer may help to address this problem. Fuzzy Trace Theory suggests complex information is transformed into its simplest form (gist) when it is encoded to memory. To reduce the cognitive burden of this process and improve decision-making, simplified CRC screening information using a gist-based style was designed. This study examined the effect of the gist leaflet on screening intention, knowledge and perceived risk among low and high numeracy groups.

Men and women (age 45-59) registered in one of four general practices in deprived areas of the UK were asked to complete a questionnaire after reading standard information about CRC screening (standard group, n = 2216) or standard information plus a gist leaflet (gist group, n = 2236). Questionnaires were returned by 964 (21.9%) invitees. Most (93.0%) respondents read the information materials, but those with low numeracy was less likely to do so (p < .001). The gist group had higher levels of knowledge (p < .01), but no differences were observed in perceived risk or intention to be screened (p > .05). Low numeracy respondents had significantly lower levels of intention (p < .05) and knowledge (p < .001), but not perceived risk (p > .05). Numeracy level did not moderate the effect of the intervention for any outcome (p > .05). This randomised community-based trial provided comprehensive socio-cognitive responses after exposure to two different health communication materials. The higher knowledge scores among high and low numeracy respondents in the gist group suggest the gist leaflet may reduce the cognitive burden of the screening decision. The low response rate limits the extent to which these data can be used to predict whether the gist leaflet will reduce inequalities in screening uptake.

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Paper Session 30 8:58 AM-9:16 AM 4027

THE IMPACT OF INTERVAL CANCERS IN FOBT SCREENING ON ADJUSTMENT TO A CANCER DIAGNOSIS AND ATTITUDES TOWARDS SCREENING

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Interval cancers are defined as cancers diagnosed after a negative screening result but before the next round of screening. This study examined the long-term psychological impact of being diagnosed with colorectal cancer and attitudes towards faecal occult blood (FOBt) screening following an interval cancer. Three groups of people diagnosed with colorectal cancer in Scotland between 2000-2007 were invited to complete a survey: the first two groups took part in the Scottish Demonstration Pilot of FOBt Screening for Colorectal cancer and either tested negative (the interval cancer group (I); n = 91) or positive (the screen-detected group (SD); n = 106). The third group were not invited for screening because they lived outside of the area covered by the pilot programme (the non-screened group (NS); N = 99). Age, gender, date of diagnosis, attitudes towards screening, depression (CES-D), and adjustment to cancer (IES_R) were measured in the survey. Patient group, Duke's cancer stage at diagnosis, and Scottish index of multiple deprivation (SIMD) were supplied by National Services Scotland (with patient consent). 58.3% of patients completed the questionnaire. Age, gender, time since diagnosis, Duke's stage and SIMD were controlled for. Perceptions of diagnostic delay differed significantly between the groups (Wald = 11.76; df = 2; p = 0.003), with higher proportions of people in the I and NS groups reporting diagnostic delay than those in the SD group. Attitudes towards screening, although still positive on average, were significantly lower in group I compared with the other two groups (F 2, 205 = 39.01; p < 0.001). Despite this, the SD and I groups did not differ on IES-R scores or depression. The results of this study show interval cancers appear to have no long-term adverse effects on psychological adjustment but result in less positive attitudes towards FOBt screening.

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Paper Session 30 9:16 AM-9:34 AM 4028

BOOSTING UPTAKE AND ACCEPTABILITY OF IMMUNOCHEMICAL FECAL OCCULT BLOOD TEST (I-FOBT) SCREENING IN PRIMARY CARE CLINICS

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Less invasive tests, such as I-FOBT may be an acceptable and feasible alternative to address low colorectal cancer screening (CRCS) rates in medically underserved groups. We report preliminary results of a client-centered intervention to increase I-FOBT uptake in two federally qualified health centers and one local health department primary care clinic (baseline screening rates ranging from 18%-35%). Participants aged 50 to 75 years, not up to date on CRCS, and of average CRC risk were randomized to receive either a culturally targeted DVD and photonovella booklet (intervention, $n = 76$) or to a standard CRCS brochure (control, $n = 73$). Participants completed baseline surveys assessing awareness and prior CRCS, Preventive Health Model constructs, decisional conflict, and demographics. Participants were given an I-FOBT kit with instructions. To date, 412 individuals have been evaluated for eligibility and 149 individuals are currently enrolled. Participants were 24% Black, 71% White, 26% < a HS diploma, 60% ≤ $10,000, and median age 55. No significant differences on baseline characteristics were found between study conditions. I-FOBT uptake was comparable in both conditions ($p = 0.37$), with an overall completion rate of 83%. The median number of days for I-FOBT uptake was 9 (range: 2, 94). No significant differences in I-FOBT uptake by baseline characteristics were observed. Six participants with abnormal results were referred for colonoscopy. Preliminary analyses suggest that the low cost and non-invasive I-FOBT is acceptable and can be easily integrated into clinic flow. This dramatic increase in CRCS exceeds national averages, pre-intervention rates, and Healthy People 2020 goals, and is a promising screening strategy.

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Paper Session 30 9:34 AM-9:52 AM 4029

"THAT'S A PAINFUL PROCEDURE:" PERCEPTIONS OF BARRIERS AND FACILITATORS TO CERVICAL CANCER SCREENING AMONG HIV-INFECTED WOMEN FROM AN INTEGRATED HIV CLINIC

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Significantly elevated rates of cervical cancer and low rates of Pap smear screening have been documented among HIV-infected women. However, little is known about women's perceptions of cervical cancer screening utilization. Hence, this study describes barriers and facilitators related to cervical cancer screening in a sample of HIV-infected women seeking care at an integrated HIV clinic in Houston, Texas. Using an inductive qualitative methodological approach, data were obtained from five focus group discussions with a total of 33, HIV-positive women. The majority of the study sample consisted of women who self-identified as Black (69.7%), reported heterosexual contact as the mode of HIV acquisition (75.8%), and had an annual income of less than $10,000 per year (93.8%). Participants ranged from 26-61 years of age. The majority (78.8%) of participants reported receiving a Pap smear in the past year, with 56% of participants reporting a history of abnormal Pap smears. Barriers to cervical cancer screening were described as pain and discomfort associated with receiving Pap smears and subsequent procedures; lack of awareness of cervical cancer as a preventable disease; limited transportation access; and systemic issues as it relates to scheduling gynecological appointments. Facilitators were described as awareness of HIV-infected women's increased risk of cervical cancer and strong provider-patient relationships. Capitalizing on the identified facilitating factors and mitigating modifiable barriers through multi-level strategies is critical to addressing cervical cancer screening disparities among low-income HIV-infected women.

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Paper Session 30 9:52 AM-10:10 AM 4030

PSYCHOSOCIAL FACTORS IMPACT BREAST CANCER SURVIVORS' ADJUVANT HORMONE THERAPY ADHERENCE: A COMPREHENSIVE REVIEW

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Background: For patients with hormone receptor positive breast cancer, survivorship entails prolonged self-management of adjuvant treatment in the form of daily hormone therapy (i.e., tamoxifen or an aromatase inhibitor). Although sustained daily adherence across the five-year course of therapy is associated with superior recurrence-free survival outcomes, adherence is suboptimal and patients often prematurely discontinue the medications. Factors associated with non-adherence and non-persistence are not comprehensively understood. In other populations with regimens requiring long-term medication self-management, psychosocial factors have repeatedly been associated with adherence.

Purpose: To evaluate potential relationships between psychosocial factors and breast cancer survivors' daily adherence to and five-year persistence with adjuvant hormone therapy.

Methods: A comprehensive literature review was conducted. Nine studies met inclusion criteria and were qualitatively reviewed.

Results: Identified relationships were complex and at times inconsistent. Low social support, negative or neutral cognitive beliefs about hormone use, and poor quality patient-provider interactions were all repeatedly associated with non-adherence and/or non-persistence. Contrary to data from other medical populations, mental health factors were not consistently related to hormone therapy adherence in the reviewed literature.

Conclusions: The current review is the first known to systematically evaluate these relationships. The results highlight the importance of considering individual patients' preferences and medical and psychosocial characteristics when addressing hormone adherence. Although empirical evaluation of these relationships is in its early stages, this review suggests that it warrants further attention. Several of the identified factors are potentially modifiable, and attempts to impact adherence through interventions targeting these variables should be explored.

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Citation Paper

Paper Session 31 8:40 AM-8:58 AM 4031

IGF-1 PREDICTS IMPROVED MEMORY FUNCTION IN BREAST CANCER PATIENTS RECEIVING CHEMOTHERAPY

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Background: Chemotherapy-related memory impairment (CRMI) occurs in up to 75% of breast cancer (BC) patients during chemotherapy and negatively affects quality of life. Insulin-like growth factor 1 (IGF-1) and its binding proteins (BPs; IGFBP 1-3) play a role in maintaining and improving memory function; however, it is unknown whether IGF proteins help to prevent CRMI. We previously reported that IGF-1 restores neurogenesis—a process important for memory—in mice treated with chemotherapy; this is the first study to extend these findings into BC patients where we hypothesized that higher pre-chemotherapy IGF-1 levels predict improved memory following treatment. Methods: 49 BC patients (mean age = 51.2 yrs, 44% ≥ 4 yr college degree, 94% previous surgery) completed a neuropsychological test battery (CANTAB) and provided a fasted blood sample at pre- and post-chemotherapy. The CANTAB battery included a match-to-sample memory task with measures of total percent correct, latency to correct response, and time-adjusted percent correct. Serum was analyzed via multiplex assays for IGF-1, and IGFBPs 1-3. General linear modeling (GLM) was used to determine whether baseline IGF-1 and IGFBPs predicted improved memory function (from pre- to post-chemotherapy). Results: GLM, adjusting for age and education, indicated that higher pre-chemotherapy IGF-1 and IGFBP1, but not IGFBP 2 and 3, were associated with improved total percent correct ($p < 0.15$). Higher pre-chemotherapy IGF-1 was associated with improved lower latency to a correct response ($p < 0.05$). Overall, higher pre-chemotherapy IGF-1 was associated with improved total time-adjusted percent correct ($p < 0.05$). Conclusions: This pilot study suggests that higher levels of pre-chemotherapy IGF-1 may be protective against CRMI in BC patients during chemotherapy. While these results need to be confirmed in a larger study, they suggest that interventions that increase IGF (e.g. exercise) may help improve CRMI. Funding:K07CA168886, U10CA37420, Wilmot/Roswell Collaborative Grant

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Paper Session 31 8:58 AM-9:16 AM 4032

COGNITIVE DEFICITS ARE ASSOCIATED WITH REDUCED PHYSICAL ACTIVITY AMONG BREAST CANCER SURVIVORS AND HEALTHY CONTROLS: A CROSS-SECTIONAL COMPARATIVE STUDY

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Background and Purpose: Regular physical-activity (PA) is associated with lower all-cause and disease-specific mortality and higher quality of life among breast cancer survivors (BCS); however, the majority of BCS do not meet the recommended guidelines for PA. Intact cognitive abilities such as attention and executive functioning are essential for daily tasks such as doing structured PA. We analyzed a cohort of 505 uniformly treated young (age < 45 years at diagnosis) BCS, 3-8 years post-treatment and 466 healthy, age-matched controls (AC) to test the hypothesis that self-reported attention function (AF) affected by breast cancer therapy was associated with the ability to maintain adequate PA and subsequent body-mass index (BMI). The model was specified a priori. Methods: The 2 groups were compared on self-reported and validated physical and psychological outcomes. Mplus software was used to perform confirmatory SEM with a robust maximum likelihood estimator to evaluate hypothesized relationships among observed variables. The criteria for good model fit was determined by having RMSEA < .06, CFI > .95 and SRMR < .08. Modification indices were used to explore potential improvements to the model. Results: The hypothesized model demonstrated good fit with RMSEA = .06, CFI = .96 and SRMR = .04. After controlling for demographics, parameter estimates revealed that compared to AC, BCS reported worse AF (p < .001), more depressive symptoms (p < .001) and more fatigue (p < .001). Controlling for fatigue, depression and anxiety, better AF was associated with a greater likelihood of PA in past 3 months (p = .039). Additionally, PA in the past 3 months was associated with a lower BMI (p < .001). Conclusions: Despite the cross-sectional nature of the study, the large sample size, presence of AC, and assessments 3-8 years post-therapy in the late-survivorship period showed the effect AF may have on maintaining a regular pattern of PA. This novel finding will need to be validated in a longitudinal, prospective cohort.

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Paper Session 31 9:16 AM-9:34 AM 4033

OBESITY, PHYSICAL ACTIVITY, AND SLEEP MAY IMPACT COGNITIVE FUNCTIONING IN BREAST CANCER SURVIVORS

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Research on factors related to cognitive functioning among breast cancer survivors has mainly focused on cancer treatments (e.g., chemotherapy) with little attention on lifestyle factors. Weight, physical activity (PA), and sleep are modifiable lifestyle factors that have been shown to impact cognitive functioning in non-cancer populations; but little is known about this relationship in breast cancer survivors. This study examined the relationships of PA, obesity (BMI > 30 kg/m2), and sleep with cognitive functioning in breast cancer survivors. Measures included objective neuropsychological testing, height, weight, Global Physical Activity Questionnaire, and a single question about usual hours of sleep per night. Linear regression models examined the associations of each of 7 neuropsychological domain scores with lifestyle factors (obesity, PA, and sleep) controlling for breast cancer treatment variables, demographic factors, clinical variables, and the other lifestyle factors (e.g., association of PA on cognition was adjusted for obesity and sleep). Participants were breast cancer survivors (n = 136), a mean of 63 years old (SD = 6.6), diagnosed on average 2.1 years ago (SD = 1.3) with Stage 1 (50%), 2 (35%), and 3 (15%) breast cancer. 49% received chemotherapy and 70% were taking hormonal therapy. Obese women had significantly worse performance than non-obese participants on the Information Processing domain (β = -5.04, SE = 2.53, p < .05). The highest tertile of PA was significantly related to better performance on the Executive Functioning domain (β = 5.14, SE = 2.43, p < .05) and Attention domain (β = 4.26, SE = 2.07, p < .05). More hours of sleep per night was significantly associated with better performance on the Verbal Functioning domain (β = 2.69, SE = 0.98, p < .01). These findings indicate that PA, obesity, and sleep are related to different aspects of cognitive functioning among breast cancer survivors. Interventions targeting these lifestyle factors have the potential to improve breast cancer survivors cognitive functioning.

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Paper Session 31 9:34 AM-9:52 AM 4034

COGNITIVE AND AFFECTIVE FUNCTION IN NEWLY DIAGNOSED PATIENTS WITH PRIMARY BRAIN TUMORS

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Cognitive dysfunction is a major problem for patients with primary brain tumors (PBT) and has been attributed to both tumor and treatment. Affective distress is also a clinically significant problem at time of diagnosis, during, and post treatment. New approaches to treat cognitive dysfunction in PBT patients often overlook the possible impact of affective distress on treatment outcomes. The goal of this study was to explore the associations among perceived cognitive dysfunction and assessed cognitive functioning with psychological characteristics in newly diagnosed patients with PBT. We conducted an exploratory analysis of the hypothesis that affective distress contributes to increased cognitive dysfunction in these patients.

Participants were 78 patients with PBT (64% male, mean age 53.6) who completed a pre-treatment psychological and cognitive assessment as part of a larger caregiver distress study (PI: Sherwood). Patients completed questionnaires to assess symptoms of depression (CES-D) and anxiety (POMS), as well as perceived cognitive dysfunction (MDASI-BT). They were also objectively tested for cognitive functioning (STROOP, Digit Symbol Coding).

Both higher levels of depression and anxiety symptoms were significantly associated with perceived cognitive dysfunction (p's < .01). Higher levels of depression but not anxiety symptoms were associated with lower cognitive test scores (p < .05), which were substantially lower than normative levels. Perceived cognitive dysfunction and cognitive test results were significantly correlated (p's < .05) and were associated with symptom interference (p's < .05).

These results are consistent with the study hypothesis. Patients with higher affective distress have higher perceived cognitive dysfunction and lower cognitive function assessed via standardized cognitive testing. Interventions focused on improving cognitive dysfunction in patients with PBT should include concurrent treatment for affective distress, especially symptoms of depression.

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Paper Session 31 9:52 AM-10:10 AM 4035

IMPACT OF DEMOGRAPHIC AND MEDICAL VARIABLES ON NEUROPSYCHOLOGICAL FUNCTIONING OF PEDIATRIC HEMATOPOIETIC STEM CELL TRANSPLANT (HCT) SURVIVORS

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Allogeneic HCT is a curative option for pediatric hematopoietic malignancies. Unfortunately, the prevalence of late effects is high: 79% of pediatric HCT recipients have a chronic medical condition. However, cognitive and psychosocial functioning in pediatric HCT survivors is understudied. Extant studies, most focusing on global measures of intelligence, are equivocal about potential neurotoxicity of HCT. We conducted a pilot archival study of 30 children (mean age at testing 6 years, range 1-17) a mean of 5 years post HCT, to comprehensively characterize their neuropsychological and psychosocial functioning and to examine the impact of demographic and medical predictors. Overall, IQ, achievement, speech and language abilities, and verbal memory were within normal limits. Visual memory dropped to borderline impaired levels when task demands required more complex executive skills. Visual and auditory attention were borderline to impaired. No significant psychosocial problems were apparent. Finer grained analyses revealed children younger at HCT had poorer vocabulary skills and more internalizing problems, whereas those older at HCT had greater externalizing difficulties. The longer the time since HCT, the poorer the performance in IQ, attention and memory. Of the medical variables, patients with ALL had worse academic functioning than those with AML; cord blood recipients had lower IQs; patients with busulfan-based conditioning regimens had poorer visual memory; patients with chronic graft-versus-host disease (GVHD) had poorer visual-spatial and visual-motor functioning. Those who had acute GVHD and those who underwent steroid treatment demonstrated better memory. Our preliminary findings of effects of demographic and medical predictors on cognition following HCT elucidate not only neurotoxic, but also potential resilience or neurotrophic factors that require further investigation.

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Citation and Meritorious Paper
Paper Session 32 8:40 AM-8:58 AM 4036

EXAMINING MODERATORS OF 2-YEAR SMOKING TEMPTATIONS TRAJECTORIES IN ADULT SMOKERS

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The situational temptations for smoking scale measures the degree of temptation a person feels to smoke across different situations, and is strongly related to observable smoking behavior. This study used latent growth curve modeling to examine the trajectory of smoking temptations (TEMPT) in a population-based sample of adult smokers enrolled in a randomized cessation trial ($N = 2924$, age range 18-82 years, 68% white, 55% female), and to explore factors associated with differential trajectories of TEMPT. The TEMPT outcome variable was assessed at baseline, 1-, and 2-years follow-up using the 12-item temptations measure with 4 subscales (Positive/Social, Habit Strength, Negative/Affective, & Weight Concerns) that has been validated in adult and adolescent smokers. The unconditional growth model [$\chi^2(3) = 19.35$, CFI = .99, RMSEA = .04] supported a significant decrease in TEMPT over time in the full sample ($\mu_{\text{slope}} = -0.71$, $p < .001$). Multiple-groups analyses of the unconditional model revealed slightly different mean slopes across baseline cessation stage ($\Delta\chi^2(2) = 17.91$, $p < .001$), and an expected main effect of baseline smoking severity on the initial level of TEMPT ($\Delta\chi^2(2) = 159.60$, $p < .001$). Next, a conditional growth model was tested which included treatment condition (treatment or control) as a time-invariant covariate. The conditional model also fit the data well [$\chi^2(4) = 19.83$, CFI = .99, RMSEA = .04], and found that TEMPT decreased significantly after controlling for treatment condition ($\mu_{\text{slope}} = -0.41$, $p < .01$). In addition, the direct path from treatment to the slope factor was significant ($\gamma = -0.15$, $p < .01$), indicating that treatment led to a much steeper decrease in TEMPT (Cohen's $d = -0.38$). Finally, multiple-groups analyses of the conditional model suggested that although this large treatment effect size was invariant across baseline cessation stage ($\Delta\chi^2(2) = 1.33$, $p = .52$), the effect was consistent only in light and moderate, but not heavy smokers ($\Delta\chi^2(2) = 5.25$, $p = .07$).

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Paper Session 32 8:58 AM-9:16 AM 4037

LEVELS OF TRANSTHEORETICAL MODEL TAILORING FOR SMOKING CESSATION: RANDOMIZED TRIAL OUTCOMES

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Transtheoretical model (TTM) tailored interventions have demonstrated efficacy for smoking cessation across randomized trials. TTM-tailoring generally includes assessment and feedback on 4 constructs (stage, decisional balance, efficacy, processes), but some have successfully used fewer constructs. Here, smokers were randomized to 4 different levels of tailored intervention feedback and an assessment-only control group. The minimal group got feedback on stage of change over time. The moderate group got feedback on stage, decisional balance, and efficacy over time. The full tailoring group got feedback on 4 TTM constructs over time. A fifth group got feedback on 4 TTM constructs and addiction levels over time. A national list-assisted sample of adult current smokers [N = 3006, mean age 42.0 years (SD = 13.4), 69% white, 55% female, mean highest level of education = 13.2 yrs (SD = 2.5)] was recruited. Baseline randomization, stratified by stage, achieved balanced groups. Treatment groups received tailored intervention feedback at baseline, 6-, and 12-months. Participants were followed for 24-months and missing data was handled using multiple imputation. The 24-month quit rates were: Control (13.6%); Minimal (21.8%); Moderate (21.3%); Full (20.7%); and Enhanced Addiction (18.9%). In the final logistic regression model, significant ($p < .05$) baseline predictors of outcome were: highest grade completed (OR = 1.09); Minimal (OR = 1.76), Moderate (OR = 1.72) or Full (OR = 1.65) tailoring group; Contemplation (OR = 2.09) or Preparation (OR = 3.50) baseline stage; pros (OR = 0.92); temptations (OR = 0.90); and behavioral process use (OR = 1.10). These results replicate two findings: 1) TTM-tailored treatments increase cessation and 2) stage, treatment, and effort effects predict outcomes. Different levels of TTM tailoring did not effect cessation in an additive way and addiction tailoring did not improve quitting. These findings are good news for both population cessation and multiple behavior research efforts.

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Paper Session 32 9:16 AM-9:34 AM 4038

LONGITUDINAL CARE FOR SMOKING CESSATION: INCREASING SATISFACTION, SELF-EFFICACY AND READINESS TO QUIT HELPS STRUGGLING SMOKERS SUCCEED

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Longitudinal care for smoking cessation attends to the chronic nature of tobacco addiction by providing telephone counseling and nicotine replacement therapy for 12 months, and is more effective in producing abstinence than the usual 8-week treatment (Joseph et al., 2011). We hypothesized that longitudinal care is especially effective for smokers who are struggling to quit during usual treatment because counselors can continually address the series of challenges that surface as one seeks to quit (e.g., making a quit attempt, lapsing), and, in doing so, can increase self-efficacy, satisfaction and readiness to quit. Participants were randomly assigned to receive longitudinal care or usual care. The outcomes of interest were seven-day point prevalence abstinence at 6 and 12 months. The PROCESS macro for SPSS (Hayes, 2012) tested if the moderated effect of treatment by struggling to quit was mediated by self-efficacy, satisfaction and readiness to quit (i.e., mediated moderation). Smokers struggling to quit who received longitudinal care were more likely to be abstinent at 6 and 12 months than those who received usual care, whereas abstinence at 6 and 12 months did not differ across treatment condition for those who were not struggling to quit. The moderated effect on abstinence at 6 months was mediated by satisfaction and readiness, 95% CIs [.074, 1.273], and [.034, .942], respectively. The moderated effect on abstinence at 12 month was mediated by self-efficacy, satisfaction and readiness, 95% CIs [.011, .562], [.113, .663], and [.075, .527], respectively. The results suggest that longitudinal care may be made more efficient by continuing to treat only smokers who initially demonstrate difficulty quitting. Moreover, the complexity of the pathways depicted in the results highlight the need for improved specificity in theoretical models.

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Paper Session 32 9:34 AM-9:52 AM 4039

FACETS OF MINDFULNESS PREDICT SMOKING CESSATION IN LATINO SMOKERS

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Although most smokers express interest in quitting, actual quit rates are low. Identifying strategies to enhance smoking cessation is critical, particularly among underserved populations including Latinos, for whom many of the leading causes of death are related to smoking. Mindfulness (purposeful, non-judgmental attention to the present moment) has been linked to increased likelihood of smoking cessation. Given that mindfulness is multifaceted, determining which aspects of mindfulness predict cessation could help to inform interventions. This study examined whether specific facets of mindfulness predict smoking abstinence in 199 Spanish-speaking Latino smokers (63% male, mean age = 39, 78% < high school education) receiving smoking cessation treatment. Primary outcomes were 7-day abstinence at weeks 3 and 26 post-quit (biochemically-confirmed and determined using an intent-to-treat approach). Multilevel mixed-effects logistic regression models examined the relationship between mindfulness facets and abstinence over time. Independent variables were subscales of the Five Facet Mindfulness Questionnaire (FFMQ; Observing, Describing, Nonreactivity, Acting with Awareness, Nonjudging). The Nonjudging subscale (i.e., accepting thoughts and feelings without evaluating them) predicted greater likelihood of abstinence up to 26 weeks post-quit ($p = .01$, OR = 1.08); this association held after adjusting for demographics ($p = .01$) and dependence ($p = .02$). No other FFMQ subscales predicted abstinence (ps > .30). This is the first known study to examine whether specific facets of mindfulness predict smoking cessation. The ability to experience thoughts, emotions, and withdrawal symptoms without judging them may be critical in the process of quitting smoking. Results indicate potential benefits of mindfulness among Latino smokers and suggest that smoking cessation interventions might be enhanced by central focus on the Nonjudging aspect of mindfulness.

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Paper Session 32 9:52 AM-10:10 AM 4040

A RANDOMIZED CONTROLLED TRIAL OF PHYSICAL ACTIVITY FOR SMOKING CESSATION DURING PREGNANCY

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AIM The London Exercise And Pregnant smokers (LEAP) trial was the first to assess whether a PA intervention is effective for smoking cessation during pregnancy.

METHODS

Pregnant smokers were randomized to usual care (6 sessions behavioral support for cessation) or usual care plus PA intervention (14 sessions supervised treadmill exercise plus PA consultations). The primary outcome was self-reported and biochemically validated continuous abstinence from smoking between a quit date and end of pregnancy. Logistic regression was used to compare treatment effects.

RESULTS

785 women (392 PA group) were included in the intention-to-treat analysis. The groups had similar baseline demographic and smoking characteristics. Overall, 27.6% smoked within 5 minutes of waking, and the median daily cigarette consumption was 10. They reported being active at baseline, with 70% reporting 150 minutes a week of at least moderate intensity PA. Attendance at treatment sessions was low, with a median of four sessions attended in the PA group and three sessions in the control group. Including all measurement times, there was a significant increase in self-reported minutes of at least moderate intensity PA for the PA group versus control group ($p < 0.001$). There was no significant difference in abstinence rates between the two groups at end of pregnancy. The rate of validated continuous abstinence was 8.7% in the PA group and 7.4% in the control group (odds ratio for PA group, adjusted for centre only, 1.19; 95% CI, 0.71 to 1.99). Fully adjusted analyses yielded similar findings.

CONCLUSION

Compared with usual smoking cessation support, a PA intervention did not increase smoking cessation rates during pregnancy.

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Citation Paper
Paper Session 33 8:40 AM-8:58 AM 4041

THE LIVING LEGACY OF DIABETES: INTERGENERATIONAL INFLUENCES ON DIABETES CARE IN LATINO FAMILIES

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Background: Although there is extensive research on the relationship between family environment and diabetes care in pediatric populations, literature on the family environment as it relates to adults with type 2 diabetes (T2D) remains limited. In particular, few studies have examined how one's diabetes care may be influenced by family members who also have diabetes. We describe findings of a study investigating this issue among Latino young adults (YAs) with T2D and their cohabiting family members.

Methods: Eight Latino YAs (age 20.6 ± 3.5 yrs; A1C 7.4 ± 1.7; duration of T2D 3.9 ± 4.8 yrs) each completed 4-8 semi-structured interviews focusing on self-care strategies, understandings of diabetes, and social support. Following an emergent finding of the influence of family members' diabetes care on the YAs' own care, the study protocol was modified to include family members. Eleven family members, nominated by the YAs, completed interviews focused on their own diabetes care, and roles in supporting the YA. Interviews were analyzed thematically through iterative coding and discussion at weekly meetings.

Results: Family members had a high prevalence of diabetes and associated complications. Seven YAs had at least one parent with diabetes; five parents had complications such as vision loss or amputation. YAs' diabetes care was both supported and hindered by the influence of family members. Cross-generational influences on self-care were categorized in four themes: (1) mealtime conflicts and strategies; (2) health behaviors being contingent on others' participation; (3) shaping of knowledge and expectations (expectations for the future, persistence of misinformation); and (4) strategies for support (miscarried helping, bidirectional support).

Conclusions: YAs in households where parents and other family members also have diabetes have unique barriers and supports for managing diabetes. Understanding how family context influences YAs' diabetes care may support the development of effective diabetes care strategies in this population.

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Paper Session 33 8:58 AM-9:16 AM 4042

PROSOCIAL BEHAVIOR AMONG YOUTH WITH NEWLY DIAGNOSED TYPE 1 DIABETES PREDICTS LATER GLYCEMIC CONTROL

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Type 1 diabetes has a complex treatment regimen whose management touches all domains of youths' functioning. Yet relatively little is known about social functioning in the context of diabetes management and control. This study aimed to evaluate associations between premorbid social behaviors and later glycemic control. Parents of 189 youth (M age = 10.0 years, range = 3-18, 51% male) and 77 youth (M age = 13.8 years, range = 11-18, 58% male) with type 1 diabetes completed the Strengths & Difficulties Questionnaire (SDQ) within 3 days post-diagnosis. Glycemic control (A1c) was assessed approximately every 3 months, and mean A1c was calculated using all available labs 6-18 months post-diagnosis. Multiple regression analyses were conducted to predict mean A1c from parent- or youth-rated SDQ Peer Difficulties and Prosocial Behavior subscales scores, controlling for demographic factors. For parent-report, African American (AA) race ($B = 0.28$, $p < 0.01$) and Prosocial Behavior ($B = -0.16$, $p < 0.05$) significantly predicted A1c, $F(5,182) = 7.1$, $p < 0.01$. Peer Difficulties was not significant. For youth self-report, only AA race ($B = 0.50$, $p < 0.01$) significantly predicted A1c, $F(5,71) = 6.8$, $p < 0.01$. Peer Difficulties and Prosocial Behaviors were not significant. These discrepant patterns may reflect rating differences: parents may base their rating on youths' social behavior at home while youth likely also consider peer interactions. Greater parent-rated prosocial behavior predicts later glycemic control more than peer problems, even accounting for well-documented racial disparities in A1c. Prosocial youth may elicit more diabetes support from their family and social network, and prosocial behavior at home may buffer diabetes-related family conflict. Prosocial behavior also likely overlaps with the "agreeableness" component of personality. All are known contributors to diabetes management and control. Strategies to strengthen youths' prosocial interactions with family and friends may be a beneficial component of behavioral interventions to enhance diabetes management and control.

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Paper Session 33 9:16 AM-9:34 AM 4043

FAMILY MEMBERS' SUPPORTIVE AND NONSUPPORTIVE BEHAVIORS ARE ASSOCIATED WITH THE SELF-CARE BEHAVIORS OF ADULTS WITH DIABETES

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Nonsupportive family behaviors (NFB) are associated with worse glycemic control among adults with type 2 diabetes (T2D), whereas supportive family behaviors (SFB) are not. Although qualitative and correlational research suggests NFB may be more strongly associated with self-care than SFB, these two factors are rarely operationalized as distinct constructs. As a result, we know less about the association between NFB and self-care. Therefore, we examined the unique relationships between SFB and NFB and different diabetes self-care behaviors.

Adults ($N = 190$) with T2D who were receiving care at a Federally Qualified Health Center completed the Diabetes Family Behavior Checklist-II. Subscales assess SFB (e.g., giving medication reminders, exercising with the patient) and NFB (e.g., eating unhealthy foods, arguing/nagging about self-care). Self-care behaviors were assessed with the Summary of Diabetes Self-Care Activities. To examine the independent relationships between SFB, NFB, and each self-care behavior, multivariate regression models included both SFB and NFB in addition to demographic and diabetes characteristics.

Participants were age 51.5 ± 10.7 years; 70% female; 55% African American; 30% had < high school degree; 71% had incomes < $15 K. Both SFB ($\beta = .23$ - .51) and NFB ($\beta = -.28$ - -.40) were related to adherence to general diet, specific diet, exercise, and medications (all $p < .01$). SFB accounted for more variance in adherence to general diet and exercise than NFB (increment in R2 = 11.9 vs. 5.4 and 16.2 vs. 7.4, respectively; all $p < .001$), but NFB accounted for more variance in adherence to specific diet and medications than SFB (increment in R2 = 11.9 vs. 5.4 and 16.2 vs. 7.4, respectively; all $p < .05$). SFB was related to blood glucose testing ($\beta = .20$, $p < .05$), but NFB was not.

Patients' perceptions of SFB and NFB were each independently associated with their self-care, though SFB and NFB had different relationships with different self-care behaviors. It may be necessary to both reduce NFB and increase SFB to improve patients' self-care.

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Paper Session 33 9:34 AM-9:52 AM 4044

EFFECT OF RACE AND MARITAL STATUS ON MOTHERS' OBSERVED PARENTING IN TYPE 1 DIABETES

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In adolescents with Type 1 Diabetes (T1D), positive parenting behaviors have been related to better psychosocial adjustment and better metabolic control, while negative parenting behaviors are related to greater symptoms of depression and poorer quality of life. We sought to explore demographic differences in parenting and the effects of mothers' observed parenting behaviors on adolescent adjustment.

In this cross-sectional study, we collected observational and questionnaire data from mothers (n = 118, 75% married/partnered, 78% white) of children (ages 10-16, 46% female, mean HbA1C = 7.6) with T1D. Clinical data (HbA1c) was obtained from adolescents' medical records. Mothers and their children participated in a 15-minute videotaped discussion about a stressful diabetes-specific situation. Interactions were coded for specific positive (i.e., Communication, Positive Reinforcement) and negative (i.e., Lecture/Moralizing) behaviors using the Iowa Family Interaction Rating Scales.

Analysis of variance revealed that single/divorced mothers exhibited significantly more Lecture/Moralizing and significantly less Communication and Positive Reinforcement behaviors (all $p \leq .03$) than mothers who were married/partnered. White mothers exhibited significantly more Lecture/Moralizing and Communication behaviors than non-white mothers (both $p \leq .03$) but there was no significant racial difference in exhibition of Positive Reinforcement. Notably, no significant differences emerged in parenting behaviors related to adolescents' gender or age. Bivariate correlations indicated that lower levels of mothers' observed Communication ($r = -.24$) and higher levels of mothers' observed Lecture/Moralizing ($r = .24$) were related to higher levels of adolescents' depressive symptoms (both $p < .03$). Mothers' observed Positive Reinforcement was related to lower HbA1c ($r = -.23$, $p = .028$).

Our findings indicate a relationship between mothers' marital status and race with observed positive and negative parenting behaviors, which can impact their child's mental and physical health. These results may help to explain disparities in health outcomes in youth with T1D.

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Paper Session 33 9:52 AM-10:10 AM 4045

DEPRESSION SCREENING IN PEDIATRIC TYPE 1 DIABETES (T1D); POSITIVE SCREENING SCORES AND PARENTAL RESPONSES

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Youth with T1D experience ≥2x the rates of depressive symptoms (Sxs) than youth without T1D. Depressive Sxs are associated with non-adherence and poor glycemic control. Management of T1D is demanding; burdens increase with use of the implementation of modern technologies that currently lack automation. To assess rates of depressive Sxs in youth with T1D receiving intensive insulin therapy, we administered the Center for Epidemiological Studies Depression Scale for children (CES-DC) to 129 youth (50% male), ages 8-17 with T1D. All received insulin pump therapy or multiple daily injections, and were planning to begin continuous glucose monitoring (CGM) as an advanced modern technology. Sample mean A1c was 8.0 ± 0.9%; T1D duration 6.0 ± 3.5 yrs; CES-DC score 10.1 ± 9.4 (median 7.0 (25th-75th% = 4.0-13.0)). With a cutoff of ≥15, 22% (n = 29) screened positive for depressive Sxs within the past week. Of these, 34% (n = 10) scored ≥24, the cutpoint indicating moderately or severely depressed mood. CES-DC score was not related to age, A1c, or treatment regimen. Mental health staff contacted parents of youth who scored ≥15 to discuss Sxs and offer follow-up. Parents responded in a variety of ways: 1) Child had atypical week and/or misunderstood questions (31%; n = 9; false screen); 2) Depressive symptoms already known to family (45%, n = 13; true screen); or 3) Depressive symptoms previously unknown to family (24%, n = 7; true screen). There were no differences in A1c among groups. Excluding youth with false positive screens, ~16% of this sample of intensively treated youth with T1D reported Sxs of depression, a rate similar to that in other pediatric T1D samples. Notably, among the youth who screened positive, one of four had parents who were unaware of the Sxs. While it is encouraging that use of intensive insulin therapy and advanced technologies (CGM) were not associated with increased occurrence of depressive Sxs, 5% of the sample had previously unrecognized Sxs, suggesting the value of screening for early intervention and treatment.

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Meritorious Paper
Paper Session 34 8:40 AM-8:58 AM 4046

PREDICTING FUTURE SMOKING AND ALCOHOL STATUS FROM PREVENTION SUBTYPES

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Substance abuse interventions tailored to the individual level have produced effective outcomes for a wide variety of behaviors. One approach to tailoring employs cluster analysis to identify prevention subtypes that represent different attitudes about substance use. In this study, prevention subgroups were tested for their ability to predict future behavior. Analyses were performed on a sample of 6th graders from 20 Rhode Island middle schools involved in a 36-month tailored intervention for smoking and alcohol. Most adolescents reported being in the Acquisition Precontemplation (aPC) stage: not smoking or not drinking and not planning to start in the next six months. For both smoking and alcohol, the baseline aPC sample (N = 3068) was randomly split into five subsamples. Cluster analysis was performed within each subsample based on three substance acquisition variables: Pros and Cons (from Decisional Balance scales), and Situational Temptations Scale. Across all subsamples for both smoking and alcohol, the following four clusters were identified: (1) Most Protected (low Pros, high Cons, low Temptations); (2) Ambivalent (average Pros, Cons, and Temptations); (3) Risk Denial (average Pros, low Cons, average Temptations); and (4) High Risk (high Pros, low Cons, high Temptations). Baseline cluster membership was compared to smoking and alcohol status at 12, 24, and 36 month assessments. At all time points, for both smoking and alcohol, the proportion remaining in aPC was consistently the highest for Most Protected, and lowest for High Risk; the proportion that started smoking/drinking was consistently the lowest for Most Protected and the highest for High Risk. For example, at 36 months 5.5% of the Most Protected for smoking started smoking compared to 12.7% of the High Risk, and 10.5% of the Most Protected for alcohol use started drinking compared to 23.4% of the High Risk. The ability of the prevention subgroups to predict future smoking and alcohol use provides evidence of the utility and predictive validity of these subtypes.

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Paper Session 34 8:58 AM-9:16 AM 4047

FAMILY AND SCHOOL FACTORS ASSOCIATED WITH ADOLESCENT DRUG USE TRANSITIONS

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Adolescent drug use is a dynamic process often consisting of longitudinal changes in the substances used. We examine how drug use profiles change during high school, and how family and school factors influence changes.

Data are from 850 participants in a longitudinal study. Latent Transition Analysis (LTA) identified drug use profiles based on past 30-day alcohol, tobacco and marijuana use at age 16 (T1); measured transition probabilities among profiles from age 16 to age 18 (T2); and estimated associations of transitions among profiles from T1 to T2 with family (conflict, decision-making) and school (importance, positive attitude) factors controlling for gender, race and SES.

Three profiles were identified: Non-users (56%), alcohol and marijuana users (AM users: 19%) and users of all three (ATM users: 25%). From T1 to T2, drug use profiles did not change for 78% of non-users, 51% of AM users and 77% of ATM users, while 10% of non-users and 35% of AM users became ATM users, and 14% of AM and 7% of ATM users became non-users. Family conflict was a risk ($p < 0.01$) and school importance was a borderline significant protective factor ($p = 0.08$) for transitions in profiles, which were not associated with family decision-making and school attitudes. Family conflict was associated with higher odds of transitioning from non-use to AM (OR = 1.3) and ATM use (OR = 1.4), and lower odds of transitioning from AM (OR = 0.8) and ATM use (OR = 0.7) to non-use. School importance was associated with lower odds of transitioning from non-use to AM (OR = 0.6) and ATM use (OR = 0.7); and higher odds of transitioning from ATM use to non-use (OR = 1.5).

The substantial transitions in drug use profiles with family conflict and school importance contributing meaningfully to transitions suggest that intervention opportunities exist during high school to decrease transitions from non-use to use, and to increase transitions from use to non-use. A limitation is the lack of statistical tests for odds ratios, which are not available in LTA.

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Paper Session 34 9:16 AM-9:34 AM 4048

THE RELATIONSHIP OF EMERGING ADULTHOOD TRAJECTORIES TO DRUG USE, AND OTHER BEHAVIORAL OUTCOMES ACROSS FOUR WAVES OF DATA

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Introduction: Over the past decade there has been interest in examining the period between adolescence and young adulthood, emerging adulthood, as a unique developmental period. This study examined the heterogeneity of the period of emerging adulthood by identifying trajectories of development across individuals and identifying how these trajectories differ in terms of future outcomes.

Method: A sample of continuation high school students as part of a larger drug prevention project were used to identify trajectories of emerging adulthood. First, the 8-item IDEA measure was tested for factorial invariance across three time points. Factorial invariance was achieved using a 5-item version. Next, latent growth modeling was used to identify the overall trajectory of emerging adulthood over time. Next, latent class growth modeling was used to identify unique developmental trajectories over time from a larger heterogeneous sample. Lastly, classes were compared in terms of both baseline and Time 3 correlates.

Results: Three classes were identified. These classes differed in important ways both in terms of intercept and slope, but also in terms of baseline characteristics. Class 3 appeared to be the most at-risk at Time 1. However, at Time 4, the classes appeared to be very similar in terms of demographic characteristics and risk behaviors, apart from number of sexual partners such that Class 2 was exhibited a higher number.

Discussion: The IDEA is a stable construct over time. Latent class differs in baseline characteristics but does not differ greatly in predicting Time 4 outcomes.

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Paper Session 34 9:34 AM-9:52 AM 4049

FAMILY MATTERS: CONSIDERING PARENTAL INFLUENCES ON COLLEGE STUDENTS' DRINKING BEHAVIORS

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Excessive drinking on college campuses has been a public health issues for decades. Peer and environmental influences have been explored during this period of transition into adulthood. However, students arrive on campus having been shaped by their family of origin which plays an important part in risk behaviors. An analysis of an ethnically diverse dyadic sample of college students and their parents reveals three important findings: 1) a consistency in the awareness of familial history of alcohol related risks, 2) the protective aspects of religion, and 3) risks related to socioeconomic status. The 75% female sample consisted of college students (n = 130) and their parents (n = 115). The racial breakdown of the student sample was Caucasian/White (56%), Black/African American (17%), Asian American (10%), Hispanic/Latino (7%) and other ethnicity (including Native American and Biracial) (3%). An examination of the dyadic relationships revealed a significant correlation ($p < .001$) between the students and their parents in reporting family members with alcohol use disorders. A path model testing direct and indirect effects of simultaneous mediators revealed that parent and student religious coping were significantly related ($b = .35$, $p < .0001$) and religious coping as related to more conservative norms related to alcohol use; alcohol norms mediated the relationship between religious coping and alcohol use frequency ($b = .43$, $p < .001$) and heavy drinking ($b = .31$, $p < .01$). Finally, parental reports of higher socioeconomic status were related to greater alcohol problems among students. Among higher income parents there was an earlier age of onset of drinking for the student ($b = -.20$, $p < .1$) and earlier drinking was related to higher alcohol problems among students ($b = -.14$, $p < .05$). Taken together, these findings are discussed in the context of developing prevention efforts that addresses diverse student contexts as they arrive on campus. The relevance of race and gender in the context of familial influence is also discussed.

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Paper Session 34 9:52 AM-10:10 AM 4050

IS TRYING TO LOSE WEIGHT ASSOCIATED WITH ALCOHOL USE AND BINGE DRINKING AMONG HIGH SCHOOL GIRLS? FINDINGS FROM THE U.S. NATIONAL 2011 YOUTH RISK BEHAVIOR SURVEY

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Background: Trying to lose weight has been associated with alcohol use, especially binge drinking, among college-aged females. However, little is known about this relationship among high school girls.

Methods: Using data from the National 2011 YRBS, we examined the relationship between trying to lose weight and past 30-day (1) alcohol use and (2) binge drinking (separately) among 5,106 14-18 + -year-old girls who reported ever using alcohol. Survey-weighted logistic regression models were conducted and all analyses controlled for grade, race/ethnicity, and dichotomous indicators of past year depression, past 30-day cigarette use, talking with an adult/teacher about a problem within the past year, and past-week exercise.

Results: 44.0% of girls reported current alcohol use with 27.8% reporting binge drinking. While a significant relationship was not found between trying to lose weight and current alcohol use in the final multivariable regression models, a significant relationship was found between trying to lose weight and binge drinking [Adjusted Odds Ratio (AOR): 1.24, 95% Confidence Interval (CI): 1.02, 1.52]. Additional variables that were found to be associated with an increased odds of binge drinking included: being in 11th grade (AOR: 1.57, CI: 1.16, 2.11) and 12th grade (AOR: 1.90, CI: 1.35, 2.69) compared to being in 9th grade, screening positively for depression (AOR 1.27, CI 1.07-1.51), and cigarette use (AOR 5.21, CI 4.14-6.56). Variables associated with a decreased risk of binge drinking included: talking to an adult/teacher about a problem (AOR 0.77, CI 0.63-0.93), and identifying as Black/African American compared to White (AOR 0.58, CI 0.43-0.80).

Conclusions: Several factors go into why high school girls binge drink, but trying to lose weight needs to be considered, particularly among those who have other risk factors such as depression and being a smoker.

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Paper Session 35 8:40 AM-8:58 AM 4051

SAFE SEXT: ADOLESCENTS' USE OF TECHNOLOGY TO COMMUNICATE ABOUT SEXUAL HEALTH WITH DATING PARTNERS

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Adolescents' in-person sexual communication with partners promotes safer sexual decisions and condom use. However, as adolescents increasingly communicate through electronic means, additional research is needed on youths' use of technology to facilitate safer sex. The current study examined adolescents' use of technology to communicate about sexual health with dating partners, and evaluated the link between communication and condom use among sexually active youth. Gender and ethnicity were considered as moderators.

Participants were 156 high school students who reported having a dating or sexual partner in the past 6 months (Mage = 17; 53% male; 67% Caucasian). Participants indicated if they used private technology (i.e., electronic interactions not visible to the public; e.g., texting, Facebook messaging) to communicate with partners about 6 topics: condoms, birth control, STIs, HIV/AIDS, pregnancy, and sexual limits. Participants also indicated whether they were sexually active and how often they used condoms in the past 6 months.

Overall, 54% of youth used technology to discuss at least one sexual health topic, with rates of communication varying by topic. For adolescents who had sex in the past 6 months ($n = 64$), the odds of consistent condom use increased dramatically among youth who discussed condoms (OR = 3.89, 95% CI [1.31, 11.57]) and birth control (OR = 3.90, 95% CI [1.35, 11.26]) with their partners. Associations did not vary by gender or ethnicity. However, girls were more likely than boys to report discussing HIV ($\chi2 = 3.93$, $p = .04$), pregnancy ($\chi2 = 4.64$, $p = .03$), and sexual limits ($\chi2 = 4.28$, $p = .04$). Additionally, ethnic minority students were significantly more likely than Whites to discuss HIV ($\chi2 = 3.82$, $p = .05$), pregnancy ($\chi2 = 4.90$, $p = .03$), and birth control ($\chi2 = 4.23$, $p = .04$) with their partners.

This study provides much-needed information on rates of adolescents' technology-based sexual communication with partners, as well as preliminary support for the importance of such communication in adolescents' safer sexual decisions.

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Paper Session 35 8:58 AM-9:16 AM 4052

THE ASSOCIATION BETWEEN STRESS, COPING, AND SEXUAL RISK BEHAVIORS OVER 24 MONTHS AMONG AFRICAN AMERICAN FEMALE ADOLESCENTS

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African American female adolescents experience elevated rates of sexually transmitted infections (STIs), including HIV. Heightened psychosocial stress coupled with maladaptive coping may be associated with greater sexual risk behavior engagement. The present study examined the association between baseline stress levels and coping strategy use as predictors of sexual risk behavior engagement over 24 months. African American adolescent females ($N = 701$; 14-20 years; $M = 17.6$ years) enrolled in an STI/HIV risk-reduction intervention completed an ACASI assessment with measures of overall stress (global stress rating), interpersonal specific stress (Watt-Jones, 1990), coping strategy use (behavioral disengagement, denial, active coping), and sexual behaviors prior to participating in the intervention. Follow-up assessments were conducted at 6-, 12-, 18-, and 24-months post-intervention participation. A series of general estimated equation models using an autoregressive correlation structure examined associations between baseline stress levels and coping strategy use as predictors of condom use in the past 90 days (consistent condom use, proportion condom use) and condom use at last sex during follow-up, controlling for age and treatment assignment. Level of interpersonal stress and individual coping strategy usage were not associated with differences in condom use. Regardless of coping strategy used, overall stress level was associated with lower proportion condom use ($p = 0.0173$), inconsistent condom use ($p = 0.0095$), and not using a condom at last sex ($p = 0.0025$). Future research should further explore mechanisms that may underlie the association between elevated psychosocial stress and decreased condom use among this population. HIV/STI risk reduction intervention content may also benefit from inclusion of stress management content to address the intersection of psychosocial stress and sexual risk behaviors.

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Paper Session 35 9:16 AM-9:34 AM 4053

IMPROVING EFFECTIVE CONTRACEPTIVE USE AMONG OPIOID-MAINTAINED WOMEN

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Rates of unintended pregnancy are alarmingly high (85%) among opioid-abusing women, due in part to low rates of contraceptive use. Efforts to reduce barriers to prescription contraceptive initiation among high-risk populations (e.g., incarcerated women) have had some success, but continuation rates leave much room for improvement. Providing financial incentives contingent on adherence with various medication regimens has been efficacious among substance abusers and may have a role to play with regard to prescription contraceptives, especially when combined with barrier reduction.

Thirty-one opioid-maintained women of reproductive age who did not plan to get pregnant in the next 6 months and were not already using a prescription contraceptive were randomly assigned to either a treatment as usual (TAU) control condition or an experimental (EXP) contraceptive management program. Participants in the TAU condition received condoms, Plan B and referral to local contraceptive providers. Participants in the EXP condition also received the World Health Organization's contraception initiation protocol, including a free supply of their chosen prescription contraceptive method, as well as financial incentives for attending 13 follow-up visits over the next 6 months. Point-prevalence prescription contraceptive use at 1, 3 and 6 months was the primary outcome measure.

Preliminary analyses indicate significantly more women in the EXP vs. TAU conditions reported prescription contraceptive use at the 1 month (63% vs. 14%), 3 month (88% vs. 23%), and 6 month (92% vs. 17%) assessments. Two women in the TAU condition became pregnant during the 6-month protocol. Importantly, prescription contraceptive use in the EXP condition did not decrease use of condoms.

Preliminary results suggest the experimental intervention increases prescription contraceptive use among opioid-maintained women without decreasing condom use.

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Paper Session 35 9:34 AM-9:52 AM 4054

A WEB-BASED MOTIVATIONAL ENHANCEMENT INTERVENTION TO INCREASE CONDOM USE AMONG COLLEGE WOMEN

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Behavioral interventions that successfully increase condom use often require significant resources. Given the need for low-cost, sustainable interventions, we designed a web-based intervention to increase condom use among college women by focusing on discrepancies between idealized and actual behavior.

Participants (422 women Mage = 18.87 years, $SD = 1.64$) completed demographic, sexual, and condom attitudes and intentions questionnaires as well as a Timeline Followback Interview to assess their drinking and condom use for the previous month. Participants engaged in a decisional balance analysis for each time they did or did not use a condom. Finally, participants wrote an essay encouraging high school girls to use condoms. The control group engaged in all the same procedures with the target behavior of binge drinking. All procedures were conducted online.

Women in the condom group had significantly greater intentions to use condoms ($F = 9.20$, $p < .01$) and more positive attitudes about condoms ($F = 18.24$, $p < .01$) immediately following the intervention. Women in the binge drinking group had greater intentions to avoid binge drinking ($F = 4.81$, $p < .01$).

A subset of women ($N = 216$, Mage = 18.91, $SD = 1.32$) completed a 3-month follow up. There were no group differences in attitudes, intentions, or behavior at follow up. Condom attitudes following the intervention significantly predicted condom use at follow up, and this relationship was mediated by condom intentions post intervention ($z = 3.77$, $p < .01$). Furthermore, the link between intentions and condom use was moderated by group ($F = 15.23$, $p < .01$); women in the condom group with high condom intentions reported the most condom use at follow up.

The intervention improved attitudes towards condoms and intentions for use in the short term. Additionally, the intervention moderated the impact of intentions on condom use at follow up, suggesting a moderated mediation model of condom use. This study highlights the importance of considering the process of behavior change and the multiple pathways through which an intervention can influence on behavior.

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Paper Session 35 9:52 AM-10:10 AM 4055

META-ANALYSIS OF ADOLESCENT SEXUAL COMMUNICATION AND CONDOM USE

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Consistent condom use is of paramount importance for the health of sexually active youth. A growing body of evidence suggests that sexual communication between adolescent partners may positively impact consistent condom use; however, this literature has yet to be synthesized. The purpose of this meta-analysis was to synthesize the research on adolescent sexual communication and condom use and to examine several moderators of this association.

Studies were included if they: 1) sampled adolescents (Mage ≤ 18); 2) measured partner sexual communication; 3) measured condom use/unprotected sex; 4) analyzed the association between communication and condom use/unprotected sex; and 5) were published in English-language journals. These selection criteria yielded a final sample of 33 articles (27 from U.S., 6 international); a total of 39 independent effect sizes from 14,891 participants (Mage = 16.7, range = 12-23) were meta-analyzed. Samples were drawn from health clinics ($k = 11$), schools ($k = 9$), jails/detention centers ($k = 4$), community settings ($k = 3$), or other/mixed sites ($k = 6$).

Results revealed a weighted mean effect size of the sexual communication-condom use relationship of $r = .23$, which was statistically heterogeneous, $Q = 612.76$, $p < .001$ ($I2 = 93.80$). Gender, topic of communication, and communication format emerged as significant moderators. Specifically, the relationship between sexual communication and condom use was stronger for girls ($r = .28$) than boys ($r = .18$; $z = 4.46$, $p < .001$). Regarding communication topic, larger effect sizes were found for communication about condom use ($r = .33$) versus communication about sexual history ($r = .15$) or general safer sex ($r = .14$). Regarding format, effect sizes were larger for behavioral formats ($r = .27$) than for self-efficacy ($r = .25$), fear/concern ($r = .18$), future intention ($r = .15$), or communication comfort formats ($r = -.15$).

Our results highlight the importance of emphasizing communication skills in HIV/STI prevention work, especially condom communication for adolescent girls. Implications for the future study of sexual communication will be discussed.

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Paper Session 36 8:40 AM-8:58 AM 4056

AN MHEALTH APPLICATION FOR SELF-MONITORING AND DECISION-SUPPORT AFTER LUNG TRANSPLANTATION

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Early detection and reporting of complications leads to better health outcomes after lung transplantation, yet lung transplant recipients (LTRs) have difficulty identifying critical values and knowing when to report them. Pocket PATH®, an mHealth application with decision-support functions may help LTRs identify and report critical values. In a parent RCT, LTRs (n = 201) were randomized to Pocket PATH® and Standard Care group for self-monitoring health for 12 months after discharge. The aim of this secondary analysis was to identify baseline factors that may influence the identification and reporting of critical health indicators. .

Baseline factors were assessed prior to randomization (sociodemographics, self-care agency, quality of caregiver relationship, health control beliefs, psychological distress, and transplant clinical characteristics). The count of identified and reported critical values was obtained from automatic feedback messages, paper self-monitoring logs, and clinicians' progress notes. Zero-inflated negative binomial regression was used to identify potential predictors.

About one-third (38%) of LTRs identified at least one critical value. The average number of critical values identified was 5.43 (ranged from 0 to 105) and reported was 4.24 (ranged from 0 to 79). Males, longer ICU stays and stronger internal health control beliefs were significantly associated with higher critical value identification (Wald = 0.89, 0.07, & 0.09, p -value =0.02, 0.04 & 0.01, respectively). The Pocket PATH group and longer ICU stays were associated with higher critical values reporting (Wald = 1.22 & 0.08, p-value = 0.01 & 0.01, respectively). No other baseline factors were significantly associated with critical value identification or reporting. Modifiable predictor of critical value identification includes internal health control beliefs. mHealth application with self-monitoring and decision support predicted more effective reporting of critical condition changes after lung transplantation.

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Paper Session 36 8:58 AM-9:16 AM 4057

PREDICTORS OF POSTTRAUMATIC GROWTH IN LONG-TERM LUNG TRANSPLANT SURVIVORS

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Background. Lung transplantation improves quality and duration of life for individuals with advanced lung disease, but these gains are accompanied by chronic stressors (e.g., onset of new morbidities) that themselves can lead to poor psychosocial outcomes. Thus, most psychosocial research focuses on adverse psychological and social functioning outcomes. Positive effects, such as psychological growth, particularly in the late-term years as physical morbidities increase, have received little attention. We provide the first data on psychological benefit—posttraumatic growth (PTG)—in this population and we focus on long-term (>5 year) survivors.

Methods. Among 178 recipients from a prospective study of mental health during the first 2 years posttransplant, we recontacted survivors 6-11 years posttransplant. We assessed PTG (i.e., positive psychological change resulting from the transplant) and examined its relationship to other patient clinical, psychological, and social characteristics with multivariable regression analyses.

Results. 64 recipients (86% of survivors) were assessed (M = 8.1 years posttransplant, SD = 1.2). Mean PTG exceeded the scale's midpoint (M = 38.6, SD = 10.0; scale midpoint = 25). Items reflecting personal strength and appreciation of life were most often endorsed. Recipients with greater PTG were female (p = .022), less educated (p = .014), had a history of posttransplant panic disorder (p = .005), greater friend support (p = .048), and better perceived health (p = .032). Neither other mental disorders (depression, posttraumatic stress disorder) nor transplant-related morbidities (acute rejection, chronic rejection) predicted PTG.

Conclusions. PTG exceeded levels observed in other chronic disease populations, suggesting that lung transplantation may uniquely foster positive psychological change in long-term survivors. PTG occurs despite physical and psychiatric morbidities and is not impaired by psychiatric distress. Whether PTG promotes other positive posttransplant psychosocial outcomes deserves attention.

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Paper Session 36 9:16 AM-9:34 AM 4058

A BIOMARKER RELATED TO NONADHERENCE PREDICTS REJECTION IN ADULT LIVER TRANSPLANT RECIPIENTS

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Nonadherence to immunosupressants plays a role in late acute rejection in liver transplant recipients. In children, emerging data suggest that adherence can be measured by an innovative biomarker: computing the standard deviation (SD) of blood levels of tacrolimus. A higher SD means erratic medication-taking and, therefore, less adherence. Data on this biomarker in adults, however, are limited. Previously reported results from an interim analysis suggested that the SD biomarker predicts rejection in a subsample of adult liver transplant recipients. We now report the results of the full analysis. We randomly selected 150 adult liver transplant recipients whose data were obtained from the medical record. The SD marker's value was significantly higher in patients with biopsy-confirmed acute rejection (mean = 3.8, SD = 3.2) as compared with the rest of the cohort (mean = 2.3, SD = 1.5; p < .001). It was significantly higher in patients who had a rejection as compared with patients who had a biopsy not read as acute rejection (mean = 2.6, SD = 1.6; p = .006). Consistent with pediatric studies, a threshold SD of 2.6 resulted in 70% sensitivity and 73% specificity in predicting acute rejection; a threshold of 1.8 resulted in a sensitivity of 96% and specificity of 49%. The Area Under the Curve (AUC) in an ROC curve analysis was 0.746. Findings from this study extend earlier results in children and indicate that the nonadherence-related SD biomarker is associated with late acute rejection in adults.

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Paper Session 36 9:34 AM-9:52 AM 4059

PSYCHOSOCIAL SCREENING PRACTICES AND CRITERIA FOR KIDNEY TRANSPLANTATION: A SURVEY OF US TRANSPLANT CENTERS

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Background: One potential treatment for patients with end-stage renal disease is kidney transplantation. Psychosocial evaluation is often used to help identify optimal organ recipients. We conducted a survey of US transplant centers to identify current psychosocial practices for kidney transplantation. Method: In 2010, an online survey was sent to all active, adult kidney transplant centers in the United States (n = 238). Respondents described their center's screening protocols and ranked a number of psychiatric, cognitive, social, and substance abuse criteria. Results: Responses were received from 145 individuals, representing programs from all 11 UNOS Regions, with yearly volume of 92.0 ± 71.3 (range 2 to 348) transplants per year. Respondents included social workers (82.8%), psychologists (9.0%), and psychiatrists (1.4%). Most programs (74.5%) had formal written psychosocial criteria for potential kidney recipients and 63.4% had informal criteria. Social workers routinely evaluated patients at 89.0% of centers, psychologists at 13.1%, and psychiatrists at 6.2%. Once listed for transplant, psychosocial re-evaluation is conducted yearly (60.0%) or only as needed (14.5%). Across centers with low, moderate, and high transplant volume (divided by tertiles) there was consistency in the rankings of the psychosocial contraindications to kidney transplantation, with active psychosis, bipolar disorder, ongoing substance abuse, and current suicidal ideation being chief concerns for the sample. Comparison data from 1990 and 2000 will be used to describe attitudes toward 40+ criteria used to assess psychosocial clearance for kidney transplantation. Conclusions: This national survey provided needed information on current psychosocial screening practices and criteria for kidney transplantation in the United States. Additional research is necessary to determine how information on relative psychosocial contraindications are used in organ candidacy evaluations and how these factors impact psychosocial and clinical outcomes in the long-term.

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Paper Session 36 9:52 AM-10:10 AM 4060

POLICIES ON TOBACCO AND MARIJUANA SMOKING AMONG US CARDIAC, KIDNEY, AND LIVER TRANSPLANT PROGRAMS

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Background: Use of tobacco among organ transplant recipients has been associated with surgical complications and worse graft and patient survival. There is less available evidence on the impact of marijuana in this population. Method: In 2010, we conducted an online survey of US transplant centers to identify current practices related to psychosocial criteria for potential cardiac, liver, and liver recipients. Policies toward tobacco and marijuana smoking were compared to data from a similar survey conducted in 2000. Results: Responses were received from 287 psychosocial providers (79.5% social workers, 9.8% psychologists, 4.5% psychiatrists) representing adult cardiac, kidney, and liver transplant programs from all 11 UNOS Regions. Most programs (76.3%) had formal written psychosocial criteria for potential recipients and 65.5% had informal criteria. Cardiac programs had the most restrictive policies regarding current cigarette smoking (X2(4) = 87.4; $p < 0.005$): it was considered an absolute contraindication in 83% of cardiac programs, 19% of kidney programs, and 25% of liver programs. Attitudes toward current marijuana use were similar to current tobacco use among cardiac programs (79% absolute contraindication) and more severe among kidney and liver programs (35% and 46% absolute contraindication, respectively). Tobacco use in the past 6 months was considered an absolute contraindication in 41% of cardiac, 2% of kidney, and 2% of liver programs, while marijuana use in the past 6 months was viewed as an absolute contraindication among 39% cardiac, 10% kidney, and 11% liver transplant respondents. A similar pattern was observed in data collected 10 years prior.

Conclusions: Cardiac transplant programs have similar policies regarding tobacco and marijuana, which are more restrictive than policies at kidney and liver programs. However, current criteria do not seem proportional to the comparative level of evidence of harm. It remains to be seen whether medicinal marijuana legislation will have impact on psychosocial clearance for organ transplantation.

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Saturday
April 26, 2014
10:10 AM-11:30 AM

Poster Session D

D-001

EMOTION EPISODES DURING PSYCHOTHERAPY WITH GYNECOLOGICAL CANCER PATIENTS

Shannon Myers Virtue, PsyD,[1] Sharon L. Manne, PhD,[1] Melissa Ozga, DO,[2] Carolyn Heckman, PhD,[3] Tina Gajda, MA[1] and Shira Hichenberg, BA[2]

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According to Greenberg's dialectical-constructivist perspective of change during psychotherapy, the expression and processing of emotions allows patients to gain an understanding of a life event. This model has proven useful in psychotherapy outcome research. However, little is known about emotion expression among cancer patients during therapy. The aim of this study was to characterize gynecological cancer patients' emotions episodes during their first therapy session. Participants were 150 women engaged in a clinical trial comparing supportive counseling and a coping and communication intervention. Emotion episode coding captured the frequency and type of emotion expressed. Participants completed measures of emotional expression, depressive symptoms, and intrusive thoughts before therapy and a depression measure immediately after therapy. Women expressed M = 7.7 emotion episodes/session. The most common types of emotions expressed were fear (3.2/session), sadness (2.5), joy (1.5), and anger (1.1). The least common were love (0.2) and shame/guilt (0.5). Of the emotion episodes, 77% included negative emotions (e.g., anger), 17% included positive emotions (e.g., joy), and 5% included both. Intrusive thoughts and depression before therapy predicted frequency of negative emotion episodes during sessions ($p = .02$, $p = .04$), but not positive emotion episodes. Women with high baseline emotion expressivity expressed more joy during the session ($p = .05$). Total emotion episodes, frequency of negative emotion episodes, and frequency of positive emotion episodes were not significantly related to post-session depression. There were no differences between the two intervention groups. In conclusion, gynecological cancer patients express emotions frequently during first therapy sessions, particularly negative emotions. Fear is the most common emotion that patients disclose. The expression of emotions during the first session does not impact depression ratings after the session.

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D-002

RELATING INCONGRUENCES OF SELF-REPORTED CANCER SCREENINGS AMONG ELDERLY AFRICAN AMERICANS

Mark A. Manning, PhD,[1] Janice Burnett, RN[2] and Robert Chapman, MD[2]

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Incongruences between self-reported cancer screenings and documented cancer screenings are more common for minorities compared to non-minorities. Using a sample of elderly African Americans, we examined whether incongruences were mostly due to the individual reporters, or to the types of cancer screenings being reported, and whether patients were consistently reported congruently or incongruently. We used self-reported cancer screening survey data from 1603 men and 3525 women for whom were able to match survey responses to medical records. Among men, we examined self-report congruencies for colorectal cancer (FOBT and endoscopies) and prostate cancer (PSA tests) screenings. Among women we examined self-report congruencies for colorectal cancer, breast cancer (mammograms) and cervical cancer (Pap smears) screenings. We used binomial-logistic multilevel models, with cancer screenings nested within individuals, to examine variations in the congruence of self-reports within and between individuals. Results indicated that, among men, 20% of the variance in self-report congruence was due to the reporters, with the remainder being due to the type of cancer screening. The odds of congruently reporting FOBT and CRC endoscopies were related, whereas the odds of congruently reporting PSA were unrelated to those for CRC screening. For women, 15% of the variance in self-report congruence was due to the reporter. The odds of congruently reporting FOBT and endoscopic CRC screenings were directly related, as were the odds of congruently reporting mammograms and Pap smears. The odds of congruently reporting CRC screenings were inversely related to the odds of congruently reporting mammograms and Pap smears. Findings suggest that associations among the odds of incongruent self-reporting may be due to the differences between CRC and genitourinary cancer screenings.

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D-003

DISPARITIES IN PSYCHOLOGICAL DISTRESS AMONG LESBIAN, GAY, BISEXUAL AND TRANSGENDER (LGBT) CANCER SURVIVORS

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Recent studies suggest that disparities exist between LGBT and heterosexual cancer survivors. Psychological distress is prevalent among LGBT adults in general, but studies have not examined distress among LGBT cancer survivors. We compared prevalence of psychological distress and specific symptoms of distress between LGBT and heterosexual survivors.

The LIVESTRONG dataset, a U.S. national survey, sampled 240 LGBT (90 male, 150 female) and 3,841 heterosexual (1,448 male, 2,493 female) survivors (all cancer types, mean age 49) in 2010. Distress was assessed with eight dichotomous yes/no items (depression, anxiety, mood swings, constant worry, worry about cancer mortality, physician diagnosis of depression, sought help for distress). We compared LGBT vs. heterosexual survivors and repeated analyses by gender.

73.2% of LGBT vs 68.4% of heterosexual cancer survivors reported symptoms of psychological distress; LGBT survivors reported more symptoms on average than heterosexuals (3.4 vs 2.9, $t = -2.93$, $p = .003$). Chi-square analyses indicated prevalence of depression, constant worry, and worry about cancer mortality were significantly higher among LGBT survivors (all $p < 0.05$) and that they were more likely to have been diagnosed with depression (30.1% vs 21.7%; $\chi 2 = 7.31$, $p = .02$). Differences were driven in part by high rates of distress among gay/bisexual (GB) male survivors. GB survivors were also more likely to have sought help for symptoms of distress than heterosexual male survivors (50.0% vs 29.7%; $\chi 2 = 9.71$, $p = .01$).

Disparities in distress exist between LGBT and heterosexual survivors. GB men, in particular, experience high levels of distress and are more likely to seek help for distress. Research is needed to examine long-term impact of distress on morbidity and mortality among LGBT cancer survivors. Access to additional mental health resources may be appropriate for this patient group.

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D-004

IMMUNOSUPPRESSANT SERUM LEVELS AS AN INDICATOR OF MEDICATION ADHERENCE IN PATIENTS AFTER ALLOGENEIC HEMATOPOIETIC CELL TRANSPLANT: METHODOLOGICAL CHALLENGES

Laura Patino, BA,[1] Natalie Stern,[2] Rita Jakubowski, Nurse Practicioner,[2] Sara Kim, Pharmacist,[2] Eileen Scigliano, MD,[2] Luis Isola, MD,[2] William Redd, PhD[2] and Gertraud Stadler, PhD[1]

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Medication adherence is essential to increase survival after allogeneic Hematopoietic Cell Transplant (HCT). Currently, there is no gold standard for measuring adherence to life-saving medications in this population. The aim of this study was to test the use of immunosuppressant serum levels (Cyclosporine,Tacrolimus, and Sirolimus) as an indicator of adherence in patients after allogeneic HCT. This study had a longitudinal design following patients for at least 3 months and up to 6 months post-transplant. As part of clinical care, immunosuppressant serum levels are assessed during clinic visits. We extracted time-stamped immunosuppressant levels, prescribed medications, dose changes, and absorption issues (diarrhea and vomiting), as well as discharge and admittance dates from patients' medical records (N = 14). Subtherapeutic serum levels were identified after patients were discharged, self-administered medications at home, and were not explained by confounding factors (dosage, absorption issues). In 8 of 14 patients (57%) we found at least one incident of subtherapeutic serum levels not explained by absorption issues, tapering, or discontinuing medication, possibly indicating non-adherence to immunosuppressant intake. In 7 of 14 patients (50%), we found repeated episodes of subtherapeutic levels. Immunosuppressant serum levels can be useful as an indicator of medication adherence. However, this approach has methodological limitations. Crucial confounding factors leading to subtherapeutic levels despite optimal adherence should be considered. Serum levels only reflect adherence if health care providers accurately report changes in medication dose and patient symptoms. In sum, it is feasible to use immunosuppressant serum levels as an indicator of adherence in this population. Their reliability and validity must be further examined. More objective adherence indicators are needed to complement the patient self-reports used in clinical care.

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D-005

"I WON OVER MY CANCER!" CONCEPTS OF CANCER RECOVERY AND THEIR RELATIONSHIPS WITH PHYSICAL AND EMOTIONAL FUNCTIONING

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Background: The concept of recovery among cancer patients impacts their mood and the way they lead their lives. This study hypothesizes that the meaning patients attribute to recovery can affect their physical and emotional functioning.
Methods: Participants were 37 Chinese breast cancer patients having recently completed their main adjuvant therapies (chemotherapy and radiotherapy). Having responded in writing what they believed cancer recovery was, participants also completed the Functional Assessment of Cancer Therapy: General (FACT-G). This assesses functioning in the domains of physical, social, emotional, and functional well-beings. Chi-square tests were used to compare the categories of recovery with subscales and total scores on the FACT-G.
Results: Participants' concepts of recovery fell into 3 main axes. The majority connoted "recovery" as being medically defined (completing radiotherapy; or the 5-year recurrence free). Others defined recovery as illness/symptom based (free from symptoms or side effects, or cancer being a lifelong uncertainty), while some participants took recovery as a simple returning to their normal lifestyles regardless of illness and symptoms.
The total score on the FACT-G was significantly different across participants with different recovery concepts (X2 = 9.63*). Those adopting the medical definition of recovery had the best functioning, followed by those focused on resuming old lifestyles, and then those who strive to be symptom-free or saw recovery as a lifelong uncertainty.
Conclusion: Patients' concepts of recovery are associated with their functioning. Concept of recovery may be affected by factors such as symptom severity and prognosis to be explored in future studies.
Acknowledgement: The Research Grants Council General Research Fund (HKU745110H)

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D-006

PROMOTING HEALTHY DIETARY AND PA BEHAVIORS AMONG SURVIVORS OF CHILDHOOD CNS TUMORS

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Purpose: Survivors of childhood central nervous system tumors (SCCNST), the most common solid tumor of childhood cancers, are three times more likely to have one or more adverse health issues compared to cancer-free siblings. Few diet and physical activity (PA) interventions adequately address cancer-related health issues (i.e. obesity and endocrine disorders). We explore factors that may influence dietary and PA practices and identify intervention needs among SCCNST.
Methods: We conducted one group interview with MDACC health care providers specializing in childhood CNS tumors and eight group interviews with SCCNST (12-18 years old) and their mothers. We analyzed verbatim transcripts using thematic content analysis.
Results: Four themes emerged: uncertainty challenges, social support, coping strategies, and preferred intervention modalities. Uncertainty challenges were described as physical and cognitive changes, and changes to family dynamics, social relationships, and sense of normality. Those with more social support seemed to have adopted an active coping strategy and reported healthy dietary and PA behaviors. Those with less social support seemed to have adopted an avoidance coping strategy and reported unhealthy dietary and PA behaviors. Active coping strategy adopters also preferred a more self-directed intervention (i.e. food journals) while avoidance coping strategy adopters preferred interventions with a directive regimen (i.e. "tell me what to do").
Conclusions: The themes aligned with the notion of uncertainty in illness theory. Thus, diet and PA interventions for SCCNST may benefit from including psychosocial support and behavioral change strategies. Psychosocial support is needed to address uncertainty challenges of SSCNST and their family and to promote adoption of active coping strategies. Behavioral change strategies may provide skills and techniques to help SCCNST adopt healthy dietary and PA behaviors.

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D-007

QUALITY OF LIFE AS A PREDICTOR OF EXERCISE AND INTERVENTION ADHERENCE AMONG ENDOMETRIAL CANCER SURVIVORS

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Background: Although exercise improves quality of life and physical function in cancer survivors, maintaining exercise programs long-term is challenging for these patients. This analysis evaluated baseline quality of life (QOL) measures, body mass index (BMI) and prior exercise behavior's effect on exercise during an intervention and adherence to the intervention's telephone counseling.
Methods: Endometrial cancer survivors (n = 100) currently not meeting physical activity guidelines completed baseline QOL and anthropometric assessments to measure general physical and mental health, sleep patterns and quality, perceived stress, cancer-specific concerns of long-term survivors, and psychological distress. Survivors received Social Cognitive Theory-based print material and telephone counseling. We examined whether baseline QOL, anthropometrics, and physical activity predicted adherence to telephone counseling sessions and physical activity at 6 months.
Results: Multiple linear regression showed exercise minutes during the intervention was predicted by higher baseline activity, less invasive surgery, less bodily pain and lower education (Adj. R2 = .395, p < .001). Telephone counseling session adherence was predicted by higher baseline activity, informal employment, and having fewer cancer-related concerns (Adj. R2 = .145, p < .01).
Conclusion: Baseline activity was the strongest predictor of final exercise and telephone counseling adherence. Results suggest adaptive exercise interventions that focus heavily on engaging inactive participants and addressing cancer specific concerns and symptoms may be a way to produce better exercise-related outcomes in the endometrial cancer survivor population. The determinants of adherence to intervention sessions are poorly understood and merit additional study.

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D-008

PATIENT DAILY EVENTS UNIQUELY PREDICT MOMENTARY POSITIVE AFFECT IN BOTH EARLY-STAGE BREAST CANCER PATIENTS AND THEIR SPOUSES

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Background: In addition to the stress of "normal" everyday life, cancer patients and their intimate partners also confront myriad other stressors stemming from their cancer experience, including additional medical appointments, side effects of treatment, and insurance or financial issues. This study explored whether the occurrence of particular daily events in the lives of breast cancer patients are associated with daily well-being in both the patients and their spouses. Specifically, it was hypothesized that breast cancer patients' reports of daily recreational activities and positive spouse interactions would predict increased positive affect (PA) and reduced negative affect (NA) in both patient and spouse.
Method: Participants were 54 female early-stage breast cancer patients and their spouses who completed online daily diaries each morning and evening for ten consecutive days approximately one month after patients received breast cancer surgery. Diaries included momentary ratings of PA, NA, medical events, recreational activities, and spouse events.
Results: After controlling for morning affect and daily medical events, zero-inflated poisson dyadic multilevel analyses showed that a day on which a patient reported a recreational activity predicted a 6% increase in both her and her spouse's daily PA ($RR = 1.06$, $p < .001$). Similarly, a day on which a patient reported a positive interaction with her spouse predicted a 5% increase in both her and her spouse's daily PA ($RR = 1.05$, $p < .01$). For both patients and spouses, neither event type predicted decreases in daily NA.
Conclusions: These results suggest the importance of engaging in positive events to the everyday quality of life of couples coping with breast cancer. Patient participation in recreational activities and/or having positive spousal interactions may serve as a source of resilience for both patient and spouse in the face of cancer-related stressors.

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D-009

FACILITATING FAMILY GENETIC RISK COMMUNICATION IN LYNCH SYNDROME: POTENTIAL ROLE OF E-HEALTH TECHNOLOGY

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Disseminating information about a Lynch syndrome (LS) mismatch repair gene mutation within affected families depends largely on the willingness and ability of relatives to share results of genetic testing. Communication of LS-related information (LSI) occurs most frequently between an informed, tested family member and his/her first degree-relatives. Conversely, communication is less likely with more distant relatives; other barriers include family estrangement, disruption, or lack of perceived need for LSI. We evaluated communication patterns and methods used by LS-affected persons to share LSI with close (first-degree) and distant (second-degree or greater) relatives. LS mutation carriers ($n = 32$) were recruited through a cancer center's clinical genetics program and through social media for qualitative phone interviews. Transcripts were coded using Atlas.ti; intercoder reliability exceeded 90%. Co-occurrence (CO) frequencies were computed between communication methods and patterns regarding close vs. distant relatives. Consistent with prior studies, participants reported closed or little communication with distant relatives (0.16 CO). Participants reported they would be willing to share LSI with relatives with whom they have had a prior conflict (0.25 CO). LSI was conveyed to first-degree relatives largely through verbal communication (0.17 CO); however, E-mail, social media, and other electronic means were primarily used to communicate with more distant relatives (0.04-0.08 CO). Participants reported relying on other relatives as intermediaries for communication of LSI in the case of family estrangement or conflict. Encouraging communication about LS and genetic risk among more distant relatives within a family remains a challenge. Utilizing e-Health communication strategies may facilitate more complete dissemination of genetic risk information within LS families.

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D-010

PSYCHOMETRIC ASSESSMENT OF THE PROCESSES OF CHANGE SCALE FOR SUN PROTECTION

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The increased rate of skin cancers in the United States, and also worldwide, represents a major health concern. The adverse outcomes of skin cancer, which include death, underline the necessity for effective interventions to promote sun protection behaviors and decrease risks. Computer-based interventions based on the Transtheoretical Model have been effective but require psychometrically sound measures for accurate decision making. This paper assesses the psychometric properties of the independent measures, the Processes of Change (POC) Scale for Sun Protection. Three levels of invariance were tested, from the least to most invariant model: configural invariance (constrained factor structure on only zero loadings); pattern identity invariance (constrained factor loadings); and strong factorial invariance (constrained factor loadings and measurement errors). Structural equation modeling was used to evaluate the appropriate factorial invariant model for the 28-item scale. Factorial invariance was assessed across gender (men vs. women), ethnicity (Hispanics vs. Non-Hispanics), race (Black vs. White), age (18-29 years old vs. 30-39 years old vs. 40-49 years old vs. 50-59 years old vs. ≥ 60), education (≤ 12 years vs. 13-15years vs. ≥ 16 years), skin tone (fair white vs. medium white vs. dark white; olive skin and light dark) and stage of change for sun protection (Precontemplation vs. Contemplation vs. Preparation). The highest level of invariance, Strong Factorial Invariance, was overall a good fit for the model across all subgroups: gender (CFI: .92; RMSEA: .05); race (CFI: .92; RMSEA: .06); ethnicity (CFI: .93; RMSEA: .05); age (CFI: .91; RMSEA: .06), education (CFI: .93; RMSEA: .05); skin tone(CFI: .90; RMSEA: .06); stages of change (CFI: .89; RMSEA: .06). In the total sample, Coefficient Alpha was .80 for Behavioral Processes and .90 for Experiential Processes. Psychometric evidence demonstrates that the POC measurement model is reliable and internally valid.

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D-011

PARENT AND TEACHER AGREEMENT ABOUT PSYCHOSOCIAL PROBLEMS IN SURVIVORS OF CHILDHOOD CANCER

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Objective: Research documents variability in emotional and behavioral problems among childhood cancer survivors. In both clinical and research contexts, multiple informants are usually questioned to provide a comprehensive evaluation, as raters may have opportunities to observe children in different environments. However, the degree to which parents and teachers agree on the psychosocial functioning of childhood cancer survivors is unclear. We explored the concordance between parent and teacher reports of psychosocial problems in a sample of childhood cancer survivors.
Participants and Methods: Data from 131 participants (63% male, mean age = 10 years) were abstracted from a larger study examining long-term psychosocial functioning in childhood cancer survivors. Participants were diagnosed with a brain tumor (59%) or leukemia (41%). Parents completed the Child Behavior Checklist and teachers completed the Teacher Report Form to provide assessments of the severity of psychosocial problems.
Results: Mean internalizing and externalizing problem T scores were in the normal range (mean T scores ranged from 48.74 to 57.72) across respondents. Correlation coefficients between parent and teacher ratings were low to moderate for internalizing symptoms, ranging from .18 to .46, whereas correlations were moderate to strong for externalizing symptoms, ranging from .32 to .51. Teachers endorsed more clinically significant problems than parents on both the Internalizing Problems and the Externalizing Problems scales, $\chi2(1,130) = 6.49$, $p = .01$ and $\chi2(1,130) = 6.93$, $p = .01$, respectively.
Conclusions: Parents and teachers rated externalizing symptoms more similarly than internalizing symptoms. Teachers were more likely than parents to rate the severity of survivors' psychosocial problems as clinically significant. Findings may reflect greater environmental demands at school or a tendency of parents of childhood cancer survivors to minimize the severity of their children's psychosocial problems.

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D-012

COLONOSCOPY-RELATED FEARS IN AFRICAN AMERICAN AND HISPANICS

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Background: Although fears of colonoscopy deter African Americans and Hispanics from having a screening colonoscopy, little is known about these fears.
Objective: This study sought to: (1) identify the proportion of African Americans and Hispanics who experience colonoscopy-specific fears; and, (2) examine the factors associated with these fears.
Methods: Participants (N = 790) were African Americans and Hispanics who received a recommendation for a screening colonoscopy. Following a primary care visit, participants completed a questionnaire that assessed: colonoscopy-specific fears, demographics, and psychological variables.
Results: 79.5% of participants reported colonoscopy-specific fears. Being female ($p < 0.001$), speaking English ($p < 0.001$), having greater perceived risk of colorectal cancer (CRC) ($p < 0.01$), greater worry about risk of CRC ($p < 0.01$), greater fear of CRC ($p < 0.001$) and lower levels of self-efficacy of having a colonoscopy ($p < 0.01$) were associated with greater colonoscopy-specific fears.
Conclusions: The results suggest that the vast majority of this population endorses fears of the screening colonoscopy. These results are important because previous research, including our own data on this sample, have found that colonoscopy-specific fears serve as a significant barrier to screening adherence. Interventions are needed to assuage these fears and improve screening colonoscopy adherence in African Americans and Hispanics. Interventions that target the identified risk factors (e.g., low self-efficacy of having a colonoscopy) may be particularly beneficial.

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D-013

PROCESS EVALUATION OF MEN'S RESPONSE TO WEB- AND PRINT-BASED DECISION AIDS FOR PROSTATE CANCER SCREENING

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In our prior randomized controlled trial comparing print- and web-based decision aids (DAs) to usual care for prostate cancer (PCa) screening, we found that both DA arms resulted in better PCa knowledge, less decisional conflict, and more decisional satisfaction than the UC arm. In the current study, we present the process evaluation of the DAs. Men were an average of 57 years old and 37% were African American. Participants were recruited from three primary care clinics and randomly assigned to a print-based (N = 529) or a web-based DA (N = 545). We assessed demographics, clinical variables, and Internet access at baseline and process variables at the 1-month follow-up. Significant predictors of DA use were race (White vs. nonwhite, OR = 2.43, 95% CI: 1.77, 3.35, $p < .001$), education (graduate work vs. high school or less, OR = 1.68, 95% CI: 1.06, 2.70, $p < .05$) and DA assignment (web vs. print, OR = 0.36, 95% CI: 0.26, 0.49, $p < .001$). At baseline, 52% preferred print-based and 37% preferred web-based health information. However, multivariable analyses indicated that men who preferred web-based education materials and were in the web arm were more likely to use their assigned DA than those preferring print and being assigned to print (OR: 2.33, 95% CI: 1.07, 5.06, $p < .05$). Predictors of understanding the DAs' central message (i.e. that screening is an individual decision) included race (White vs. nonwhite, OR = 2.48, 95% CI: 1.75, 3.52, $p < .001$) and education (graduate work vs. high school or less, OR = 3.04, 95% CI: 1.81, 5.09, $p < .001$). Use of decision tools may depend on patient characteristics such as race and education, and preference for the DA medium.

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D-014

PSYCHOSOCIAL FACTORS ASSOCIATED WITH ALCOHOL USE IN HEAD AND NECK CANCER SURVIVORS

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Introduction: Health behaviors can have a significant impact on long-term prognosis in Head and Neck Cancer Survivors (HNCS). Few studies have evaluated the psychosocial and quality of life factors of HNCS who continue to use alcohol following cancer treatment. Methods:The Head and Neck Descriptive Survivorship Survey is a longitudinal study utilizing a self-report survey examining substance use, quality of life, and health locus of control. This analysis is from the 3-month post-treatment visit (N = 114). Results: Mean age of participants 58.7 (SD = 11.3), 77% male, 79% Caucasian, 57% married/partnered, and 67% completed some college. Late stage cancer was 32% and 64% received concurrent radiation and chemotherapy; 78% reported alcohol use history and 33% reported continued use. Endorsed risk factors included smoking (52%), family history (30%), and alcohol use (27%). One-way ANOVAs assessed group differences between HNCS alcohol use history including: 1) alcohol use history but not currently drinking (N = 58), 2) currently drinking (N = 37), and 3) never drank (N = 16). Results indicate no significant difference between groups on psychosocial distress (anxiety/depression/fear of recurrence), pain, insomnia, cognitive problems and demographic variables. A significant relationship exists between those who never drank and fatigue ($F(3,107) = 3.38$, $p = .02$). Additionally, those who currently drink reported fewer financial concerns ($t = 1.97$, $p = .02$), and lower health locus of control ($t = -2.3$, $p = .02$). Implications: Many HNCS continued to use alcohol, which was not related to psychosocial distress but post-treatment fatigue, lower health locus of control and financial concerns. Future research should investigate specific factors predicting continued use of alcohol post-treatment in HNCS. These results suggest prospective evaluation of health locus of control and the development of interventions that address some of these beliefs regarding controllability over one's health. Funding: NCI, R-21; CA115354-01

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D-015

PROMOTING CULTURALLY SENSITIVE CANCER PREVENTION: FAITH-BASED INITIATIVE FOR LOW-INCOME LATINOS

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Although Latinos have lower cancer incidence rates compared to non-Latino whites, they also have lower survival rates, because screening/treatment often occur in later disease stages. As part of a community-based participatory research initiative for low-income Latinos in East Boston, we examined content/design recommendations for a cancer prevention resource guide. A comprehensive literature review found seven culturally-based beliefs significantly affecting cancer screening practices: family, sexuality, time orientation, perceived susceptibility, disease prevention perspective, fear, and religion. Three focus groups were conducted to explore these beliefs and investigate gaps found in existing prevention resources. Participants were low-income, age 18-69, from local churches, self-identified as Latino, and spoke Spanish. Deductive qualitative content analysis confirmed many of the seven, culturally-based beliefs identified in the literature affected the participant's screening practices and we identified several other important barriers (e.g. lack of health insurance; fear of incorrect documentation). Stylistic preferences for the resource guide were also gathered (e.g. brightly-colored design; happy family-oriented images). Recommendations, which were also guided by behavioral theory, sought to improve knowledge of cancer/screening practices and address attitudes, cultural beliefs, and behavioral intentions. Tactics to redirect social norms (e.g. letter from pastor, testimonials, and storylines in guide), diminish screening barriers (e.g. resource locations), and provide information to increase self-efficacy (e.g. sample questions to ask at appointments) were used. The Spanish/English, low readability level resource guide developed from this research, was subsequently distributed to the target population and was the first guide to encompass: 1) a whole-family orientation 2) a multi-cancer focus and 3) content specifically addressing cultural beliefs affecting cancer screening practices of Latinos.

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D-016

THE BRONZE TREATMENT: SELF-MEDICATING FOR DEPRESSION USING INDOOR TANNING

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There is increasing evidence that in addition to indoor tanning for appearance enhancement, young women also tan due to dependent-like tendencies particularly with indoor tanning. Current estimates of indoor tanning abuse and dependence range from 5.4% in a general college population to 41% among current indoor tanners (Hillhouse et al., 2012, Harrington et al., 2010). Furthermore, indoor tanning abuse and dependence may be linked with other mood disorders, such as depression.

This study aimed to explore if an association between tanning dependence and depression exists within a sample of college students through a cross sectional survey of male and female students (n = 424) at a regional university. The sample was primarily female (71%) and had a mean age of 21.35 (SD = 5.31). Participants completed a battery of questionnaires, including the Structured Interview for Tanning Abuse and Dependence (SITAD), a validated measure of tanning dependence (Hillhouse et al., 2012), and the Patient Health Questionnaire (PHQ-9), which has long been used to assess depression. These scales were used to classify participants on their tanning dependence and depression status. Of the participants surveyed, 5.9% (n = 25) were found to be tanning dependent. Using SPSS Version 20, a significant relationship between tanning dependence and depression ($\chi2 = 3.9$, p = 0.05), was found. Fully, 42% of participants classified as tanning dependent indicated at least minor depression (i.e., a score ≥ 10), using the PHQ-9 ($\chi2 = 4.6$, p = 0.03). The literature has previously shown that indoor tanners tan as a means of looking and feeling good, reducing stress, and in order to relax. However, there may be additional motivations underlying tanning behavior such as tanning as a means of treating depression. Since indoor tanning is most prevalent among young teens and adults this potential tanning motivation should be better described and understood. Further research is needed to evaluate the use and abuse of UV indoor tanning as a means of self-medication for mood disorders.

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D-017

FEAR OF RECURRENCE MEDIATES IMPACT OF CANCER STAGE ON FUTURE DISTRESS

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Background: Cancer stage is an important variable to patients and providers alike, communicating critical prognostic information. Higher stage signifies greater recurrence likelihood, which can directly trigger patient distress. Fear of recurrence (FoR), defined as worry and fear about the return of cancer at the original site or elsewhere in the body, may mediate the effect of cancer stage on later symptoms of depression, anxiety, and general distress. Health behavior theories, however, state that it is the cognitive and emotional evaluation of events which lead to outcomes, not the events themselves. We hypothesize that FoR mediates the effect of cancer stage on patient distress.

Methods: This is a secondary data analysis examining participants in the control condition of a behavioral medicine intervention. This study included 88 female breast cancer patients receiving radiotherapy. FoR was assessed prior to beginning radiotherapy with three questions about how much individuals feared or worried about recurrence, and perceived recurrence likelihood. Cancer stage was extracted from EMR. Symptoms of depression (CESD), anxiety (POMS-anxiety), and total distress (POMS) were assessed after three weeks of radiotherapy.

Results: Mediation was examined using bootstrapping procedures outlined by Preacher and Hayes (2008). There were significant indirect effects of FoR on depression (CESD, B = 1.22, SE = 0.54, CI: 0.37-2.62), anxiety (POMS-anxiety, B = 0.64, SE = 0.30, CI: 0.17-1.35) and total distress (POMS-total, B = 0.43, SE = 0.22, CI: 0.05-0.93).

Conclusion: FoR mediates the effect of cancer stage on future distress during radiotherapy. Interventions targeting FoR may be especially suited to reducing distress in cancer populations. Future studies are needed to identify which aspects of FoR (i.e., perceived recurrence likelihood vs. worry frequency) and potential FoR moderators (i.e., acceptance, social support) that impact distress and are amenable to change in order to produce the greatest clinical benefit.

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D-018

SHARED BEHAVIORAL PATTERNS AMONG NEIGHBORS IN A RANDOMIZED CONTROLLED TRIAL TO BOOST COLORECTAL CANCER SCREENING

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Background

Spatially correlated observations wherein nearer observations are more similar than distant observations are characterized as spatially dependent (LeSage & Pace, 2009). We hypothesized spatial dependence in colorectal cancer (CRC) test use among low-income neighbors enrolled in a randomized controlled trial (RCT).

Methods

Our study included patients aged 54-64 not up-to-date with CRC screening in a RCT in an urban safety net health system in Tarrant County, TX, 2011-2012. CRC test use was ascertained with claims data during a 1-year prospective follow-up period. Addresses were identified from the electronic medical record. We assessed spatial dependence in CRC test use using Moran's I statistic. We fitted spatial lag models to assess spatial dependence of CRC test use in relation to CRC test use of neighboring study participants while controlling for covariates (treatment arm, patient sociodemographics, driving time to clinic, block group poverty and education, physician and clinic).

Results

Study participants (n = 5,628) resided in close proximity to each other (92.5% had ≥1 neighbor within .25 miles) and there was spatial autocorrelation in CRC test use (I = 0.02, p = 0.002). This effect was independent of patient and neighborhood covariates ($\rho = 0.03$, p = 0.020) and remained significant after controlling for clinic and physician fixed effects ($\rho = 0.02$, p = 0.014). This means that average CRC test use among neighboring study participants was significantly and positively associated with patient's CRC test use.

Discussion

A patient's likelihood of CRC test use is related to CRC test use behaviors in neighbors. We hypothesized two potential causal mechanisms: direct social influence between neighbors or unmeasured confounding by shared factors (e.g. CRC screening social norms, exposure to health messages). RCTs of health behavior interventions should assess potential social interaction between participants, which may cause treatment arm contamination.

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D-019

ATTACHMENT STYLE AND RESPIRATORY SINUS ARRHYTHMIA PREDICT POST-TREATMENT QUALITY OF LIFE IN BREAST CANCER SURVIVORS

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Objective: Breast cancer is the most frequent malignant tumor among women in the industrialized world. The vast majority of these tumors can now be successfully treated. A subset of breast cancer survivors report quality of life (QOL) difficulties well after treatment is completed. The current study examined how individual differences in attachment style and self-regulatory capacity (as indexed by RSA) were associated quality of life among post-treatment breast cancer survivors.

Methods: Ninety-six women who had completed treatment for stage 0-IIIA breast cancer within the past two years participated in the study. To assess RSA, Electrocardiography (ECG) data was continuously measured non-invasively for 10 minutes. Attachment orientation was assessed using a modified version of the Experiences in Close relationships Scale. Overall QOL was assessed by the Functional Assessment of Cancer Therapy-Breast scale.

Results: Breast cancer survivors with more attachment anxiety reported poorer QOL than those who reported less attachment anxiety. Women who were more avoidantly attached also reported poorer QOL compared with those who were less avoidantly attached. Furthermore, attachment avoidance interacted with RSA to predict QOL such that those with higher attachment avoidance were only vulnerable to poorer QOL if they also had lower self-regulatory capacity, as indexed by lower RSA.

Conclusion: A better understanding of how attachment style and RSA contribute to breast cancer survivor QOL will help in tailoring and enhancing the efficacy of QOL interventions designed to improve these outcomes.

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D-020

ADHERENCE TO ORAL CHEMOTHERAPY IN PATIENTS WITH ADVANCED CANCER

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Background: With the advent of oral chemotherapies, the responsibility for administering treatment has shifted from oncologists to patients themselves. However, data are lacking on barriers to following these regimens, especially among patients with advanced cancers. For this study, we identified rates and correlates of adherence to oral chemotherapy in those with metastatic non-small cell lung cancer (NSCLC), renal cell carcinoma (RCC) and breast cancer (BC), as well as chronic myeloid leukemia (CML). Methods: We recruited patients with advanced cancers to monitor their oral chemotherapy adherence over 3 months with MEMS electronic pill caps. Participants also completed questionnaires on quality of life (FACT-G), mood (HADS), social support, perceptions of prognosis, and treatment satisfaction at baseline and study conclusion. We calculated oral chemotherapy adherence as the percentage of days patients took their prescribed doses. Results: Of the 90 patients enrolled, 82 (56.1% women; Mean age = 58.60; 95.1% White) had evaluable MEMS data. Mean adherence to taking prescribed daily doses of oral chemotherapy was 89.3% (SD = 19.1). Using a cutoff of 90% adherent days, 29.4% of individuals fell below this threshold ($n = 24/82$), which varied significantly by cancer diagnosis (CML = 43.8%, RCC = 65.2%, BC = 81.8%, and NSCLC = 85.7%, Chi Square = 9.55, $p = .02$). Also, patients who reported worse functional wellbeing ($p = .01$), elevated depression symptoms ($p = .03$), and lower satisfaction with cancer treatment ($p = .005$) over time were less adherent to their oral chemotherapy. Other correlates of poor adherence included inadequate social support ($p = .03$) and the patient belief that the cancer was curable ($p = .02$). Conclusions: In this sample of patients with mixed cancers, 29% had poor adherence to oral chemotherapy. Worse functional wellbeing, depression symptoms, lower satisfaction with care, limited social support, and perception of less serious illness represent modifiable risk factors for lower adherence. Further study is needed to develop patient-centered interventions to improve adherence.

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D-021

INFLUENCE OF GEOGRAPHIC PEERS: SPATIAL MODELING OF ADOLESCENT HPV VACCINE UPTAKE IN A SAFETY-NET POPULATION

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Background

Cervical cancer disproportionately affects minorities and the poor. Uneven HPV vaccine adoption may further widen existing disparities. We hypothesized that spatial dependence exists between a parent's decision to immunize her child and behavior of geographic peers facing similar choices. We then investigated whether the effect size of spatial dependence changed if the model considered timing of peers' vaccine behavior (i.e. are peers who vaccinated before more influential than peers who did it after?).

Methods

Using multivariate spatial analysis, we conducted a secondary analysis of a randomized control trial designed to increase completion of the 3-dose HPV vaccine series. The trial included parents of adolescent girls aged 11-18 who used an urban safety-net system and hadn't yet started the vaccine ($N = 739$). We identified geographic peers within 0.5 miles through participants' home address and used electronic medical record to determine dates of all 3 HPV vaccine doses. We assessed spatial dependence in series completion using a spatial equilibrium model controlling for individual-level variables. The second model accounted for timing of peers' behavior by modeling exogenous effects of prior completion separately from spatial effects of remaining peers.

Results

We found positive spatial dependence ($\rho = 0.24$, $p < .001$), independent of intervention group and individual covariates (age, other vaccines, insurance, clinic, school district). The second model, accounting for timing of peer behavior, found that likelihood of completion was positively related to peers who already completed ($\beta = 0.20$, $p < .05$) while those who completed after or never had minimal impact ($\rho = 0.03$, $p < .05$).

Discussion

Parental decisions to complete the HPV series are related to vaccine behavior of geographic peers. Results from the model accounting for temporality suggest that social norms may be a causal mechanism. This corresponds with other descriptive studies finding an association between perceived norms and HPV vaccination.

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D-022

HEAD AND NECK CANCER AND THE HUMAN PAPILLOMA VIRUS: EXPLORING DISTRESS AND QUALITY OF LIFE

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BACKGROUND: Head and neck cancer (HNC) may contribute to anxiety, depression and lowered quality of life (QOL) both acutely and long-term. The human papilloma virus (HPV) can account for up to 25% of all HNC diagnoses but despite the documented differences in demographics, treatment course and survival; little research has been done on variability in psychological presentations.

METHODS: This longitudinal study examined QOL, depressive symptoms, medical and demographic variables among 76 newly diagnosed HNC patients through 1 year post-diagnosis. Patients completed demographics, the Beck Depression Inventory (BDI) and Functional Assessment of Cancer Therapy-Head and Neck Cancer (FACT-HNC) to assess QOL. Medical variables were collected via chart review. Data is part of a larger study assessing the effect of a 7-session cognitive behavioral intervention versus usual care on self efficacy, depression and QOL.

RESULTS: Chi-square analyses indicated no statistically significant differences between groups on demographics (gender, ethnicity, marital status, level of education) and type of treatment (surgery, chemotherapy or radiation) between HNC patients with ($N = 22$) and without ($N = 53$) an HPV diagnosis. One-way ANOVAs indicated HPV patients demonstrated more elevated BDI scores than non-HPV patients at week seven, $F(2,34) = 5.34$, $p = .010$; week nine $F(2,31) = 4.253$, $p = .024$; and six months, $F(2,29) = 3.94$, $p = .031$. Additionally, patients with HPV reported worse total QOL at six months, $F(2,22) = 3.86$, $p = .038$ but this is complicated by their reporting of better physical QOL at baseline, $F(2,56) = 4.41$, $p = .017$ and six months, $F(2,32) = 7.79$, $p = .002$, but worse functional QOL at six months, $F(2,32) = 4.03$, $p = .028$.

CONCLUSION: The results of this study are an important step to understand the potential heightened distress and lowered QOL among patients with HPV related HNC. It is necessary to ascertain the unique psychological and medical experience these patients may have to target research goals and clinical interventions.

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Citation Poster
D-023

ACCEPTABILITY OF A SALON-BASED INTERVENTION TO PROMOTE COLONOSCOPY SCREENING AMONG AFRICAN-AMERICAN WOMEN: THE PERSPECTIVE OF SALON STAFF

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Efficacious interventions are needed to reduce the excess burden of colorectal cancer (CRC) among African-Americans (AAs). The present qualitative study therefore sought to determine acceptability of a salon-based intervention to encourage colonoscopy screening (CS) - an efficacious method for the prevention and early detection of CRC - among AA women. Six focus groups were conducted with beauty salon owners and stylists ($N = 30$; 97% female) in a predominantly AA section of NYC. Questions addressed three major areas: (1) acceptability of the proposed intervention, (2) preferences regarding intervention content, and (3) acceptability of having salon staff members trained to deliver the intervention to clients. Thematic analysis of the focus groups resulted in several core themes, including: (1) Beauty and health are a natural fit: Salon staff viewed attending to one's appearance and attending to one's health as parts of the broader issue of self-care, therefore making salons an appropriate venue to address either issue, (2) Facts about CRC epidemiology and prevention are particularly important: Certain epidemiological facts (e.g., that women, too, are at risk for CRC) and the fact that CRC can be prevented were deemed particularly important in motivating AA women to pursue CS, and (3) Given sufficient support, salon staff can deliver the intervention: Salon staff expressed willingness to deliver a CS-promotion intervention, but also stressed the need for ample training and support. In sum, the findings indicate strong levels of acceptability for a beauty salon-based, salon staff-delivered CS promotion intervention for AA women. The findings will aid in the development of the proposed salon-based intervention, which has the ultimate goal of reducing extant disparities in CRC morbidity and mortality.

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D-024

PSYCHOMETRIC PROPERTIES OF A 25-ITEM DISTRESS SCREENING TOOL IN SPANISH AMONG A COMMUNITY SAMPLE OF CANCER SURVIVORS

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Objective: CancerSupportSource^{TM} (CSS) is a distress screening, referral and follow-up program that uses a validated 25-item distress screening tool (CSS-25). The objective of this study was to test the psychometric properties of a Spanish translation of CSS-25 (CSS-25-Sp) in a community-based sample of cancer survivors.
Methods: A convenience sample of 182 Spanish-speaking cancer survivors were recruited across 6 affiliates of a cancer care organization. Participants (91% female, median age 53 y) completed a paper-and-pen survey including CSS-25 which asks responders to rate their concerns today (scale 0 "not at all" to 4 "very seriously" concerned) and identify the type of support (talk with a staff person, online resources, written information) they want.
Results: The five most common concerns (moderately to very seriously) were eating and nutrition (70%), health insurance or money worries (63%), exercising and being physically active (54%), feeling sad or depressed (54%), and worry about family, children and/or friends (54%). CSS-25-Sp demonstrated high internal reliability (Cronbach's alpha = 0.95). The total distress score (sum of item scores, range 0-100) correlated with the Functional Assessment of Cancer Therapy - General well-being scale ($R^2 = 0.33$, $p < 0.001$), Center for Epidemiologic Studies Depression Scale (CES-D) ($R^2 = 0.46$, $p < 0.001$) and Distress Thermometer ($R^2 = 0.22$, $p < 0.001$) indicating moderate concurrent validity. A 4-item depression subscale demonstrated strong correlation with the CES-D ($R^2 = 0.51$, $p < 0.001$). In non-parametric analysis of variance, several group comparisons supported known-group validity, e.g., CSS summary scores were significantly higher among stage IV survivors. The item with greatest item discrimination was pain.
Conclusions: CSS-25-Sp showed moderate to strong psychometric properties and can be a valuable instrument to screen for psychosocial distress. These results have important implications for the delivery of screening and psychosocial services for underserved populations.

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D-025

PSYCHOMETRIC ANALYSIS OF THE BENEFIT FINDING SCALE IN POST-SURGICAL BREAST CANCER PATIENTS

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Objective: Despite the stress associated with the diagnosis of breast cancer, many women are able to find benefits in the experience. Recent work has characterized benefit finding (BF) as a multidimensional construct with a variety of distinct domains, including family relations and world view, among others. However, factor analysis results from the Benefit Finding Scale (BFS) have been mixed and appear sample-specific, demonstrating the need for a follow-up factor analysis of the 17-item BFS with a large and diverse post-surgical breast cancer sample. Methods: To determine whether BF during the acute phase of breast cancer treatment is multidimensional or unidimensional, an exploratory factor analysis of the BFS was conducted on a sample of 419 women with early-stage breast cancer 2-10 weeks post-surgery. Results: A single-factor model of BF best represents perceived benefits in post-surgical breast cancer patients. Cronbach's alpha for the 17-item BFS was 0.939. Higher levels of BF were reported in younger and premenopausal women, Hispanic women, and those who had undergone a mastectomy vs a lumpectomy. Conclusions: The BFS generates a unitary measure of BF in the weeks after surgery. Comparisons between the current study and previous BFS factor analyses suggest that the factor structure of BF may change over the period of survivorship, with domains of BF becoming more differentiated with increased time since diagnosis. This finding adds to previous work examining the influence of the measurement instrument, study population, and type of stressor on BF factor structure. Longitudinal work is needed to further explore the effect of time on BF manifestation in breast cancer and to inform intervention research.

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D-026

CANCER CARE-GIVING STRESS AMONG GENDERS: A CROSS-SECTIONAL STUDY ON CHINESE CARE-GIVING SPOUSE

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Background: Stress, depressive mood and anxiety; plus disruptions in daily life schedule, financial arrangement, family relationships, and impairment of physical health are common caregivers' response to cancer care-giving. This cross-sectional study explores whether caregiver stress means differently to Chinese male and female care-giving spouse.
Methods: 146 Chinese care-giving spouses (F = 74, M = 72) completed a self-report inventory on perceived stress (Perceived Stress Scale), Caregiver Stress Assessment (CSA), and mental health status (HADS).
Results: Significant gender differences were found on perceived care-giving stress ($t(144) = -3.20$, $p \leq .05$), anxiety symptoms ($t(144) = -2.75$, $p \leq .05$) and impairment on physical health ($t(144) = -3.25$, $p \leq .05$). Females reported significantly higher level of perceived stress (M = 5.55) and anxiety symptoms (M = 3.80); but less impairment on physical health (M = 2.79) than males (M = 4.37, 3.70 & 2.83 respectively). Furthermore, cancer care-giving appeared to impose equal challenges on caregivers' financial arrangements, daily life schedules, and family relationships on both genders.
Conclusions: Cancer care-giving impaired caregivers' mental health, disrupted financial arrangement, daily life schedule, and family relationships. Yet, female caregivers are vulnerable to negative impacts on their mental health; while male caregivers are vulnerable to the impacts on physical health. The findings of this study called for a gender-sensitive paradigm in understanding and management of caregiver stress for family cancer caregivers. The results implied that female caregivers are more likely to benefit from emotion-focused interventions in enhancing their psychological resilience; while the male caregivers would more likely to benefit from care-giving skills training in coping with the physical demands of cancer care-giving.

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D-027

IMPLEMENTING A TEELPHONE BASED INTERVENTION FOR COLON CANCER SCREENING IN A LOW INCOME POPULATION

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Colorectal cancer (CRC) is a leading cause of cancer death in the U.S.; with significant racial/ethnic and socioeconomic disparities. Early detection of CRC is associated with higher survivorship but screening rates are low, especially among low-income adults. We implemented a randomized controlled pilot study to identify a feasible and promising strategy for increasing CRC screening in low-income adults. Participants were recruited an urban federally qualified health center and randomized to either receive peer coach telephone calls or targeted print newsletters; data were collected via self-report at baseline, 3- and 6-months.
Baseline participants (N = 60) were mostly African American. Most had been homeless during their lifetime and were currently without health insurance. About half had monthly incomes under $400; fewer had a high school diploma.
Most in the peer coach arm did not receive intervention calls, often due to nonworking phone numbers. Two-thirds of respondents were reached for the three-month follow-up; few participants were lost between 3 and 6 months. At 3-months, more participants in the peer coach arm reported talking with a provider about screening and "trying" to get screened, but the difference was not statistically significant. However, at 6-months, those in the print arm were more likely to intend to ask their provider about screening ($p = .013$). When psychosocial barriers were examined, the barrier of cost was more common at follow-up than it was at baseline.
Although there is a push for in-person intensive interventions, it is not yet clear how feasible such programs are in very low income populations where telephones may be frequently disconnected or changed, or where individuals may be at temporary mailing addresses. Our study found that delivering phone-based intervention was not successful at reaching all participants, suggesting that efforts to deliver the intervention at the first contact might have been more promising.

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D-028

HEAD AND NECK CANCER CAREGIVERS: CHARACTERISTICS AND SUPPORT BEHAVIORS

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Informal caregiving in head and neck cancer (HNC) may require unique support due to the critical physical and social losses faced by patients. This mixed methods study describes demographic, relationship and health characteristics of HNC caregivers and defines typical support behaviors. HNC patients (N = 82) and nominated caregivers (N = 76) were recruited at a regional cancer center and completed surveys at diagnosis and 6 months. Descriptive statistics, Spearman correlations and Wilcoxon rank sum tests were used to describe caregivers and examine correlates of depression. Content analysis identified themes reported in open-ended questions. Diverse caregivers (51% partner, 41% other relative, 8% other) were nominated. Most were female (77%), one-third had ≤12 years of education, 61% lived with patients and about half (55%) were employed. Despite 86% rating their health as good, very good or excellent, most caregivers reported chronic conditions (mean = 1.3) and some high risk behaviors (44% smoked, 18% had ≥5 drinks on one occasion in past month). Caregiver depression at 6 months was not associated with HNC clinical factors but was higher in younger caregivers (r = -.26) and in those with lower education, worse health (r = -.40) and more chronic conditions (r = .27) (p's < .05). Caregiver depression was also higher when patients reported less support (r = -.29) and worse depression (r = .35) (p's < .05). At diagnosis, both dyad members described emotional support as primary and caregivers equally emphasized instrumental support, including unique tasks of wound care, spiritual support, food preparation and feeding tube assistance. Caregivers also assisted with speech, facing addictions and appearance concerns. At 6 months, patients described decreased support needs yet caregivers reported increased support provision. Results highlight diverse HNC caregivers who perform unique support tasks and may have multiple risk factors for depression. Future studies should examine trajectories of caregiver well-being over time and identify optimal dyadic supportive care interventions.

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D-029

THE EFFECT OF A SURVIVORSHIP CARE PLAN IMPLEMENTED AS A PERSONAL HEALTH RECORD UPON SURVEILLANCE AMONG COLORECTAL CANCER SURVIVORS

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Survivorship care plans (SCPs) have been identified as tools to summarize information relevant to cancer patients' long-term care after curative treatment, including specific information about recommended cancer surveillance. Personal health records (PHRs) may provide patients with real-time, direct access to their own health care information. Together, SCPs and PHRs have the potential to engage patients to become more active in their survivorship care. We recruited and trained 28 colorectal cancer (CRC) survivors to use a SCP-PHR at home. We assessed the CRC survivors at baseline and 6 month follow-up to determine changes in patient self-efficacy, knowledge, and surveillance care. Neither general self-efficacy nor disease-specific self-efficacy was significantly different before and after exposure to the SCP-PHR intervention. Similarly, neither overall nor test-specific knowledge was significantly different before and after exposure to the SCP-PHR. Comparing baseline and follow-up, CRC survivors were more likely to receive guideline-concordant surveillance testing (t-test, p = 0.018), including colonoscopy (50% vs. 85%), CEA tests (70% vs. 95%), and CT scans (65% vs. 85%). Survivorship care plan-personal health records show promise in increasing cancer surveillance, although the mechanisms through which surveillance is increased do not appear to be self-efficacy or knowledge. The key threat to the validity of our findings are temporal trends. Future research should consider randomized, controlled study designs.

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D-030

EXPLORING POSTTRAUMATIC GROWTH AMONG CHINESE BREAST CANCER SURVIVORS USING A MIXED METHOD APPROACH

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Posttraumatic growth (PTG), the perceived positive changes following a traumatic life event, is common among breast cancer survivors. As most of the studies were conducted among Western breast cancer survivors, PTG experience in their Chinese counterparts has yet to be explored. This two-part study was conducted to examine the relative importance of the PTG dimensions among Chinese breast cancer survivors using a mixed method approach. In Part 1, we analyzed the expressive writing essays from 27 Chinese breast cancer survivors disclosing their positive changes associated with breast cancer experience and coded with the 21-item, 5-factor Post-Traumatic Growth Inventory (PTGI). Themes not captured in the PTGI were also coded. The frequency of items being mentioned in the writings was ranked. In Part 2, a sample of 118 Chinese breast cancer survivors completed the PTGI and their subscale scores were ranked. In Part 1, we found that items in the Relating to Others subscale (e.g., "I have more compassion for others") generally reported higher frequencies, while items in the Personal Strength (e.g., "I know better that I can handle difficulties") and Spiritual Changes (e.g., "I have a better understanding of spiritual matters") subscales reported lower frequencies. In Part 2, participants reported the highest level of PTG in the Relating to Others subscale, and lower levels of PTG in the New Possibilities and Spiritual Changes subscales. With qualitative analysis in Part 1, we also identified new themes reflecting the PTG experience in our sample such as "more willing to help others", "being more optimistic", and "better emotional regulation". Our findings suggest that among the five dimensions, Chinese breast cancer survivors reported more positive changes in interpersonal relationship, but less changes in spirituality. The new themes may also be culturally-unique in the Chinese concept of PTG. Our findings could be helpful for modifying the PTGI to better capture the PTG experience among Chinese populations.

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D-031

DEVELOPING A SYMPTOM COMMUNICATION TOOL FOR RURAL BREAST CANCER PATIENTS

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Studies have indicated that communication difficulties are a major barrier to effective symptom management during chemotherapy. The current pilot study assessed feasibility and tested intervention effects of a tailored patient communication intervention delivered on a smartphone for breast cancer patients undergoing chemotherapy. Patients (n = 23) reported symptoms once/week via a smartphone and watched communication training videos tailored to symptom severity the day before chemotherapy visits. Graphs depicting patients' symptom status over time were emailed to patients' oncologists on the day before treatment. Descriptive statistics assessed feasibility and a random effects linear regression model determined intervention effects on symptom scores, quality of life, and communication self-efficacy over time. Of those eligible, 83% agreed to participate. The majority of participants were White (87%), married (61%), and well-educated (61% > HS). Approximately 50% of the sample completed symptom inventories and viewed symptom videos as instructed. Average pain and pain interference both decreased (0.011 and 0.02 units, respectively) and change over time was marginally significant (p = .09 and p = .08 respectively). Average fatigue and fatigue interference both increased slightly (.009 and .002 units, respectively) and change over time was non-significant (p = .38 and p = .87, respectively). Average depression scores decreased 0.02 units and change over time was non-significant (p = .21). Pre-post changes in quality of life sub-scales and communication self-efficacy scores were mixed. Post-intervention surveys indicated positive responses to the intervention and study participation, although use of cell phones for delivery of the intervention was not supported. The intervention indicates potential towards improving symptom management in cancer patients. Large-scale research is needed to identify intervention effects on health outcomes in a culturally diverse clinical sample.

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D-032

SYMPTOM MANAGEMENT AND INTERRUPTIONS IN CANCER TREATMENT

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BACKGROUND:
Interruptions in chemotherapy protocol such as dose delays, reductions, or stoppages can lead to suboptimal treatment of cancer. Knowing how and for whom symptom severity and symptom interference with activities of daily living are associated with treatment interruptions inform behavioral interventions for symptom management.

METHODS:
A secondary analysis of data collected in randomized clinical trial (RCT) of reflexology for symptom management was performed. The trial enrolled women with advanced breast cancer undergoing treatment (N = 385). Outcome data were collected at baseline, weeks 5 and 11 using a valid and reliable inventory of 25 symptoms. Medical records provided data on treatment interruptions and metastasis.

The hypotheses testing the association between dose delays, reductions or stoppages in chemotherapy during the study period with symptom severity, symptom interference with daily activities and metastatic status were tested using generalized estimating equations (GEE) models.

FINDINGS:
The relationship between dose delays/reductions of chemotherapy and symptom severity was differential according to metastatic status, with the higher strength of association among women with distant metastasis compared to those with loco-regional disease ($p = 0.02$). The interaction of symptom interference and metastatic status was also significantly related to dose delays and reductions ($p = 0.04$). Severity of pain was a stronger predictor of dose delays or reductions among patients with distant metastasis compared to those with loco-regional disease ($p < .01$). This analysis bridges symptom outcomes with cancer treatment outcomes that impact clinical practice.

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D-033

A QUALITATIVE STUDY TO EXPLORE THE EXISTING SUPPORTS AND UNMET NEEDS OF A RACIALLY, ETHNICALLY AND GEOGRAPHICALLY DIVERSE GROUP OF YOUNG WOMEN WITH BREAST CANCER

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Existing research suggests that young women with breast cancer face challenges that differ from older women due to age and life stage, yet few studies have focused on racially, ethnically and geographically diverse populations. To explore this, we recruited 20 women who were diagnosed under the age of 42 and staged I-III within the past four years to participate in a telephone interview. Interviews were conducted in English by a trained interviewer using a semi-structured interview guide that explored: 1) supports that were important during diagnosis and treatment, 2) unmet needs for information and supports. Interviews were recorded and transcribed; we used the collaborative group analytic method of immersion/crystallization to analyze data to identify emergent themes and determine if there were differences in by race/ethnicity (white vs. others). Participants were racially and ethnically diverse (25% Hispanic, 15% black, 10% with another race/ethnicity). Seventy percent had undergone mastectomies. Analysis revealed that faith/spirituality and family were important sources of support. Some participants expressed reservations about information they received and recommended that other young patients be given more information about: 1) emotional distress associated with treatment-related physical changes, 2) relationships after breast cancer, and 3) transitioning into survivorship. Most wanted more connection with other young breast cancer survivors. Unmet needs were not specific to any particular race/ethnicity or geographic region. In conclusion, young breast cancer survivors perceived and reported need for greater information and emotional support, across various races/ethnicities and geographies.

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D-034

THE MEDIA AND HPV VACCINATION IN MEN

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Human papillomavirus (HPV) is the most common sexually transmitted disease and is causally related to cancer. With the advent of the HPV vaccine, science has developed an effective method to prevent HPV infection. Advertisements for the HPV vaccine typically portray females, even though HPV also causes penile, anal, and head/neck cancers in men. The present study examined a sample of 429 males between the ages of 18 and 26 who reported having never received the HPV vaccine. Participants were asked if they intended to receive the HPV vaccine, and if they didn't report intentions, to respond to questions about motivations to not receive the HPV vaccine. Participants were also asked questions about their media use for health information, as well as the degree to which HPV-related media influenced their decision-making about the vaccine. The most common reason listed was not knowing enough about HPV/the vaccine (57.1%), followed by side effects (42.7%), cost (38.5%), not being worried about HPV (27%), having to visit the doctor (23.8%), and not being sexually active (23.5%). These motivations were entered into logistic regressions with media use and influence variables as predictors. Results revealed those influenced by HPV media were significantly more likely to indicate cost as a motivation to not receive the vaccine ($OR = 1.03$, $p < .05$), as well as not knowing enough about HPV ($OR = 1.04$, $p < .001$). In addition, those who used the media for health information more often were significantly less likely to report lack of knowledge as a reason for not receiving the HPV vaccine ($OR = .889$, $p < .05$). These results suggest that female-centered media portrayals of HPV and HPV vaccination may deter men from receiving the HPV vaccine. The present findings also support the argument that female-centered media may create a lack of knowledge for men about HPV vaccination.

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D-035

FACTORS ASSOCIATED WITH INTEREST IN A COLON CANCER VACCINE TRIAL

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Purpose: We conducted a pilot study to assess the interest of early-stage colon cancer patients in joining a phase 1 colon cancer vaccine (CCV) trial.

Methods: Individuals treated for early colon cancer were identified via patient registries/clinician recommendation, and were sent a letter describing a project to assess interest in the CCV trial. Research staff followed up by phone to obtain permission to mail a booklet that described the trial. After reading the booklet, patients consented and completed a telephone survey that included items on sociodemographic background, perceptions about colon cancer and the CCV trial, and interest in participation. Multivariable analyses were performed to identify factors associated with interest in the trial.

Results: 50 individuals read the booklet and completed the survey. Of this number, 21 (42%) expressed interest in joining the CCV trial, and 29 (58%) were either unsure about or not interested in joining the trial. Respondents tended to be: < 65 years of age (56%), white (64%), female (50%), and married/living with a partner (52%), and most had more than a high school education (52%), Multivariable analysis results show that persons interested in trial participation tended to be > 65 years of age ($OR = 4.22$, CI: 0.95, 18.87), male ($OR = 5.34$, CI: 1.09, 26.14), and African American ($OR = 4.54$, CI: 0.98, 21.09). Those who were unsure/were not interested in participating had worries and concerns about the trial ($OR = 0.09$, CI: 0.02 to 0.44).

Conclusions: Interest in trial participation was higher among older adults, men, and African Americans who had been treated for colon cancer; while interest in participation was lower among persons who were worried about possible vaccine side-effects. Prospective research is needed to determine if these factors and others predict actual participation in CCV trial.

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D-036

WORRIES OF AFRICAN AMERICAN AND WHITE WOMEN DIAGNOSED WITH OVARIAN CANCER

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Objective: Not all women diagnosed with ovarian cancer (OC), especially minorities, receive guideline concordant treatment fundamental to improve survival. We know little about why this is and what affects the OC treatment decision process of women across demographic groups. Our objective was to understand what women worry about at the time of treatment.

Methods: We conducted a survey of women within one year of OC diagnosis from a Gynecology Oncology practice. Survey items on worry about side effects, treatment cost, time away from work and family, and transportation to treatment were from the Cancer Outcomes Research and Surveillance Consortium (CanCORS) questionnaire. We added an item to measure worry about being financially set back by medical expenses. For each item, respondents indicated being Worried (very, somewhat, or a little worried) or Not Worried (not at all worried) at the time they made OC treatment decisions. For each worry, we ran logistic regressions with dependent variable Worried vs Not Worried, independent variable race, and covariates age (> = 65 vs. <65), income adequate to meet basic needs, at least some college, married (vs. single, widowed, divorced), and health better today than at diagnosis.

Results: We surveyed 24 African American (AA) and 49 White women with mean 9.7 months from diagnosis, 39.7% older than 65, 53.4% with at least some college, 78.6% with adequate income. AA were less likely to have adequate incomes ($p = 0.057$). Women worried about: 90.4% side effects, 67.1% cost, 77.7% time away from family, 71.4% time away from work, 24.7% transportation, 75.0% being financially set back. AA were more likely to worry about transportation (41.7% vs 16.3%) and less likely to worry about time away from family (58.3% vs 87.5%). In adjusted analyses, race and worry about time away from family were significantly associated (OR: 0.12, CI 0.03-0.48).

Conclusions: The reasons why AA and white women receive different OC treatment may not depend on what women worry about at the time of treatment decisions.

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D-037

REDUCING DECISIONAL CONFLICT AMONG MEN WITH LOW RISK PROSTATE CANCER

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Purpose: Men diagnosed with low risk prostate cancer must decide whether to initiate active surveillance (AS) or have active treatment (AT). This situation often leads to substantial decisional conflict. In a decision support intervention pilot study, we assessed decisional conflict before and after the intervention, and identified predictors of change in decisional conflict.

Method: Men with low-risk prostate cancer who visited a multidisciplinary genitourinary cancer clinic completed a baseline survey that assessed sociodemographic characteristics and decisional conflict (i.e., feeling uncertain, uninformed, unclear, and unsupported) about treatment decision making. A nurse educator used an online Decision Counseling Program© to review treatment options, determine treatment preference, and generate a summary report. The participant and clinical team, consisting of a surgeon and a radiation oncologist, used the report for shared decision making. A 30-day survey measured change in treatment-related decisional conflict. Univariable analyses identified predictors of change in decisional conflict.

Result: Characteristics of 21 participants were: > 60 years of age (62%), White (67%), > high school education (71%), and living with a partner (81%). At 30 days, men were less likely to feel uncertain, uninformed, unclear, and unsupported in decision making than at baseline ($p < 0.001$). White men had a greater reduction in feeling uncertain ($p = 0.02$) than African American men. Those who were less educated and were living alone had a greater reduction in feeling uninformed ($p = 0.04$) than those who were more educated and were living with another ($p = 0.04$).

Conclusion: Men who were exposed to decision counseling and shared decision making displayed reduced decisional conflict. Decision counseling and shared decision making had significant effects among men who were white, less educated, and living alone.

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Citation Poster
D-038

INCREASING COLON CANCER SCREENING IN PRIMARY CARE AMONG AFRICAN AMERICANS

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Purpose: Low colorectal cancer (CRC) screening rates among African Americans (AAs) contribute to higher CRC mortality and lower CRC survival among AAs than whites. We conducted an American Cancer Society-funded randomized controlled trial to determine if a preference-based mail and telephone navigation intervention could increase CRC screening adherence among AAs.

Methods: The trial included AA patients who were 50-75 years old, eligible for CRC screening, and received care through primary care practices in Philadelphia. Eligible patients ($n = 764$) were consented and surveyed by telephone. Respondents were randomized to a Standard Intervention (SI) Group ($n = 380$) or a Tailored Navigation Intervention (TNI) Group ($n = 384$). The SI Group was sent colonoscopy instructions and a stool blood test kit, followed by a reminder. The TNI Group received mailed screening contacts keyed to preference and telephone navigation, and a reminder. A 6-month survey was administered, and medical records were reviewed to determine participant adherence status. Multivariable analyses were performed to assess intervention impact on adherence.

Results: Background characteristics of participants were distributed as follows: female (68%), 50-59 years of age (62%), < high school education (59%), and unmarried (69%). At 6 months after random assignment, CRC screening adherence was significantly higher in the TNI Group (38%) than the SI Group (24%), (OR = 2.03, 95% CI: 1.46, 2.81).

Conclusions: Exposure to the preference-based mail and telephone navigation intervention increased CRC screening adherence significantly compared to the mailed intervention. Additional research is needed to identify predictors of screening among AAs. Furthermore, studies should be conducted to modify the intervention to maximize impact, and assess intervention impact on screening disparity between whites and AAs.

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D-039

PILOT TESTING A HEALTH LITERACY-BASED PATIENT NAVIGATION PROGRAM FOR RURAL CANCER PATIENTS

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Background: Little research has focused on interventions to reduce cancer disparities among rural cancer patients. Using a community-based participatory research approach, the Rural Oncology Literacy Enhancement Study (ROLES) developed, implemented, and pilot tested a patient navigation (PN) program and provider health literacy (HL) training curriculum in two Wisconsin rural cancer clinics. Methods: The study design consisted of two (2) conditions: In one clinic, both intervention components were implemented (high dose condition). In the comparison clinic, only the HL intervention was implemented (low dose condition). Patient-reported outcome (PRO) data on patient-provider communication, care coordination, and treatment barriers were collected using two cross-sectional mailed surveys, before the intervention ($N = 88$) and 6-months post-implementation ($N = 87$), in both sites. PN process data were collected. Pre and post providers' HL knowledge, attitudes, and skill were measured using self-administered surveys. Results: No significant effects on PRO were observed at the 6-month post-test evaluation for any of the sites. Process data on a subsample of 20 patients showed that, over 71 appointments, elevated distress levels were reported on 22% of appointments. Of interactions where distress was reported, physical (85%) and emotional (83%) distress were most prevalent, followed by family (11%), and practical (6%) distress. Positive and statistically significant changes in providers' HL composite scores were found ($p < .001$). Conclusions: PN programs and provider HL training are feasible in rural cancer clinics and may result in improved HL knowledge and skills. Further research over a longer period of evaluation is necessary to examine impact on PRO.

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D-040

INFORMED DECISION MAKING FOR ALLOGENEIC HEMATOPOIETIC CELL TRANSPLANTATION (HCT) IN PATIENTS AND THEIR FAMILY CAREGIVERS

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Background: Allogeneic HCT is a lifesaving treatment for hematologic cancer patients but entails lengthy hospitalization and risk of death. Given the benefits and risks, surprisingly little research has focused on patient and caregiver (CG) perceptions of being fully informed about treatment options. We hypothesized they would feel informed, but that this might be affected by demographic and psychological variables.

Method: Consecutive patients (n = 36, 23 men; mean age 53.0; all white) and their CGs (n = 36, 7 men; mean age 54.3; 97% white) were recruited at a single medical center and completed questionnaires before HCT: Informed Decision-making Subscale of the Decision Conflict Scale (DCS); demographic information and Hospital Anxiety and Depression Scale (Anx & Dep).

Results: All participants felt informed but a lesser amount felt fully informed: 13/36 patients (35.1%) strongly agreed that they felt well informed on all 3 DCS items, as did 12/36 (32.4%) CGs. Most patients (22/36; 59.5%) and CGs (21/36; 56.8%) endorsed strong agreement of knowledge of treatment options, but fewer endorsed strong agreement of knowledge of risks and side effects of treatment options (20/36; 54.1% of patients and 16/36; 43.2% of CGs), and treatment benefits (16/36; 43.2% for both patients and CGs). Comparing patients who strongly agreed on all 3 DCS items vs. remaining patients via logistic regression, neither Anx or Dep nor demographic variables were reliably associated with feeling fully informed. For CGs, each 1-point increase in Anx increased the likelihood of feeling fully informed by 31% (OR = 1.31, p = .05) controlling for demographics.

Conclusion: Although all participants felt informed, fewer felt completely well-informed. In CGs, those with more anxiety felt more fully informed; anxiety may have motivated information seeking. Neither demographic nor psychological factors were associated with feeling well-informed in patients. Other variables reflecting information processing styles deserve future consideration. (K23CA149082)

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D-041

TREATMENT DECISIONS AMONG MEN WITH LOW RISK PROSTATE CANCER

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Background: Active surveillance (AS) is a disease monitoring strategy for men with low risk prostate cancer (PCa) that offers active treatment (AT) only upon evidence of cancer progression or patient request. Men on AS avoid complications from AT without compromising cancer control. However, AS is not widely utilized. In the first phase of a longitudinal cohort study, we assessed demographic, clinical, and decision-making predictors of selecting AS vs AT.

Method: We conducted a baseline and six-month telephone interviews with 789 (71% participation rate) men with newly-diagnosed (median = 27 days at baseline), low-risk ($PSA < 10$, $Gleason < 6$) PCa. We assessed sociodemographics, family history, decision-making processes and preferences, and general and disease-specific quality of life.

Results: Men were 61.7 (SD = 7.4) years old, 52% had completed college, and 84% were white. At the six month assessment, 78% (N = 614) had undergone treatment (51%) or engaged in active surveillance (49%). The AS and AT groups were similar on PSA and Gleason scores, education, race, and comorbidities, but AT patients were younger ($p < .0004$) and had better physical function ($p < .05$). Multivariate logistic regression models indicated that compared to AT patients, AS patients were more likely to report greater PCa knowledge (OR = 1.24, 95% CI 1.03-1.49), to have made a shared decision (OR = 2.9, 95% CI 1.51-5.59), but also to feel less certain about their decision (OR = 0.83, 95% CI 0.71-0.97).

Conclusions: Compared to men who selected AT, AS participants were less certain of their decision and were more likely to engage in shared decision-making. The treatment decisions for low risk PCa is clearly difficult and one that is likely to require the provision of balanced decision-support information very soon after diagnosis. The long-term goal is to determine the information and support that is needed by this group of patients, and how to quickly deliver this information.

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D-043

ASSESSING CARDIOVASCULAR AUTONOMIC REGULATION IN POST-CONCUSSION SYNDROME

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Although most people who experience a concussion recover within a couple of days or weeks, there are some that do not recover. Post-concussion syndrome (PCS) describes a condition in which sufferers of a mild traumatic brain injury (MTBI) experience persisting symptoms beyond the physiological recovery period. Leddy and colleagues (2007) have proposed that PCS is the result of autonomic dysregulation following neurophysiological disruption from a MTBI. Autonomic regulation occurs through bidirectional communication between the brain and the rest of the body via top-down and bottom-up processing. The current study investigated the role of autonomic regulation in PCS sufferers (n = 11; 3-12 months post-injury) and non-head injured controls (n = 11) during a standard Stoop task (to challenge higher order cortical structures involved in top down processing) and an orthostatic stressor (to challenge lower order cortical structures coordinating bottom up processing). Measures of heart rate and heart rate variability (HRV; a noninvasive measure of autonomic regulation) were collected at baseline and continuously throughout the experimental session. Results indicated that during the Stroop task, the control group displayed a significantly higher HR than the PCS group. During the orthostatic challenge, the initial sitting phase and the standing phase produced no group differences. However, upon returning to the seated position, the PCS group showed a sudden increase in high frequency HRV (HF-HRV). Overall, these results provide evidence of autonomic dysregulation in the PCS group following both stressor tasks. The PCS group's non-responsiveness to the mental stressor suggests a lack of autonomic flexibility to respond to task demands. Meanwhile, the PCS group's sharp increase in parasympathetic activity, indicated by increased HF-HRV, during the last phase of the physical challenge may signify overcompensation due to disturbances in lower order cortical areas such as the brainstem.

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D-044

EDUCATIONAL ATTAINMENT, JOHN HENRYISM AND BLOOD PRESSURE REACTIVITY: FINDINGS FROM THE CAROLINA AFRICAN AMERICAN TWIN STUDY OF AGING (CAATSA)

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African Americans have the highest prevalence of hypertension in the world (AHA, 2013). The role of several factors, including heightened cardiovascular reactivity to stressors and structural disadvantages such as lower socioeconomic status, has been explored as potential explanatory mechanisms for this health disparity. Additionally, researchers have argued that John Henryism (JH), or the tendency to actively strive towards goals despite adverse and stressful conditions, may have both protective and damning cardiovascular effects, depending on the availability of additional resources. We examined this relationship using data from the Carolina African American Twin Study of Aging (CAATSA), which consists of 265 pairs of twins and members of non-intact twin pairs. Reactivity was determined as the change in systolic (SBP) and diastolic (DBP) blood pressure to a standard physical stressor minus baseline BP. JH was assessed using the 12-item, John Henryism Active Coping Scale and educational attainment was measured as the total number of years of schooling participants had completed. Analyses were conducted using multilevel regression to account for the dyadic structure of the data. Controlling for age, gender and body mass index, there was a significant interaction between JH and educational attainment, $b = -1.17$, $p < .05$, on BP reactivity. Tests of slopes revealed that, among individuals with lower levels of educational attainment (-1 SD), greater JH was significantly associated with greater overall BP reactivity (DBP| $b = .91$, $p < .05$). These data support previous notions that at higher levels, John Henryism may indeed be adaptive, especially when paired with other coping resources.

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D-045

LONGITUDINAL ANALYSIS OF RELIGIOUS AND SPIRITUAL CONCERNS AND COPING IN CARDIOVASCULAR PATIENTS

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Introduction: Religiosity and spirituality (R/S) are part of the illness experience for many cardiovascular patients. Little is known about change in R/S over the course of treatment. This study assessed change in R/S concerns and coping over a 12-week cardiac rehabilitation program and identified sample characteristics associated with these changes.
Methods: 105 patients (77.1% male; Age: M = 60.6 years, SD = 11.5) with a first time myocardial infarction (n = 57) or bypass surgery (n = 48) completed measures of R/S concerns and coping before and after the cardiac rehabilitation program. Differences in R/S concerns and coping by age, gender, religious affiliation, diagnosis, marital status and education were examined with least squares mean analyses.
Results: Good Deeds coping increased over time (t(94) = 2.58, p = .012). Patients endorsing a religious affiliation reported greater utilization of Good Deeds (p = .01) and Interpersonal Religious Support coping (p = .001) than non-affiliated patients. Patients with a high school education or less reported greater use of Spiritual-Based (p = .03) and Plead coping (p = .008) than participants with greater than a high school education. Significant time by sample characteristic interactions emerged for R/S Concerns (F(3, 101) = 3.35, p = .02) and Plead (F(3, 91) = 2.76, $p < .05$) and Religious Avoidance coping (F(3, 91) = 2.88, $p < .05$). Patients age 50-59 years and 70+ years reported increases in R/S Concerns over time; patients 60-69 years reported decreases in R/S Concerns. Single patients reported increased use of Plead and Religious Avoidance coping over time while divorced patients reported decreased use of these coping strategies.
Discussion: An individualized patient-centered approach may be necessary to identify cardiovascular patients at risk for increases in R/S concerns and negative religious coping. Single patients and those age 50-59 and 70+ years may benefit from early spiritual care interventions. Future research on the relationship between changes in R/S and patient outcomes will guide intervention development.

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D-046

FEAR OF PHYSICAL AROUSAL AS A MEDIATOR BETWEEN ANXIETY AND PAIN IN PEDIATRIC NONCARDIAC CHEST PAIN

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Chest pain without an identifiable cardiac source has been termed noncardiac chest pain (NCCP). This condition is prevalent among children and adolescents and is associated with high levels of distress and functional impairment. Pediatric NCCP is also linked to increased rates of health care utilization. A biopsychosocial conceptualization has been proposed in which pediatric NCCP is viewed as stemming from the interaction of environmental stressors and psychological and biological factors. In regards to psychological factors, research has consistently underscored the role of anxiety. In an effort to more fully understand the relationship between anxiety and chest pain in pediatric NCCP, this study investigates the function of fear of physical arousal, a lower order factor of anxiety sensitivity.
This study examines data from a longitudinal study examining the clinical course and correlates of pediatric chest pain. The sample consisted of 91 pediatric patients with NCCP. Participants were 58% female and 51% White. Mean age was 13.00 years (SD = 3.09). A hierarchical regression analysis was conducted. Chest pain severity was the criterion variable. Anxiety was entered as an independent variable at Step 1; fear of physical arousal was entered as an independent variable at Step 2. At Step 1, anxiety was a significant predictor (t = 2.32, p = .02, $\beta = .25$). At Step 2, fear of physical arousal was a significant predictor (t = 2.05, p = .04, $\beta = .27$), and, anxiety ceased to be significant (t = .65, p = .52, $\beta = .09$). A Sobel test indicated that the mediation effect of fear of physical arousal was significant (Sobel test-statistic = 1.95, p = .05). Our findings extend current pediatric NCCP theory and may inform future interventions for this patient group

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D-047

THE NECESSITY-CONCERNS-FRAMEWORK: A MULTIDIMENSIONAL THEORY BENEFITS FROM MULTIDIMENSIONAL ANALYSIS

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Background
The two dimensions of patients' medication-related concerns and necessity beliefs are known to predict adherence. Researchers have not been able to study the potentially complex interplay of these dimensions, because they use methods that reduce the two dimensions to a single dimension (e.g., difference scores).
Purpose
We use polynomial regression to assess the multidimensional effect of stroke/TIA survivors' medication-related concerns and necessity beliefs on their adherence to stroke-prevention medication.
Methods
Survivors (n = 600) rated their concerns, necessity beliefs, and adherence to stroke-prevention medication. Confirmatory and exploratory polynomial regression were used to find the best-fitting multidimensional model.
Results
As posited by the Necessity-Concerns Framework (NCF), the greatest and lowest adherence was reported by those with strong necessity beliefs/weak concerns and strong concerns/weak necessity beliefs, respectively. However, as could not be assessed using a difference-score model, patients with ambivalent beliefs (strong necessity beliefs/strong concerns) were less adherent than those exhibiting indifference (weak necessity beliefs/weak concerns).
Conclusions
Polynomial regression allows for a better assessment of the true multidimensional nature of the NCF. Clinicians should be aware that concerns and necessity dimensions are not polar opposites and that a more nuanced inquiry into stroke/TIA survivors' beliefs may be required to understand and address adherence deficits.

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D-048

SUBCUTANEOUS FAT: FRIEND OR FOE? EFFECTS OF VISCERAL FAT AND SUBCUTANEOUS FAT ON ARTERIAL STIFFNESS

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Introduction: Visceral fat is thought to be more harmful than subcutaneous fat. In fact, subcutaneous fat has even been held as protective against cardiovascular risk. African American children have much less visceral fat than children of other races. Arterial stiffness predicts cardiac events and death in adults.
Objective: We compared the associations of visceral adipose tissue (VAT) and subcutaneous abdominal adipose tissue (SAAT) with arterial stiffness in overweight and obese children who were predominantly African American.
Methods: Data were collected from 111 children (8-11 yrs, BMI $\geq$ 85th percentile) of which 94% were African American and 59% were female. VAT and SAAT measurement were assessed from MRI images. Pulse wave velocity (PWV), the speed at which a BP wave travels along the artery, was measured using applanation tonometry (SphygmoCor) to evaluate arterial stiffness. Partial correlation and regression determined the relative influence of VAT and SAAT on PWV.
Results: SAAT (r = 0.34) and VAT (r = 0.26) each correlated with PWV when age, sex, and race were adjusted. When additionally adjusted for VAT, SAAT was related to PWV (r = 0.23, P = 0.01). When adjusted for SAAT, VAT was no longer associated with PWV (r = 0.02). Only SAAT predicted PWV in a stepwise regression including age, sex, race and VAT.
Conclusion: Rather than being protective, subcutaneous fat is more closely related than visceral fat to arteriosclerosis risk in this sample. Interventions that reduce subcutaneous fat but not visceral fat in African American children may be more valuable than previously thought.

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D-049

MINDFULNESS BASED STRESS REDUCTION FOR PATIENTS REFERRED TO CARDIOVASCULAR REHABILITATION

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Mindfulness Based Stress Reduction (MBSR) has been shown improve health-related quality of life and reduce emotional distress among heterogeneous patient populations and those with chronic disease (Smith, 2008; Bohlmeijer, 2010). Recent research indicates that practicing mindfulness may be particularly beneficial among cardiac patients (Palta, 2012; Tacon, 2003; Barnes, 2001). The current study included 31 cardiac patients (53% female, mean age = 70) who were referred to outpatient cardiovascular rehabilitation between 2010 and 2012. In a crossover design, participants were randomized to either waitlist or MBSR treatment and completed physiological and psychological measures at three time points, each 10 weeks apart. The waitlist group received MBSR treatment between time 2 and time 3. A 2x2 repeated measures ANOVA revealed no differences between the waitlist and treatment groups between time 1 and time 2. However, follow-up analyses of the initial treatment group showed significant reductions in anxiety (F = 3.08, p < .10) and blood pressure (systolic F = 6.59, p < .05; diastolic F = 4.29, p < .05) by time 3. When both groups were combined for pre-post analysis, participants showed significant gains in daily mindfulness (F = 3.23, p < .10) and less insomnia (F = 4.02, p < .10) immediately after receiving MBSR. These findings and potential reasons for time-lagged results will be discussed. Heart rate variability outcomes will also be presented. Finally, lessons learned and implications for future research will be considered.

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D-051

PATIENTS' PERSPECTIVES ON VIEWING PERSONAL HEALTH INFORMATION IN A PATIENT PORTAL: IMPLICATIONS FOR SELF-MANAGEMENT AND DECISION-MAKING

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Patient portals give access to viewing personal health information (PHI), and using a portal has been associated with favorable health behaviors and clinical outcomes. However, we know very little about why or how patients use the PHI displayed in portals, and the benefits and challenges associated with its use. We explored these questions in a mixed-method study with active patient portal users.

Participants with a type 2 diabetes (T2DM) diagnosis were recruited from an adult primary care clinic at an academic medical center. Fifty-four adults participated in a focus group and/or completed a survey assessing their use of the patient portal associated with this institution. We conducted focus groups with high- and low-frequency users separately. We analyzed survey and focus group data to understand how participants accessed and used PHI displayed in the portal. Participants were 57.1 ± 8.4 years old, 65% female, 76% White, 92% incomes ≥ $30 K, and 48% had a college degree. Participants used the portal to view PHI more (75% reporting ≥4 on 6-point scale; M = 4.4, SD = 1.7) than for any other purpose (e.g., secure messaging). Participants viewed both current and historical PHI and said observing PHI changes over time motivated them to perform self-care. However, participants had difficulty interpreting and using graphically and numerically displayed PHI to make decisions about their health. They would prefer having tailored, practical self-management advice presented alongside their PHI and the option to message providers to get behavior change recommendations.

Participants' experiences revealed opportunities to enhance the utility of patient portals for self-management and to promote patient-provider collaboration around PHI. Participants who viewed portal-displayed PHI wanted to understand it, and use it to facilitate self-care and make informed health decisions. However, improvements to the display of PHI and associated functionality would be needed to achieve these goals.

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D-052

RELIABILITY AND VALIDITY OF A BRIEF DIABETES SELF-CARE MEASURE WITH LOW-INCOME, UNDERSERVED ADULTS

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Aim: To evaluate the validity and reliability of the Personal Diabetes Questionnaire (PDQ), a brief, comprehensive measure of diabetes self-care behaviors, perceptions and barriers in a low-income, underserved sample.

Method: PDQ items were written to address dietary management, medication utilization, blood glucose monitoring, and physical activity. Initial items were reviewed by multidisciplinary diabetes care providers, then revised until the measure provided coverage of diabetes care domains while retaining as few items as possible. The scoring scheme was generated rationally. The PDQ has previously shown good reliability and validity in a large, predominantly White American sample of adults with type 1 and type 2 diabetes. Subjects were 254 adults with type 2 diabetes (44.8% African American; 19% residing in census tracts < US poverty threshold, 18% < HS educ, M age = 57.93, SD = 11.52) recruited from Health Department and medical clinics providing care for predominantly medically underserved.

Results: Item completion rates were high, with few items skipped. Analyses were split by insulin use (39.2%) status. Subscales demonstrated good internal consistency (Cronbach α = .727-.870) and showed low to moderate correlations with the SDSCA (Spearman's rho; all barrier subscales negatively and all self-care behavior subscales except for med use positively correlated with corresponding scales). Linear regression controlling for age and gender, indicated that PDQ subscales were associated with BMI (p < .05), diabetes self-efficacy (p < .01) and multidiminensional fatigue (p < .001). Associations varied with insulin use status.

Conclusions: The PDQ is a useful brief measure of diabetes self-care behaviors,perceptions and barriers and is reliable, valid and feasible to administer in a clinic setting. It may be useful for assessment of diabetes self-management and barriers and to guide patient care in varied clinical settings. Insulin use should be considered in assessing self-care outcomes in type 2 diabetes.

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D-053

PREDICTORS OF BLOOD GLUCOSE SCREENING AMONG AFRICAN AMERICAN CHURCH POPULATIONS

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Approximately 13% of African Americans are living with diabetes. Diabetes screening among African Americans is essential for early diagnosis and effective health maintenance. Identifying predictors of blood glucose screening may help researchers to develop community-based intervention strategies to improve screening rates among African Americans, particularly in church settings. The current study aimed to identify predictors of blood glucose screening among adult participants (N = 463) primarily from 11 African American churches in the Kansas City metropolitan area. Most participants (mean age = 45.3; SD = 16.35) were female (72%) and African American (97%). Results indicated that 57% (n = 264) of participants had obtained blood glucose screening in the past year. Correlations revealed that age (r = .27, p < .001), marital status (r = .12, p = .009), length of time as a church member (r = .10, p = .033), education level (r = .169, p < .001), and alcohol consumption (r = -.124, p = .008) were significantly related to receipt of blood glucose screening. Chi-square analyses revealed that gender (χ2 = 6.7, p < .01), health coverage (χ2 = 28.76, p < .001), regular check-ups (χ2 = 20.13, p < .001), heart disease screening (χ2 = 42.66, p < .001), and having a diagnosis of high blood pressure (χ2 = 27.79, p < .001), high cholesterol (χ2 = 36.39, p < .001), or diabetes (χ2 = 46.26, p < .001) were significantly related to receipt of blood glucose screening. Logistic regressions revealed that age (β = .041, p < .001), education level (β = .234, p < .008), alcohol consumption (β = -.001, p = .05), screening for blood pressure (β = -1.599, p = .007) or cholesterol (β = -3.49, p < .001), and having a diabetes diagnosis (β = -1.85, p < .001) were significant predictors of having received blood glucose screening. These findings suggest consideration should be given to including other health screenings and tailoring interventions on demographic factors and alcohol use in designing diabetes screening interventions for African American churches.

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D-054

HEALTH EDUCATION AS A PREDICTOR OF DIET ADHERENCE AMONG PATIENTS WITH DIABETES

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Diabetes self-care is important at all levels of disease prevention and management. Effective self-management is thought to require adequate knowledge about the disease; however, knowledge alone does not directly translate into health behavior change. The present study examined whether attendance in health education classes predicted diet adherence on the Summary of Diabetes Self-Care Activities (SDSCA). The SDSCA is a self-report measure that assesses diabetes self-care, including diet adherence. Participants ($N = 166$) with prediabetes or type 2 diabetes mellitus (T2DM) were recruited from health education classes for diabetes management at a federally qualified health center. They completed the SDSCA as part of intake into a diabetes management program. Participants were diverse with regard to sociodemographic variables, including age ($M = 53.38 \pm 10.54$ years), gender (67.2% female), ethnicity (56.8% White, 19.1% Hispanic, 10.4% Black), and education ($M = 12.97 \pm 2.12$ years). Regression analyses assessed predictors of SDSCA diet scores. Results indicated that attendance in a higher number of health education classes taken prior to study intake positively influenced spacing of carbohydrates across meals, but did not affect adherence to general (i.e., "healthy" eating) or specific diet (i.e., produce intake, consumption of high-fat animal products) recommendations. This relationship remained significant when controlling for the influence of gender, age, education, ethnicity, and cognitive status ($\beta = 44.51$, $t(97) = 2.42$, $p = .02$). Type of health education class (i.e., nutrition-specific or general) did not predict SDSCA diet scores. These findings speak to the limited role of psychoeducation in increasing adherence to nutritional recommendations for diabetes management, particularly among low-income and ethnically diverse individuals. More complex behavioral, sociocultural, and environmental factors likely influence diabetes self-management, suggesting the need for tailored treatment strategies.

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D-055

MOBILE MESSAGING IS MORE THAN TEXTING: A MOBILE MESSAGE TAXONOMY

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Background: When developing message content to be utilized in health behavior change interventions, evidence indicates the importance of tailoring and framing messages as a critical strategy for driving health outcomes. Messages tailored on psychosocial dimensions relevant to the desired outcome can influence how individuals process information and can increase message effectiveness. Message framing techniques can be used to create more persuasive messages. However, mHealth technology creates new opportunities for message concept development and delivery, based on its dynamic and adaptive delivery capabilities and possibilities for contextual tailoring of content.

Process: Using the messaging approach delivered by a type 2 diabetes self-management application that was effective in improving clinical outcomes as a guide, an mHealth message taxonomy was defined. The taxonomy was developed to facilitate systematic message concept development and design based on the range of delivery mechanisms and message types available. Four mHealth message types were identified: prompts, automated real-time feedback, longitudinal trending messages, and interpersonal messages. Seven common attributes of each message type were defined: triggers, features delivering the message, system source, content type, tailoring dimension, timing and frequency of delivery, and message cycle. In order to refine the categories, the message taxonomy was applied to mHealth applications supporting three different chronic diseases.

Results: Real-time feedback coaching messages developed using the taxonomy were pre-tested via human factors testing during a pilot program with 11 type 2 diabetes users. Qualitative findings from the pre-test indicated that 8 out of 11 users found the messages engaging and helpful. Results from the pilot validated the existing categories in the taxonomy related to clinical and behavioral support. Feedback also revealed additional taxonomy categories and the importance of utilizing messaging not only for delivering content, but also to guide the user experience.

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D-056

CONTENT ANALYSIS OF DECISION-MAKING INFLUENCES ABOUT DEPRESSIVE SYMPTOM MANAGEMENT AMONG ADULTS WITH T2DM

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Up to half of adults with type 2 diabetes (T2DM) have clinically significant depressive symptoms that impair diabetes self-management, resulting in poor clinical outcomes. Patient-centered decision support interventions (DSIs) can improve decision-making effectiveness and favorably impact behavior change, but more research is needed to understand how DSIs influence decision-making and behavior change. The purpose of this research was to perform a content analysis of intervener narrative notes from a feasibility trial of a novel DSI, to understand the specific impacts of the DSI for 21 socio-demographically diverse adults with inadequately-controlled T2DM (mean A1c = 8.1%) and complex psychosocial stressors for managing mild/moderate depressive symptoms. The Ottawa Decision Support framework and coaching worksheet guided the decision coaching intervention and framework for content analysis. Each participant had up to 5 notes available for analysis at pre-intervention and at study weeks 2, 6, 12, and 24. During the study period, 76.2% ($n = 16$) participants discussed making and implementing at least one decision, and 42.9% ($n = 9$) made and implemented more than one new decision. Specific types of decisions included increasing exercise, dietary changes, and seeking medical care, or other psychosocial support to manage depressive symptoms. Analysis of notes also revealed a complex context for decision-making about depressive symptom management; i.e., multiple complex psychosocial stressors (physical illness, economic hardship, relationship difficulties, losses, and chronic uncertainty related to loss). Analyses of the intervention results will include these variables in modeling the impact of the intervention on decision and clinical outcomes.

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D-057

RELATIONSHIP BETWEEN EXECUTIVE FUNCTION AND SELF-CARE IN INDIVIDUALS WITH TYPE 2 DIABETES

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Diabetes is a chronic illness that places individuals in a vulnerable state due to the vast vascular changes that effect every organ system. The key to limiting these changes and promoting health in diabetics is through good glucose control. This is obtained by the individual in self-care behaviors that rely on cognitive processes such as executive function.Executive function requires an individual to retain mindful information over a period of time, while simultaneously ignoring/neglecting other non-relevant information and retrieving older pertinent information to achieve a task. Because diabetes requires complex self-care behaviors such as administering medications, monitoring blood glucose levels, maintaining a diabetic diet, exercising regularly, recognizing medications side effects/disease complications, and knowing when to seek health care, appropriate self-care behaviors may not occur. As a result, complications may occur.In a cross sectional correlational study of 67 participants (mean age 63), the relationships between severity of type 2 diabetes, executive function and self-care were evaluated. Severity of diabetes measured by perception of health was significantly correlated to measures of executive function (EXIT 25) ($r = -.504$, $p < .01$). There was also a significant correlation between measures of executive function and self-care outcome measure HgbA1c ($r = .510$, $p < .01$). In a mediation analysis, executive function was found to fully mediate the relationship between severity of T2DM and HgbA1c and was a significant predictor of the dependent variable HgbA1c $\beta = .431$, $p < .001$, with 25.7% of the variance in HgbA1c accounted for by the EXIT 25 and severity of T2DM.This study provides some understanding of the relationship between diabetes, executive function and self-care. Deficits in executive function can impact how a person with diabetes engages in self-care behaviors, thus possibly resulting in poorer health outcomes. Understanding these relationships will help develop interventions aimed at improving self-care behaviors of individuals with diabetes.

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D-060

PARTNER-SPECIFIC CONDOM ATTITUDES PREDICT CONDOM USE WITH STEADY AND CASUAL PARTNERS

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Background: Condom attitudes predict actual condom use. Although condom use differs by partner type (e.g., primary vs. casual), limited research has investigated condom attitudes as a function of partner type. In this study, we investigate whether relationship-related attitudes towards condom use differ by partner type, and whether relationship- or pleasure-related attitudes are more important predictors of condom use.

Methods: Participants were 270 patients (37% female; 72% Black) attending an STD clinic who had both primary and casual partners. Participants completed a computerized survey assessing pleasure-related condom attitudes (e.g., Condoms are uncomfortable) as well as attitudes related to relationship consequences of condom use with primary and casual partners (e.g., Talking about condoms would hurt my relationship with my [primary] [casual] partner). Participants reported their number of unprotected vaginal and anal sex episodes with primary and casual partners in the past 3 months.

Results: Participants reported more positive relationship-related condom attitudes with casual vs. primary partners, $t(261) = 13.67$, $p < .001$. Controlling for covariates, relationship-related condom attitudes with a primary partner predicted condom use with primary ($p = .02$) but not casual partners ($p = .16$), whereas relationship-related condom attitudes with casual partners predicted condom use with casual ($p = .03$) but not primary partners ($p = .08$). Pleasure-related attitudes were unrelated to condom use with primary or casual partners ($ps > .05$).

Conclusions: Attitudes specific to condom use with a primary partner predicted condom use with a primary partner, whereas attitudes specific to condom use with casual partners predicted condom use with casual partners; pleasure-related condom attitudes did not predict condom use. Researchers should assess relationship-related attitudes towards condom use separately by partner type. Interventions should target attitudes related to the relationship consequences of condom use.

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D-061

IMPACT OF HIV-RELATED STIGMATIZATION ON MEDICATION ADHERENCE IN HIV-POSITIVE INDIVIDUALS

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HIV-related stigma may contribute to difficulties in health behavior adaptation and medication adherence among persons living with HIV, though research findings have yielded mixed results. We conducted a systematic review of the literature to (a) characterize the evidence linking stigma-related experiences to poor HIV medication adherence, (b) identify methodological and conceptual limitations of the reviewed studies, and (c) provide recommendations for HIV care and future research. Studies were included if the study reported either cross-sectional or prospective analyses of the association of HIV-related stigmatization to medication adherence in the post-HAART era. Results confirm that there is substantial empirical evidence linking HIV-related stigmatization to medication adherence difficulties. However, few studies provide data on psychosocial mechanisms linking stigma to poor medication adherence and studies varied considerably in approaches to conceptualizing and assessing stigmatization. Proposed mechanisms linking stigma to adherence difficulties include (a) a mediational role of depressive symptoms, (b) concerns about inadvertent disclosure of HIV status through pill taking and related self-care activities, (c) decreased illness-related social support, and (d) reduction in perceived self-efficacy. Future research should strive for a more uniform approach to assessing HIV-related stigmatization to differentiate between the multiple domains of stigmatization and their relative impacts and should include prospective analyses designed to identify mediating variables. We propose a framework to conceptualize the relationship between HIV-related stigmatization and medication adherence, and on the basis of this framework, provide recommendations for future research. Such advances can contribute to the development and implementation of public health interventions to reduce the negative impact of stigma on the lives of persons living with HIV.

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D-062

EVIDENCE OF A SYNDEMIC AMONG MEN AT HIGH RISK FOR HIV IN TIJUANA, MEXICO

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A syndemic occurs when two or more epidemics co-occur and contribute to excess burden of disease in a population (Singer, 2009). The syndemic framework has been used to understand HIV risk among different populations in the U.S., including men who have sex with men (Mustanski et al., 2007) and urban ethnic women (González-Guarda et al., 2011). Syndemics outside of the U.S. are less understood. Understanding the multiple, co-occurring psychosocial problems that exist and potentially interact to compound risk in a given population is important to aid the development of multi-faceted HIV prevention interventions. Tijuana, Mexico, is situated along the world's busiest border crossing and is experiencing a burgeoning HIV epidemic. HIV is concentrated among high-risk groups, including female sex workers (FSW), and their male clients. Male clients of FSW have the potential to "bridge" the HIV epidemic from high-risk FSW to their low-risk spouses or steady partners. In this study, we examine the existence of a syndemic among male clients of FSW in Tijuana. We tested the hypotheses that multiple psychosocial problems co-occur among clients, and that there is an additive effect of number of psychosocial problems on HIV risk. 400 male clients completed a survey using computer audio-assisted interviewing. The psychosocial problems we assessed for were drug use, hazardous alcohol use, depression, history or abuse, and ever being incarcerated. Seven out of 10 possible bivariate associations among these factors came out statistically significant, suggesting high co-occurrence of these factors among male clients of FSW in Tijuana. We computed a syndemic score ranging from 0 (experiencing none of the psychosocial problems) to 5 (experiencing all) for each participant. Generalized linear modeling showed that men who reported more psychosocial problems also reported more unprotected sex acts with FSW in the past 4 months ($B = 0.21$, $p < .001$). This is the first data to show a syndemic in Tijuana, Mexico, and among male clients of FSW. Implications for HIV prevention are discussed.

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D-063

A FAITH-BASED HIV EDUCATION AND TESTING INTERVENTION: PILOT STUDY SIX-MONTH FINDINGS

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Only 45% of African Americans get tested for HIV each year; those who don't know their HIV-positive status significantly contribute to new HIV cases. The Black church is a highly influential institution that has the potential to increase the reach of HIV screening services in African American communities. This pilot study examined HIV testing rates among church and community members affiliated with 4 churches randomly assigned to the Taking It to the Pews (TIPS) HIV education and testing intervention and comparison (non-tailored HIV information) groups. The study also examined implementation feasibility of the TIPS intervention using religiously-tailored HIV Tool Kit materials/activities (e.g., pastoral sermons, printed/video/in-person testimonials on HIV testing, HIV education games), the comparison group's non-tailored HIV information materials (e.g., brochures, scripted announcements), and church-based HIV testing events by church liaisons at 6 months. Eight church liaisons (2 per church) delivered 1-2 tools per month and overall coordinated a total of 8 HIV testing events over 6 months. Most frequently used TIPS tools included sermons, brochures/church bulletins, and testimonials. Survey data were collected from church and community members ($N = 543$ participants) at baseline and 6 months. Baseline findings indicated most participants were: female (mean age = 45 [SD = 13]), affiliated with their church > 7 years (mean membership = 14 years [SD = 12]), and in the previous 6 months had 1-2 sex partners and did not use condoms consistently. Six-month findings indicated TIPS intervention participants were almost twice as likely to receive an HIV test as comparison participants in the last 6 months (47% versus 28%; $p = .0007$). Future expanded studies will assist in understanding feasibility of a scalable, church-based TIPS intervention and its impact on HIV testing rates in African American communities.

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D-064

BUFFERS OF IMPACT OF BEREAVEMENT OR DIVORCE ON VIRAL LOAD IN HIV: ROLE OF RELIGIOUS COPING AND SOCIAL SUPPORT

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Background: Although stressful life events such as bereavement and divorce have been shown to be related to disease progression in people living with HIV (PLWH), no known research prospectively investigates coping methods that might buffer the impact of bereavement or divorce (BD) on disease progression markers. Such information could help bolster resiliency in this vulnerable population. The purpose of this study was to examine psychosocial factors that buffer the impact of bereavement or divorce on disease progression in HIV. Method: Viral load, a marker of disease progression, was assessed over a two year period in a diverse sample of HIV-infected individuals who experienced a significant death or divorce during study enrollment. Because this was part of a longitudinal study we were able to determine the change in viral load from before a stressful death or divorce to after. All participants were in the mid-range of disease at study entry. Coping was assessed by the COPE and included scales for avoidant coping , approach coping, use of religion to cope, and use of social support to cope.

Results: Use of religion as a coping strategy and social support predicted a lower increase in viral load from baseline to the time-point immediately following a stressful death/divorce while controlling for viral load at baseline and antiretroviral medication at time-point of bereavement or divorce (religious coping B = -0.293, t = -2.40, p = 0.021; social support B = -2.75, t = -2.25, p = 0.050) Discussion: The use of religion to cope and social support buffer the negative impact of bereavement or divorce on viral load in HIV. These factors could be encouraged by clinicians to bolster resiliency in this vulnerable population.

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D-066

GENDER-RELATED MEDICAL INTERVENTIONS, BODY IMAGE SATISFACTION AND EATING BEHAVIOR AMONG TRANSGENDER INDIVIDUALS

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Although studies suggest transgender individuals experience improved body image and less eating pathology after receiving medical interventions, more research is needed to fully understand the psychological impact of gender-affirming treatments (e.g., Fleming et al., 1982; Khoosal, et al., 2009; Kraemer et al., 2008). We hypothesize that transgender individuals who undergo medical treatments (i.e., hormones, surgeries) will have lower body image disturbance, eating disordered behavior and depressive symptoms. Participants whose current gender identity differs from their sex assigned at birth were recruited online through transgender and LGBT forums and listservs. Surveys were completed anonymously online and included the Eating Attitudes Test (EAT-26), the Body Areas Satisfaction Scale (BASS) of the Multidimensional Body-Self Relations Questionnaire and the Center for Epidemiological Studies - Depression scale (CES-D, 10-item version). The sample consisted of both Female-to Male (FtM; n = 549), and Male-to-Female (MtF; n = 311) persons, with age ranging from 18 to 78 years (M = 32.2 years); 67% reporting some college education or higher; and 88% identifying as European-American or White. MtF were more likely than FtM to score above the EAT-26 cut-off for eating disordered behavior ($\chi2 = 3.12$, $p < .05$, 14.8% vs. 6.5%, respectively) and had significantly higher scores on the CES-D (F = 8.0, p, .005; M = 13.9 vs.12.4). Multivariate ANOVAs tested within each transgender group show main effects for genital surgery, chest surgery and hormone use on the BASS, EAT-26 subscales (Dieting, Bulimia and Oral Control) and CES-D. Specifically, among both FtM and MtF groups, those who underwent medical procedures had higher body area satisfaction, less eating disordered behaviors and less depressive symptoms than those who did not undergo medical interventions. Results suggest that medical interventions may significantly benefit transgender individuals in regards to body image satisfaction, eating behavior and depressive symptomatology.

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D-067

DISPOSITIONAL MINDFULNESS IS ASSOCIATED WITH MENTAL HEALTH, SLEEP, AND CARDIOVASCULAR FUNCTION

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Prospective studies demonstrate that mindfulness-based therapies ameliorate psychological and physiological symptoms in adults with psychiatric and/or physical disorders. Cross-sectional studies have linked mindfulness to multiple aspects of health in a variety of clinical samples. We examined the relationship between dispositional mindfulness, mood, health behavior, and cardiovascular function in young adults not recruited for psychopathology. College undergraduates (n = 158, 70% female) completed the Mindfulness Attention Awareness Scale (MAAS), Beck Anxiety Inventory (BAI), Pittsburgh Sleep Quality Index (PSQI), Beck Depression Inventory (BDI), and the Symptom Checklist-90 (SCL-90-R). Blood pressure (SBP/DBP), and heart rate (HR) were also obtained. Pearson product moment correlations were examined between MAAS, inventory scores, and SBP/DBP/HR. As expected, BAI ($r = -0.487$, $p < 0.001$) and BDI ($r = -0.484$, $p < 0.001$) were inversely associated with MAAS. Similarly, all subscales of SCL-R 90 were inversely associated with MAAS (all p's = <0.001) as was the SCL-90R Global Severity Index ($r = -0.579$, $p < 0.001$). MAAS was inversely associated with the PSQI global score ($r = -0.345$, $p < 0.001$)and PSQI subscales including subjective sleep ($r = -0.311$, $p < 0.001$), daytime dysfunction ($r = -0.368$, $p < 0.001$), sleep disturbance ($r = -0.368$, $p < 0.001$) and sleep latency ($r = -0.253$, $p < 0.001$).There were no significant associations between MAAS, HR, and DBP. Contrary to our expectations, SBP was positively correlated with MAAS ($r = 0.158$, $p = 0.047$). Since mindfulness can be cultivated with experience, research should assess the effectiveness of mindfulness training programs in non-clinical samples and in undergraduates since negative mood and poor sleep hygiene are significant issues in this population.

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D-068

RISK FACTORS FOR SUICIDAL IDEATION IN MS PATIENTS

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Multiple Sclerosis (MS) is a chronic, neurologic disease that greatly affects an individual's quality of life. Studies completed in the United States suggest that the prevalence of MS ranges from 47.2 to 109.5 per 100,000 population, with a disproportionate number of women affected (Noonan et al., 2010). Individuals with MS are at heightened risk for developing anxiety, depression, and suicidal ideation (SI) (Fredrikson, Cheng, Jiang, & Wasserman, 2003). A recent study found that the prevalence of SI in an MS population was 29.4%, which is more than double the prevalence rate for adolescents (12.1%), a group consistently identified as high-risk (Nock et al., 2013; Turner et al., 2006). While studies have established that individuals with MS have heightened rates of SI, few have examined risk factors for developing SI in this population. Thus, the current study seeks to identify risk factors for SI in an MS population. A total of 319 individuals diagnosed with MS (Mage = 46.37, 71% female) were recruited to participate in an anonymous online survey through the National MS Society and online support groups for patients with MS. In addition to demographic questions, participants completed the Brief COPE (coping strategies), the Patient Health Questionnaire (PHQ-9; depression), and the SF-12, which measures physical health (PCS) and mental health (MCS). A logistic regression model, with PCS, MCS, and avoidance coping entered as predictors, was statistically significant with $\chi2(3) = 83.405$. With each increase in the PCS and MCS, the likelihood of reporting SI decreased by 3% and 9%, respectively. Furthermore, each increase in avoidance coping increased the likelihood of reporting SI by 17.4%.The current study sheds light on some risk factors for SI in an MS population. Poor mental or physical health status and avoidance coping were associated with SI, although the use of avoidance coping may be the most salient predictor of SI. This finding paves the way for the creation of interventions designs to provide alternative coping strategies to MS patients, which would likely help in decreasing prevalence rates of SI and may concurrently improve mental health.

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D-069

CORRELATIONS AMONG SERVICE-RELATED INJURIES AND HEALTH STATUS IN A WOUNDED SERVICE MEMBER AND VETERAN POPULATION

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We explored the relationship between types of injuries and self-reported health status among a population of wounded U.S. military service members and veterans. The survey sample consisted of 26,892 members (referred to as alumni) of the Wounded Warrior Project (WWP), an organization whose membership consists of U.S. military service members who incurred service-connected injuries on or after September 11, 2001. WWP alumni have sustained a range of injuries, including physical wounds and "invisible wounds" (i.e., service-related mental health injuries). WWP alumni with invisible wounds reported moderate, negative correlations between injury type and self-reported health status. For example, WWP alumni self-reporting depression ($r = -0.31$, $p < .001$), PTSD ($r = -0.23$, $p < .001$), and other severe mental health injuries ($r = -0.27$, $p < .001$) reported poorer health, in general, than those without these invisible wounds. These correlations were greater in magnitude than many of the correlations between physical injuries and health status. For example, correlations among injury type and health status ranged from -0.04 to -0.18 (ps < .001) for WWP alumni reporting vision loss, spinal cord injuries, traumatic brain injury, tinnitus, and back, neck, and shoulder injuries. WWP alumni reporting knee injuries or other severe physical injuries ($r = -0.27$ and -0.21, respectively, ps < 100) reported correlations between injury type and health status that were similar in magnitude to those who sustained invisible wounds. These findings provide insight into how wounded warriors' invisible wounds may affect their overall conception of their own general health and functioning.

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D-070

IMPACT OF A COMMUNITY-BASED INTERVENTION ON SOCIAL SUPPORT AND PHYSICAL AND MENTAL HEALTH OUTCOMES FOR AFRICAN AMERICAN GRANDMOTHERS CARING FOR CHILDREN: RESULTS FROM THE KINSHIP SERVICES NETWORK OF PINELLAS

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Background: African American grandmothers experience poorer health outcomes compared to Whites. African American grandmothers who are also providing full-time care to their grandchildren experience particularly high levels of psychological distress, high rates of depression and poorer health outcomes compared to grandmothers enjoying the traditional grandparenting role. To address these disparities, we tested whether a community-based culturally relevant intervention improved social support and health.

Methods: Five years of pre/posttest data were collected from African American grandmothers raising grandchildren who completed a community-based and family support intervention. Participant data were self-reported at baseline and six months. Primary outcome measures were social support and physical and mental health. We report results for the first five years of the program. Paired sample t-tests were used to examine changes between pre and post tests on outcomes. Multiple regression was conducted to predict the overall change in physical and mental health.

Results: Three-hundred African American women (mean age: 55.19 ± 5.54) providing care for 690 children exhibited significant improvements in social support (informal and formal support) and physical and mental health ($p < .05$). While examining the relationship among variables, social support predicted physical ($t(299) = 3.169$, p<,001), but not mental health.

Conclusions: Data suggest that African American grandmothers' physical and psychological wellbeing is at risk due to the needs and demands associated with caregiving. Better outcomes for their families may result from more intense efforts to identify and address their social support needs.

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D-071

TEEN SUICIDE RISK PROFILES IDENTIFIED USING THE BEHAVIORAL HEALTH SCREEN

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One third of the estimated two million U.S. adolescents who attempt suicide each year receive medical attention for their attempt. Current screening efforts are lacking, and tools are needed to identify teens at risk and link them with appropriate services. This study examined how constellations of known risk factors differentially contribute to suicide risk.

Patient profiles based on collective response patterns on 15 items from the self-report Behavioral Health Screen (BHS) were examined as predictors of suicide risk categories (low, moderate, high, imminent) based on recent suicidal ideation and behaviors. The sample consisted of 742 adolescents (13-21 years old) who completed the BHS in rural pediatric clinics in PA.

Latent class analysis identified five patterns of responses: Class 1 had a high probability for endorsing all of the items (truancy, alcohol, h/o sexual abuse, exposure to violence) (2.3%); Class 2 had a high probability for endorsing a history of sexual abuse (6.1%); Class 3 had a high probability for endorsing truancy and alcohol use (11.6%); Class 4 had a low probability for endorsing any of the items (67.5%); Lastly, Class 5 had a high probability for endorsing a history of exposure to violence (12.5%). The sex distribution was disproportionate across the identified classes ($p < .01$). Suicide risk significantly correlated with depression ($r = .432$, $p < .01$) as well as with Class 1($r = .461$, $p < .01$) and Class 4 ($r = -.343$, $p < .01$) with controls for sex and depression. The majority of Class 1 individuals (71%) were identified as being at high risk for suicide, while the majority of Class 4 subjects (96%) were identified as low suicide risk.

Results indicated that response patterns on the BHS can be used to identify teens at increased risk for suicide in order to assist in linking these youth to appropriate care. This information will be replicated in a similar rural primary care sample and a sample from an urban emergency department.

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D-072

TOBACCO USE EXPERIMENTATION, PHYSICAL ACTIVITY, AND RISK OF DEPRESSION AMONG MULTIETHNIC URBAN PREADOLESCENTS

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Purpose: Children with low socioeconomic status and ethnic minorities experience disproportionate risk of elevated depressive symptoms. Physical activity may reduce the likelihood of depression during adolescence, but it is unclear whether this holds true for groups at elevated risk for depression based on other well-known risk factors such as tobacco use. The goal of this study was to test these associations, and to identify the protective role of physical activity among minority preadolescents attending school in low-income neighborhoods.

Methods: Eighth graders ($N = 463$; 34% African-American, 29% Hispanic, 17% White, and 20% Other/Mixed) completed health surveys at two low-income urban public middle schools.

Results: The prevalence of elevated depressive symptoms was 23%. Less than half (42%) reported physical activity at least 5 days of the week. Lifetime smoking (22%) among these 8th graders was higher compared to national same grade rates for African-American (16%) and Hispanic (19%). Logistic and linear regression models examined independent and interacting effects of gender, tobacco use, and physical activity. Female gender ($p < .001$), smoking ($p < .01$), and lower physical activity ($p < .04$) were independently associated with increased depressive symptoms. A significant smoking x physical activity interaction revealed a pattern of moderation such that physical activity is protective against elevated depressive symptoms among lifetime smokers, but not significantly related to depressive symptoms among never-smokers.

Conclusions: Elevated physical activity was protective against depressive symptoms among preadolescents who had tried smoking. Given the bi-directional relationship between nicotine addiction and depression, physical activity promotion may be an effective health promotion target that controls smoking and depression risks among ethnically diverse preadolescents.

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D-073

CONTEXTUAL FACTORS ASSOCIATED WITH CLINICALLY SIGNIFICANT CHANGE AMONG CLIENTS OF A PSYCHOLOGY TRAINING CLINIC

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There are approximately 200 Doctoral-Level Psychology training clinics in the US which provide affordable mental health services to individuals who otherwise may have limited access to such services (Heffer et al., 2006). The research literature on clinically significant (CS) change in training settings has largely examined the median effective dose necessary for clinically significant change outcomes; however, few studies have investigation various contextual, client, or therapist factors associated with psychotherapy outcomes in training settings. These factors include client demographic variables, use of psychoactive medication, prior mental health services, past abuse history, therapist level of training, therapist demographic variables, presenting problem, and length of presenting problem. The current study aimed to identify factors associated with CS change, reliable improvement, no change, and deterioration in a university training clinic. The study consisted of 199 adult participants who engaged in psychotherapy at a university training clinic. The OQ-45 was used to assess change in therapy outcomes and has been found to meet criteria in detecting change sensitivity in training settings (Vermeersch et al., 2004). Criteria for CS change required that a client begin treatment in the clinical range and end treatment in the functional range as well as demonstrate a reliable change in score (14 points) (Anderson & Lambert, 2001; Jacobson & Truax, 1991; Jacobson et al., 1984). Reliable improvement occurred when a reliable change in scores was observed but the score did not fall in the functional range at the end of treatment. Pearson correlations were run with contextual factor variables and client change amount on the OQ-45 Total Score. Factors which were associated with CS change, reliable improvement, no change, and deterioration will be reviewed. Results will be discussed in terms of implications for clients served in such settings, student therapist education and training, and policy changes aimed to advance client care.

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D-074

MENTAL HEALTH IN PRIMARY CARE

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The call for behavioral health integration into primary care has recently been renewed (New Freedom Commission on Mental Health, 2003; U.S. Department of Health and Human Services, 1999).The national Pediatric and Psychiatric Associations and the U.S. Prevention Services Task Force have recommended universal screening for depression. In addition, the Joint Commission (JCAHO) now requires suicide screening for youth with psychiatric diagnoses in inpatient and ambulatory services. Yet, despite these recommendations progress has been limited. Barriers to behavioral health integration include lack of physician training, inadequate screening tools, and difficulty helping patients access behavioral health services. Consequently, there are likely many missed opportunities for early identification of youth at high risk for suicide, depression and violence.

To address these barriers, we have developed the BH-Works program, a web-based system for mental health screening and triage in primary care and emergency room settings. The BH-Works Program consists of provider education, web-based screening, and assistance with building a stronger behavioral health "neighborhood." At the core of BH-Works Program is the Behavioral Health Screening (BHS) assessment tool, a web based, comprehensive screening tool that targets thirteen different behavioral health domains in 7 to 10 minutes. These domains cover all the best practice recommendation from the AAP for a wellness visit including depression, substance abuse, trauma and suicide.

The program has been operational for 5 years across 12 counties in Pennsylvania. Over 20,000 patients have been screened in 4 Emergency rooms and 25 primary care practices. Findings indicate the 4.2% of patient report current suicidal ideation, and 18% report current severe depression. Of those with current ideation, 30% were in treatment, 40% were referred for treatment and 30% refused a referral. Of those with current suicidal ideation, 12% reported having access to a gun in their home. Other psychopathology data will be presented as well as the barriers and solutions to implementing a screening program in primary care.

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D-075

A PARISH NURSE INTERVENTION MODEL TO REDUCE BEHAVIORAL HEALTH RISK IN WOMEN IN URBAN COMMUNITIES

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Background. In urban communities low income single head of household African American women are at risk for depression, anxiety, and stress. One strength of the African American urban community is the church, and the resources it has to serve the community. Parish Nurses are one such resources, birthed in those same churches, they provide a logical link to promote mental health .

Purpose. The purpose of this project was to examine the feasibility and outcome trends of implementing a newly developed Parish Nurse Intervention Model (PNIM), using problem solving theory and spiritual counseling to reduce depressive symptoms, anxiety and stress levels in a sample of African American women requesting help with these specific problems.

Methods. The quasi-experimental pretest-post test design study tested the feasibility of a four - session parish nurse intervention to decrease depressive symptoms, anxiety and stress in African American women. Two standard instruments, the PHQ-9 and CESD-10, were used to screen for level of depression. Two parish nurses delivered the intervention on 1:1 basis to 24 women across three church study sites. Outcome variables were depressive symptoms, anxiety and stress, using the CESD-20, Taylor Anxiety Scale and Cohen's perceived Stress Scale respectively.

Results. The women endorsed friends, family members, and health care professionals as the top three groups they turned for social support. T-tests generated revealed that post test scores were significantly lower than pretest scores for all three primary outcomes depressive symptoms ($p = 0.006$), anxiety ($p = 0.032$) and stress ($p = 0.039$).

Implications/Conclusions. This project showed significant findings suggesting the potential of Parish Nurses to provide the PNIM intervention to inner city women through to aid in reducing their behavioral health risks.

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D-077

"NOBODY EVER ASKED": USING EXPERIENCE-BASED DESIGN METHODS TO REDESIGN DEPRESSION SCREENING PROCESSES IN VHA PRIMARY CARE

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Background: Many Veterans who screen positive for depression in primary care do not receive any mental health treatment. One reason may be the design of depression screening processes.

Objective: Using experience-based design methods, we qualitatively examined VHA patients' and providers' experiences with depression screenings conducted by nurses, health technicians or physicians, and elicited their recommendations for future redesign of these processes.

Methods: Semi-structured interviews to develop improvements based on experiences of 18 patients who screened positive for depression and nine primary care team members from three VA facilities. Interviews were examined using grounded thematic analysis. A constant comparison method informed the coding manual; consensus was reached through discussion.

Results: Many providers felt unprepared to ask these "deeply personal questions" of patients unfamiliar to them and questioned whether patients responded accurately as a result. Indeed, patients stated that they tailored their screening responses based on whether they had a strong relationship with providers or not. Providers wanted more conversation during screening, stating that "rote questions" made them feel they were talking to the computer. In contrast, patients said that until they were screened, "nobody ever asked" about depression. Providers wished to distinguish depression from loss or grief, believing that screening resulted in false positives. Providers screened because it's "part of my job" but many believed "it's a real pain".

Conclusions: Redesigning depression screening based on user experiences may involve 1) asking patients which provider they want to talk to about sensitive issues; 2) building on these strong relationships in follow-up conversations; 3) using standard questions to differentiate grief and loss from depression and 4) offering training to providers who express the need for it.

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D-078

TEMPORAL TRENDS AND THE ANALYSIS OF COMMUNITY-BASED TRIALS

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Context: There is growing interest in real-world trials of community-based interventions. The lack of control inherent in such studies entails issues relating to temporal trends not often discussed when reporting study results.
Methods: The ENCOURAGE trial assessed education and ommunity-based peer coaching vs. educaton alone for improving diabetes outcomes in Alabama's 'Black Belt', a predominantly rural and low-income region without efficient centralized health-care delivery. Participants were randomized at the community level to minimize contamination. Due to logistical constraints, recruitment and data collection took place one community at a time, with baseline and followup data collection planned to be over approximately one year.
Results: Multiple significant time trends emerged during analysis: 1) secular trends over time; 2) seasonal variation in some biometrics such as HbA1c and BMI; 3) time elapsed between baseline and follow-up, which varied between 11 and 40 months. The latter is particularly important for the intervention group because any intervention effect on biometrics is expected to begin, reach a maximum and then decrease. After incorporating adjustments for these 3 factors, we observed an intervention effect that was both significantly ($p < 0.05$) and non-linearly associated with the time between baseline and follow-up; without these adjustments the trial would be interpreted as negative.
Conclusions: In real-world trials where recruitment and follow-up schedules may not occur as planned, complex temporal issues may influence findings. Ongoing and future trials can minimize this potential temporal confounding if recruitment and follow-up times are monitored and balanced between study arms.

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D-079

EFFICACY OF DAILY SELF-MONITORING OF HEALTH BEHAVIORS AND QUALITY OF LIFE BY MOBILE PHONE: MIXED-METHODS RESULTS FROM TWO STUDIES WITH DIVERSE POPULATIONS

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Evidence on preliminary efficacy of daily self-monitoring using a tailorable mobile phone application platform (Ohmage.org) is presented from two studies: one with young mothers (n = 45) focusing on diet, stress, and exercise over six months; and the other with people living with HIV (PLH; n = 45) focused on sexual behaviors, substance use, medication adherence, and physical and mental health quality of life over six weeks. Participants were not engaged in a treatment or intervention linked to the study, and so had variable behavior change goals and motivations to self-monitor consistently. Results from mixed-methods analyses of qualitative interviews, visual time series plots, and statistical data demonstrate the potential efficacy of daily self-monitoring for self-management. Across domains, about 50% of participants reported increased awareness of a behavior, state, or association, and about 25% reported a behavioral change or therapeutic benefit from daily self-monitoring by mobile phone, with higher reports for those with associated behavior change goals. Participants also completed retrospective surveys every three months for mothers and every two weeks for PLH, which were not endorsed as strongly for awareness and change experiences. Time series visualizations were made available on a web-portal (PLH) or phone application (mothers), but relatively few found them to be particularly useful. Research assistants reviewed visualizations with participants at study completion, which generated some new insights for a some participants, particularly more advanced visualizations with change detection algorithms. Most reported that self-monitoring alone was sufficient to become aware of their behavioral and health state patterns. However, many participants expressed strong interest in sharing their data and visualizations with healthcare providers and counselors.

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D-080

INCREASING THE EFFICIENCY OF THE MODIFIED YALE PREOPERATIVE ANXIETY SCALE IN CLINICAL SETTINGS

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Preoperative anxiety is experienced by large numbers of children undergoing surgery. The modified Yale Preoperative Anxiety Scale (mYPAS) is the gold standard for assessing child anxiety and has been used in hundreds of studies to date. This observational tool covers five domains (activity, vocalizations, emotional expressivity, state of arousal, and use of parent) and is typically administered at four time points: preoperative holding, walk to the operating room (OR), entrance to the OR, and introduction of the anesthesia mask to the child. Because of its wide use, reducing the number of domains and assessment points may increase its efficacy in clinical studies. Utilizing data from multiple studies employing the mYPAS over the past 15 years (N = 3800; Mage = 5.5), the purpose of the present study was to employ both statistical and qualitative methods to increase the efficiency of the mYPAS while retaining its accuracy.
By qualitatively examining the mYPAS, the "use of parent" domain was eliminated due to shared items with other domains. Initial factor analyses revealed that at each assessment point, all five domains accounted for 78% or more of the variance in mYPAS scores and produced a cronbach's alpha of at least 0.92 at each assessment point. After eliminating the "use of parent domain," factor analyses revealed that the reduced domain set accounted for 80% or more of the variance in mYPAS scores and produced a cronbach's alpha of at least 0.91 at each time point. In order to reduce the number of assessment periods, a minimum effect size criterion of 0.50 change in mYPAS across time points was employed. This led to eliminating the walk to the OR and entrance to OR assessment points, as the effect size criterion was not met. Overall, the results of this study demonstrate that the mYPAS can be reduced to four domains and used at two, rather than four assessment points while retaining the accuracy of the original measure. This more efficient use of the mYPAS can increase its use in the clinical setting, leading to more accurate identification of children in need of intervention.

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D-082

EXAMINING EATING BEHAVIORS AND NETWORK DIVERSITY IN A LARGE SOCIAL NETWORK OVER TIME

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BACKGROUND: How do our friends affect what we eat? Population-based health research has amassed evidence linking social circumstances with eating behaviors and food choice. However, research concerned with what we eat has generally not accounted for the contributions of social network connectivity in food choices. A growing body of evidence shows that relationships with others can be considered as a proximal determinant of health behaviors. In this study we ask how network peers' eating behaviors, measured in three ways (food variety, diet quality, meat consumption) may predict one's own eating behaviors. We also ask about the roles that network diversity might contribute - network diversity being the propensity to affiliate with people who differ from oneself. METHODS: Multivariate longitudinal regression methods are used to examine eating behaviors of a large cohort of more than 3000 adults over ten years. Information on eating is combined with relational measures of network structure derived from social ties to discern how the behaviors of one's peer group are related with one's own. RESULTS: Regardless of which eating behavior is examined, the average level of the given behavior among connected peers is significantly related to an individual's own. Second, having a social network with individuals of diverse educational attainment is associated with a higher-quality diet; having a more age-diverse network is associated with less meat consumption. Third, better diet quality makes one less likely to be obese and more likely to report excellent self-rated health, while greater meat consumption makes one more likely to be obese. While effect sizes tend to be small relative to other known social determinants of health, knowing that specific eating behaviors are patterned by relationships to others can aid in behavior change by identifying promising intervention pathways that can capitalize on social support.

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D-083

FEAST (FOOD ENVIRONMENT ASSESSMENT USING THE STANFORD TOOL): DEVELOPMENT OF A MOBILE APPLICATION TO CROWD-SOURCE RESIDENT INTERACTIONS WITH THE FOOD ENVIRONMENT

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The Stanford Health Neighborhood Discovery Tool (Discovery Tool) is a computerized, tablet-based application (app) developed by the Healthy Aging Research and Technology Solutions (HARTS) lab at the Stanford Prevention Research Center. Utilizing a "citizen scientist" model, the Discovery Tool enables community residents to identify and document neighborhood features that promote or hinder healthy living. The purpose of this study is to discuss the development and preliminary testing of FEAST, a new module of the Discovery Tool that assesses resident interactions with their food environment. Input was received from behavioral health researchers, representatives from relevant local government agencies, non-profit organizations, and a community health clinic. User-testing was conducted with a small sample (n = 3) of racially and ethnically diverse older adults, which led to subsequent modifications. The final iteration of FEAST can be used by residents to document how they travel (e.g., car, public transportation, walking, etc.) to the food store they visit most often (within or outside of their neighborhood), take photos and record audio narratives about their barriers and facilitators to accessing healthy food, and provide insight about how they navigate their food environment and make decisions around shopping locations and food choices (e.g. health vs. cost-based approach). Residents complete an in-app survey with items on demographics, health status, food-related behaviors and attitudes, food security, and neighborhood perceptions. Preliminary testing (n = 13) of FEAST, suggests that residents' audio narratives and survey responses may be useful in understanding their interactions with the food environment and the types of social services that would be beneficial in assisting vulnerable populations access healthy food.

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D-084

PROFILE OF A COMMUNITY CENTER-BASED PEER-LED PRODUCE MARKET FOR LOW-INCOME ASIAN IMMIGRANTS

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Establishing produce markets (PM) in community centers is an increasing trend. These settings may provide a novel mechanism for improving diverse and vulnerable populations' access to healthy foods. A peer-led, low-cost, weekly PM was implemented at a multiservice senior center in downtown San Jose, CA primarily serving non-English speaking, low-income, older adult Asian immigrants. Unlike other Center-based food services provided for free, the PM gave Center visitors the option to choose and pay for food. Intercept surveys were administered to exiting customers during the PMs first 3 months; and semi-structured interviews were conducted with volunteers and PM leadership thereafter. Surveys and customer price sheets were analyzed using descriptive statistics. Customers surveyed (n = 143) were primarily Chinese (52.1%) and Vietnamese (39.1%), female (76.2%), 65+ years old (77.8%), and 69% rated their health as "good" to "very good". In the last month, respondents reported eating fruit (67.1%) and vegetables (70.6%) 1-2 times per day. The 4 most frequently mentioned appealing PM features were the quality, variety, and cost of produce, and location. The number of customers each week remained constant (M = 48.2, SD = 10.3). While total sales were variable week to week there was an overall decline from week 1 to 12 ($405 vs. $160.75). Types of produce for sale were adjusted based on demand– resulting in a 50% reduction in available items by week 12. Interviews revealed potential factors influencing PM success: organizational structure; PM logistics (e.g., hours of operation); produce vendors; volunteer availability and educational level (i.e., math skills, literacy); customer awareness of existing market prices and willingness to travel further for cheaper produce, and their limited familiarity with US vegetables. We discuss efforts undertaken to address these issues. Findings provide cultural and socio-economic considerations for researchers and community-based organizations aiming to develop peer-led efforts to improve this population's access to fresh produce.

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D-085

DIETARY INTAKE AND EATING BEHAVIOR IN INDIVIDUALS PRESENTING FOR TREATMENT OF STRESS-RELATED EATING

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Recent research demonstrates that stress-related eating not only contributes to obesity, but is also associated with greater metabolic detriment than overeating in the absence of stress-eating. However, little is known about the content of the stress-driven diet or the relationship between stress eating, binge eating, and dietary intake. We examined the relationships among stress-eating (Eating and Appraisal Due to Emotions and Stress scale), dietary intake (7-day food logs), and binge eating (Binge Eating Scale) among 48 adults presenting for treatment of stress-eating (98% female, mean ± SD age = 45.1 ± 10.1, BMI = 35.3 kg/m2 ± 8.7). Mean daily caloric intake was 1813 kcals (SD = 407), with 35.6% (SD = 5.5%) of calories from fat, 46.7% (SD = 8.6%) from carbohydrates, and 16.2% (SD = 7.5%) from sugar. Results suggest that individuals seeking treatment for stress-eating consume 20% more fat and 60% more sugar than national recommendations. Stress eating was highly associated with binge eating ($r = .74$, $p < .001$) and 68% of participants reported moderate to severe binge eating. Partial correlations controlling for BMI revealed positive relationships between stress-eating and calorie intake ($r = .43$, $p = .005$) and binge eating and calorie and fat intake ($r = .50$, $p = .001$; $r = .37$, $p = .022$) such that those with more severe stress-eating and binge eating had the highest intake of calories and fat. This study provides support for the importance of targeting the nutritional, as well as the emotional and behavioral, components of stress-eating.

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D-086

WHY WOMEN OF CHILDBEARING AGE CONSUME FAST FOOD RATHER THAN COOKING AT HOME: RESULTS FROM NHANES 2007-2010

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Fast food consumption is associated with poor diet quality, weight gain, and obesity. Pre-pregnancy obesity and maternal diet during pregnancy can influence pregnancy and child health outcomes. We examined reasons women of childbearing age consume fast food and associations with recent consumption. Data were from the National Health and Nutrition Examination Survey (NHANES) 2007-2010. The sample included women aged 20-44 years who completed the consumer behavior phone follow-up (N = 2050). Women were asked whether they had bought food from fast food or pizza places in the past 12 months, and if so, five reasons they might rather than cooking at home. Women also reported fast food consumption in the past 7 days. Logistic regression models adjusted for age, race/ethnicity, education, and weight status estimated associations between reasons and recent consumption. All analyses were weighted to represent women of childbearing age nationally. 94.3% of women bought fast food in the past 12 months. Women did so versus cooked at home because they felt that fast food was more convenient (85.8%), to socialize with family or friends (50.7%), fast food tasted better (16.3%), was cheaper (14.4%), or was more nutritious (1.8%). 65.6% consumed fast food in the past 7 days. Convenience (OR = 2.9; 95% CI: 2.2-3.9), socializing (OR = 1.5; 95% CI: 1.2-1.9), taste (OR = 1.7; 95% CI: 1.2-2.3), and cost (OR = 1.9; 95% CI: 1.3-2.6) were associated with recent fast food consumption. Perceiving fast food as more nutritious than home cooking was not associated with recent consumption (OR = 1.8; 95% CI: 0.6-4.9). Interventions or public health campaigns aimed at reducing fast food consumption among women of childbearing age may be more effective if they address convenience and social value of meals at home.

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D-087

PILOT TESTING AND PSYCHOMETRIC ANALYSIS OF A CULTURALLY RELEVANT FOOD PREPARATION SURVEY AMONG HISPANIC PARENTS IN SOUTHERN CALIFORNIA

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Though preparing food at home has been recognized as an avenue for promoting healthier eating, currently no tool exists to measure this behavior, nor is there any clear association to dietary intake or acculturation. The purpose of this study was to psychometrically analyze a newly developed culturally relevant food preparation measurement tool among U.S. Hispanic parents. A convenience sample of U.S. Hispanic parents/caregivers ($n = 312$) was surveyed in Southern California from July to August 2013.The sample was 75.0% female; 77.8% Mexican ancestry or origin; 58.6% with an annual household income of < $45,000; 49.1% lived with at least one child aged 5 years or under, 51.8% with a child aged 6 to 12 years, and 55.9% with a child aged 13 to 17 years; 65.4% reported very low food security; and 60.9% were relatively more acculturated. Factor analysis was used to determine internal consistency of six emergent scales; healthy meal planning, perceived barriers, attitudes, self-efficacy, family and cultural influence, and scratch food preparation practices. Multiple linear regression analyses were used to assess the association between dietary intake, acculturation and food preparation factors, adjusted for sociodemographic characteristics. More frequent scratch food preparation and higher family and cultural influence were significantly associated with higher consumption of fruits and vegetables ($F = 3.37$ and $F = 3.30$, $P < 0.01$, respectively). Compared to more acculturated parents, less acculturated parents were significantly more likely to report healthy meal planning, family and cultural influence, low perception of barriers, and positive attitudes toward food preparation ($F = 2.45$, $F = 3.02$, $F = 2.92$, $F = 3.92$, $P < 0.05$, respectively).Underscoring how food preparation in the home can support a healthy diet, this tool can enhance utility of dietary information for surveillance and inform intervention and evaluation among U.S. Hispanic families.

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D-088

USE OF TARGETED MESSAGES FOR INCREASING DAIRY CONSUMPTION IN ADULTS: AN RCT

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Adequate consumption of dairy products in adults aged 31-50 years has declined rapidly. This is concerning given the health benefits associated with adequate dairy consumption, including reduced incidence of type 2 diabetes and overweight. Messages that emphasize the benefits of performing a behaviour should increase performance of preventative behaviours. Bolstering self-efficacy to self-regulate the desired behaviour, as well as making messages salient to the targeted audience, also influence the utility of health promotion campaigns. Gain-framed, efficacy-enhancing messages made salient to female young adults lead to significant and sustained increases in dairy consumption, but the effects of self-efficacy could not be teased apart from the framed messages in this past research. The present trial compared the efficacy of gain-framed (GF), loss-framed (LF), self-regulatory efficacy enhancing (SRE), GF + SRE, and LF + SRE messages on increasing dairy consumption in adults aged 30-50. Men ($n = 269$, Mage = 38.78 ± 6.55) and women ($n = 464$, Mage = 38.17 ± 6.39) received salient intervention material for 4 consecutive days based on group assignment. Calcium consumption from dairy was assessed at baseline and once per week for 4 weeks following the intervention. A 2 (gender) x 5 (time) x 5 (condition) repeated measures ANOVA revealed a main effect for time, such that total calcium consumption from dairy significantly increased at all follow-up time points, $F(3.85, 1780.54) = 3.34$, $p = .01$. The main effect for condition and the time X condition interaction were not significant ($ps > .05$). The main effect for gender was significant with men consuming more than women at all post-intervention time points ($p = .04$). Results suggest targeting messages to make them salient successfully increases volitional consumption of dairy irrespective of framing. Further, our findings demonstrate the utility of using persuasive targeted messages to alter men's dietary behaviours.

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D-089

RELATIONSHIP BETWEEN DIETARY INTAKE AND SOCIAL HEALTH DETERMINANTS IN LOW-INCOME, HISPANIC MOTHERS

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Introduction: Epidemiologic studies show inter-ethnic disparities in health outcomes; Hispanics have increased prevalence of obesity and diabetes. Diet plays a key role in these diseases and a greater understanding of dietary intake and stage of change for healthful eating may guide preventive strategies.

Methods: Hispanic mothers were recruited from La Comunidad Hispana, a federally qualified health care clinic in southeastern Pennsylvania. Mothers 18 years of age or older were eligible to participate. Dietary intake was assessed using the Automated Self-Administered 24-hour Recall system, ASA24-2011 (National Cancer Institute, Bethesda, MD). Health Literacy was assessed using Newest Vital Sign (NVS).

Results: 56 mothers participated; mean age was 31.6 years old. The median total kilocalorie (kcal) intake was 1270 kcals/d. Median percent of total kcals from carbohydrate, protein, and fat was 52%, 17%, and 31%, respectively. A significant association ($r = 0.71$, $p < 0.0001$) between %kcals from empty kilocalories (non-nutritive) and total daily kcal intake was found. A significant inverse association ($r = -0.40$, $p = 0.002$) between healthy eating change strategy score and total daily kcal intake was also observed.

Conclusions: The median total daily energy intake (kcals/d) was lower than anticipated. The %kcals from carbohydrate, protein, and fat were within recommended guidelines suggesting an appropriate macronutrient distribution in the diet. The positive association between total energy intake and empty kilocalories suggests those with higher total energy intake also have higher intakes of nutrient poor foods. The inverse association between healthy eating change strategy and total energy intake suggest that those not contemplating healthy dietary changes have a higher total daily energy intake. Additional research is needed to fully explore stage of change and healthy eating relationships in low-income Hispanic women of child-bearing age.

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D-091

A QUALITATIVE INQUIRY ABOUT WEIGHT COUNSELING PRACTICES IN COMMUNITY HEALTH CENTERS

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This study sought to understand how clinicians in a safety net setting approach weight counseling, including who they counsel, how they bring up the topic, what advice they provide, and what treatment or referral resources they use. Thirty primary care physicians, physician assistants, and nurse practitioners from three multi-clinic community health center systems (CHCs) in Georgia completed semi-structured key informant interviews by phone or in person. Interviews were digitally recorded, transcribed verbatim, and coded using MaxQDA. Clinicians report that addressing weight with new patients or those who have acute or unmanaged conditions is challenging; most feel it is easier to approach those who have weight-related chronic conditions, are established patients with whom they have rapport, or have gained or lost weight since the previous visit. Most clinicians address weight loss in the context of managing or preventing chronic conditions or reducing chronic disease-related medications. Clinicians report providing detailed dietary advice to patients, including advice about adding or avoiding certain foods (e.g., adding fruit; avoiding fried foods, soda, processed foods). Advice about physical activity is more general. Many clinicians report basing advice on their own experiences in dealing with weight loss. Most clinicians report that they do not have community-based resources available to offer patients for either diet or physical activity, or that resources are not accessible to patients due to cost or distance. In the absence of available resources, clinicians develop or use existing brochures or handouts, refer patients to in-house weight programs, or use online resources. Clinicians use a variety of approaches for addressing weight, many of which are not evidence-based. Increased availability of evidence-based referral resources, use of decision support tools, and clinical team training are needed to improve weight counseling in CHCs.

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D-092

THE STORYTELLER PROJECT: TESTING MEXICAN AMERICAN MOTHERS' REACTIONS TO CULTURAL TAILORING AND EMOTIONAL AROUSAL IN HEALTH PROMOTION NARRATIVES

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Health promotion materials often include narratives, but little is known about which strategies enhance narrative effectiveness, particularly among minority populations. This study explored transportation (the degree that one becomes "lost in a story") among low-income Mexican American (MA) mothers. This study tested: (1) reactions to tailored vs. culturally tailored testimonials; and (2) need for affect as a moderator of transportation in testimonials with varying emotional arousal.

Study participants consisted of 40 MA mothers of preschool-aged children. Each participant completed two face-to-face interviews in which they: (1) completed a survey to provide quantitative baseline and tailoring data; and (2) were randomly assigned to listen and provide quantitative and qualitative reactions to two stories containing childhood obesity prevention messages - Story A or Story B, and Story C or Story D. Story A was tailored on four noncultural variables (e.g., child age). Story B was tailored on the four noncultural variables plus ten cultural variables (e.g., familismo, personalismo, gender roles). Stories C and D were designed to evoke high and low emotional arousal, respectively.

Quantitative data indicate that transportation was high for all stories and did not significantly differ by assignment to Story A vs. B or Story C vs. D. All participants had medium (n = 23) or high (n = 17) need for affect. Qualitative data suggest that participants had more emotional reactions to Story C than Story D and that they identified with and pictured themselves as similar in age, weight, and ethnicity to story protagonists, even though these characteristics were not defined in the stories. Participants reported regular engagement with narratives, most often through reading books to their children. Participants believed that stories should provide information, feature real-life characters, model desirable values and behaviors, have a positive tone, and have happy endings.

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D-093

WEIGHT MANAGEMENT PRACTICES IN COLLEGE STUDENTS AND THEIR UNDERLYING EATING MOTIVES

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A meta- analysis by Vella-Zarb & Elgar (2009) found an average weight gain of five pounds in freshmen college students, which they attributed to dietary practices, reduced physical activity, psychological stress, and alcohol consumption. With increasing overweight and obesity trends in the general population, and more specifically in young adults this study examined weight management practices among college students and their underlying motivational tendencies for eating behavior. Gender and ethnic differences were also examined. METHODS. Participants included 681 students attending New Mexico State University. College students were invited to participate in an online survey. MEASUREMENT. The Weight Management Practices survey (WMP, Shamaley, 2011; 36 items) included nine subscales assessing different weight management practices for weight control or loss (e.g. caloric restriction, diet aides). The Eating Motives Inventory (EMI; 37 items) consisted of three Behavioral Inhibition (BIS) and four Behavioral Activation (BAS) subscales. This study also assessed demographics, and height and weight which were used to calculate Body Mass Index (BMI). ANALYSES. We conducted multivariate analysis of variance using gender and ethnicity as the independent variables and weight management practices as the dependent variables. We also conducted bivariate correlations between the EMI and WMP subscales. RESULTS. Almost half of this college sample exhibited a BMI in the Overweight or Obese categories. With regard to weight management practices, gender but not ethnic differences were identified. Men engaged in greater exercise and protein supplementation whereas females engaged in greater use of diet aides and caloric restriction. With regard to eating motives, both BAS and BIS motives were related to unhealthy weight management practices (laxative and vomiting, diet aides). A single BAS subscale, Sensation Seeking positively related to recommended weight management practices (caloric restriction and healthy eating).

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D-094

BEYOND PREVALENCE RATES: CAPTURING HEALTH RISKS IN WEIGHT LOSS INTERVENTION TREATMENT EFFECTS

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The public health goal for weight loss strategies is often stated in terms of a reduction in the prevalence of obesity. However, obesity-related health risks increase with the severity of obesity. It is possible that by simply using prevalence rates, interventions that are effective for individuals close to the obesity threshold could reduce prevalence without impacting those who are further from the threshold. Economics can provide a complimentary measure to prevalence known as severity. Severity (i.e., the normalized squared depth of an individual's obesity–the distance from a BMI of 30) places more emphasis on changes in individuals with higher BMI and can detect changes in population obesity directly related to population health risk. However, few studies report on intervention influences on both prevalence and severity. This paper uses an intervention as a case study to show how severity can provide additional insights when analyzing changes in weight outcomes. Baseline and 6-month follow-up data from a 2-group, cluster-randomized controlled trial of 28 worksites were used to compare changes in prevalence and severity of obesity following an internet-based weight loss intervention with and without monetary incentives. The obesity prevalence rate declined significantly in the incentive-based program (-3.56%, p = 0.002) but showed no significant change in the comparison intervention (0.46%, p = 0.79). Similarly, the incentive-based program also demonstrated a significant reduction in severity (-4.03%, p = 0.009) while the comparison program did not (-2.67%, p = 0.16). Subgroup analysis revealed an upward trend in the comparison program's African American severity even in the presence of a decline in prevalence. Given the importance of addressing obesity in high-risk subgroups, our results confirm that the two measures provide necessary complimentary statistics that ensures health risks mitigation is directly incorporated into weight loss treatment assessment.

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D-095

A BRIEF THEORY-BASED HEALTHY EATING INTERVENTION AIMED AT SKILLS BUILDING AT HOME CAN INCREASE FRUIT AND VEGETABLE CONSUMPTION AMONG LATINAS

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Obesity interventions for Latinos have focused on individual health education with few opportunities for participants to connect the learned healthy eating and cooking skills to their homes. Guided by the Social Cognitive Theory (SCT), we developed a theory-based healthy eating intervention that aimed to facilitate the application of the learned information at participants' homes and investigated its effects on fruit and vegetable consumptions (FVC) among Latinas. The brief, 8-week pre-post intervention study recruited Latinas (n = 40) from Washington State, who attended 4 biweekly intervention sessions. The outcome variable was FVC. We also measured weight, demographics, SCT constructs, and perceived barriers of healthy eating. At post intervention, more Latinas reported correct knowledge of daily FVC (13% vs. 26%) and how to prepare healthy foods (17% vs. 83%). The food efficacy score increased significantly, and more Latinas reported confidence for increasing FVC (p = 0.001), eating a fruit for a snack (p = 0.017) and choosing a side salad when dining (p < 0.001). There was a decrease in Latinas' report of negative food outcomes with fewer women expecting to miss the food they love (45% vs. 8%) and needing more time to plan meals in advance (35% vs. 18%). Perceived barriers among Latinas also decreased. Self-report of FVC significantly increased for fruit (1.8 servings vs. 2.7 servings, p = 0.001) and vegetable consumption (1.7 servings vs. 2.8 servings, p = 0.001), and one third of the women reported losing weight on average of 2.4 kg (p < .001) since baseline. A healthy eating intervention designed to connect learned healthy eating and cooking skills to participants' home increased knowledge, food efficacy, food outcomes, FVC, and weight loss. Increasing opportunities to facilitate application of intervention information to participants' homes can promote FVC and may ultimately reduce obesity rates among Latinos.

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D-096

ASSESSMENT OF THE FOOD ENVIRONMENT IN RURAL TOWNS IN EASTERN WASHINGTON

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This study assessed the availability of healthful foods in two small rural towns with large percentages of Hispanic residents in Eastern Washington State. Store and restaurant inventories were collected from July-August 2013 using the Nutrition Environment Measures Survey (14 food stores and 29 restaurants). Store measures included data on availability of fresh fruits, vegetables, whole grain bread, lean ground beef, low-fat hot dogs, baked/low-fat chips, and low sugar cereal. Restaurant measures included availability of healthy options on main dishes/entrees, main dish salads, low-fat/fat-free salad dressings, and fresh fruits. Convenience stores comprised 79% of all food stores. Availability of specific healthful items differed between grocery and convenience stores with all the grocery stores (100%) selling at least one fresh fruit compared to 27% of the convenience stores. More grocery stores were also stocked with fresh vegetables (100% vs. 18%), whole grain bread (100% vs. 36%), lean ground beef (100% vs. 9%), low-fat hot dogs (100% vs. 9%), baked/low-fat chips (67% vs. 0%), and low sugar cereal (67% vs. 18%). Of the restaurants, less than half (41%) were sit down (SD), 24% were fast causal (FC), and 34% were fast food (FF). SD restaurants offered more healthy options in main dishes/entrees compared to other establishments (SD: 50%, FC: 29%, FF: 30%), but less likely to offer options on main dish salads (SD: 33%, FC: 43%, FF: 40%). More SD restaurants offered low-fat/fat-free salad dressing options (SD: 33%, FC: 14%, FF: 10%) and fresh fruits (SD: 25%, FC: 14%, FF: 10%). Convenience stores make up a large proportion of stores in rural towns, and have limited stocks of healthful foods. Restaurants are mostly FC and FF with limited healthy options on main dishes/entrees. Many of the food sources in rural towns have limited availability of healthful foods, contributing to unhealthy eating among their residents.

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D-097

SELF-COMPASSION INVERSELY RELATED TO MALADAPTIVE EATING BEHAVIOR

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Purpose: Eating behavior subtypes (i.e., emotional, uncontrolled, restraint eating) have been linked to higher BMI in epidemiological research (e.g., Angle' et al, 2009). The interaction of these subtypes with stress, a known instigator of weight gain, represents a feasible pathway of weight accrual in vulnerable phenotypes. Self-compassion has been linked to healthful eating behaviors in experimental research (e.g., Adams & Leary, 2009) and reduced stress following intervention (Gard et al., 2012), and may buffer the relation between stress and poor eating behaviors.
Methods: Participants were 283 university undergraduates (152 females; m. age = 19.12 + 1.63; m. BMI = 23.73 + 4.29). Measures included the Self-Compassion Scale, Depression Anxiety and Stress Scale, and Three-Factor Eating Inventory-Revised. Multiple regression analyses were performed to assess how self-compassion and stress were associated with Emotional Eating (EE), Uncontrolled Eating (UE), and Restrained Eating (RE), after controlling for gender (all outcomes), depression/anxiety (EE/UE), and BMI (RE).
Results: For EE, depression and gender but not anxiety, were significant predictors; SC (β = -.306,p < .001), but not stress significantly inversely predicted EE above/beyond controls; and SC did not moderate the EE-stress relationship; R2 = .195. For UE, gender, depression and anxiety were non-significant predictors; SC (β = -.205,p < .001), but not stress, significantly inversely predicted UE over/above controls; and SC moderated the association between UE and stress (β = .128,p = .030); R2 = .102. For CR, gender and BMI were significant predictors; SC (β = -.119,p = .056), but not stress, marginally inversely predicted CR; and SC did not moderate the association between CR and stress; R2 = .065.
Conclusion: These results suggest SC is associated with less maladaptive eating behavior, representing a target for intervention. We also found the association of stress with UE buffered by SC, inferring SC may attenuate stress-related overeating, an oft-cited driver of the obesity epidemic. Future research should further investigate these associations.

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D-098

AVAILABILITY AND ACCESSIBILITY OF STUDENT-SPECIFIC WEIGHT LOSS PROGRAMS ON COLLEGE CAMPUSES

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Introduction: More than 1/3 of college students are overweight/obese and in need of treatment resources. This study examines availability and ease of access to weight loss programs for students on undergraduate campuses.
Methods: Three trained coders searched for student-specific weight loss programs (SWLP) on the websites of the 10 largest public universities using 15 standardized terms. SWLP was defined as a free campus program specific to students with dedicated staff and resources. To compare ease of access to services, coders searched for traditional high-risk health services offered on university campuses (i.e., alcohol and other drugs, victim services, sexual health, and eating disorders) using 4 terms. Coders reviewed and discussed disagreements until consensus was reached. Website information was verified by verbal report.
Results: To date, 6 of the 10 schools have been coded. Only one offered SWLP, with a fee. Despite only one school offering SWLP, 6 out of 6 had resources and information available (e.g., links to group fitness classes, nutritional handouts, campus dietitian). In contrast, 6 out of 6 universities offered all 4 of the non-weight related behavior services for the traditional high-risk behaviors. An average of 8.7 minutes was spent searching for SWLP per key term compared with 5.2 minutes per key term for traditional health services.
Discussion: Despite a need, the majority of large universities have not yet begun to offer dedicated weight loss programming as they do for other high-risk health-related behaviors. Online searches for programs were cumbersome and may suggest students relying on the Internet alone will struggle to find the information about available on-campus services. All schools had some nutrition and fitness resources, a necessary first step. However, advocacy from student groups and collegiate administrators is called for to provide treatment and reduce stigma regarding accessing resources.

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D-099

WEIGHT LOSS AND MAINTENANCE IN PARTICIPANTS WITH AND WITHOUT CHILDREN IN A BEHAVIORAL WEIGHT LOSS INTERVENTION

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Emerging evidence suggests that adults with children in the home (YES-CHILD) may have lower short-term weight losses than those without children (NO-CHILD) in behavioral weight loss programs. Little is known about whether having children in the home influences weight loss maintenance. This study examined percent weight loss (PWL), percent weight regain (PWG), energy intake, physical activity (PA), and eating and physical activity self-efficacy (ESE, PASE) of participants grouped as YES-CHILD and NO-CHILD. Data from an 18-month behavioral weight loss intervention that compared a standard intervention to a stepped-care approach were examined. Subjects were 339 (42.8 ± 8.6 yrs, BMI = 33.0 ± 3.63) of 363 subjects who provided data on number of children under the age of 18 in their home. Assessments occurred at 0, 6, 12 and 18 months. Compared to NO-CHILD (N = 162), YES-CHILD (N = 177) had lower PWL at 6 (9.1% vs. 10.4%, p < .05), 12 (8.8% vs. 11.8%, p < .01) and 18 months (7.4% vs. 10.1%, p = .01), and greater PWG from 6-18 months (2.7% vs. 0.8%, p < .05). YES-CHILD consumed an average of 1624 ± 639 kcal/d between 6-18 months, compared to 1462 ± 491 in NO-CHILD (p = .06). PA decreased from 6-18 months in NO-CHILD (251 ± 229 min/wk to 175 ± 207, p < .001) and YES-CHILD (205 ± 178 to 163 ± 171, p < .01), with change in PA not differing between groups. ESE and PASE increased in YES-CHILD and NO-CHILD from 0 to 6 months (p's < .001), but at 12 and 18 months decreased back to baseline levels in YES-CHILD but not in NO-CHILD (p's < .01). In bootstrapped mediation analyses, change in ESE and PASE from 6-12 months, but not change in energy intake or PA, mediated the relationship between having children in the home and PWG from 6-18 months (95% CI: 0.23,1.90; 0.11,1.24). Thus, interventions may need to tailor strategies to adults with children in order to increase self-efficacy and improve diet, PA, and weight loss outcomes.

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D-100

THE IMPACT OF FAMILY MEALS ON HEALTHY LIFESTYLE BEHAVIORS WITHIN LATINO FAMILIES

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Background: National increases in childhood obesity coincide with a decline in family meal occurrences in the home. The family meal is an important social influence for youth and may protect against obesity by promoting healthy lifestyles. This study examined the impact of family meals on diet quality, physical activity (PA), and maternal and child obesity within a Latino population. Methods: Mother/child dyads (N = 80) were recruited from a federally qualified health center in Kennett Square, PA. Heights and weights were recorded and mother's completed a paper-based survey to assess diet quality and PA. Multivariate regression models were developed to determine associations between shared family meals and health behaviors, adjusting for covariates. Results; Most mothers were married (73%), unemployed (60%), did not attend high school (70%), were born outside the US (96%), and mean age was 33 ± 5.5 years. Rates of overweight/obesity in mothers and children were 75% and 43%, respectively. Most reported eating dinner together 7 days per week (70%). Frequent family meals were positively associated with PA (B = 1.8; 95% CI: 0.7, 2.9) and WIC participation (OR = 12.1; 95% CI: 3.4, 43.3) after adjustment. No association was found for family meals and fruit/vegetable consumption, maternal or childhood overweight/obesity (all $p > 0.05$). Conclusions: The high prevalence of overweight/obesity among low-income Latino mothers and children is of great public health concern. Frequent family meals may impact family social cohesion leading to higher rates of physical activity. Food safety net programs, such as WIC, may increase access to affordable foods making it more likely that families will eat dinner together at home. Additional research should include a larger, more diverse sample to examine the influence of family meals on obesity within this high-risk population.

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D-101

EFFECTS OF NUTRITION AND WEIGHT PERCEPTIONS ON DIETARY PATTERNS IN HISPANIC YOUTH

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Increasing obesity rates continue to be a prevalent problem among Hispanic youth. This study applies Theory of Planned Behavior (TPB) constructs to evaluate how weight perceptions and nutrition attitudes are associated with dietary behaviors in Hispanic youth. Understanding dietary behaviors from a TPB perspective can guide obesity prevention efforts in this understudied population. FIT for Health is an 8 week, on-going student run obesity prevention program for Hispanic families with an overweight (BMI% > 85th) child (ages 7 - 14 years). Baseline data was collected on 55 children (45% female; 72.7% > 95th BMI%; mean BMI = 26.6 ± 4.5; mean age = 9.18 ± 1.37) that included the SPAN self-report questionnaire that measured youth's nutrition behavior and attitudes. Constructs of TPB evaluated from the SPAN survey included attitudes/beliefs regarding the importance of nutrition to health, and youth perception of weight status. Independent t-tests showed that obese (>95th BMI%) youth were more likely to be engaging in weight loss practices as compared to overweight (85th - 95th BMI%) youth ($p < .05$). Correlational analysis found that engaging in weight loss practices was significantly associated with consuming less unhealthy foods ($r = 0.34$; $p = 0.01$), and not associated with consuming healthy foods ($r = 0.13$; $p = 0.34$). Nutrition attitudes were not significantly associated with healthy ($r = 0.21$; $p = 0.13$) or unhealthy ($r = 0.12$; $p = 0.41$) dietary patterns. Overall, these findings indicate that youth who are heavier are more likely to be trying to lose weight, and are more likely to reduce their unhealthy food intake as compared to increasing their healthy food intake as a weight loss strategy. Based on this study, educating Hispanic youth on the importance of healthy foods to achieving a healthy weight and overall health might be beneficial. Also, more information is needed on how perceptions of weight and nutrition effect weight management behaviors in this understudied yet high-risk group.

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D-102

TELEVISION USE PREDICTS BINGE EATING SYMPTOMATOLOGY

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Objective: Binge eating has a complex etiology and is likely influenced by a wide range of biological, psychological, social, and environmental factors. Among the behavioral contributors, television use has been linked to obesity and unhealthy eating behaviors. For individuals attempting weight loss, binge eating can represent a major challenge. The current study tested whether television use predicts binge eating symptomatology in adults seeking behavioral weight loss treatment.
Method: Participants (N = 116) were adults seeking weight loss treatment in group-based behavioral weight loss programs. Average body mass index was 38.5; average age was 45.3. They completed measures of binge eating symptomatology, television use, internalized weight stigma, depression, body satisfaction, and habitual physical activity.
Results: Multiple regression analysis was used to test if the amount of television participants watched per week was a unique predictor of binge eating symptomatology. An overall model in which covariates were entered as predictors of binge eating was significant ($R2 = .37$, $F(5,105) = 12.5$, $p < .001$). A second model, adding hours of television use as an additional predictor while controlling for the previous variables was significant and television use contributed additional unique variance to the prediction of binge eating disorder symptomatology ($R2\Delta = .04$, $F(6,104) = 6.1$, $p < .01$).
Discussion: The findings of the current study support the hypothesis that television use is a significant predictor of binge eating symptomatology for adults attempting weight loss. Determining the causal nature of the relationship and whether binge eating is occurring during television viewing will be important areas of future inquiry. Future studies could utilize more precise measures of television viewing and eating behaviors. Exposure to commercials for highly appetizing foods, media portrayals of unrealistic body ideals, and stigmatizing images of people could also be variables of interest in subsequent studies.

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COMPARING FOOD THOUGHT SUPPRESSION AND COGNITIVE RESTRAINT ON EATING BEHAVIORS

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The construct of cognitive restraint has primarily been used to further understand the influence of these cognitive processes on eating behaviors. However, by definition, cognitive restraint includes both thoughts and actual engagement in behavioral restraint (Allison, et al., 1992). Food thought suppression, defined as the tendency to avoid thoughts regarding food (Barnes & Tanteleff-Dunn, 2010), may be a more accurate representation of the cognitive processes that influence consumption. The current study aimed to compare the suppression of food- and eating-related thoughts with cognitive restraint on consumption and those factors known to influence eating behaviors (i.e., disinhibition, cravings and susceptibility to the food environment) in a sample of 68 female University students (Mage = 21.56, SD = 5.67). Food thought suppression, compared to cognitive restraint, was found to be a stronger predictor of self-reported disinhibition ($\beta = .52$ and $\beta = -.38$, respectively) and cravings ($\beta = .34$ and $\beta = -.31$ respectively). Further, only food thought suppression was found to be a significant predictor of the susceptibility to the food environment ($\beta = .54$). Although results demonstrated that neither food thought suppression nor cognitive restraint were significantly associated with nor significant predictors of consumption, interestingly, participant self-identified ethnicity was demonstrated to be a significant predictor of consumption. Specifically, compared to Caucasians, self-reported Latina/Latino/Hispanic ethnicity was found to be the strongest predictor of chocolate consumption ($\beta = .37$), followed by African-American ($\beta = .35$). Future studies are needed to further examine the relationships between food thought suppression and cognitive restraint in an effort to understand the ways in which one's tendency to avoid food- and eating-related thoughts directly relates to eating behaviors.

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A 'MAINTAIN, DON'T GAIN' INTERVENTION LEADS TO IMPROVED BODY SATISFACTION AMONG LOW-INCOME BLACK WOMEN: RESULTS FROM A RANDOMIZED CONTROLLED TRIAL

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PURPOSE: Evidence indicates that weight loss can improve body satisfaction. Little is known, however, about how obesity treatment impacts body satisfaction in Black women; a population that generally has greater acceptance of overweight. We examined changes in body satisfaction among Black women in The Shape Program; a RCT comparing a 12-month weight gain prevention intervention to usual care (UC). The Shape intervention was designed to embrace participants' social norms by encouraging them to make dietary and physical activity changes while keeping their shape.
METHODS: At baseline and 12-months, we administered the Stunkard figure rating scale, which uses 9 figure drawings (1-smallest to 9-largest) to assess perceptions about current and ideal body size. Body discrepancy (BD) was calculated as current shape minus ideal (range from -8 to 8; <0: smaller than ideal; >0: larger than ideal). BD scores closer to 0 indicate greater body satisfaction.
RESULTS: Participants (n = 185) were on average 35.4 ± 5.5 years old with a BMI of 30.2 ± 2.5, and predominantly (74%) low-income (<$30.000/yr). At 12 months the intervention group lost more weight compared to UC (-1.0 ± 0.5 kg vs. 0.50 ± 0.5 kg; p = .04). Average current shape was 5.2 ± 1.0; ideal was 3.5 ± 0.9 among intervention participants at baseline. Similar results were seen among the UC group (current: 5.2 ± 0.9; ideal: 3.9 ± 1.3). Current shape was bigger than ideal for > =96% of participants. At 12 months, BD was significantly smaller among intervention participants compared to UC (1.36 ± 0.9 vs.1.68 ± 1.2; p < .01). Improvement in body satisfaction was not significantly associated with weight change among intervention participants (r = -.14, p = .20), but lower satisfaction was associated with weight gain among controls (r = .26; p = .01).
CONCLUSION: The Shape intervention improved body satisfaction among Black women regardless of weight change. Black women may benefit from weight control interventions that do not strongly challenge social norms about body size.

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D-105

THE ROLE OF PSYCHOLOGICAL FACTORS ON OBESE CHILDREN'S QUALITY OF LIFE

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Children who are obese have poorer quality of life (QoL) compared to peers who are not obese. Psychological factors, such as social problems (SP), depression (Dep), and anxiety (Anx), impact children's obesity treatment outcomes and may impact QoL. Few studies have evaluated SP in addition to Dep and Anx in relation to QoL among children seeking obesity treatment. The present study aims to characterize baseline relations among these psychological factors and 3 QoL domains (emotional QoL, social QoL, physical QoL) among children who are overweight and obese.
Child-parent dyads (N = 241) were assessed prior to entering a multi-site family-based behavioral weight loss treatment trial. Weight and height were measured to calculate zBMI and percent overweight. Dual-energy x-ray absorptiometry was used to assess percent body fat. Parents reported on children's SP, Dep, Anx, and QoL using the Child Behavior Checklist and Pediatric Quality of Life Questionnaire.
Child SP, Dep, and Anx were positively correlated with all 3 QoL subscales (p's < .01). No anthropometric measure was correlated with emotional QoL. zBMI, percent overweight, and percent body fat were negatively correlated with social QoL (p's < .01). Percent body fat was negatively correlated with physical QoL (p = .01).
Children with more severe psychological problems and greater degree of obesity had poorer emotional, social, and physical QoL. Addressing children's SP, Dep, and Anx in obesity treatment may improve QoL, or QoL may indicate problems in these areas. Future research to assess causal associations among these variables and multiple domains of QoL is warranted. Assessing and targeting psychological factors as well as various aspects of QoL may increase personalization of weight loss treatment and improve children's treatment response.

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D-106

ATTITUDES ABOUT DIVERSE PATIENT POPULATIONS IN HEALTH PROFESSIONS STUDENTS

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Obesity stigma is thought by some to be the last "acceptable" form of stigma. This is concerning given that stigma against obese individuals has been found not only in the general public, but in health professionals as well. In addition, some research has linked levels of obesity stigma to lower quality care of obese patients. This study used the Universal Measure of Bias (Latner, 2008) to compare levels of obesity stigma to stigma against two other highly stigmatized groups: individuals who identify as lesbian, gay, or bisexual (LGB) and Muslims. Study participants (n = 98) were students enrolled in eight different graduate-level health professions programs at a university in the Pacific Northwest. Three analyses were completed: a one-way ANOVA to compare levels of stigma across the three groups, an independent samples t-test to compare psychology student's level of obesity stigma against obesity stigma in all other health professions programs, and a Pearson product-moment correlation to determine whether or not a relationship existed between amount of years enrolled in a health professions graduate program and level of obesity stigma. Results indicated that health professions students reported significantly more bias towards obese individuals than towards LGB or Muslim individuals (F(1.65, 160.27) = 34.55, p < .05). The other two analyses were not significant, thus the data did not support the hypotheses that level of obesity stigma would be associated with type of graduate program or related to number of years enrolled in a health professions program. A discussion of clinical implications, limitations of the study, and future research suggestions is included.

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D-107

A QUALITATIVE APPROACH TO UNDERSTANDING ROMANTIC PARTNERS' SUPPORT FOR WEIGHT LOSS EFFORTS

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Background: Romantic partners are well-poised to provide each other with weight loss support but research suggests that not all support efforts are associated with goal progress. Autonomy support appears to facilitate weight loss while more directive forms of support may hinder progress. Understanding how autonomy support is delivered during the weight loss process between romantic partners is a necessary step in operationalizing this theory-driven concept and in developing interventions that capitalize on its positive impact. Methods: Five focus groups were conducted involving 16 romantic couples (81% Caucasian; 41.8 +/- 15.1 years; 32.0 +/- 7.4 kg/m2). Couples identified one partner as having recently received support for weight loss and the other as having provided support for weight loss. Groups were separated accordingly and included questions about weight and how couples engage in weight loss support. Qualitative analysis approach used grounded theory. Results: Couples' responses centered on seven key themes. Behaviors identified as most helpful included (1) joining on healthy diet choices and activities; (2) providing space to make own healthy diet choices and decisions; (3) providing empathy about difficulty of the weight loss process; and, (4) joining on on healthy physical activity choices. Behaviors identified as unhelpful included (1) undermining efforts to make healthy diet choices; (2) providing unwanted advice or feedback about diet choices; and, (3) lack of empathy about weight loss difficulties. Discussion: Romantic couples identified behaviors consistent with autonomy support as helpful whereas themes identified as unhelpful were more congruent with directive types of support. Respondents were more likely to cite support for dietary behaviors as important. Weight loss support may be enhanced between romantic couples by promoting the exchange of autonomy supportive behaviors along dietary lines.

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DECISION-MAKING IMPAIRMENT PREDICTS WEIGHT-LOSS OUTCOME

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Prior research indicates that obese individuals demonstrate a high preference for immediate reward, despite great physical health and psychological costs. Deficits in decision-making, specifically the ability to assess and consider future consequences, may represent key elements of the neurocognitive profile of obese individuals that prevents successful weight loss. In the present study, a standardized neuropsychological test, the Iowa Gambling Task (IGT) assessed the decision-making profile of a sub-sample of obese participants ($N = 18$) enrolled in a 12-month, group behavioral weight loss (BWL) treatment. Participants, 78.9% female and 21.1% male, ranged in age from 39 to 67, ($M = 55.8$, $SD = 7.0$) with an average body mass index (BMI) of 34.2 at the beginning of treatment. This sample was primarily Caucasian (57.9%) and African American (31.6%). At post-treatment, participants lost an average of 10.9% of their starting weight. Controlling for BMI at the beginning of treatment, IGT score was significantly ($p = .02$, $\beta = .91$) predictive of post-treatment BMI such that those with poorer decision-making abilities lost the least weight. Poorer decision-making abilities indicate that these individuals may be less sensitive to the future consequences of their actions. These preliminary results suggest that the gold standard weight-loss intervention, BWL, may be less effective for individuals with deficits in decision-making skills, and that adjuncts or alternatives to treatments specifically addressing these deficits are needed.

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D-109

SELF-REGULATORY THEORY AND WEIGHT LOSS MAINTENANCE

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Background. Few sustain weight loss maintenance (Jeffery et al., 2000; Weiss, Galuska, Kettel, Gillespie, & Serdula, 2007). Theories of self-regulation provide promising models of health behavior change. Carver (2004b) posited that behavior is regulated by both approach and avoidance motivation. Fuglestad, Rothman, and Jeffery (2008) found that the similar constructs of promotion and prevention foci differentially predicted weight loss maintenance. This study examined the relationships between approach and avoidance motivation and reactions to dietary lapse scenarios in weight loss maintainers.

Methods. Data were collected from 65 females who had attained a weight loss of 10% or more and had maintained this for at least one month. Participants had a mean current BMI of 23.17 ($SD = 3.82$), and mean lifetime highest of 27.16 ($SD = 4.93$). Participants were first asked to eat a doughnut, as the dietary lapse scenario. They then completed a bogus taste test, where they were told they could eat as much as they liked during a brief film. Primary measures included the Regulatory Focus Questionnaire (Higgins et al., 2001) and the proportion of daily calories consumed, calculated based on Dietary Reference Intake formulas. Several mediators were also assessed.

Results. Avoidance motivation was associated with proportion of daily calories consumed ($b = .36$, $t(64) = 3.12$, $p < .01$). Consumption of the higher calorie density foods fully mediated this relationship. Approach orientation was not associated with consumption.

Discussion. Findings have theoretical and clinical implications. Those with high levels of avoidance orientation may be at risk of abandoning diets for weight loss maintenance. Interventions may incorporate this knowledge. Future research examining aspects of self-regulatory theory is encouraged.

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D-110

ECOLOGICAL MOMENTARY ASSESSMENT, POSITIVE MOOD, HEALTHY EATING AND PHYSICAL ACTIVITY

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The obesity epidemic is a significant problem in the United States. It is well established that lifestyle factors, such as unhealthy eating and physical inactivity, are key contributors. Thus, it is important to examine decision-making regarding these behaviors. Deciding whether or not to engage in healthy eating and physical activity (PA) is a process as many factors play a role, and these undoubtedly change throughout the day. However, the majority of literature is based on cross-sectional data and/or retrospective self-report, and does not account for individual variability across situations. There is minimal literature that takes individual variability into account across relevant contexts, along with inconsistent findings. In order to examine temporal associations and minimize recall bias, this study examined time-varying factors of stress and positive mood and their relation with healthy eating and PA in college students ($N = 26$). Ecological momentary assessment (EMA) via cell phone was used to collect six measurements a day for six days. Participants reported on current mood, stress level, foods eaten and PA within the last 2.5 hours. Interestingly, relations were found only between positive mood and PA. Positive mood followed PA episodes for up to five hours ($\beta 10 = 0.77$, $SE = .219$, $p < .001$), indicating a .77 unit increase in positive mood for every unit increase in PA. Positive mood also preceded PA up until five hours before the activity occurred ($\beta 10 = 0.19$, $SE = .090$, $p = .035$). The general relation between positive mood and PA is consistent with cross-sectional research, but the current study provides a more rigorous evaluation of the temporal nature of these events. Results suggest a clear association between positive mood and PA, and add evidence for this phenomenon in the mixed body of research. Future research should examine both healthy and unhealthy eating as well as positive and negative mood. Research on time-varying factors can shed light on important targets for interventions to promote PA and healthy eating.

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Meritorious Poster
D-111

WEIGHT STATUS AND OUTCOME IN BEHAVIORAL WEIGHT LOSS INTERVENTIONS: WHAT CAN COGNITIVE NEUROSCIENCE TELL US THAT THE CLIENT CANNOT?

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Research suggests that overweight and obesity are associated with deficits in executive function (EF). Theoretically, EF has implications for self-regulation, eating-related decision-making, and use of behavioral strategies for weight loss in the modern food environment. Typically, self-report measures have been used to identify those who respond to behavioral weight loss interventions (BWLI), the current gold standard treatment for obesity; however, given that individuals may not have insight into their own EF deficits, objective measures of EF (e.g., neuropsychological tests) may be more useful for predicting outcome in BWLIs. In the current study, overweight and obese women ($BMI > 27$ kg/m2, $n = 77$) completed the Behavior Rating Inventory of Executive Function (BRIEF; a self report measure of EF) and a neuropsychological battery at baseline of a BWLI. IQ was used as a covariate in analyses. None of the BRIEF subscales (Behavioral Regulation Inventory, Metacognition Index, Global Executive Composite) predicted either concurrent BMI or weight at week 16 of the BWLI, after controlling for week 1 weight ($ps = .35$-$.67$, $\eta 2p = .00$-$.01$). However, objective measures of EF, specifically working memory (WM) capacity ($\eta 2p = .06$) and cognitive flexibility, ($\eta 2p = .06$) inversely predicted concurrent BMI. Additionally, objective measures of WM ($\eta 2p = .15$), delay discounting ($\eta 2p = .10$), and planning ability ($\eta 2p = .06$) were strong negative predictors of weight at week 16 of the BWLI after controlling for weight at week 1. Results indicate that neuropsychological tests are more useful than self-report EF in predicting weight loss in BWLIs. Further research using objective, rather than self-report, measures of neuropsychological constructs relevant to weight loss, may be essential to guiding intervention development and treatment recommendations that promote long-term outcome for overweight and obese populations.

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D-114

FROM PERFECT PATIENTS TO UNCOVERED CHRONICALLY ILL: DISPARITIES IN HEALTH AND WELLBEING, HEALTHCARE, AND INSURANCE COVERAGE AMONG LGB ADULTS AND IMPLICATIONS TO RESOLVE THEM

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Most extant research concurs on health insurance coverage and care disparities between LGBs and heterosexuals; studies differ regarding causes for LGBs' disparities or wellbeing. Same-sex marriage/domestic partnership rights and benefits have extended throughout the country; the Affordable Care Act will continue increased access. We analyze relationships among LGBs' legal domestic partnerships/same-sex marriages, and health insurance coverage, access, and outcomes using CHIS data, 2003-2009. We found lesbians and gay men constitute highly-educated, employed, and insured groups. Marriage and legal partnerships appear to have a positive effect, regardless of sexual identity. Legally married/partnered gay men had approximately the same rates of consistent health insurance coverage as heterosexual counterparts. Married gay men were three times as likely to have consistent coverage compared to single gay men. Lesbians and bisexual women were less likely to have health insurance coverage than heterosexual women; this finding applied to all single and married women. Marriage did not have an effect on physician visits. Marriage had no effect on usual care sources for women; however, gay men were almost three times more likely than other male groups to have usual sources of care and married gay men were 2-3 more likely to have usual care sources than single gay men Health disparities still remain between gay men, lesbians, bisexuals, and their heterosexual counterparts including poorer health outcomes, delay in medical care and in filling prescriptions. Attention to each group's unique sociodemographic, economic, household characteristics, and health needs can help resolve their existing and different disparities.

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D-115

EMOTION REGULATION PARTIALLY MEDIATES THE RELATION BETWEEN MINDFULNESS AND HEALTH BEHAVIOR

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The relation between mindfulness and physical health is well established (Murphy, Mermelstein, Edwards, & Gidycz, 2012), an association linked to engagement in health behaviors. However, it is unknown how mindfulness leads to increased engagement in health behavior. Recent emotion regulation (ER) research suggests that certain ER strategies are associated with improved health (Wolgast, Lundh, & Viborg, 2011). The present study examined ER as potential mediator of the relation between mindfulness and health behavior.

A sample of 987 undergraduates (Mage = 19.6 + 2.3 years, 76.7% female) completed the Five Facet Mindfulness Questionnaire (FFMQ), Emotion Regulation Questionnaire (ERQ), and the Healthy Lifestyle Questionnaire (HLQ). Multiple mediation analyses were conducted examining reappraisal and suppression as potential mediators of the mindfulness-health behaviors relations using bootstrapping techniques to examine indirect effects. The indirect effects of Observing on health behavior through Reappraisal (b = .10, SE = .02, 95% CI: .06 -.15) and Suppression (b = .02, SE = .01, 95% CI: .003 - .04) were both significant. The indirect effect of Nonreactivity on health behaviors was also significant for Reappraisal (b = .25, SE = .05, 95% CI: .15 - .36) and Suppression (b = -.11, SE = .03, 95% CI: -.18 - -.06), although an inverse association was noted for Suppression. Associations between health behavior and Nonjudging (b = .13, SE = .07, 95% CI: .02 - .30) and Acting with Awareness (b = .17, SE = .08, 95% CI: .05 - .38) showed significant indirect effects for Suppression only. Reappraisal and suppression partially mediated relations between facets of mindfulness and health behaviors, but the nature of the effect varied depending upon the specific facet of mindfulness being tested.

This research suggests that ER may represent a potential mechanism through which mindfulness affects health behaviors and physical health. Future research should further examine the relations between mindfulness, emotion regulation strategies, health behaviors, and health outcomes.

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D-116

FACTOR VALIDITY OF THE HEALTHY LIFESTYLE QUESTIONNAIRE

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Unlike other measures, the Healthy Lifestyle Questionnaire (HLQ) (Corbin, Welk, Corbin, & Welk, 2006), is a brief, but comprehensive measure assessing a broad range of health behaviors and health knowledge. Using Likert-type scales previous research (Melanko & Larkin, 2013) has demonstrated moderate internal consistency (alpha reliability = .76). However, no other psychometric information is available for the HLQ. To provide some validation for the HLQ, a principal component analysis (PCA) and a confirmatory factor analysis (CFA) were conducted to examine the factor structure of the questionnaire.

A sample of 551 undergraduates (Mage = 19.4 years, SD = 2.1 years, 79.1% female) completed the HLQ and a demographics questionnaire. The PCA revealed nine factor components with eigenvalues above 1, which accounted for 61.93% of the variance. These nine components retained all 30 items that generally mapped onto the subscales identified by the authors and were identified as: Physical Activity, Avoiding Destructive Habits, Stress Management, Using Medical Advice/Being an Informed Consumer, Nutrition, Practicing Safe Sex/Adopting Safety Habits, First Aid, Protecting the Environment, and Personal Health Habits. A second, independent sample of 664 undergraduates (Mage = 20.1 years, SD = 2.7 years, 70.9% female) completed the HLQ. A CFA was conducted using the factor structure identified in the PCA. Following modifications to the model, good model fit was detected (X2(362) =733.40, p < .001, CFI = .923, RMSEA = .039) Although alternative models demonstrated decent fit, they were comparatively weak when compared with the model identified by the PCA.

The results from the PCA and CFA indicate that a nine-factor model is the best fit in describing the factor structure of the HLQ, which provides evidence that the HLQ assesses a broad range of health behaviors and knowledge and supports its continued use as a measure of health behavior. Future research should examine additional psychometric characteristics of the HLQ, including test-retest reliability and other indices of construct validity.

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D-117

ADDRESSING ADHERENCE AMONG INDIVIDUALS WITH PKU

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Background: Phenylketonuria (PKU) is an inherited metabolic disorder characterized by deficiency in PAH enzyme, resulting in abnormally high phenylalanine (Phe) in the blood, tissues, and central nervous system. Elevated Phe is associated with various cognitive, psychosocial, and neurological sequelae. Despite the success of medical treatment in preventing severe intellectual disability and neurological sequelae, 50 - 70% of adolescents and adults display suboptimal adherence to treatment. Considering the challenge of life-long management of PKU, this study explored the efficacy of supplementing standard treatment with brief, clinic-based behavioral interventions to address nonadherence.

Method: This study used a retrospective longitudinal design. Participants included 30 individuals with PKU (intervention: n = 18; control: n = 12). The intervention group received a standard clinical care visit supplemented with psychoeducation, assessment of barriers to adherence, and/or support strategies. Adherence was assessed by Phe (mg/dL) averaged over 6 months pre- (T1) and post-baseline (T2).

Results: A 2x2 mixed factorial ANOVA indicated that there were no significant differences in Phe over time [F(1,28) = 1.92, p = .18] or between groups [F(1,28) = .51, p = .48]. However, the intervention group demonstrated a trend of decreased Phe over time (T1: M = 12.12 +/- 6.35; T2: M = 10.21 +/- 5.61; p = .09), while there was no change in the control group (T1: M = 9.92 + 2.86; T2: M = 9.94 + 2.82; p = .96). 67% of the intervention group had lower Phe at T2 compared to 42% of the control group.

Discussion: Despite the small sample size, initial findings are promising and suggest that brief behavioral interventions delivered in a busy, multidisciplinary clinic may positively impact outcomes in nonadherent PKU patients. Future research should consider standardizing adherence interventions within clinical settings, comparing interventions, and examining predictors of response to intervention.

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D-118

VA OPENNOTES: A FIRST LOOK AT THE EXPERIENCE OF VETERAN USERS OF THE MY HEALTHEVET BLUE BUTTON TO ACCESS CLINICAL NOTES

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Background: Patient portals offer a novel platform for patients to readily access clinical notes in their electronic health records. In January 2013, the Veterans Health Administration (VA) began prospectively sharing all clinical notes through the Blue Button feature of its My HealtheVet (MHV) portal, providing an opportunity to examine patient experiences with ‘open notes'.

Methods: A web survey was presented to a random sample of MHV users from June 22 to September 8, 2013, yielding a convenience sample of 34,017 survey respondents.

Results: Respondents were VA patients (97%), predominantly men (91%), aged 60 and older (74%) and using MHV at least monthly (83%). Six months after clinic note availability, 35% of respondents were aware of VA notes access. Of the 8,376 (24%) users who viewed their notes, over 80% did so out of curiosity or to gain knowledge about their health, while 9% wanted to examine the accuracy of the note. Nine out of 10 respondents agreed that notes accurately described the clinical encounter. Less than one-quarter talked to their provider about the notes, or planned to do so. Over 80% who viewed notes felt that access improved self-care and their ability to follow a treatment plan, while less than 10% felt that notes were more confusing than helpful or caused more worry.

Conclusions: Online access to clinical notes is poised to enhance patient activation and participation in care. VA patients now using the Blue Button feature to read notes do so mostly to gain insights about their health and support self-care. Few patients discuss notes with a provider or feel distressed by reading their notes. Opportunities exist to increase patient awareness and use of open notes, to improve patient-clinician communication and to enhance the patient experience.

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D-119

USING PSYCHOLOGICAL INSTRUMENTS IN COMMUNITY SAMPLES

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Most psychological instruments are designed by researchers at universities who carefully develop, test, and subject items to rigorous psychometric analyses to assure that the end measures are internally consistent, reliable across time, and demonstrate strong convergent, discriminant, and predictive validity. Many of these instruments are validated and normed on college students, but are these measures generalizable to other groups?

As part of ongoing research on oral cancer screening and oral health among rural residents of north central Florida, we examined the reliability of three commonly used psychological instruments using a sample of 332 participants (94.9% Black, 70.5% male; 67.8% HS education or less). All participants completed the Behavioral Activation/Inhibition Scale (BIS/BAS; Carver & White, 1994) and the Regulatory Focus Questionnaire (RFQ; Higgins, Friedman, Harlow, Idson, Ayduk, & Taylor, 2001). A subsample of participants completed the Need for Cognition Scale (NCS; Cacioppo, Petty, & Kao, 1984).

In 5 of 7 instances, the internal consistency of the instruments was unsatisfactory ($\alpha < .60$). Importantly, internal consistency was lower among participants with less education. Mean inter-item correlations (MICs) were generally low, falling below .20 in 4 of 7 instances. In all cases, the low education group had lower MICs than the higher education group, suggesting that the items within scales are weakly correlated.

One explanation for why the reliabilities of the scales are low for the low education group may be reading comprehension. The RFQ Promotion Scale had the lowest reliability and the lowest mean inter-item correlation and it was among the most difficult scales to read, according to the Flesch-Kincaid Grade level. Pilot testing items with the sample will ensure that the wordings are clear and meaningful to participants. It is important that researchers recognize the psychometric limitations of the instruments they plan to use in community research.

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D-120

THE ASSOCIATION OF HEALTH-RELATED QUALITY OF LIFE WITH EMPLOYMENT STATUS AND INCOME LEVEL AMONG MULTIPLE SCLEROSIS AND SICKLE CELL DISEASE PATIENTS

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Serious chronic illnesses, like multiple sclerosis (MS) and sickle cell disease (SCD), can have a significant impact on a patient's employability and capacity to maintain life sustaining income. There is limited research examining dimensions of health-related quality of life (HRQoL) and their relation to employment and income among patients with MS and SCD.

For the current study, SCD patients from a university hospital SCD clinic and MS patients from local support groups were surveyed on demographic information, employment status, income level, and HRQoL using the SF-36. The MS sample consisted of 54 Caucasians and was 72.2% female with a mean age of 52.6 years. Twenty-eight percent reported that they no longer work since developing MS and 18% reported they collect disability insurance. Another 19% reported having a full or part-time caregiver to assist with activities of daily living. Better physical function was associated with higher income ($r = 0.32$, $p < .05$). Employment status was associated with physical function, $F(5, 52) = 2.48$, $p < .05$; physical limitations, $F(5, 52) = 3.59$, $p < .01$; and emotional limitations, $F(5, 52) = 2.48$, $p < .05$. Participants who endorsed unemployed, disability pension, or household duties as their employment status had the lowest HRQoL in each area.

The SCD sample consisted of 32 African-Americans and was 59.4% female with a mean age of 31.6 years. Among participants with SCD, 13% collected disability benefits and 28% reported being fired from a job for health reasons. Better physical function ($r = 0.48$, $p < .05$) and less physical limitations ($r = -0.45$, $p < .05$) were related to higher income. HRQoL did not vary significantly by employment status.

These results suggest that employment and income are important factors when considering HRQoL in the context of chronic illness. These associations should be explored further in empirical investigations designed to determine directionality of the association.

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D-121

EXAMINATION OF THE VALIDITY AND RELIABILITY OF THE SELF-EFFICACY HEALTH LITERACY (SEHL) SCALE

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Health literacy has been a construct of interest due to its relationship to health behaviors and health outcomes. According to the World Health Organization's definition of health literacy, improving health literacy does not only involve literacy abilities, but it also involves improving people's confidence to access and understand health material. Further, self-efficacy has been suggested as a mediating /moderating variable on the relationship between health literacy and health outcomes; however, to our knowledge, no studies have investigated self-efficacy of health literacy. We developed the Self-Efficacy Health Literacy Scale (SEHL) to assess people's confidence in performing a number of health literacy behaviors. The SEHL consists of 23 statements with a response scale of 0 (Cannot do at all) to 4 (Highly certain I can do), with higher scores indicating higher levels of self-efficacy. The purpose of this study was to assess the factor structure, validity and reliability of the SEHL in a convenience sampling of community members and students. The sample consisted of 232 participants (M age = 29.05, SD = 12.50) recruited from internet sources such as Facebook and email, and from undergraduate psychology courses at a Midwest University. We conducted Principal Axis Factoring (PAF) with oblimin rotation and Kaiser Criterion for extraction. PAF revealed a 23-item, 3-factor structure explaining 67.07% of the variance. Factor pattern coefficients ranged from 0.42 to -0.88. These 3 factors were: Understanding Medical Information, Understanding Health Risks and Statistics, and Navigation and Involvement. Internal consistency for the final model and 3 factors indicated good reliability ($\alpha = .97, .95, .94$ and $.93$, respectively). Also, significant correlations were found between total SEHL scores and theoretically similar constructs such as general self-efficacy, $r(230) = .443$, $p < .001$, and health literacy $r(230) = .222$, $p = .001$. Overall, the findings suggest acceptable reliability and validity of the newly developed SEHL.

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D-122

ELECTRONIC PATIENT REPORTED OUTCOMES (EPRO): ACCEPTABILITY AND DATA COMPLETENESS AMONG ACUTELY ILL PATIENTS IN THE EMERGENCY DEPARTMENT

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Objective: The conventional method of collecting Patient Reported Outcomes (PRO) has been through clinician interview or paper and pencil survey. However, electronic PRO (ePRO) provides a way to systematically and efficiently collect, document, and track patient information. This study aimed to maximize the patient acceptability and data completeness of ePRO among patients in the emergency department (ED).

Methods: We approached patients ≥ 18 years old treated in the ED of an urban tertiary medical center and administered the ePRO during their ED visit. The ePRO survey was designed to collect the primary behavioral and mental health screening information recommended by an expert panel convened by the NIH. We documented all technological and user-related problems and modified the ePRO system to optimize the user-interface to improve acceptability and data completion. We compared the patient satisfaction and data completion rates before and after the implemented changes.

Results: 840 participants were enrolled. Process evaluations led to several interface changes, including moving from a multi-item, forms-based presentation to single-item/screen presentation; increasing font and item-field contrast; and, requiring a response for each item. These changes improved the mean satisfaction scores on a 5 point scale [Before: 4.48 vs. After: 4.68, t(624) = -3.70, p < 0.001]. The percentage of participants who completed the entire assessment improved after the changes [before: 229/306 (75%) vs. after: 464/534 (87%), chi square (1, N = 840) =18.15, p < 0.001]. Completion rates were higher among participants <50 years old (92%) compared to patients ≥50 years (73%). 308 patients reported problems with survey, of these the most frequently reported problem was usability related issues (58%).

Conclusion: Optimizing the user interface, such as implementing single-item per screen presentation and forcing a response to each item, significantly increases ePRO completion rates and improved satisfaction.

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D-123

OUT OF CONTROL EMOTIONS: AMBIVALENCE OVER EMOTIONAL EXPRESSION AS A MODERATOR OF THE LINK BETWEEN PERCEIVED CONTROL AND DEPRESSIVE SYMPTOMS

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This study evaluated the influence of ambivalence over emotional expression (AEE) as a moderator of perceived control (PC) on depressive symptoms. AEE, defined as wanting to express emotions but being unable to do so and/or expressing emotions and later regretting it (King &Emmons, 1990), has been associated with negative health outcomes such as higher anxiety (e.g., Lee, 2009), lower self-esteem (e.g., King & Emmons, 1990), and greater depressive symptoms (e.g., Mongrain & Zuroff, 1994). Extant research has also demonstrated that low levels of PC are linked to higher depressive symptoms among a variety of populations including those afflicted with serious illnesses (i.e., heart failure; Hwang, Moser, & Dracup, 2013), adolescents (Magaro, & Weisz, 2006), and the elderly (Wong, Heiby, Kameoka, & Dubanoski, 1999). However, to our knowledge, the influence of both AEE and perceived control on depressive symptoms has yet to be explored. One hundred and ninety-six undergraduates (Mean age =22.01, SD = 4.65, 85% female) completed a survey which included measures of AEE, PC, and depressive symptoms. We expected that AEE would be positively associated with depressive symptoms. Furthermore, we anticipated that PC would be negatively associated with depressive symptoms. In addition, we expected that AEE would significantly moderate the effect of PC on depressive symptoms such that those who are high in AEE but low in perceived control are more likely to report greater depressive symptoms. Consistent with expectations, AEE significantly predicted higher depressive symptoms. PC was also negatively linked to depressive symptoms. Moreover, results revealed that AEE was indeed a moderator of the association between PC and depressive symptoms. It appears that those who feel conflicted over expressing emotions may be at greater risk for depressive symptoms, especially if they low in PC. These findings highlight the importance of PC for those who may be depressed as a result of their inability to effectively express their emotions.

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D-124

EVALUATION OF THE BLOOD DONATION FEARS INVENTORY FACTOR STRUCTURE FOR DONORS VERSUS NON-DONORS

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BACKGROUND: Fear and anxiety have been identified as significant deterrents for potential blood donors. One psychometrically sound measure of fear has recently been developed specifically for use within the blood donation context: the Blood Donation Fears Inventory (BDFI). While evidence for the reliability and validity of the BDFI and each of its four subscales (Fear of Blood and Needles, Fear of Syncopal Symptoms, Fear of Social Evaluation and Fear of Health Screen Results) has been obtained, potential variation in the factor structure of the BDFI between non-donors and donors has not yet been evaluated.

METHODS: 455 undergraduate research participants completed an online questionnaire assessing demographic information, the BDFI, and blood donation intention. The majority of the sample was White (n = 424, 93%), female (n = 292, 64%) young adults (mean age = 19.4 years, SD = 2.85). Slightly more than half of the sample had never donated blood (n = 253, 56%). A multi-group confirmatory factor analysis (CFA), using MPlus 6.12 computer software, evaluated the goodness of fit of the BDFI for non-donors versus donors.

RESULTS: Traditional indices of goodness of fit were met, supporting the use of the BDFI for both donors and non-donors, RMSEA = 0.06, CFI = 0.97, SRMR = 0.04. Examination of the correlations between subscales, obtained from the CFA, revealed that the Fear of Syncopal Symptoms, Fear of Blood and Needles and Fear of Social Evaluation were very similar between donors and non-donors. However, Fear of Health Screen Results exhibited weaker correlations with the other subscales for donors compared to non-donors (*r*s for donors = 0.32-0.36, *r*s for non-donors = 0.51-0.58).

CONCLUSION: These analyses support the utility of the BDFI for both donors and non-donors. Future research should evaluate the sensitivity of the BDFI to changes in fear before and after intervention.

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D-125

UNDERSTANDING BELIEF IN ALTERNATIVE MEDICINE AMONG MS PATIENTS

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Introduction: Many MS patients who are non-adherent to conventional disease modifying therapies (DMTs) believe in the efficacy of complementary and alternative medicines (CAM). The present study examined the association between CAM, perceived barriers to conventional treatment, and overall disability in a sample of non-adherent MS patients.

Methods: 42 patients with relapsing-remitting MS who had prematurely discontinued DMTs were recruited for a health decision making study. Participants completed questionnaires assessing interest in CAMs(CAM Belief Inventory), previously encountered barriers to conventional treatment(Multiple Sclerosis Treatment Adherence Questionnaire), and overall clinical disability(Expanded Disability Status Scale).

Results: Patients who reported more barriers to conventional treatment endorsed greater support for CAM (r = .331, p = .042). Analyses of specific barriers revealed that patients who had experienced injection site reactions were more likely to value CAM (r = .437, p = .005). Patients with more severe disability were also more likely to support CAM (r = .418, p = .042).

Discussion: Patients with the highest disability scores and those with the greatest number of reasons for stopping DMTs also reported the most support for CAM. Results suggest that MS patients may turn to CAM when they experience barriers or side effects with conventional DMTs. Patients with more disability may report increased value in CAMs when conventional treatments have failed to adequately slow disease progression. Patients who have discontinued conventional DMTs continue to report an interest in CAM, highlighting that these patients still see a need for MS treatment. Future research should examine the best ways for practitioners to encourage patients to make healthy lifestyle changes with CAM and foster communication patterns that help patients accurately weigh the pros and cons of conventional DMTs.

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D-126

RACIAL/ETHNIC DIVERSITY IN THE BIOMEDICAL LITERATURE: EVIDENCE OF GROWING DISPARITIES IN REPRESENTATION

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Understanding and reducing racial/ethnic health disparities remains a national priority and NIH goal. Importantly, the success of this pursuit is moderated by the scope and specificity of the available science. The aims of this study were to examine differences in representation in the indexed medical literature among the three largest racial/ethnic groups. Comparisons were made at the individual and comparative study (e.g., Black-White) levels. A series of MEDLINE searches with a combination of Medical Subject Headings (MeSH) terms, syntax, and filters to identify relevant studies and exclude where appropriate (e.g., author name) were used. Three "individual" searches (White, Black, and Hispanic) and four "comparative" searches (White-Black, White-Hispanic, Black-Hispanic, White-Black-Hispanic) were conducted for each year for the 20-year period of January 1, 1993 to December 31, 2012. We hypothesized that 1) Hispanics would be the least-represented group individually and in comparative research, 2) that Black-White comparisons would be most common comparison, and 3) that these disparities would be decreasing over time. Regression lines were fitted to each group's representation in order to assess growth rate. The regression lines were compared via ANOVA to determine whether indexing growth rate (slope) varied at the individual and/or comparative level. Hispanics were the least represented on a year-by-year basis with the disparity between the three groups growing over time, all ts significant at $p < .001$. Similar differences were evident in the comparative literature, $F(3, 23) = 6.70$, $p < .01$, R2 = .99 with the indexing rate of Black-White comparative studies far outpacing all other comparisons over time. In conclusion, significant racial/ethnic representation disparities exist and are widening over time.

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USE OF COMPLEMENTARY AND ALTERNATIVE MEDICINE AMONG ELDERLY HISPANIC AND NON-HISPANIC RESIDENTS IN RURAL COLORADO

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Research indicates that though there is growing use of complementary and alternative medicine (CAM), ethnic minority populations are less likely to use CAM. The purposes of this study were to examine: 1) whether demographic and ethnic differences exist between CAM users and non-users, and 2) determine whether chronic illness and ethnicity are associated with CAM use in a rural and ethnically diverse population. Data were analyzed from the San Luis Valley Health and Aging Study (SLVHAS) collected between 1993 and 1995 from 798 Hispanic and 614 non-Hispanic white elderly residents (aged 60 and older) living in rural southern Colorado. An in-person survey was conducted that included questions regarding CAM use (e.g. massage, acupuncture, and prayer/spiritual healing), demographic and medical information. Among the SLVHAS participants, 40.1% reported ever using some type of CAM. Prayer/spiritual healing (N = 388) and herbal/home remedies (N = 281) were the two most widely used methods. CAM-users were significantly more likely than non-users to be Hispanic (62.1% vs. 54.8%), female (64.5% vs. 51.1%), and have lower income. When controlling for basic demographics (i.e., gender, education level, and income, ethnicity was a significant predictor of CAM use, ($\beta = .175$, $p = .001$). CAM users rated their health as significantly poorer ($p = .02$) and after controlling for age, ethnicity, and income, those who reported more chronic illnesses were more likely to use CAM ($\beta = .072$, $p < .001$). These results suggest that older Hispanic individuals living in a relatively isolated area of rural Colorado are more likely than non-Hispanic individuals in this same area to use CAM. These findings suggest that the relationships between CAM use and ethnicity status may be more complex than previously described. Consideration of geographic characteristics (rural vs. urban) as well as unique features of relatively isolated populations should be accounted for when investigating CAM intervention use.

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D-128

ILLNESS PERCEPTIONS AND HEALTH-RELATED QUALITY OF LIFE IN ADULTS WITH CHRONIC SKIN DISEASE

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The perceptions and beliefs one has about their illness can drastically influence the nature in which an individual experiences their disease. Individuals construct cognitive representations of their illness as a means to comprehend and make sense of their experience. In order to understand the impact of illness perception among adults with chronic skin disease, the aim of the present study was to examine the extent to which illness perceptions influenced effects of skin disease on health-related quality of life dimensions, emotions and functions. Participants ($n = 42$) were recruited through Internet postings on social network sites and were diagnosed for at least one year with one or more of chronic skin disease (Acne Vulgaris, Alopecia, Atopic Dermatitis or Psoriasis). Participants completed an online survey consisting of a brief demographic questionnaire, Brief Illness Perception Questionnaire (BIPQ) and the Skindex-29 (SD-29). It was found that greater perceptions of skin disease consequence, skin disease identity, concerns about the skin disease, and the emotional representation of the skin disease were associated with more effects of skin disease on health-related quality of life dimensions, emotions and functions. Linear regression analyses indicated that threatening illness perceptions explained 27% of the variance in the health-related quality of life emotional dimension (R2 = .272, $F(1, 41) = 15.33$, $p < .01$), and 32% of the variance in the health-related quality of life functional dimension (R2 = .322, $F(1, 41) = 19.50$, $p < .01$). The findings support the significant contribution of illness perceptions to health-related quality of life among adults with chronic skin disease.

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D-129

EXAMINING WHETHER UNMET ORAL HEALTH NEEDS IN UNINSURED CHILDREN WERE ADEQUATELY ADDRESSED IN A COMMUNITY-DRIVEN ORAL HEALTH INTERVENTION

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BACKGROUND: More than 4 million children go without needed dental treatment. Uninsured children are 4x more likely than privately insured children, and 3x more likely than Medicaid/other public insured children, to have unmet dental needs. Community-driven efforts have been instituted across the country to provide free dental care. Many families use these programs as their children's primary source of dental care. Yet, how effective these community efforts are in curtailing prospective dental care needs among uninsured children has not been fully explored.

OBJECTIVE: This study examined whether receipt of preventive & restorative dental care services provided by a community-driven, one-day free oral health intervention was associated with unmet oral health needs among uninsured children at follow up.

METHODS: Uninsured children between ages 3-10 participated. Unmet oral health needs was defined as the child's receipt of fillings & crowns (common treatment for dental caries). Structured interviews were conducted with parents on an average of 6 months post-intervention. SPSS 22.0 was used to analyze the data.

RESULTS: Among 303 children, 137 had parents who interviewed. Among those with unmet oral health needs at pre-intervention, significantly more than expected had parents who reported that at post-intervention: the child's current oral health status was "fair or poor" ($p = .001$); the child had trouble eating or chewing ($p = .034$), needed fillings ($p = .048$), needed relief from pain in tooth/gums ($p = .041$), and had parents who reported their own overall oral health status was "fair or poor" ($p = .013$).

DISCUSSION: Community oral health interventions can be effective in addressing unmet oral health needs in uninsured children. Yet these findings suggest that additional strategies are needed to adequately address their ongoing needs and underlying contributors of poor oral health. Multilevel interventions are recommended.

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FACTORS ASSOCIATED WITH MEDICATION ADHERENCE IN PATIENTS WITH EPILEPSY AND RECOMMENDATIONS FOR IMPROVEMENT

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BACKGROUND: Although it's one of the most common neurological disorders, epilepsy continues to be a highly stigmatized & disabling chronic condition. Healthy People 2020 aims for improvement in the health-related quality of life & well-being of Americans, including these medically vulnerable patients. Efforts to research & improve medication adherence in this population & others with chronic conditions is an important step towards this end.
OBJECTIVE: The purpose of this study was to investigate factors associated with adherence in this medically vulnerable population and to provide recommendations for improvement.
METHODS: A mailed survey research design was used in a convenience sample of patients receiving treatment at a tertiary epilepsy center. Adherence was measured by self-reported missed/skipped medication doses and seizure frequencies, & by the presence of intractable seizures as indicated in patients' medical charts. SPSS 22.0 was used to analyze the data.
RESULTS: Among the sample of 180 patients, most had some education beyond high school, household incomes of varying amounts, & health insurance coverage. Most were unemployed. Many reported weekly seizures, & clinical records showed that 46% had intractable seizures. About 66% missed taking their medication on a monthly basis, with "forgetfulness" being the primary reason. Adherence (seizure frequency) was associated with being employed (P = .028). Adherence (complying with medication treatment plan) was associated with "medication reminders" (P = .002) & education attainment (P = .008).
CONCLUSION: The findings indicated a continued need to explore the complex issue of adherence. They also highlight the need for health education and other public health & medical professionals to design multilevel, effective strategies to connect patients with employment opportunities & other resources. Efforts are needed to provide information and build skills among epilepsy patients that would lead to improved medication adherence.

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TRAINING IN PATIENT NAVIGATION: A REVIEW OF THE RESEARCH LITERATURE

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Patient navigation is a barrier-focused intervention aimed at improving receipt of timely, high-quality healthcare. Few studies have explored the delivery of training to patient navigators. A literature review of patient navigation efficacy studies was conducted to better understand navigator training and to inform future training curricula. Using a PubMed search in April 2013, researchers identified controlled studies on the efficacy of patient navigation to improve a specific health outcome, excluding studies where the sole outcome was a psychosocial construct. Researchers identified and compared core features of training across studies. Fifty-six studies were included, of which 38 (68%) described patient navigation training. Length or frequency of training was noted in 16 studies (42%) and ranged from 6 hours to 12 months. Fifteen studies (39%) specified who conducted training (e.g., health care professional, researcher, social worker, self-administered), and 16 (42%) detailed how training was implemented (e.g., training programs, conferences, role play, courses, lectures, education manuals). Of the 25 studies (66%) that described training content, 18 focused on developing navigator skills, such as cultural competency (n = 6), evidence-based interventions (n = 5), and communication (n = 4). In addition, 12 studies reported that training focused on addressing barriers to care, most often through care coordination (n = 6), appointment scheduling (n = 3), and patient-provider communication (n = 3). Further, training in ten studies focused on the delivery of patient education. Patient navigation training is not thoroughly documented in research and varies widely across studies. Few articles described training that provided navigators with skills in evidence-based behavior change approaches or addressing psychosocial concerns. It is not clear whether training enables navigators to effectively address all potential barriers to care. Further research is needed to ascertain common gaps in training to inform future standardized training curricula.

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CONTINUOUS LONGITUDINAL MONITORING OF MOTOR-RELATED SYMPTOMS IN PARKINSON'S PATIENTS USING WEARABLE ACCELEROMETERS

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One of the main challenges for the development of a wearable personal health assistant for patients suffering from Parkinson's Disease (PD) is that there are currently no tools for clinicians or caregivers to easily, accurately, and reliably acquire longitudinal measurement of PD symptoms without running into serious battery, memory or usability issues. We have designed a wearable system based on 3-axis accelerometers and a machine-learning algorithm capable of running on a common mobile phone to detect some of the PD symptoms such as tremor, flexed posture, postural instability, and freezing of gait. Specifically, the system collects raw accelerometer data continuously from multiple locations (wrist, ankle, hip/chest) using low-power sensors called Wockets. The acceleration signals are sampled at 90Hz and their features are extracted using weighted frequency components intrinsic of the PD movements. Finally, features are classified using a machine-learning algorithm based on Support Vector Machines. To test the system, we collected naturally occurring movements (including episodes of PD motor-related symptoms) among ten senior adults suffering from PD (age = 65 to 82). For each user data was collected continuously in two different settings: one hour in a controlled setting and 24 hours in a free-living setting. To establish ground-truth in the free-living setting, participants and their caregivers were asked to indicate when the PD motor-related symptoms occurred using an app installed on their phones. These indicators were used as labels for training the detection algorithm. Results show that the system is able to detect the PD motor-related symptoms of interest with 87.8% overall accuracy in a controlled setting. The accuracy decreases to 73.6%when the system is tested in free-living settings. Concerning system usability, participants indicated that the system was easy to use, comfortable to wear, and discrete.

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D-134

PREDICTION OF SPINAL CORD STIMULATOR TRIAL FOR PATIENTS WITH CHRONIC LOW BACK PAIN

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Patients with chronic low back pain have psychological evaluations prior to consideration of a spinal cord stimulator (SCS) trial to screen for risks of unsuccessful outcomes. Although guidelines have been suggested for psychological screening of patients for SCS, information remains sparse as to which factors are most important in determining who advances to a SCS trial. In a clinical process, a number of factors may determine whether or not patients proceed to a SCS trial, including ability to successfully manage psychological distress, third-party payer approvals, finances, and patient and physician decision-making. In the current study, out of 101 patients who were screened as candidates for SCS (57% female, mean age = 54, sd = 14), 49 (48.5%) ultimately had a SCS trial in which temporary leads are placed and a portable pulse generator is worn for one week. Patients rated their average pain intensity with a 0-10 graphical numerical rating scale, and also completed the Pittsburgh Sleep Quality Index, the Center for Epidemiological Studies Depression Scale, Pain Catastrophizing Scale, Pain Anxiety Symptoms Scale-20, and Posttraumatic Stress Disorder Checklist. Comparison of those who proceeded to trial with those who did not, revealed those who did not proceed were younger (p = .03), reported more posttraumatic symptoms (p = .003), more depression (p = .004), poorer sleep quality (p = .036), and more pain-related anxiety (p = .036) in the pre-trial screening. The groups did not differ on baseline pain ratings (p > .7) or pain catastrophzing (p = .098). These results suggest that psychological variables, rather than pain levels, are important in predicting who proceeds to an SCS trial. Further work is needed to examine whether these variables predict trial and long-term outcomes with SCS.

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D-135

ACCEPTANCE OF CHRONIC PAIN: AN EXAMINATION OF THE UTILITY OF PATIENT SUBGROUPS OVER THE COURSE OF TREATMENT

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Acceptance of chronic pain is reliably associated with lower pain-related distress and disability, and higher quality of life. A widely used measure in this area is the Chronic Pain Acceptance Questionnaire (CPAQ). Previous research has identified three distinct patient subgroups based on CPAQ subscales of Pain Willingness (PW) and Activity Engagement (AE). Specifically, patients who scored high on both subscales had significantly better functioning than those who scored low on both subscales or those with discrepant scores (high AE, low PW). The present study sought to explore the clinical utility of this subgrouping method over the course of treatment by examining: (1) patient movement between subgroups from baseline to three month follow-up and (2) whether subgroup differences in functioning were indicated at follow-up in a manner consistent with previous work. Data was collected from 111 adults with chronic pain (65% female) completing an interdisciplinary course of Acceptance and Commitment Therapy (ACT) for chronic pain in the UK, where a key treatment objective was to increase PW and AE. Self-report questionnaires assessing disability, depression, anxiety, and number of pain-related medical visits were completed at pre-treatment and follow-up. All measures showed significant change at follow-up; functioning differed significantly across subgroups (all F's >5.519, all $p < .005$). Analysis of patient subgroup changes showed 97% of those scoring high on both subscales at baseline remained in the subgroup associated with the best functioning, while a majority of patients from the discrepant (68.2%) and low (72.7%) groups transitioned to a subgroup associated with better functioning. These analyses support previous work on ACT for chronic pain as they indicate shifts in acceptance during treatment concordant with the theoretical model. Further, subgrouping patients by CPAQ scores may be useful in gauging functioning more broadly, as high acceptance was related to better functioning both before treatment and at follow-up.

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D-136

HEADACHE DIAGNOSIS AND FREQUENCY ARE NOT ASSOCIATED WITH OFFSET ANALGESIA

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Objectives: Migraine and Tension-type headaches are common and disabling disorders, but their pathophysiologies are poorly understood. Dysfunctional antinociception is postulated to contribute to the development and/or maintenance of these disorders. Offset analgesia, a temporal contrast effect which activates supraspinal structures involved in descending pain modulation, has never been assessed in headache sufferers. The object of the study was to compare the offset analgesia effect in a group of headache sufferers to a group of healthy controls.

Participants and Procedures: Undergraduate college students ($N = 105$) were recruited through a research participant pool, and were compensated for their participation with research credit. Participants provided demographic and inclusion/exclusion information, and completed a diagnostic interview for headache disorders. Next, participants established their pain threshold for a temperature stimulus. This temperature was used in the offset analgesia procedure, described elsewhere, in which participants were asked to continuously rate a series of 3 temperatures (Grill & Coghill, 2002).

Results: Participants with headaches reported an average of 40 headaches a year, with the most common diagnosis being Frequent Episodic Tension-type (30%), followed by Migraine (26%), Infrequent Episodic Tension-type (9%), and Mixed (7%). Although offset analgesia was observed, $t(93) = 3.15$, $p = .002$, there was no difference in the degree of offset analgesia when healthy controls were compared to those with migraine or tension-type headache, $F(2, 82) = .292$, $p = .74$. Degree of offset analgesia also did not differ as a function of headache frequency, $r(92) = .081$, $p = .44$.

Implications: The current study demonstrated offset analgesia in a sample of young adults, and provides the first evidence that this form of descending pain modulation is not associated with headache symptoms. It should be noted, however, that differences may yet be observed in a clinical population with more severe and/or prolonged headache history.

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ANXIETY, ACCEPTANCE, AND PAIN-RELATED FUNCTIONAL IMPAIRMENT IN YOUTH WITH CHRONIC PAIN

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Introduction: Pediatric patients with chronic pain exhibit elevated symptoms of anxiety, which has been associated with many negative outcomes, including greater pain-related functional impairment (Simons, Sieberg, & Claar, 2012). However, the processes linking anxiety to negative outcomes in pediatric chronic pain remain unclear. Emerging evidence suggests a strong relationship between acceptance and outcomes in pediatric chronic pain and treatment-related improvements in acceptance have been associated with decreased catastrophizing and functional disability (Weiss et al., 2013). The current study aimed to further examine the complex relationship among anxiety, acceptance, and pain-related disability, including the specific aspects of acceptance most salient to this association. Methods: Data were collected as part of an interdisciplinary outpatient pediatric chronic pain intake evaluation at a large children's hospital on the East Coast. Participants were 43 youths ages 9 to 21 years ($M = 14.55$ years), primarily female (62.8%) and Caucasian (55.8%). Parent-child dyads completed the PROMIS pediatric measures of anxiety (Varni et al., 2010) and pain interference (Irwin et al., 2010). Youths completed the Chronic Pain Acceptance Questionnaire (CPAQ; McCracken et al., 2010). Results: Youth-reported anxiety was negatively correlated with CPAQ total ($r = -.41$, $p < .05$) and CPAQ Activity Engagement ($r = -.33$, $p < .05$) and positively associated with impaired functioning ($r = .49$, $p < .05$). However, anxiety was not significantly associated with CPAQ Pain Willingness. All measures of acceptance were negatively associated with youth-reported pain impairment. Conclusion: The results underscore the clinically significant association between anxiety and pain-related impairments in youth with chronic pain and suggest that acceptance, and activity engagement in particular, may be critical to consider in the link between anxiety and functional disability. Additional research is required to inform interventions for reducing the impact of anxiety on functioning in pediatric chronic pain.

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PAIN-RELATED CATASTROPHIZING IS A PREDICTOR OF PAIN FOLLOWING MEDICAL INTERVENTION FOR TEMPOROMANDIBULAR DISORDERS

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The current study examined the ability of pain-related catastrophizing to predict outcomes following non-surgical and surgical intervention for temporomandibular disorders (TMDs). A total of 94 patients were identified for which 65 had follow-up outcomes that could be examined. Patient follow-up data were obtained at approximately two to three weeks, two to three months, and six months post-intervention. Results showed that pain-related catastrophizing was predictive of greater pain severity at all three follow-up time points after controlling for baseline levels of pain severity, depressive symptoms, sleep disturbance, and pain duration. Pain-related catastrophizing was predictive of poorer range of motion (ROM) at the initial follow-up after controlling for baseline levels of ROM, gender, and form of intervention. Pain-related catastrophizing was not associated with ROM at the second and third post-intervention follow-ups. Additionally, the interaction between pain duration and pain-related catastrophizing in the prediction of post-intervention pain severity or ROM was not significant at any follow-up time point. The findings indicate that pain-related catastrophizing is an important predictor of pain severity following non-surgical and surgical interventions for TMDs both initially and in the long-term. Pain-related catastrophizing is related to ROM outcomes only in the short term. The results suggest that patients with high levels of pre-intervention catastrophizing may benefit from adjunctive cognitive-behavioral intervention to attenuate post-intervention pain severity.

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YOUTH REPORTED CHRONIC PAIN ACCEPTANCE: THE ROLE OF PAIN PRESENTATION

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Introduction: Research has demonstrated the importance of chronic pain acceptance in the treatment of pediatric pain (Gauntlett-Gilbert et al., 2013; Weiss et al., 2013). Esteve and Ramirez-Maestre (2013) indicated that acceptance of pain may differ depending on youth demographics and pain type. To date, research on pediatric chronic pain acceptance has focused on grouping all individuals together. The current study aimed to explore differences among self-reported chronic pain acceptance at treatment onset. Methods: Baseline data including the Chronic Pain Acceptance Questionnaire (CPAQ; McCracken et al., 2010) were collected as part of the intake process in an interdisciplinary outpatient pediatric chronic pain complex at a large East Coast children's hospital. One hundred and twenty two youth completed the CPAQ. Youth ranged in age from 9 to 21 years (M = 14.22 years) were mostly female (68.8%) and greater than half self-reported as Caucasian/White (60.4%). The primary pain locations included headaches (31.3%), back/neck/shoulder pain (18.8%), and upper or lower limb pain (16.7%). Self-reported worst pain was reported as 8.55/10, lowest as 2.84/10, and usual as 6.00/10. Results: CPAQ Activity Engagement and CPAQ total were significantly negatively correlated with worst, lowest, and average pain level. Females reported significantly higher CPAQ total scores as compared to males (M female = 59.82. M male = 51.74, t(119) = 2.67, p = .009). There were significant differences in acceptance based on pain locations with those experiencing headaches reporting the highest scores. There were no significant differences among total CPAQ and age, but a trend suggesting possible differences amid self-reported ethnicity. Conclusion: The results suggest that pain acceptance varies depending on a number of factors, including gender and type of pain. Findings underscore the clinical significance of acceptance in pediatric chronic pain. Future research is required to determine how these differences may affect treatment delivery or outcomes for adolescents with chronic pain.

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PEER RELATIONSHIPS AS A FUNCTION OF PAIN PRESENTATION IN YOUTH WITH CHRONIC PAIN

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Introduction: Peer relationships have been shown to be negatively impacted in youth with chronic pain. However, the majority of previous studies examined the global relationships between social impairment and chronic pain. Few studies have examined specific pain related factors influencing youth peer relationships with chronic pain (Forgeron et al., 2010). The current study aimed to examine the relationship between youth reported peer relationships with pain severity and pain location among youth with chronic pain. Method: Data were collected at a children's hospital tertiary pain complex on the East Coast. Youth completed the PROMIS measure of Pediatric Peer Relationships. Participants were 44 youth, ranging in age from 9 to 21 years (M = 14.55 years), mostly female (62.8%), and White (55.8%). Primary pain locations included headaches (16.3%), back/neck/shoulder (25.6%), gastrointestinal and disease related pain (11.6%). On average, participants rated worst pain as 8.20/10, best/lowest pain as 2.55/10, and usual/average pain as 4.87/10. Results: Youth reported clinically significant impairment in peer relationships. Participants' ratings of lowest and average pain intensity were negatively correlated with peer relationships, suggesting that peer relationships are more impaired when youth report higher average levels of pain (r = -.49, p = .02). Further, the quality of peer relationship significantly differed by pain location F(8,35) = 3.13, p < .02), with peer interactions most affected in patients with back/neck, SCD, and neuropathic pain. Conclusion: In sum, results attest to the importance of understanding peer relationships in youth with chronic pain. Further, results suggest there are a number of factors, including pain location or type of pain condition and pain intensity that impact peer relationships. These findings highlight the clinical relevance of assessing peer relationships in youth with chronic pain and the importance of addressing peer relationships in treatment in youth with chronic pain.

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D-141

ADOLESCENT FEAR OF PAIN IS A FUNCTION OF PARENT FEAR OF PAIN

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Emotions, particularly fear, play an important part in the experience of both acute and chronic pain. Across clinical and non-clinical samples, fear of pain has been implicated in several aspects of the pain experience, including pain-related disability, pain intensity, chronic pain behavior (e.g., avoidance, help seeking), and the dental experience. Several etiological models of fear suggest that parents may play an important role in the development of abnormal fears in children and adolescents. The aim of this study was to determine if fear of pain levels are associated among family members, and if parents' fears can predict their adolescent's fears. The Fear of Pain Questionnaire - Short Form was used to assess fear of pain for 350 adolescents (50% female, age range 11-17, M = 13.5, SD = 1.8) and their parents. Overall, parent and adolescent fear of pain scores were not significantly different; parent and adolescent fear of pain scores were correlated. Over and above age and gender, parent fear of pain significantly predicted adolescent fear of pain (p = .002), and explained a significant proportion of variance in adolescent fear of pain (p < 0.001). Of the three subscales of the Short Form Fear of Pain Questionnaire, parent and adolescent scores on the Fear of Medical/Dental Pain subscale were most highly correlated, r = .23, p < .001. Parents' fear of pain is associated with their adolescent's fear of pain in a large Appalachian sample. This finding suggests possible intergenerational transmission of fear of pain. Conceptualizations of abnormal fear etiology that include intergenerational transmission may afford a more complete understanding of the phenomenon and may provide important considerations for intervention. R01-DE014889.

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KNOWLEDGE IS PAIN: INFORMATION-SEEKING MODERATES THE RELATIONSHIP BETWEEN ANXIETY AND PAIN CATASTROPHIZING

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This study evaluated the interactive association between anxiety and information-seeking predicting pain catastrophizing. Catastrophizing, or maintaining exaggerated negative mental affect during painful experiences, has been linked to higher intensities of perceived and experienced pain, as well as increased emotional distress (Sullivan et al., 2001). Although information-seeking has been shown to predict positive benefits (Ramirez et al., 2013), it has also been shown to both result from anxiety (Tauszcik, et al., 2012) and lead to anxiety (Baumgartner & Hartmann, 2011). We tested associations between anxiety, information seeking, and catastrophizing. One hundred and ninety-six undergraduates (Mean age =22.01, SD = 4.65, 85% female) were assessed on information seeking, catastrophizing, and anxiety. We hypothesized that anxiety would be positively correlated with catastrophizing, and more importantly that that this association would be stronger for those who were higher in information seeking. Moderated multiple regressions showed that anxiety was positively associated with catastrophizing, and that this association was moderated by information seeking such that participant's anxiety increased with higher levels of information seeking. It appears that seeking information, when combined with anxiety is correlated with exaggerated pain symptoms. These findings better explain the relationship between catastrophizing, anxiety, and information seeking, and encourage the consideration of personality characteristics when developing pain management interventions.

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Meritorious Poster
D-144

TREATING PLANNING AS A DISCRETE BEHAVIOUR TOWARDS PHYSICAL ACTIVITY

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The construct of planning can mediate the physical activity intention-behaviour relationship. To date, predictors of planning have been operationalized for physical activity participation. Because planning can be a behaviour in its own right, planning may have antecedents that are specific for planning (e.g., intentions to plan) and thus independent of physical activity. The purpose of the present study was to determine if intentions *to plan* were a better predictor of planning for physical activity than intentions *to be* physically active. Participants were inactive adults (n = 334, M_{age} = 31.0 ± 5.2 yrs) with intentions to be physically active. Participants self-reported their physical activity, physical activity intentions, planning behaviour and planning intentions at baseline (T0), one (T1) and two months (T2). Hierarchical regressions were conducted to test our hypothesis. Controlling for planning at T0, intentions to plan for physical activity at T0 were a significant predictor of planning at T1, $r^2\Delta = 0.024$, $\beta = 0.17$, $p < .05$. Similarly, intentions to plan for physical activity at T1 were a significant predictor of planning at T2 after controlling for planning at T1, $r^2\Delta = 0.055$, $\beta = 0.27$, $p < .05$. Controlling for planning at T0 and T1, intentions to be physically active at T0 and T1 were not predictors of planning at T1 and T2, ps < .05. The regression coefficients for intentions to plan were significantly larger than the coefficients for intentions to be active, both for T1 $t(334) = 3.82$, $p < .05$ and T2 $t(334) = 4.06$, $p < .05$. Our results suggest motivation towards planning may be distinct from motivation towards physical activity. Attention should be directed towards theory-based antecedents of planning independent of motivation for physical activity. Future investigations should test if changes in intentions to plan correspond with changes in physical activity.

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Meritorious Poster
D-145

TIME PERSPECTIVE AS A MODERATOR OF DAILY PERCEPTIONS OF EXERCISE BENEFITS AND SATISFACTION WITH REGULAR EXERCISE

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Time perspective (TP) is an individual difference that accounts for how people cognitively represent past, present, and future experiences. We hypothesized that individual differences in TP would moderate the strength of the association between people's perceptions of specific exercise benefits and their satisfaction with regular exercise - an important predictor of long-term regular exercise. Specifically, we predicted that the satisfaction of people with high present TP would be more strongly associated with present-focused exercise benefits (i.e., current feelings of relief and accomplishment) and the satisfaction of people with high future TP would be more strongly associated with future-focused exercise benefits (i.e., preventing health problems).

Previously inactive participants (N = 116; mean age: 34.5; 29.3% overweight, 34.5% obese; 75.9% female; 42.2% Caucasian) initiated self-directed regular exercise and, for the first four weeks, completed daily assessments about their experiences. Mixed linear models were used to test the hypotheses.

As predicted, present TP moderated the association between satisfaction with exercise and daily feelings of relief, p = .003, and accomplishment, p < .001, such that satisfaction was more strongly associated with these exercise benefits for people with high present TP than those with low present TP. Future TP did not moderate these associations, p = .37 and p = .19, respectively. Future TP moderated the association between satisfaction and the perception of making progress in preventing health problems, p = .03, such that satisfaction was more strongly associated with perceiving progress in preventing health problems for people with high future TP than those with low future TP. Present TP did not moderate this association, p = .26.

This pattern of results suggests that TP influences the specific experiences that people attend to when determining their satisfaction with regular exercise. Theoretical and clinical implications will be discussed.

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D-146

PREDICTING ENGAGEMENT IN LEISURE-TIME PHYSICAL ACTIVITY AMONG THE SEXES: THE RELATIONSHIPS BETWEEN BODY SATISFACTION, SOCIAL PHYSIQUE ANXIETY, AND EXERCISE MOTIVES

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Involvement in exercise is dependent upon a variety of motives, including improving health and fitness, weight control, and enhancing mood. Social physique anxiety (SPA; i.e., negative perceptions of one's physique) and body satisfaction (i.e., feelings towards one's body parts and functions) may also impact the decision to participate in physical activity. Males and females generally report different exercise motives and levels of SPA, but similar dissatisfaction with bodily attributes. This study examined the relationships between SPA, body satisfaction, and exercise motives in predicting physical activity as a function of sex.

Male (n = 94) and female (n = 162) undergraduates (M_{age} = 19.33, SD = 1.33) completed the SPA Scale, Body Esteem Scale, Reasons for Exercise Inventory, and Global Physical Activity Questionnaire.

A multi-group modeling approach in MPlus was used to examine exercise motives as intermediate factors between SPA and body satisfaction and the engagement in leisure-time physical activity. The Hypothesized Model did not achieve adequate fit. Modification indices were used to develop and test a Final Model, which fit well, $X^2(6) = 9.87$, p = ns; RMSEA = .047; CFI = .98. Further, the examination of the individual sex models reveals different patterns of pathway significance.

SPA and body satisfaction are directly related to fitness and fun exercise motives; however, only SPA was related to self-presentation motives. While body satisfaction has a direct relationship to physical activity, none of the motives appear to directly relate to physical activity. Further, the pattern of relationships for females appears to deviate from the overall Final Model. Specifically, SPA was only related to self-presentation motives and body satisfaction was only related to fitness motives. Thus, incongruence exists between exercise motives and engagement in physical activity, which may have implications for future research in assessing and encouraging physical activity.

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D-147

ALTERNATIVE / SUSTAINABLE TRANSPORTATION: DEVELOPMENT AND VALIDATION OF STAGES OF CHANGE, DECISIONAL BALANCE, AND SELF-EFFICACY SCALES

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Single occupancy vehicle (SOV) transportation is a primary mode of transportation in the U.S., contributing to climate change, air pollution, and the obesity epidemic. Alternative transportation (AT), and Sustainable transportation (ST), commuting by means other than SOV, represents one important way to both slow climate change and enhance public health. The Transtheoretical model (TTM) has been useful for health behavior change research and could be useful for AT/ST as well. This study aimed to develop short valid and reliable measures for AT/ST decisional balance (DB) and self-efficacy (SE) and examine associations with stages of change for AT/ST. Two samples of university students, staff, and faculty volunteers participated in two cross-sectional online measurement studies in 2010 and 2012. The first sample (N_1 = 588, 20.6 mean age, 54.4% lived off-campus, 70.1% women, 84.4% white) was assessed on TTM constructs for AT. The second sample (N_2 = 393, 26.8 mean age, 63.4% lived off-campus, 67.7% women, 80.9% white) was assessed on the same TTM items and constructs for ST. Using multiple psychometric procedures, 3 comparable measures were developed: an AT/ST DB measure with two correlated subscales [5-item Pros ($\alpha = .82/.84$), 5-item Cons ($\alpha = .75/.77$)] and a 5-item SE scale ($\alpha = .83/.82$). In 2010, the AT stages of change discriminated both DB [F(8,1052) = 7.56, $p < .001$, multivariate $\eta^2 = .10$] and SE [F(4,553) = 15.84, $p < .001$, $\eta^2 = .10$]. In 2012, the ST stages of change correctly discriminated both DB [F(8,774) = 13.86, $p < .001$, multivariate $\eta^2 = .26$] and SE [F(4,388) = 10.99, $p < .001$, $a = .10$]. Both samples showed moderate to large effect size differences across stage groups, with better results in 2012 for ST. Results support the validation of these measures and the application of the TTM to AT/ST, laying a foundation for future research and intervention to promote sustainable behaviors.

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EFFECTS OF A GROUP-MEDIATED PHYSICAL ACTIVITY INTERVENTION ON SOCIAL COGNITIVE OUTCOMES IN KNEE OSTEOARTHRITIS PATIENTS

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Social cognitive variables have been identified as important antecedents and outcomes of physical activity (PA). Given the established benefits of PA in managing knee osteoarthritis (KOA), delineating the effects of different exercise intervention approaches upon social cognitive outcomes in KOA patients is important in guiding future PA promotion efforts. IMPACT-P was a single-blind, randomized controlled pilot trial designed to evaluate the efficacy of an exercise intervention utilizing group-mediated cognitive behavioral counseling (GMCB; n = 40) that targets the development and practice of activity-related self-regulatory skills relative to a traditional center-based exercise therapy intervention (TRAD; n = 40) alone among 80 sedentary, older, KOA patients (Mage = 64 yrs). In the current study, we evaluated change in select social cognitive outcomes at 3-month and 12-month follow-up assessments following each intervention. Results of intention to treat 2 (Treatment) x 2 (Time) ANCOVA analysis of residualized change scores controlling for baseline value and age revealed significant Treatment effects ($p < 0.01$) for self-regulatory self-efficacy (SE) and satisfaction with physical function (SWF). The Treatment effect for mobility SE also approached significance ($p < .07$). Post hoc analysis demonstrated the GMCB intervention resulted in superior improvement in self-regulatory SE (3 Month: d = .63; 12 Month: d = .95) and SWF (3 Month: d = .30; 12 Month: d = .58) relative to the TRAD intervention. The GMCB intervention also yielded more favorable improvement in mobility self-efficacy (3 Month: d = .27; 12 Month: d = .44). These results suggest the GMCB intervention yielded superior improvements in select social cognitive outcomes relative to traditional exercise therapy among sedentary KOA patients

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MINDFULNESS CORRELATES OF HEALTH-RELATED QUALITY OF LIFE AND MOTIVATION FOR EXERCISE AND DIET IN ENDOMETRIAL CANCER SURVIVORS

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Mindfulness is increasingly recognized as an important aspect of psychological well-being and stress management efforts. Mindfulness-based interventions (MBI) have been shown to be efficacious for the management of stress-mediated psychological and physiological challenges to well-being. Self Determination Theory (SDT) posits that mindfulness may form the basis of autonomous motivation to participate in health behaviors. However, the degree to which mindfulness may be related to motivation for healthy lifestyle behaviors and health-related quality of life (HRQL) in cancer survivors is not well understood. The purpose of the present investigation was to examine the SDT and Mindfulness correlates of HRQL in Endometrial Cancer (EC) survivors. A sample of 36 women (M age = 62.4 years) completed assessments of Mindfulness (FFMQ), the SDT health care packet, Functional Assessment of Cancer Therapy-Endometrial (FACT-En), and Satisfaction with Life (SWLS). Results of bivariate correlation analyses revealed that select facets of Mindfulness including Act with Awareness (ACT) (r =0.537, $p < 0.05$), (FACT-En), Non-Judgment (NONJUD) (r = 0.556, $p < 0.01$), (FACT-G) and Non-React NONR (r = 0.475, $p < 0.05$)(r = 0.448, $p < 0.05$) (FACT-G and SWLS) were significantly related to HRQL. Additionally, motivation (TSRQex) (r = .553, $p < 0.01$) and perceived competence (PCSdiet) (r = .496, p = 0.01), to engage in exercise and healthy diet were significantly correlated with mindfulness facets. These findings suggest that mindfulness is significantly related to both the disease specific (FACT-En) and global (SWLS) aspects of QOL. Additionally, motivation (TSRQ) and perceived confidence (PCS) to engage in healthy lifestyles (Exercise & Diet) is related to aspects of mindfulness. These findings suggest more in depth investigations into the efficacy of mindfulness based interventions to promote adoption of healthy lifestyle behaviors in EC survivors may be warranted.

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D-150

EVALUATING THE EFFECTIVENESS AND IMPLEMENTATION OF AN 8-WEEK PHYSICAL ACTIVITY PROGRAM TO LOW SOCIOECONOMIC YOUTH AT THREE COMMUNITY SITES

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PURPOSE: To examine the effectiveness and implementation of an 8-week physical activity (PA) summer program, guided by the SPARK® Afterschool Curriculum and the Social Cognitive Theory, targeting low socioeconomic youth ages 8-14. METHOD: Using a Community Based Participatory Research (CBPR) approach and quasi-experimental design, the program was delivered to 49 youth at 3 community sites [public housing (PH), Boys and Girls Club (BGC) and fee-based summer camp (SC)]. Three matched-contact sites served as the comparison group. Evaluated using self-report pre-and post- scores, the primary outcome was number of days/week active for 60 minutes. Implementation was operationalized as the degree to which all planned objectives were met each week (Likert scale,1 = g "not met",4 = "met completely"). Other implementation measures included attendance tracking, field notes, community staff participation and feedback, and time spent on didactic lesson vs. physical activity. RESULTS: There were no significant difference between intervention and comparison sites; however, there was an overall improvement in both sites for number of days active for 60 minutes (4.31 ± .2.40 to 5.45 ± .1.62, F = 11.130, p = .001). The degree to which each objective was met averaged M = 3.5 . (PH = 3.3, BGC = 3.3, SC = 3.9). Attendance averaged 79%, 58%, and 36% for BGC, PH, and SC respectively. However staff participation and structured activity time was higher at the SC site. CONCLUSION: This feasibility study revealed opportunities and barriers for increasing PA among low socioeconomic youth attending summer programs. Sites with more structure and staff participation were associated with higher program implementation scores. Future efforts will include engaging coalition and youth in understanding best practices targeting PA among youth attending summer programs, and more objective and observational measures of PA throughout the study implementation.

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WII FITT BALANCE INTERVENTION FOR COMMUNITY DWELLING OLDER ADULTS

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The purpose of this study was to investigate the impact of a Wii Fit Balance program on older adults' functional balance and measures of balance perceptions. Sixteen community dwelling older adults from local senior centers (81% females and 19% males) with an average age of 75 years played Wii Balance games for 30 minutes once a week. During the first week and last weeks of the program, participants completed the following measures of perceived health, physical activity and balance: Satisfaction with Life Scale, Godin Physical Activity Scale, Falls Self-Efficacy Scale, and the Rating Activities of Daily Living and completed functional balance testing (timed up-and-go, chair stands, and the Berg Balance). There was a significant difference pre-post testing in Activities-Specific Balance Confidence Scale (t = 2.81, $p < 0.05$) and non significant improvements in the functional balance measure (timed up-and-go, chair stands, and the Berg Balance). Additionally, measures of perceived balance were significantly correlated to functional balance ABC and TUG (R = .87, $p < 0.001$) ABC and Berg (R = .83, $p < 0.001$)ADL and Berg (R = .98, $p < 0.0001$).

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AEROBIC AND COGNITIVE EXERCISE: VIRTUAL VERSUS OUTDOOR CYCLING

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Objective: Research has demonstrated the benefits of exercise on cognition and continues to clarify what variables can maximize the benefit. Older adults who pedaled on a stationary bike with an interactive virtual landscape improved more in executive function than those who rode an ordinary stationary bike (Anderson-Hanley et al., 2012). The enriched environment of the virtual reality landscape may have been a key factor. This study examined whether the cognitive benefit of virtual cycling would be similar to that of a naturalistically enriched outdoor cycling.

Participants and Methods: Thirty-two adult participants were randomly assigned to one of two exercise conditions: (1) an interactive virtual reality bike tour (physical activity via pedaling and steering a stationary bike which affected on-screen activity) or (2) an outdoor condition (cycling along an actual campus pathway). Executive function (Digit Span, Color Trails, Stroop C) was measured at baseline and after exercise.

Results: Performance on one test of executive function (Stroop C-B) improved more from pre- to post-test ($p = .04$) for participants who cycled in the virtual versus outdoor condition. Cyclists in both conditions appeared to exert themselves similarly (e.g., minutes cycled and average HR), but mileage differed (virtual = 3.9, and outdoor = 3.1; $p = .04$).

Conclusions: A single bout of cycling yielded significantly greater improvement for the virtual versus the outdoor cycling on one of three measures of executive function. It may be that the Stroop test was most sensitive in detecting the effect of brief exercise. Participants in both conditions exerted themselves similarly, but a difference in distance cycled could explain extra cognitive benefit via a greater dose of physical exercise. Alternatively, a greater dose of mental stimulation experienced through the virtual reality landscape could explain the finding. Additional research is needed to confirm that similar cognitive benefit can be obtained when controlling mileage and mental stimulation, and if results compound in a longer intervention.

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GETTING YOUTH ENGAGED IN PHYSICAL ACTIVITY INITIATIVES: SYSTEMATIC OBSERVATIONS OF THE SOCIAL AND MOTIVATIONAL CLIMATE OF AFTERSCHOOL PROGRAMS

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Physical inactivity has been identified as a primary contributor of obesity and related diseases, with minority, low-income youth at greatest risk of inactivity and its health consequences. In response, youth development programs (YDPs; e.g., 4-H) have begun to address youth health behaviors as a primary component of their programs. However, little research has examined whether these health-based program components are effective for engaging youth in physical activity (PA).

Based on the structural ecological systems perspective and Self-Determination Theory, facilitation of engagement requires consideration of the motivational climate of the program context including: a) the physical environment, b) how the PA is delivered (e.g., inclusive), and c) the behaviors and attitudes of the instructor delivering it (e.g., staff engagement). Therefore, the present study examined structural and social-motivational features of YD settings in order to identify key program mechanisms for promoting youth PA engagement.

Systematic observations of 7 afterschool YDPs serving underserved youth (87% minority, 90% free/reduced lunch) was conducted using the System for Observing Play and Leisure Activity in Youth (SOPLAY) and a social-motivational climate observation tool founded on SDT and previous research developed by the authors. Teams of two coders observed daily activities for five days across two-week periods at each site. Continuous observations throughout each program day recorded levels of youth PA (e.g., sedentary, moderate, vigorous), and the presence of five physical features (e.g., equipment availability), eight staff interactions (e.g., encourage PA), and six social climate components (e.g., inclusive).

Regressions, controlling for variations by program site, identified several social-motivational program characteristics predictive of youth PA and variations by child sex. Findings are discussed in terms of policy and practice for understanding strengths and needs of YDPs to effectively engage youth in the PA mission.

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D-154

PRESCHOOLERS AND EXERGAMING: A FUN WAY TO PROMOTE PHYSICAL ACTIVITY?

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Introduction: Childhood obesity is a serious and increasing threat to our children's health with physical activity decreasing while time spent in front of a screen increasing. However, video games offer unique ways to improve children's level of physical activity. Project FUN is an academic-community partnership where level of fun, enjoyment and energy expenditure of active gaming (exergames) were reported and compared to traditional games amongst low income urban preschoolers. Methods: Participants included preschoolers/ kindergartners from 14 classrooms representing 299 (51% female) students, 37% 3 years of age, 41% 4 years of age and 22% 5 years of age. A switching replications evaluation design was used to examine the effect of traditional games and activities (TG) and two exergames (Activity Cycle (AC) and DanceDanceRevolution (DDR) style games) on children's level of fun and average energy expenditure using accelerometry. Results: Statistically significant paired t-tests were found for the level of fun with AC rated the highest on a 5 point scale (4.62) and TG the lowest (4.14;paired t-test = 2.43;$p < 0.05$), and DDR higher than TG (mean 4.56vs4.14;paired t-test = 2.46;$p < 0.05$). Energy expenditure was found to be highest for TG and lowest for AC. Student BMI z-score was significantly related to enjoyment of TG, but not to either exergame. Significant differences were found for age of the participant with 3 year olds having the lowest level of energy expenditure in the exergames and experiencing the greatest difficulty in completing the exergames. Discussion: The new exergames were found to support significant energy expenditure and provide young children and teachers additional opportunities to be active in a safe, supervised, and fun play-inspired environment. However, the results also indicate that the exergames were found to be most beneficial for those children 4 years of age and older. These results support the use of innovative technologies to not only enhance physical activity, but also educational attainment amongst our nation's youngest students.

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D-155

THE QUALITY OF SCHOOL PHYSICAL ACTIVITY POLICIES WITHIN MARYLAND AND VIRGINIA

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Background: Since the adoption of the Healthy Hunger-Free Kids Act of 2010, many researchers have examined changes in the school nutrition environment; however, far less research has focused on the evaluation of physical activity policies within public schools.

Methods: School district wellness policies ($n = 144$) of Virginia and Maryland were coded in 2012 using a previously validated audit tool with a 0 (weakest, least comprehensive) to 1 (strongest, most comprehensive) scale.

Results: Mean policy strength was weak (0.20 ± 0.15), and on average policies were moderately comprehensive (0.40 ± 0.22). The strongest (0.73 ± 0.44) and most comprehensive (0.79 ± 0.40) policy subgroup addressed daily recess in elementary schools. Virginia had significantly higher scores in 7 policy groups (most importantly, addressing the provision of daily recess in elementary schools [Strength: VA = 0.79 ± 0.41; MD = 0.43 ± 0.50; $t = 3.6$, $p < 0.01$; Comprehensiveness: VA = 0.84 ± 0.36; MD = 0.52 ± 0.51; $t = 3.6$, $p < 0.01$] and providing structured physical activity before and after school [Strength: VA = 0.60 ± 0.49; MD = 0.26 ± 0.44; $t = 3.1$, $p < 0.01$; Comprehensiveness: VA = 0.80 ± 0.40; MD = 0.43 ± 0.5; $t = 3.85$, $p < 0.01$]), while Maryland had higher significant policy scores in the three following groups: (1) the strength and comprehensiveness of a written PE curriculum for each grade level (Strength: VA = 0.05 ± 0.21; MD = 0.65 ± 0.48; $t = 9.55$, $p < 0.01$; Comprehensiveness: VA = 0.23 ± 0.42; MD = 0.70 ± 0.47; $t = 4.73$, $p < 0.01$); (2) the comprehensiveness of addressing the use of PE waivers (VA = 0.05 ± 0.21; MD = 0.22 ± 0.42; $t = 2.83$, $p < 0.01$); and, (3) the comprehensiveness of providing physical activity breaks in elementary school (VA = 0.43 ± 0.04; MD = 0.51 ± 0.10; $t = 2.69$, $p < 0.01$).

Conclusions: PA wellness policies in Maryland and Virginia are extremely weak and moderately comprehensive; it is unlikely that these policies will significantly influence school-based physical activity.

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D-156

EXERCISE AND BEHAVIORAL ACTIVATION FOR WOMEN WITH DIABETES & DEPRESSION: THE GET-IT STUDY

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Depression is often comorbid with type 2 diabetes and associated with poor glycemic control. Exercise improves glycemic control and depression, yet rates of exercise are low. We developed an exercise intervention for women with depression and diabetes that included strategies from behavioral activation (BA), to improve glycemic control, depression and exercise. BA targeted exercise enjoyment. We conducted a 6-month pilot RCT to test the feasibility of the group exercise and BA treatment (GET-it), and whether it improved glycemic control (A1c), depression (BDI-II) and exercise more than enhanced usual care (treatment referral, diet and exercise handouts;UC) from baseline to the 3- and 6-month assessments. Recruitment posed challenges. Of the 717 women who contacted us, only 29 (4%) were enrolled. Not depressed, no flexibility for groups, BMI > 45 and restricted activity were the most common ineligibility reasons. Participants were mostly non-Hispanic white (79%; MN age = 53.4) with a mean BMI of 34.6. Retention was high: 96.5% and 86.2% at the 3 and 6-month assessments. Treatment acceptability (1-5 scale, 5 = very satisfied) was high at 3- (MN = 4.69,SD = 0.36) and 6-months (MN = 4.57,SD = 0.56). Mixed models evaluated efficacy. The time x condition interaction was not significant for A1c, BDI-II or exercise, though BDI-II scores decreased ($MN\Delta = 7.25$; $F = 13.67$, $p < 0.001$) and exercise increased ($MN\Delta = 162.21$ weekly mins; $F = 6.34$, $p = 0.004$). The time x condition interaction was significant for exercise enjoyment ($F = 5.64$, $p = 0.006$); GET-it participants reported increased enjoyment ($F = 15.30$, $p < 0.001$), while UC participants reported no change ($p = 0.98$). Focusing on weight loss, including those with elevated depressive symptoms and using individual visits may enhance recruitment. After enrollment, GET-it is feasible and improves exercise enjoyment. Including a dietary component and increasing BA content might bolster GET-it effects on glycemic control and depression.

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ENJOYMENT BASED MOTIVATION AND THE ENJOYABLE EXERCISE EXPERIENCE IN A UNIVERSITY SAMPLE: A MIXED METHODS APPROACH

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Individuals who choose to live a healthy lifestyle often have varied preferences and motives for exercise participation. Understanding preferences for exercise is important as they are related to exercise motives and adherence.

This study compared Enjoyment Based Motivation (EBM) to exercise with obese and non-obese individuals and those who reported engaging in recommended amounts of exercise with those who did not. A secondary purpose was to assess enjoyable exercise experiences of select participants. EBM was defined and measured with the enjoyment subscale of the Motivation for Physical Activity Measure-Revised (MPAM-R). The Godin Leisure Time Exercise Questionnaire was used to define activity levels while bioelectrical impedance assessments allowed us to assess percent body fat. Established qualitative analytic procedures provided a more detailed understanding of exercise preferences and enjoyment.

A convenient sample of university students were recruited from first year experience and physical activity classes. The sample included 202 ($N = 63$ males; $N = 139$ females) students and ranged in age from 18 to 30 years ($M_{age} = 19.29$; $SD \pm 1.79$). To address the second purpose, 10 ($N = 4$ males; $N = 6$ females) participants who were both obese and non-obese were interviewed.

We found a significant difference between active and insufficiently active participants on EBM ($U = 784.5$, $p < .001$, $r = -.338$); a significant difference was not found between obese and non-obese participants. The second purpose revealed themes of: vigor (physical feeling of fatigue), social relatedness (exercise with/around others), accomplishment, dissociation, and positive emotions. Non-obese participants also reported escape from stress as aspects of an enjoyable exercise experience. Enjoyment appears to be a central motivating consideration for obese and non-obese individuals. Finding ways to structure exercise experiences to foster enjoyment is an important challenge for future researchers and practitioners.

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DIFFERENCES BETWEEN INCOMING AND CURRENT COLLEGE FRESHMEN EATING AND PHYSICAL ACTIVITY BEHAVIORS

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Understanding physical activity (PA) and eating (E) behaviors during the transition from high school to college is critical for developing obesity prevention programs. Incoming ($n = 99$; $M_{age} = 18.0$ yrs; 62% female) and current ($n = 84$; $M_{age} = 18.5$ yrs; 82% female) college freshmen were recruited via electronic methods to complete an online survey of 8 target behaviors (6 E and 2 PA) using established measures: high fat snack intake (e.g, french fries, sweets, full fat cheese), sugary beverage/water consumption, breakfast/quick order meals (e.g., pizza, bagel shops); fruit servings; PA and sedentary behaviors. We also assessed perceived social norms of E/PA and weight loss. The BMI for the total sample ($N = 183$) was 23.04 ± 4.0, with no differences between current and incoming freshman. For dietary behaviors, current freshmen reported eating more quick order meals per week than incoming freshman (3.4 ± 1.3 vs. 0.7 ± 0.7 meals/week), fewer high fat snacks (9.0 ± 5.9 vs. 18.5 ± 8.9 snacks/week) and fewer sugary beverages (3.3 ± 2.2 vs. 14.3 ± 10.3 drinks/week) (p's < .0001). Current freshman reported more sedentary time (8.3 ± 5.0 hr/day) than incoming freshmen (5.5 ± 3.5 hr/day), $p < .001$. There were no differences in breakfast consumption frequency (5.3 ± 1.9 days per week), water intake ($12.4 + 4.3$ f. oz/day), fruit servings/day ($6.2 + 3.9$) or % meeting federal PA recommendations (76.8%). More current freshmen (33.3%) reported friends trying to lose weight than incoming freshmen (15.5%) ($X2 = 6.8$; $p < .012$). There were no differences between incoming and current freshman in social acceptability of inactivity, unhealthy eating and pressure to have the perfect body. Positive and negative health behaviors are established during the transition from high school to college. This transition may be related to unhealthful eating patterns and sedentary behavior, and concerns about weight.

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AEROBIC AND COGNITIVE EXERCISE STUDY (ACES): PILOT STUDY IN IRELAND

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BACKGROUND: Cognitive benefits of exercise for older adults have been demonstrated, but less is known about the benefits of mental exercise, particularly when integrated with physical exercise. A recent study found a greater impact of physical exercise when integrated simultaneously with interactive mental exercise (cycling a stationary bike while steering along a virtual reality tour). The current study aimed to examine the feasibility of replicating and extending this finding in a sample of older adults in Ireland.

METHODS: Eleven older adults were enrolled in a pilot study in Ireland. Five participants were patients in an Adult Day Program and six participants were independent living older adults. Participants were assessed on overall cognitive function (MOCA) and measures of executive function (Trails, Stroop, and Digit Backwards) before and after a single bout of exercise. Participants used a recumbent stationary bike, where pedaling and steering controlled progress in a virtual reality landscape.

RESULTS: Feasibility of the program with older adults in Ireland was demonstrated, with a wide range of participants (normative to moderate dementia) able to complete assessments and utilize the cycling equipment. While all participants showed some improvement on Stroop C, those with moderate dementia ($MOCA < 20$; $n = 5$) increased significantly more than those with more normative functioning ($MOCA > = 20$; $n = 6$; $p = .01$).

CONCLUSIONS: A pilot sample revealed the feasibility of implementing a study of aerobic and cognitive exercise for older adults in Ireland. Preliminary results suggest that while all participants improved on one test of executive function, the greatest impact of a single bout of interactive mental and physical exercise was for participants who have some cognitive decline.

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D-160

BODY MASS INDEX (BMI) AS A MODERATOR OF AFFECTIVE FORECASTING ERRORS IN EXERCISE

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Background: Research has shown that when making predictions, people consistently underestimate how much they will enjoy exercise (Ruby et al., 2011), and this affective forecasting error is believed to undermine intentions to exercise regularly. Body mass index, which is known to influence the affective experience of exercise, may further exacerbate this error. To date, differences in body mass index have not been examined as a potential moderating variable of the forecasting error.
Purpose: The purpose of this study was to examine BMI as a potential moderator of the relation between people's predictions of exercise-related affect and their actual experience of exercise-related affect.
Methods: Sixty-two sedentary adults with varying BMIs (39 normal weight adults and 23 overweight/obese adults) completed a 30-minute aerobic exercise bout. Prior to exercise, participants reported expectations for both how much they would enjoy the exercise and how unpleasant the exercise would be. Following the exercise bout, participants reported experienced enjoyment and unpleasantness on the same scale.
Results: Consistent with previous research, participants reported enjoying the exercise more than they expected, p = .002. This affective forecasting error was not moderated by BMI. However, on unpleasantness of the exercise, BMI did moderate the gap between expectation and experience. Normal weight participants reported exercise to be less unpleasant than expected, whereas participants who were overweight/obese reported the exercise to be more unpleasant than they expected F(1, 59) = 5.41, p = .02.
Conclusions: This pattern of findings suggests that differences in BMI do not affect the expectation or experience of positive exercise-related affect (enjoyment), but overweight/obese participants may have a tendency to experience greater negative exercise-related affect (unpleasantness) than they expect, unlike their normal weight counterparts. Theoretical implications for exercise-related affect and practical implications for intervention will be discussed.

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D-161

IS PHYSICAL ACTIVITY PROTECTIVE FOR YOUNG WOMEN? EXPLORING THE EFFECTS OF EXPOSURE TO BODY FOCUSED MEDIA

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There is evidence that physical activity is related to improved mental and physical well being. However, among young women physical activity may also be related to body dissatisfaction. The current study explores the relationship between exposure to body-focused images, body image, and health behaviors in college women. We specifically examined self-objectification, appearance awareness, and appearance internalization. The aim was to observe the relationship between viewing body-focused images, the internalization and awareness of socio-cultural appearance standards, and self-objectification in college women. The role of exercise participation was examined as a moderator of outcomes. . The sample consisted of 652 female college students, mean age 19.23 years. The sample was:62% White Caucasian, 38% ethnic minorities(9.0% Asian/ Pacific Islander, 10.1% Black/ African American, 3.1% Hispanic/ Latina, .3% Native American/American, 4.4% Other). Participants were randomly assigned to either a control or experimental condition where they viewed body-focused advertisements. Main effects and interactions for experimental condition and exercise participation were tested. Exposure to body-focused media was associated with higher self-objectification (b = .133, p = .027) and greater internalization of socio-cultural appearance standards. (b = .136, p = .001). Exercise participation was positively associated with appearance awareness and appearance internalization and negatively associated with self-objectification. There were no moderating effects. These findings indicate that exposure to images of women increases internalization of appearance standards and self-objectification regardless of fitness level. These findings also indicate that physical activity among young women may be associated with greater focus on appearance standards. The implications of this relationship are discussed.

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Meritorious Poster
D-162

AEROBIC AND COGNITIVE EXERCISE OVER TIME: VIRTUAL VERSUS OUTDOOR CYCLING

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BACKGROUND: Regular physical exercise is well known to have significant physical and cognitive benefits. Less is known about mental exercise, but some research has shown added cognitive benefit from combining mental stimulation with physical exercise. The current study examined the role of an enriched environment via virtual versus outdoor stimulation as experienced while cycling. It was hypothesized that outdoor cycling would yield greater cognitive benefit than artificially created virtual tours. It was hypothesized that after two months of cycling participants would show an improvement in executive function tasks based on the environmental richness component of outdoor cycling, and this benefit would match or exceed that of virtual reality enhanced stationary bike.
METHODS: Thirty adults were enrolled in a six-week exercise study, 24 completed the randomly assigned exercise (virtual v. outdoor), 3-5 times per week for at least 20 minutes per ride. Executive functioning was assessed before and after six weeks of cycling (Trails, Stroop, and Digits Backwards).
RESULTS: Participants as a whole made significant improvements in Trails and Stroop testing following the six week period of physical exercise. Outdoor cyclists did improve significantly more than virtual cyclists on Digits Backwards (p = .05), but there were no differences between the two groups on the other two tests of executive function.
CONCLUSIONS: After six weeks of cycling either outdoors or on a stationary bike with a virtual reality display, executive function gains were similar on two tests of executive function (Trails and Stroop). However, outdoor cyclists had significantly great benefit on one test of executive function (Digits Backwards). Additional research is needed to clarify seemingly differential impacts of exercising in virtual and outdoor environments.

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ELECTROPHYSIOLOGICAL EFFECTS OF INTERACTIVE MENTAL AND PHYSICAL EXERCISE ON OLDER AND YOUNGER ADULTS

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Objective: The current study examined the electrophysiological effects of a single bout of interactive mental and physical exercise compared to standard physical exercise in both younger and older adults. Specifically, we considered the effects of the exercise manipulation and aging on behavioral and electrophysiological correlates of executive functioning.
Participants and Methods: Thirty younger and 30 older adults participated in the current study. During each session, participants completed the backward digit span and subsequently completed a computerized, manual version of the Stroop task with EEG recording. Participants were then randomly assigned to either the track condition or the game condition. In both conditions, participants rode the cybercycle, a recumbent, stationary bicycle with a virtual reality screen, for 20 minutes.
Results: ERP correlates of the Stroop interference effect were examined over the Cz electrode site between 320-700 ms post-stimulus. A repeated measures ANCOVA revealed a significant three-way interaction of Time x Trial x Age in the electrophysiological data, F(1, 48) = 3.96, p = .05, ηp2 = .076. We found significant increases in amplitude from pre- to post-test for the older adults for both congruent and incongruent trials, but significantly more so for congruent trials. Older adults had significantly higher amplitudes on incongruent trials compared to congruent trials at both pre-test and post-test, representing an attenuation of the interference effect. This attenuation was less prominent after exercise.
Conclusion: Based on previous studies, which demonstrate the beneficial effects of exercise on older adults (Hyodo et al., 2011, Chang et al., 2012), we argue that the current study also suggests that an acute bout of exercise provides behavioral and electrophysiological benefits for the older adult demographic.

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ENHANCING RECRUITMENT, ENROLLMENT AND RETENTION OF PREGNANT, LOW-INCOME WOMEN FOR A PRENATAL STRESS MANAGEMENT INTERVENTION

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Introduction: Prenatal stress negatively affects maternal-fetal health, especially for low-income women. Prenatal stress management interventions such as Mindful Motherhood Training (MMT) reduce stress. Low-income women often lack resources to take advantage of such programs. Purpose: To elicit ideas from pregnant, low-income women about enhancing prenatal stress management intervention recruitment, enrollment and retention. Method: English-speaking, pregnant women (N = 9) were recruited from a southeastern prenatal clinic serving predominantly low-income women. Characteristics: Mage = 27 years, Mgestation = 23 weeks, Mchildren = 2, all singleton pregnancies; majority African American, single, unemployed, below poverty threshold, above high school education, high risk pregnancy. The PI facilitated three 1.5-hour focus groups. Using a coding scheme developed using focus group questions and narratives, paired researchers coded data and conducted thematic content analysis until reaching agreement. Results: Common recruitment themes: patient study awareness via flyers in multiple clinic areas (28%) and clinic staff direct communication (11%), informative study name (33%) and confidentiality emphasis (11%). Common enrollment themes: emphasis on social support (26%), stress management skills specific to pregnancy (22%) and beyond pregnancy (22%). Common participation obstacle themes: environmental constraints (e.g., transportation difficulties; 36%) and personal information concerns (e.g., invasion of privacy; 36%). Common retention themes: positive facilitator characteristics (35%), hands-on activities (17%) and small group size (17%). Conclusions: These findings will inform the implementation of a pilot study testing MMT efficacy in reducing stress and enhancing glucose control in low-income, pregnant women with diabetes. Prenatal practitioners and researchers may begin to incorporate the themes reported here with their existing strategies for stress management intervention recruitment, enrollment and retention with low-income, pregnant women.

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TO SCREEN OR NOT TO SCREEN? CLINICIAN PERSPECTIVES ON THE HARMS AND BENEFITS OF PSA TESTING

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Background. While many studies have focused on the benefits of screening tests, fewer have considered the harms. Despite evidence that the harms of PSA testing outweigh its benefits and recommendation against the test by several authorities, many men continue to get tested. Clinicians' recommendations strongly impact screening uptake. The purpose of this study was to assess clinicians' perceptions of the type and magnitude of harms and benefits of PSA testing.
Methods. Clinicians (n = 112) from family/internal medicine practices (k = 24) in a North Carolina practice-based research network completed a cross-sectional, paper-based survey. They were asked to list and rate the magnitude of the harms and benefits of PSA testing for a 70-year old man. We categorized and summed harms and benefits, then used paired t-tests to compare them.
Results. Clinicians listed more harms than benefits (mean = 2.7 vs. 1.5, $p < .001$). They reported harms from the key stages of the "screening cascade," whereby testing begets further potentially harmful testing. The most frequently listed harms of PSA testing were false positives, overdiagnosis, and side effects. The most frequently listed benefits were early diagnosis, treatment and peace of mind. Decreased mortality was rated the most important benefit and increased mortality the most concerning harm. Clinicians perceived the average magnitude of harms to be almost twice as large as benefits (mean = 8.1 vs. 4.4, SD = 3.6, $p < .001$).
Discussion. The import placed on decreased mortality, in the context of how few patients' lives are saved with PSA testing, suggests clinicians may assess benefits at the individual level. When mentioned, harms outweighed benefits, suggesting that increasing awareness of harms may be a mechanism for reducing overuse of PSA screening.

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D-168

I HOPE, I CAN: HOPE, BUT NOT FEAR, PREDICTS HEALTH INFORMATION SEEKING THROUGH THE MECHANISM OF EFFICACY

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Research indicates that uncertainty drives information seeking (IS). Fear, which is an emotion about uncertainty concerning a negative future event, can promote IS. However, IS also only happens when people feel efficacious enough to do something about the problem they fear. We hypothesized that this sense of efficacy is promoted by the emotion of hope. Hope, like fear, involves uncertainty. However, unlike fear, it signals that one is uncertain about a positive future event. Hope is an emotion that leads to sustained action toward that positive event. Thus, we hypothesized that hope about health may result in efficacy for seeking health information, thus resulting in more health IS. Furthermore, we hypothesized that this effect was due to hope and not other positive states, like feeling happy. In two studies, female undergraduate students completed a health IS task in which they sought out information about engaging in various health behaviors, such as a breast self-exam. Participants also completed measures of efficacy and of positive (hope, positive, happy) and negative (fear, negative, sad) emotions about these health behaviors. Hope promoted more health IS, more time spent seeking health information, and a greater desire for more health information in both studies. Fear also promoted a desire for more health information in Study 1 and all three measures of health IS in Study 2. However, hope, but not fear, predicted efficacy, which in turn mediated the effect of hope on in all three measures of health IS in Study 1, and two of these measures in Study 2. More importantly, this result held even when controlling for other types of positive affect (e.g., happiness, positivity), suggesting that hope is unique in predicting efficacy, which in turn, predicts health IS. Fear on the other hand, did not predict efficacy, thus the effect of fear on health IS did occur due to changes in efficacy. In conclusion, hope, and not other positive states, predicted increased IS through the mechanism of increased efficacy.

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OPTIMISTIC BIAS IN INTERPRETING POOR PROGNOSES PREDICTS HYPOTHETICAL END-OF-LIFE DECISION MAKING

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Background: Research has shown that surrogate decision makers for critically ill patients have a tendency for an optimistic bias in interpreting poor prognoses.
Objective: This study examined whether this same optimistic bias: operates generally, is accentuated for more severe prognoses, is altered when prognoses are framed in terms of dying versus surviving, and influences hypothetical treatment decisions.
Methods: Participants were 200 undergraduates who interpreted hypothetical prognoses and made corresponding treatment decisions for end-of-life (EOL) care.
Results: Participants' interpretations of prognoses significantly differed from the actual numerical estimates provided (p's < .001). When the prognosis indicated a low risk of dying (5%), framing in terms of dying resulted in significantly lower perceived chance of survival than in terms of surviving ($p < .001$). When the prognosis indicated a high risk of dying (95%), framing in terms of dying resulted in significantly higher perceived chance of survival than in terms of surviving ($p < .04$). However, prognosis severity was associated with the level of optimistic bias for statements framed in terms of dying ($p < .001$) and in terms of surviving ($p < .01$). The level of optimistic bias predicted the likelihood of approving the ongoing use of life sustaining treatment over a transition to comfort care when prognostic statements were framed in terms of dying ($p < .02$) and in terms of surviving ($p < .01$).
Conclusions: An optimistic bias in interpreting poor prognoses was identified even in individuals not currently undergoing the stress of making EOL decisions. Furthermore, when poor prognostic information is framed by providers in terms of dying it may be especially likely to be interpreted more optimistically. This more optimistic appraisal has the potential to translate into more heroic life-sustaining treatment decisions by surrogates.

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IT'S COMPLICATED - PREDICTORS OF DECISIONAL UNCERTAINTY IN PRENATAL TESTING

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The technologies currently available to detect fetal genetic abnormalities are complex. For parents-to-be, choosing between accepting and declining these tests can be challenging, and produce decisional uncertainty (i.e. a state of psychological struggle). This study investigated predictors of prenatal testing decisional uncertainty. New Zealanders (Mage = 32.68 years; SD = 8.61 years) in a romantic relationship read a hypothetical scenario asking them to imagine they expected a child and had heard about a pre-birth test that could detect fetal genetic conditions (which were briefly described). Participants then completed measures of: testing interest, spouse/partner's perceived preferences about testing, motivation to comply with doctors' perceived preferences, test response efficacy (i.e. test's perceived accuracy), child-related worry, condition coherence (i.e., extent to which the described conditions 'made sense'), perceived benefits from receiving normal test results, and parity. Regression analyses showed that the greatest predictor of decisional uncertainty was perceived differences of opinions between prospective parents ($\beta = 0.24$). Greater motivation to comply with doctors' perceived preferences ($\beta = 0.22$), lower test response efficacy ($\beta = -0.17$), greater child-related worry ($\beta = 0.17$), lower condition coherence ($\beta = -0.13$), greater perceived benefits from receiving normal results ($\beta = 0.11$), and childlessness ($\beta = -0.12$) also significantly predicted greater prenatal testing decisional uncertainty. In conclusion, important reproductive decision-making can be facilitated if concerns related to prenatal testing are identified and appropriately addressed.

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Citation Poster
D-172

A SEXUAL HEALTH EDUCATION INTERVENTION IMPACTS SEXUAL FUNCTION AND PSYCHOSOCIAL ADJUSTMENT IN MALE RECTAL CANCER PATIENTS

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Background: Post-treatment male rectal cancer patients show high sexual dysfunction rates. We pilot tested a sexual health education intervention for male rectal cancer patients. We hypothesized intervention arm (CSI-SH-M) men would improve more across sexual function/psychosocial adjustment than men receiving usual care (UC). Method: Post-treatment patients (N = 71) were stratified by stoma/chemotherapy status and randomized to: 1) 4 1-hour sexual health education sessions and 3 follow-up calls aimed at bolstering sexual function and partner communication, and providing other resources (e.g., referrals); or 2) UC. Men completed sexual function [International Index of Erectile Function (IIEF)] and psychosocial adjustment [Self-Esteem and Relationship Questionnaire (SEAR), Sexual Bother Questionnaire (SB), and Impact of Events Scale (IES-R)] measures at enrollment (baseline), 4 months post-baseline, and 8 months post-baseline. Differences in mean score changes between assessments determined treatment effects, the magnitude of which were assessed by Cohen's d effect sizes. Results: The average man was middle-aged, Caucasian, and married. Most had Stage III cancer and received an operation, chemotherapy, and radiation. CSI-SH-M men improved more than UC men on IIEF from baseline to both 4 and 8 months with improvements most apparent from baseline to 4 months [e.g., Total (d = 1.22) and Sexual Desire subscale (d = 1.37)]. CSI-SH-M men improved more than UC men on SB Total from baseline to 4 (d = -1.44) and 8 months (d = -0.20). CSI-SH-M men also improved more on SEAR from baseline to 4 months and 4 to 8 months, with 4- to 8-month effects being larger [e.g., Total (d = 1.10) and Confidence (d = 1.14)]. Finally, CSI-SH-M men improved more than UC men on IES-R at both 4 and 8 months. Conclusion: Pilot data showed initial promise in a brief sexual health education intervention for this population.

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D-173

IMPACT OF PARENT-LEVEL INTERVENTIONS TO REDUCE HIV RISK AMONG AFRICAN AMERICAN YOUTH: A REVIEW AND CRITIQUE OF THE LITERATURE

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Parent-level HIV prevention interventions offer a promising approach to reducing adolescent sexual risk. However, an important question concerns the extent to which such interventions are both feasible to implement and effective in reducing risk behavior among adolescents who are at highest risk for HIV/STIs, and for whom parent involved programs may prove challenging. We conducted a systematic review and methodological critique of 12 parent-level interventions focused on African-American youth, a subgroup at elevated risk for HIV/STIs and often residing in single parent households. Findings confirm that parent-level interventions involving African American families are effective in delaying sexual debut among sexually inexperienced youth and increasing condom use among sexually active adolescents. However, parent-level interventions for African American youth have been less successful in reducing sexual activity levels among youth who are already sexually active. Despite encouraging results, a number of limitations should be addressed in future research. Study designs should seek to clarify which intervention components are most effective and determine if culturally relevant tailoring can enhance intervention impact. Additionally, improvement in the assessment and analysis of program acceptability and behavioral outcome data is a priority, as is the need for greater transparency in reporting of all study outcomes. With such advancements, parent-level interventions can be an effective component of multilevel efforts to reduce the risk of HIV and other STIs among African-American youth.

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SCREENING FOR SEXUAL HEALTH IN PRIMARY CARE

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The American Academy of Pediatrics encourages the assessment of sexual behavior at a well visit (AAP, 2001). Studies show, however, that this occurs infrequently due to provider's lack of time and their discomfort with asking personal questions about sex (Henry-Reid et al., 2010). In addition, very few pediatricians ask about sexual orientation, even though LGBTQ youth are three times more likely to endorse suicidal ideation (Chaplic & Allen, 2013). The Behavioral Health Screening (BHS) addresses this problem by offering a comprehensive web-based, mental health screening tool that covers psychiatric distress and risk behavior. A sample of 1,400 patients from 8 primary care centers in Pennsylvania was assessed from 2009 to 2012. Patients were asked about their sexual orientation, sexual behavior, and associated risk factors, including condom use and suicidal ideation. Patients were ages 14-24 (M = 17.56, SD = 2.95) and identified themselves as African American (4%), Caucasian (81%), and other minority groups (15%). Most participants were female (63%). Preliminary descriptive analyses revealed that 52% of patients endorsed having vaginal sex, 43% reported oral sex, and 12% reported anal sex. Males reported having anal (M = 16.16, SD = 2.21, $t(167) = -3.37$, $p < .01$) and oral (M = 15.00, SD = 2.02, $t(674) = -6.40$, $p < .01$) sex at younger ages than females (M = 17.48, SD = 2.53 and M = 16.17, SD = 2.12, respectively). Furthermore, 52% (n = 778) of patients endorsed inconsistent condom use. Six percent of patients reported being attracted to both sexes. Analyses indicated that forty-two percent of non-heterosexual patients had moderate to severe symptoms of depression and these patients were more likely to have a history of attempted suicide [χ^2 (1, n = 1367) = 36.89, $p < .05$, phi = .16].These findings suggest that adolescents will report sexual behavioral and practice to their PCP which opens the opportunity to patient education and guidance. Further, the BHS screen maybe a useful tool for screening this, and other topic areas, as a first step toward a patient-provider conversation.

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INTENTIONS TO OBTAIN AN STI TEST IN THE AFRICAN AMERICAN CHURCH SETTING

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African Americans have disproportionately higher rates of sexually transmitted infections (STIs) than Whites. The Theory of Planned Behavior (TPB) posits that one of the most accurate predictors of future behavior is intention to engage in the behavior and that behavioral control, attitudes, and norms are predictive of behavioral intentions. Several studies have examined the use of these theories to predict intentions to engage in safer sex behaviors (e.g., condom use). However, the TPB model has yet to be used to examine intentions to obtain STI testing, particularly among African American church populations. Study participants (N = 120) consisted of 45 male and 75 female church members and community members served through participating churches' outreach ministry services (e.g., food/clothing pantries) in two African American churches in Kansas City, MO. Participants completed a survey on health beliefs and behaviors, which included questions on their intentions to obtain an STI test, perceptions on church involvement in STI testing [attitudes], perceived church support for receipt of an STI test [norms], and testing convenience [behavioral control]. Among participants (mean age = 41.71, SD = 12.96), 96% were African-American, 47.5% were married, and most were either Baptist (52.5%) or Catholic (37.5%). Thirty-seven percent of participants indicated that they intended and were committed to taking an STI test at church in the next year. Most participants (66.2%) believed the church should be involved in STI and HIV screening and 77.4% also believed that both their fellow church members and pastors would support their receipt of STI and HIV tests. Significant correlations were found between intentions to get tested, belief that the church should discuss STI testing and condom distribution, and support in the church to get tested. Future research should investigate factors related to church-based STI screening to assist in developing religiously appropriate STI screening interventions in faith settings.

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ASSESSING A SLEEP HYGIENE INTERVENTION IN PRE-ADOLESCENT CHILDREN

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Sleep is crucial for health and development, especially among children. However, evidence reveals that children are getting less sleep than in previous decades, suggesting the need for interventions to improve their sleep-related outcomes. Objective measurement of these outcomes can provide valuable information that people—particularly children—may be unwilling or unable to give in their self-reports. This research examined the impact of a home-based, experimental intervention to improve sleep outcomes among a small sample of pre-adolescent children getting insufficient sleep (i.e., less than 10 hours per night). Ten children (and their parents)—recruited through affiliated pediatric health clinics—were randomly assigned either to a behavioral sleep-hygiene program (the treatment condition) or wait-list control group. Sleep was assessed objectively using actigraphs, which were worn on the non-dominant wrist by all participants for 5 continuous days at baseline, six weeks later, and again twelve weeks after baseline assessments. Specific sleep outcomes included time in bed, sleep onset latency, sleep duration, sleep efficiency (time in bed asleep), and night wakings. Relative to control participants, children in the treatment group experienced nominally better sleep quality. These results suggest that interventions using combined behavioral sleep strategies may be provide a low-cost, non-pharmalogical approach for improving important sleep outcomes among sleep-deprived children. Comparisons between these findings and subjective sleep assessments are also examined, and their implications for validating self-reported sleep and tailoring sleep interventions are discussed.

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POOR SLEEP INCREASES ANXIETY AND RUMINATION AFTER ACUTE STRESS IN HEALTHY WOMEN

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Anxiety and rumination impact poor sleep, but little is known about poor sleep as a predictor for anxiety and worry. We examined whether poor sleep the previous night predicts state-anxiety and rumination after an acute stressor. Participants (n = 156) were nonsmoking, premenopausal women in good health (by self-report, physical exam, and blood screens), with mean age = 33.6 (range 25-49) and body mass index = 26.3 (range 17.3-49.6). All underwent the Trier Social Stress Test (TSST). Actigraphy and self-report sleep data were collected for the night before the TSST and control day (no TSST). Mood and rumination surveys were given at baseline, immediately post-TSST, and 75 minutes post-TSST. Nearly half (44.1%, n = 70) had short sleep (<7 hours), 22.6% (n = 36) had trouble falling asleep, 83.0% (n = 132) had trouble staying asleep, and 17% (n = 27) had both. Poor sleep efficiency was found in 49.1% (n = 78), and 14.4% (30) reported poor sleep quality. Sleep values did not differ on the night prior to the TSST vs. control. Age and BMI were the only demographic variables significantly related to sleep quality ($p < .05$). Those with poor sleep quality had higher anxiety during the TSST ($p < .05$), and more rumination 75 minutes post-TSST ($p < .05$). This was higher in women with a family history of breast cancer ($p < .05$). However, no significant differences were found on the control day. Sleep problems were common with poor sleep quality having the most impact on stress and rumination. This finding was greatest in women with a family history of breast cancer, which may suggest greater reactivity to acute stress in this chronically stressed group. Future research should examine the impact of sleep on anxiety and rumination among cancer patients, where chronic and acute stress is more common and the psychological impact more detrimental.

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D-180

NEW PREDICTORS OF MENTHOL-CIGARETTE SMOKING AMONG AFRICAN-AMERICANS

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Prevalence of cigarette smoking has decreased, but prevalence of smoking menthol cigarettes has not. This is in part because menthol smokers have greater difficulty quitting smoking and higher relapse rates after quitting than non-menthol smokers. These differences suggest that the menthol-additive contributes to higher nicotine addiction, but there is no consistent biological evidence for that. An alternative possibility is that menthol smokers might differ from non-menthol smokers in the health behaviors (e.g., polytobacco use) and the social correlates of smoking (e.g., community poverty) that are independently associated with low quitting rates. We explored those variables for the first time.

Participants were N = 482 African-American adult smokers (n = 378 menthol, and n = 104 non-menthol smokers), sampled door-to-door in randomly-selected census tracts, who completed an anonymous survey. Survey items included past 30-day smoking of cigarettes, cigars, bidis, and cigarillos; alcohol use, prior quit attempts, demographics, and intentions to quit. Data on census tract (CT) poverty and CT Black-poverty were included.

The logistic regression predicting menthol smoking revealed that menthol smokers were 7 times more likely to intend to quit smoking in the next 6 months, 23% less likely to have attempted to quit, 5.6 times more likely to smoke cigarillos, and consumed significantly more alcoholic beverages than non-menthol smokers. The logistic regression predicting prior quit attempts however found that number of cigarettes smoked daily and intentions to quit (but not menthol smoking, alcohol or cigarillo use) were the predictors.

These findings reveal higher cigarillo and alcohol use among menthol than non-menthol smokers. These behaviors – rather than type of cigarette smoked – might contribute to menthol smokers' low success with long-term cigarette smoking abstinence.

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D-181

SMOKING AND NONSMOKING CAREGIVERS' SELF-EFFICACY TO ENFORCE A HOME SMOKING BAN AND PRESCHOOLERS' SECONDHAND SMOKE EXPOSURE

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Approximately 25% of children live in a home with a smoker. Home smoking bans are associated with reduced child secondhand smoke exposure (SHSe). Among caregivers who smoke (CS), self-efficacy to ask others to smoke outside of the home has been associated with lower child SHSe, but this has not been evaluated in nonsmoking caregivers (NSC). The study goal is to compare the association between CS and NSC's self-efficacy to enforce a home smoking ban on others and child SHSe (child salivary cotinine and household air nicotine levels).

Participants were 336 Head Start children who lived with a smoker (66.4% primary caregivers smoked, 91.1% African-American, 50% female, child Mage = 3.76 ± 0.82 years). SHSe was high in both groups; however child salivary cotinine was higher among CS (M = 6.12, SD = 6.80) than NSC (M = 4.12, SD = 4.72; $p < .006$) as was household air nicotine levels (CS: M = 2.13, SD = 2.96 versus NSC: M = 1.26, SD = 1.94; $p < .002$). On a 1-10 point scale, CS (M = 8.70, SD = 2.44) and NSC (M = 8.20, SD = 2.54) reported similar levels of confidence in their ability to stop family members or other people from smoking in their homes. For CS, increased confidence to ask others not to smoke in the home was significantly associated with lower child cotinine levels ($p = .001$) and trended toward lower household air nicotine levels ($p = .06$). These findings were not replicated in NSC.

Consistent with previous research, among caregivers who smoke higher confidence to ask others not to smoke in the home was associated with lower child SHSe. Interesting, this association was not replicated among nonsmoking caregivers. Thus, counseling strategies to support self-efficacy may be effective for reducing SHSe when the primary caregiver smokes, but additional research is needed to understand the factors contributing to preschoolers' SHSe when the caregiver is not a smoker.

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D-182

MOMENTARY ASSOCIATIONS BETWEEN RELIGIOSITY AND SMOKING BEHAVIORS AMONG SOMALI MEN

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Smoking prevalence in Muslim communities in different parts of the world remains relatively high ranging between 20% and 45%. In Minnesota, a 2009 survey showed a cigarette smoking prevalence of 44.1% among Somali men more than twice Minnesota's adult prevalence rate at 17%. The purpose of this study was to measure real time smoking cravings and urges via ecological momentary assessment (EMA) during Ramadan, when eating and smoking are prohibited during daylight hours. Participants were enrolled in this study if they were current smokers (CO measure ≥ 5 ppm), had smoked ≥100 cigarettes in their life time and were going to fast throughout Ramadan. The current analyses used data collected via smart phones at random time points (3 times per day, 2 times a week) during Ramadan. 46 Somali men [18 years and older, average age of initiation = 17.0 (SD = 3.3) years, mean quit attempts in the past year =1.0 (1.3), average cigarettes per day =13.4 (5.2)] were recruited in the study. The study tested whether religiosity at baseline (measured using Daily Spiritual Experience Scale and Brief Religious Coping Scale) and smoking during Ramadan were correlated. In the analysis, 4 time blocks (pre-sunrise [4:30 am-9:00 am], day time [9:01 am-3:00 pm], pre-sunset [3:01 pm-9:00 pm] and breaking fast [9:01 pm-4:29 am]) were used; eating and smoking were permitted in the first and last block. The average cigarettes smoked during the entire month of Ramadan; pre-sunrise, daytime, pre-sunset and breaking fast = (2.7, 2.7, 4.2, and 31.6 respectively). 82.6% (n = 38) of the individuals completed some EMA data. 21.1% of participants did not report any smoking data during Ramadan, suggesting they may have quit. There was no evidence of a significant association between smoking and pre-Ramadan religiosity. Findings indicate that smokers do smoke after breaking their fast in the evening, while others quit. This information would be useful for healthcare providers to effectively address smoking cessation programs during Ramadan.

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D-183

AN EVALUATION OF YOUTH ACCESS TO ELECTRONIC TOBACCO PRODUCTS OVER THE INTERNET

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In an attempt to reduce youth access to tobacco, and thus initiation, policy changes have sought to limit cigarette sales to minors, since it is a strong predictor of smoking behavior and initiation (Klonoff & Landrine, 2004). Methods that have reduced sales to minors are fines and ID checks (Stead & Lancaster, 2008). However, adolescents are increasingly using electronic tobacco products instead of traditional cigarettes, which are not regulated in the same way (Choo, Shin, & Moon, 2011; Goniewicz & Zielinska-Danch, 2012), and are using the Internet to procure them (Yamin, Bitton, & Bates, 2010). This study seeks to better understand the rate at which adolescents are able to purchase electronic tobacco products over the Internet.

From a list of 224 websites, seven adolescents made 268 purchase attempts with a bank issued "under-cover" credit card. Of the 268 purchase attempts, 146 (58.4%) resulted in the sale of an electronic tobacco product. Of the 146 sales, 64 sites asked the subject if they were over 18 (to which the subject said yes, even though they were not), and 46 asked for the participant's date of birth. Only 3 sites (2.0%) asked the participant to call them so that they may do an age-verification, and only 4 sites required a signature upon delivery (2.7%). When participants were asked if they were +18, 45 of the 65 (70.3%) attempts resulted in a sale. If asked their date of birth, 26 of the 46 (56.5%) attempts resulted in a completed sale. The rate of sale of those asked their date of birth was not statistically different from those that were not ($F(1,266) = 1.930$, $p = .166$) and the rate of sale was actually higher for those that were asked if they were over 18 than for those who were not ($F(1,266) = 5.921$, $p = .016$).

These data suggest that minors can purchase electronic tobacco products over the Internet with ease, potentially because of the ineffectiveness of age-verification to limit youth access. More stringent procedures need to be implemented to help reduce youth access to these products.

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D-184

PERCEIVED BODY-WEIGHT AND PHYSICAL ACTIVITY ASSOCIATED WITH QUIT ATTEMPTS IN A SAMPLE OF URBAN ADOLESCENT SMOKERS

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Smoking among adolescents continues to be a public health problem. Perceptions of being overweight increase the likelihood that adolescents will initiate and develop a regular smoking habit, while physical activity may decrease this likelihood. Less is known about associations between overweight perceptions and regular physical activity and quit attempts among current adolescent smokers. Purpose: The purpose of this study was to examine whether overweight perceptions (1 = perceive as overweight; 0 = perceive as normal) and regular physical activity was associated with quit attempts made in the last year in a sample of 9-12th grade students. Methods: Data obtained from male and female adolescent smokers (N = 6478) completing the 2011 Youth Risk Behavior Surveillance survey were analyzed using backward stepwise logistic regression to examine associations between hypothesized predictors on self-reported quit attempts within the past 12 months (0 = no quit attempts; 1 = had quit attempt). Gender, cigarettes per day, experience of poor mental health in the last month, BMI and age of smoking initiation were controlled in the final model. Results: Adolescents who perceived themselves as being overweight were significantly less likely to make a quit attempt (OR = 0.08; [95%CI = 0.04 - 1.52]) while those engaging in 5 or more days of physical activity were 40% more likely to report a quit attempt in the past year (OR = 1.4; [95%CI = 1.12 - 1.93]). BMI was positively associated with quit attempts (OR = 4.76, [95%CI = 3.44 - 6.60]) indicating perceived weight rather than actual weight may influence smoking behaviors. Results suggest that increasing physical activity levels and improving body weight perceptions may be important smoking prevention and cessation intervention targets for this high-risk sample of urban adolescents.

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D-185

FACTORS AFFECTING ATTENDANCE IN A PARTICIPATORY COMMUNITY TRIAL WITH LATINO FAMILIES

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Background: A common challenge for family interventions is attendance. Padres Informados, Jovenes Preparados (PIJP) is a community-based participatory RCT that aims to prevent tobaco and other substance use in Latino youth. Because participation was variable, we explored perceptions about factors associated with attendance and non-attendance at several ecological levels.
Methods: Participants joined focus groups (FG) when completing the post-intervention evaluation. Facilitators participated in in-depth interviews (IDI) after delivering PIJP. FG and IDI explored aids, barriers and suggestions to improve attendance. Data were independently coded for emerging themes and categories by two pairs of researchers using Content Analysis. Intercoder reliability was 0.86 for FG and 0.73 for IDI. Data from FG and IDI were merged and discussed until reaching consensus.
Results: 12 FG (76 participants) and 10 IDI were conducted. Participants were mostly married mothers from Mexico. Facilitators were mostly women from diverse cultures and education. Participants and facilitators identified similar factors affecting attendance. Aids to participation included factors at 4 levels: participant and family (e.g. motivation), facilitator (e.g. being trusted), program (e.g. offering food and daycare), and research (e.g. having incentives). Barriers included factors at 7 levels: participant and family (e.g. family conflicts), community (e.g. community conflicts), cultural (e.g. living in a ‘macho' culture), environmental (e.g. transportation), facilitator (e.g. lack of facilitation skills), program (e.g. fixed schedules), and research (e.g. improvisation). Suggestions addressed all categories of barriers, but community factors.
Conclusions: New and previously described factors affecting program attendance at different ecological levels were identified. Addressing barriers and implementing aids and suggestions, must be considered to increase participation in preventive programs with Latino families.

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DISPOSITIONAL MINDFULNESS IS ASSOCIATED WITH MOOD AND SELF-RATED HEALTH

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Objective: Mindfulness interventions have been shown to improve both physical and psychological functioning among patients with a number of diseases. Previous studies in non-clinical samples show an association between dispositional mindfulness (DM) and physical activity, vegetable intake, and sleep quality. However, the role of DM in mood and health behaviors of college students is still largely unexplored.
Methods: A total of 265 undergrads (80% female; M age = 21, SD = 2.3) recruited from two small, private liberal arts colleges completed an online survey. The survey included the Mindfulness Attention Awareness Scale (MAAS), the Center for Epidemiologic Studies Depression Scale (CES-D), the four-item Perceived Stress Scale (PSS), and demographic and general health questions. Pearson product moment correlations were used to examine the relationship between the MAAS, the PSS, and the CES-D. Spearman rank-order correlations were used to examine the relationship between DM and several questions related to health behaviors.
Results: DM is inversely associated with both PSS ($r = -.54$, $p < .001$) and CES-D ($r = -.48$, $p < .001$). Mindfulness is also positively correlated with self-rated health ($rs = .31$, $p < .001$); however, it is not associated with alcohol consumption or smoking status. Surprisingly, an inverse relationship between MAAS and engagement in aerobic exercise also exists ($rs = -.19$, $p < .01$).
Conclusion: Strong correlations between DM and both perceived stress and depressive symptoms suggest several possibilities: either reduced mindfulness is a byproduct of stress and depressive symptomatology, or individuals low in mindful awareness are more likely to experience these problems during college. Either way, self-rated health, which is an important prognostic indicator, is moderately correlated with mindfulness. Longitudinal studies tracking dispositional mindfulness, stress, depression, and health in college students would help unveil the temporal relationship of these variables.

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D-189

GENERAL LIFE AND DIABETES-RELATED STRESSORS IN TEENS WITH TYPE 1 DIABETES (T1D)

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Introduction: Teens with T1D must deal simultaneously with diabetes-related stressors while negotiating the developmental challenges of adolescence. Exposure to multiple stressors places high demands on these teens. With the recent changes in diabetes management, more research is needed on stressors in teens with T1D. The purpose of this study was to describe perceived stressors in teens with T1D.
Methods: Data were from 210 participants (44% male; 34% minority; 11-14 yrs; mean diabetes duration 6.0 yrs) enrolled in the intervention arm of a multi-site clinical trial of an internet-based coping skills training program. In the lesson on stress, teens identified their top three stressors from a checklist and responded to open-ended questions about what was stressful about each stressor. A content analysis method was used to identify themes within and across stressor categories using procedures to enhance reliability and validity (e.g., audit trails).
Results: Eight-two percent of teens reported that school was a top stressor, followed by social interactions (49%), diabetes (48%) and family (36%). Four themes emerged across all stressor types: feeling pressure to do well, balancing multiple demands, experiencing life transitions (e.g., starting in a new school), and trying to fit in. While only half of teens reported diabetes as one of their top three stressors, the negative influence of diabetes on developmental challenges of adolescence (e.g. autonomy, independence) was expressed. Themes of diabetes stressors included the impact of diabetes on social interactions, inconvenient self-management tasks, and missing out on activities/schoolwork due to diabetes.
Conclusion: Though teens with T1D experience stressors specific to T1D, they more frequently perceive stress related to normal adolescent growth and development. Teens with T1D may need psychosocial support that addresses both developmental and diabetes-related stressors.

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D-190

DEVELOPING A STRESS AND COPING MEASURE SENSITIVE TO EXPERIENCES OF LOW-INCOME MINORITY WOMEN

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Stress is associated with mental illness and chronic diseases. Existing scales of stress often fail to capture the daily stressors of low-income, rural women. The purpose of this study is to explore attitudes, beliefs, and affect regarding stressors in young women from a low-income, rural community in order to develop an appropriate scale. Methods: Women, aged 18 - 35 years, were recruited from a rural Hawaii community health center. Four focus groups were held to elicit information regarding stress and coping strategies. Focus groups were recorded and major themes identified. Results: Participants included 25 women; 88% were minorities including Pacific Islanders and Asians. Significant stressors identified: (1) Relationships with partners and family on concerns related to communication, controlling behavior, household/childcare duties; (2) Childrearing and childcare; (3) Finances; (4) Neighborhood environment including traffic, housing, privacy, safety; (5) Sociocultural differences including feeling like an outsider, intercultural conflicts, discrimination; and (6) Workplace issues. Coping strategies included: social support from partner, friends and family; support from therapists; outdoor activities; eating, drinking, alcohol, drug use; and religion. Conclusion: In this study, women from a rural, low-income community articulated a complex array of daily stressors. While some of the stressors are similar to those previously described, we identified novel stressors, such as "being an outsider," that are not commonly measured by existing stress assessment tools. The coping strategies identified may also augment community relevance of scales. Hence, a culturally relevant assessment of stressors and coping may be more appropriate for low-income, minority women. Implications of culturally relevant assessment may contribute to the development of interventions to reduce chronic stress and its negative health effects in communities disproportionally affected by health disparities.

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D-191

STATE MINDFULNESS AND STRESSOR TYPE INFLUENCE COPING STRATEGY PREFERENCES AMONG AFRICAN AMERICAN COLLEGE STUDENTS

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Research Objectives: Mindfulness is both a trait and an attentional state that can reduce perceived stress by promoting awareness of one's thoughts, emotions, and physical sensations in the present moment (Kabat-Zinn, 1990). One aspect of mindfulness is nonjudgmental acceptance of external stimuli, such as other people situations, and events (Baer, Smith, & Allen, 2004). This study investigated whether a brief mindfulness intervention influences coping strategy preferences among college students across types of stressful situations.
Methodology: One hundred and twenty-four African American college students were randomly assigned to one of the four conditions in a 2 x 2 design. The independent variables were state mindfulness (mindful; control) and stressor scenario type (family, race-related). The dependent variables were the coping strategies that were selected after reading the stressor scenario.
Results: State mindfulness did not predict approach or avoidant oriented coping strategies. However, state mindfulness did interact with stressor scenario type's influence on two approach-oriented coping strategies: planning ($F(2,121) = 6.66$, $p < .01$) and active coping ($F(2,121) = 7.47$ $p < .01$). Most of this effect seems to be a result of the mindfulness manipulation on the race-related scenario. Individuals in the mindful x race-related stressor condition were significantly less likely to select the planning and active coping strategies to deal with the stressor compared to all of the other conditions.
Conclusion: This research speaks to the importance of acknowledging stressor content in mindfulness-based stress reduction programs for African Americans. Future studies should investigate the metacognitive or qualitative aspects of mindfulness, specifically in the race-related stressor scenarios.

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BIO-BEHAVIORAL FACTORS IN CHILD HEALTH OUTCOMES: THE ROLE OF MATERNAL STRESS, MATERNAL-CHILD ENGAGEMENT, SALIVARY CORTISOL AND SALIVARY TESTOSTERONE

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Background: Low socioeconomic status (SES) increases a child's exposure to high maternal stress and ineffective maternal-child engagement (MC-E) that may adversely affect child health outcomes.
Objective: The aim was to examine the impact of maternal stress and MC-E on maternal and child biological responses (salivary cortisol and testosterone) and child health outcome in mother-child dyads of preschool children (3-5 years) in a low SES setting.
Method: Observational and bio-behavioral data were collected from 58 mother-child dyads in a Head Start preschool setting. Assessments included: maternal stress with the Perceived Stress Scale; child health outcomes with the Pediatric Quality of Life Inventory; and MC-E with videotaped mother-child interactions and scored with the Keys to Interactive Parenting Scale. Morning and bedtime saliva samples were collected from mother and child for biological assays.
Results: Maternal stress was significantly and negatively correlated with MC-E and child health outcome ($r = -0.32, -0.33$, $p < 0.05$). Lower levels of MC-E predicted significantly higher morning cortisol and morning and bedtime testosterone levels in children, but did not significantly impact any of maternal biological responses. In turn, child biological responses did not predict child health outcome.
Conclusions: Maternal stress and mother-child interactions play a significant role in the regulation of child stress physiology and child health outcome. Elevated cortisol and testosterone related to high maternal stress and low MC-E may increase the child's vulnerability to negative health outcomes if sustained. More bio-behavioral research is needed to understand how parent-child interactions support child development and impact health outcomes in early childhood.

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FLAVORING INGREDIENTS AND MARKETING OF CHILDREN'S OTC MEDICATIONS: IMPLICATIONS FOR CHILD HEALTH AND RISK OF OVERDOSE

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Over-the-counter (OTC) liquid medications are one of the most frequently utilized sources of self-poisoning among children. Children's OTC liquid medications in particular are often flavored with non-essential ingredients (artificial colorings and sweeteners) that are incorporated solely to help such medications taste appealing. The unintended consequence, however, is that there is a corresponding increased risk of medication overconsumption among children. The health consequences can be fatal, resulting in overdose. Recent research has demonstrated that many children have misconceptions about OTC medications, their purpose, and intended use. And, given the increased concern surrounding OTC medication overdose, further research has advocated for the addition of flow restrictors to medicine bottles as a means of limiting access to OTC medications among children. The specific strategies used to market children's OTC liquid medications have, to-date, not been documented. The authors therefore collected data to identify the presence of potentially toxic flavoring ingredients in children's medication, describe corresponding marketing strategies, and describe the implications for children's health and increased risk of overdose. A comprehensive and exhaustive list of children's OTC liquid medications and their ingredients from pharmacies in NYC were compiled. The final sample size comprised 107 children's liquid medications. Twenty-five non-essential ingredients with no medicinal purpose were identified across the sample, of which 36% ($n = 9$) specifically were flavoring ingredients. Nearly the entire sample was flavored to taste like a food product (87.9% ($n = 94$)) and each of these medications contained a picture of at least one food product on its packaging. Given the risk of both unintentional and intentional overdose of OTC medications among youth, the need to educate parents and their young children on safe medication consumption practices is crucial.

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D-195

SPORT PARTICIPATION AND ALCOHOL AND ILLICIT DRUG USE IN ADOLESCENTS AND YOUNG ADULTS: A SYSTEMATIC REVIEW OF LONGITUDINAL STUDIES

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Sport participation can play an important and positive role in the health and development of children and youth (Coulter, 2005; Donnelly, et al., 2007). There is, however, also the recognition of the potentially damaging effects that sport participation can have on children and youth (e.g., excessive demands and expectations that exceed one's physical and/or emotional maturity, negative adult involvement, risk of injury) (APA, 2001). One area that has recently been receiving greater attention is the role that sport participation might play in preventing drug and alcohol use among youth. The current study is a systematic review of 17 prospective studies examining the relationship between sport participation and alcohol and drug use among adolescents. The results indicate that sport participation is associated with alcohol use, with 71% of the included studies showing a significant positive relationship. Sport participation, however, appears to be related to reduced illicit drug use, especially use of non-cannabis related drugs. Eighty percent of the studies found sport participation associated with decreased illicit drug use, while only 50% of the studies found negative association between sport participation and marijuana use. Further investigation revealed that participation in sports reduced the risk of marijuana use, but only during high school; suggesting this may be a critical period to reduce or prevent the use of cannabis through sport. Future research must better understand what conditions are necessary for sport participation to have beneficial outcomes in terms of preventing alcohol and/or illicit drug use. This has been absent in the extent literature and will be central to intervention efforts in this area.

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EVALUATING THE CONSTRUCT VALIDITY OF THE OPIOID ABUSE RISK SCREENER (OARS) ACROSS HEALTHY, PAIN TREATMENT, AND SUBSTANCE ABUSE TREATMENT SAMPLES

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The ability to accurately identify individuals at-risk for opioid abuse is critical given the often catastrophic consequences of opioid misuse. The Opioid Abuse Risk Screener (OARS) was developed as a brief, comprehensive, evidence-based, risk stratification assessment tool. The OARS is a 46-item inventory that includes two factor-analytically derived subscales: Emotional Lability (e.g., issues related to depression, anxiety, & trauma response) and Aberrant Behavior (e.g., history of medical non-compliance, smoking, and history of medication or illicit substance abuse). Scores from each of these subscales are subjected to a statistically and clinically-informed algorithm to compute overall opiate abuse potential (low, medium, and high risk). The present purpose was to examine the ability of the OARS to differentiate abuse risk in three types of individuals sampled from clinics across Utah: Healthy (H; n = 88; denying substance use disorders, chronic pain, or significant psychiatric concerns); Pain Treatment (PT; n = 144; actively receiving pain management services at a pain clinic); and Substance Abuse Treatment (SAT; n = 152; currently involved in outpatient substance abuse treatment). It was hypothesized that individuals within the SAT group would reflect higher risk on the OARS versus the H or PT groups. Results of a chi-square test demonstrated statistically significantly differences ($p = .000$) among risk stratifications across the groups. Among the SAT group, 86% of the sample was categorized as either moderate or high risk. Among the H group, 85% of the sample fell in either the low or moderate risk categories. The PT group was relatively evenly distributed across risk assessment categories. The potential value of the OARS to quantify opiate abuse risk is discussed. Plans for future predictive validity studies of the OARS are elucidated.

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DEVELOPMENT AND EVIDENCE FOR A CAFFEINE MOTIVES QUESTIONNAIRE

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Caffeine is the most widely consumed psychoactive substance in the world. However there is no available, comprehensive measure by which to formally assess individuals' motivations for use. In the present study we developed and validated the 22-item Caffeine Motives Questionnaire (CMQ). An exploratory and confirmatory factor analysis were sequentially conducted to first determine and then confirm the factor structure across two large samples of university students ($N = 922$). To examine evidence for convergent and discriminant validity, a series of correlations were conducted to assess relations between CMQ factors and indices of caffeine and tobacco use, problematic alcohol and cannabis use, and psychological health. Results indicated a 4-factor motive solution, which included motives related to (1) cognitive enhancement (i.e., alert, concentration, drowsiness, attention, energy, stay awake), (2) negative affect relief (i.e., stress, anxiety, depression), (3) reinforcement (i.e., headache, taste, convenience, relax, buzz feeling, social, crave, reward, cued craving, mood), and (4) weight control (i.e., ingredient in diet pills, powerful diuretic, lose or control weight). Analyses investigating convergent and discriminant validity indicated that, across samples, each CMQ factor was positively associated with caffeine consumption (but not tobacco use) as well as indices of psychopathology, including depression, social anxiety, panic, and traumatic intrusions (all p's < .01). Findings support the validity of the CMQ for the assessment of caffeine motives, and provide a clinical tool for understanding individual reasons for using caffeine.

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NEUROPSYCHIATRIC OUTCOMES FOLLOWING LUNG TRANSPLANTATION

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Objective: To examine the relationship between pre-transplant neuropsychiatric functioning and post-transplant outcomes among individuals with advanced lung disease undergoing lung transplantation.
Methods: Eighty patients (31 women) listed for lung transplantation between March and September, 2013 were asked to complete a preoperative neuropsychiatric battery including the Repeatable Battery for the Assessment of Neuropsychological Status (RBANS) and measures of depression, anxiety, and pulmonary quality of life (QoL) prior to hospital discharge. Patients also underwent delirium monitoring following transplantation using the Confusion Assessment Method (CAM) and the Delirium Rating Scale (DRS). Neuropsychiatric assessments were repeated following transplantation.
Results: Fifty-six individuals were transplanted, 19 (34%) of whom developed delirium at some point during their hospitalization. Older age ($P = .054$) and lower RBANS performance ($P = .011$) were predictive of postoperative delirium. Individuals exhibiting delirium experienced longer hospital stays than their non-delirious counterparts (15 days v 22 days; $P < .01$). Pulmonary QoL was improved following transplantation ($P = .002$). Elevated symptoms of depression and anxiety (r's > .44, P's < .02), as well as more cognitive complaints ($r = -.66$, $P < .001$), were associated with reduced pulmonary QoL following transplantation.
Conclusions: Neuropsychiatric changes, including delirium, occur frequently in lung transplant patients and are associated with longer hospitalizations post-surgery. Psychological factors, such as anxiety and depression, also appear to be associated with lower post-transplant pulmonary QoL.

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MEASURING COPING BEHAVIOR IN LIVER TRANSPLANT PATIENTS: A PSYCHOMETRIC ANALYSIS OF THE BCOPE

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Liver transplant candidates must cope with significant physiological and psychological challenges. Although the brief COPE (BCOPE) is frequently used, knowledge of the BCOPE's factor structure and construct validity is limited in regards to liver transplant candidates, thus limiting confidence with interpreting results. This study assessed the psychometric properties of the BCOPE in 124 adults (60.5% Male), currently on the United Network for Organ Sharing (UNOS) wait-list for liver transplantation at a single transplant center. Measures assessed coping behavior and physical and psychological functioning. Exploratory factorial analysis revealed a six factor solution. The six factors were labelled active, maladaptive, emotional support, humor, religious, and substance abuse. Humor and substance abuse were consistent with original scale assignments reported by Carver (1997). Construct validity of the six BCOPE scales yielded in this study were demonstrated. Active, humor, and religious coping scales were negatively associated with scores on the Beck Depression Inventory (BDI). Maladaptive coping was positively associated with scores on the Beck Anxiety Inventory and the BDI. Active coping was positively associated with total physical and mental functioning on the Short-form (36) Health Survey (SF-36). Maladaptive coping was negatively associated with physical and mental functioning on the SF-36. The results indicate that the BCOPE is valid, reliable, and can be meaningfully interpreted in liver transplant candidates. Suggestions are discussed for improving transplant team care by promoting the usage of adaptive coping mechanisms to manage distress in this population.

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