Intervening early with youth with developmental disabilities using a tailored approach that considers each youth's unique strengths and interests will improve future employment outcomes for these youth.

IMPACT

Cohort 2 Report

January 31, 2022

Rachelle Hole, Colin Reid, Laura Mudde

This program is funded by the Government of Canada and the Province of British Columbia.

THE UNIVERSITY OF BRITISH COLUMBIA

Canadian Institute for Inclusion and Citizenship

Executive Summary

The IMPACT program was developed in 2019 in response to the low labour market participation of individuals with intellectual and developmental disabilities (IDD) in British Columbia (BC). In fact, as of March 31, 2019, only 24.2% of individuals supported by Community Living BC (CLBC) reported some employment earnings, with 82% of these reporting earnings below $10,000 a year (CLBC, 2019). IMPACT aims to address these low employment outcomes by intervening with transitioning youth between the ages of 15 - 19. By transitioning youth, we mean youth who are preparing to transition or who are actively transitioning from high school to post high school life. Guided by employment specialists, IMPACT programs provide a range of opportunities such as training around employment, work experiences, employment opportunities, and peer involvement with potential employers.

The IMPACT project was initiated in 2020 by eight member organizations of the BC Employment Network located in the Lower Mainland and the Southern Vancouver Island of BC. The project involves three cohorts of youth over three years. This second report details the findings of the evaluation for Cohort 2 which ran in the summer of 2021.

The IMPACT research investigates whether and how intervening early with youth with IDD using tailored approaches to employment positively impacts employment outcomes. The hypothesis guiding this research is: *Intervening early with youth with IDD using a tailored approach that considers each youth's unique strengths and interests will improve future employment outcomes for these youth.* A concurrent mixed methods formative evaluation design informs the research (Creswell & Plano Clark, 2011). Each of the eight agencies participating in IMPACT developed and delivered summer youth employment interventions, and a neutral, arms-length evaluation was conducted of the second cohort by researchers from the UBC Canadian Institute for Inclusion and Citizenship. The UBC Behavioural Research Ethics Board granted ethics approval for this research. Convenience and criterion sampling were used to recruit youth from agencies' partner organizations (e.g., school districts). In the second cohort of 2021, 91 youth with IDD participated in the program, and 10 youth participated in a control group.

Data related to agency intervention and youth engagement were collected through several instruments, including pre- and post-interviews. These interviews included demographic information, an assessment of level of support (level of disability), questions about knowledge of employment, and the completion of a Meticulon Assessment Scale (MAS, 2020). In addition, agency staff systematically recorded their youth's intervention activities in an ongoing developmental diary to document program delivery in relation to work experience and paid employment gained. During the exit interview, youth were also asked about their experiences in the program. Parents completed the MAS about their youth at the beginning and end of the employment intervention. Finally, parents were invited post-intervention to complete an online survey eliciting their views of the IMPACT Program.

Outcomes reveal an increase in overall paid and unpaid work experience through the youth's engagement with IMPACT, as well as an increase in MAS employability domains and self-assessed knowledge about employment. Thirty-eight youth participated in unpaid work experience and thirty-four got paid employment. Agency interventions with participating youth improved the youth's unique strengths and interests related to employment and skills.

Contents

Contact Information

Dr. Rachelle Hole
Canadian Institute for Inclusion and Citizenship
University of British Columbia
Okanagan

1147 Research Road,
Kelowna, BC V1V 1V7
rachelle.hole@ubc.ca
cic.ubc@ubc.ca

Introduction

In British Columbia (BC), only 24.2% in BC (CLBC, 2019) and, in Canada, only 22.3% of individuals with intellectual and developmental disabilities (IDD) indicated some kind of employment (Statistics Canada, 2012); and, when employed, individuals with IDD receive low wages, work few hours, and their work sometimes takes place in segregated settings (Carter et al., 2012; Grossi et al., 2020; Grigal et al., 2014; Hole et al., 2011). These statistics are striking given the importance of employment for most working-age adults. Work is a major aspiration for people with IDD and a key mechanism for enacting social inclusion (Cramm et al., 2009; Flores et al., 2011; Humber 2014; Johoda et al., 2009; Lysaght et al., 2012). Employment is one important means through which individuals with IDD can lead full, rich lives as members of their communities (Chiang et al., 2013). As a result, researchers, policy makers, practitioners, family members, and individuals with IDD (often referred to as self-advocates in Canada) are calling for improved employment outcomes for individuals with IDD. Given the underemployment and unemployment of working age individuals with IDD, eight community living organizations of the BC Employment Network located in the lower mainland and South Vancouver Island undertook a project aimed at improving employment outcomes for individuals with IDD, and based on research evidence, they focused on youth ages 15 to 19 years old.

In Canada, research on employment and transitioning youth with IDD is sparse. In fact, the majority of empirical work comes from researchers in the United States (U.S.), Australia and United Kingdom (Hole et al., 2011). This research repeatedly demonstrates that transition initiatives and planning are “falling short” (Cheak-Zamora et al., 2015; Magnuson, 2013; Sung et al.., 2015; Wehman et al., 2014a; Wehman et al., 2014b). That said, there is strong evidence indicating specific domains that improve employment outcomes (e.g., Carter et al., 2012). One key predictor of successful employment outcomes for working-age individuals with IDD is early intervention, particularly when youth are transitioning from school to work (Cimera et al., 2014; Cimera et al., 2013; Shattuck et al., 2012; Sung et al., 2015). To date, research on early interventions focused on youth and employment has tended to concentrate on youth specific ‘job tasks’ associated with a particular job (e.g., within retail, restaurant, clerical settings), only a minority of youth intervention studies focused on ‘pre- employment interventions,’ a seeming absence given the importance of early intervention and career planning (Seaman & Cannella-Malone, 2016). Moreover, early vocational supportand work experience is another predictor of employment for transitioning youth (Baumann etal., 2013; Cheak-Zamora et al., 2015; Grigal et al., 2014; Simonsen & Neubert, 2012; Sung et al., 2015). In fact, working age youth with IDD who were employed upon completion of high school were likely to remain employed and receive competitive wages (Burgess & Cimera, 2014; Cimera et al., 2014; Wehman et al., 2014; Sung et al., 2015). Both transition policy and recommended practice emphasize the necessity of providing youth with disabilities a strong foundation of compelling career development experiences early in their high school years (Carter et al., 2012). Given the importance of early intervention, the IMPACT Project is dedicated to an employment intervention for transitioning youth ages 15 – 19 years.

The principal issue addressed through IMPACT is improving employment related transition planning and supports for youth with IDD with the goal to improve employment outcomes of transitioning youth with IDD. The hypothesis guiding this work is:

> Intervening early with youth with IDD using a tailored approach that considers each youth’s unique strengths and interests will improve future employment outcomes for these youth.

1. Methods

IMPACT uses a concurrent mixed methods formative design to evaluate the outcomes of IMPACT over three cohorts (Creswell & Plano Clark, 2011). Cohort 2, similar to the pilot cohort (Cohort 1), was curtailed by restrictions given the COVID 19 pandemic. The eight organizations were required to modify their interventions to align with public health orders and COVID protocols. The developmental diaries used to document the intervention activities are reflective of these protocols in which planned interventions occurred in both online and in-person environments. In light of these limitations, the guiding research questions for Cohort 2 were: "*In what ways is intervening early with youth effective in producing positive employment related outcomes?*" And, *"What methods of intervention are statistically correlated to the employment outcomes of the youth?"*

1.1 Recruitment and sampling

Convenience and criterion sampling guided the sampling of participants. Inclusion criteria for eligibility to participate in the project included: 1) youth between the ages of 15 - 19; 2) being a youth with IDD; and, 3) parent/caregiver consent if under the age of majority.

All eight agencies approached recruitment through a variety of means. A recruitment flyer was distributed to local organizations positioned to assist with recruitment (e.g., Inclusion BC, STAIDD Navigators, and CLBC). In addition, seven agencies recruited through their local school districts, and three agencies who provide services to youth utilized their built-in referral sources. Given COVID 19, each agency held virtual information sessions with potential youth and their caregivers, or in-person individual sessions when safe and appropriate protocols were in place. Interested youth were invited to participate. Youth who declined were invited to participate as part of the control group. In total, 91 youth actively participated in an IMPACT summer program dispersed across the eight organizations. The number of youths per agency was as follows: one agency recruited nine youth; one agency recruited ten youth; two agencies recruited eleven youth; three agencies recruited twelve youth; and one agency recruited fourteen youth. Ten youth participated in the control group, completing both the entrance and exit interviews and the Meticulon Assessment Scale (MAS).

1.2 Data collection

Upon consenting to participate in the program, entrance interviews were conducted prior to commencing the program. Entrance interviews were conducted virtually, unless an in-person meeting was appropriate given COVID protocols. Throughout the intervention, staff kept developmental diaries documenting the activities during the program, both directly with the youth and on behalf of the youth, and logged employment experiences (paid and unpaid). Employment outcomes (paid and unpaid) were also documented at the end of the program. Each youth was given a $25 gift card four times during their involvement in IMPACT. They received a gift card following the entrance and exit interviews and monthly during their time in the program. Youth in the control group were given a $25 gift card after both the entrance and exit interviews as well.

Results regarding agency intervention and youth engagement were collected using several instruments. Pre- and post-interviews were conducted directly with the youth and their parents/caregivers. For the purposes of this report, "Parent(s)" will be used as an umbrella term to

refer to parents and caregivers/guardians. The entrance interviews with the youth include demographic information (e.g., age, level of education, self-identified level of disability/support needed), questions about the youth's knowledge of employment, and the MAS (MAS, 2020). The entrance interviews with the parents include demographic information about the youth (e.g., age, gender, ethnicity, level of disability/support needed) and the MAS. The exit interviews for the youth repeated the knowledge of employment questions, the MAS, and supplementary questions about the youth's experience in the program. The parent exit interview repeated the MAS for their youth. In addition, agency staff were instructed to systematically record their youth's intervention activities (activities conducted on-behalf of the youth and activities conducted directly with the youth) to document the youth's and employment specialists' activities as they relate to program delivery and employment experiences (paid and unpaid). Finally, a short parent reflection survey was conducted to explore parents' evaluation of the IMPACT Program.

After gaining a more detailed understanding of the interventions in Cohort 1, the scales proposed in the original application were changed to better reflect the agencies' interventions and the youth's experiences in IMPACT. The MAS reflects this alteration to assess the predictive domains for getting a job and keeping a job. The next section details the measures used in the data collection process.

Measures

The questions posed to the participants and their caregivers in the entrance interview first registered some basic demographic data, such as self-identified gender, age, ethnicity, minority status, and level of education. These questions were followed by scales and multiple response questions to further assess the youth's baseline experiences before program engagement and the effect that participating in IMPACT had.

The ARC's Level of Support Sub-Scale

The ARC's Self-determination Scale (Wehmeyer 1995) was developed to assess the level of self-determination of adults with mental and developmental disabilities (5). A subscale was developed to enable students completing the ARC to self-assess the levels of support needed (Wehmeyer 1995, p. 6).

For our sample, this subscale measuring the level of support needed was used, consisting of 7 questions (see below) along a 3-point scale. In response, youth were asked to indicate either "None" (1 point), "A Little" (2 points), or "A Lot" (3 points). The final scale is calculated out of 7 questions with a minimum possible score of 7 and a maximum score of 21.

ARC's Level of Support Subscale questions:

1. When it comes to self-care how much support/assistance do you need?
2. When it comes to learning how much support/assistance do you need?
3. When it comes to mobility how much support/assistance do you need?
4. When it comes to self-direction how much support/assistance do you need?
5. When it comes to receptive and expressive language how much support/assistance do you need?
6. When it comes to capacity for independent living how much support/assistance do you need?
7. When it comes to economic self-sufficiency how much support/assistance do you need?

This is an additive scale and the values used were 1 to 3 to come up with a total score. Scale scores were constrained to values between 7 and 21, with higher scores indicating greater need for support. The mean score then represents a general tendency to “None”, “A Little”, or “A Lot” of support needed in the 7 areas questioned.

The Cronbach’s alpha for this scale is 0.64.

Support

Another closely related general question in connection to the ARC’s Support Needed Subscale asked youth about their overall need for support during the day. This overall question consists of a 5-point scale ranging between 1 and 5: “None” (1 point), “A Little” (2 points), “A Medium Amount” (3 points), “A Lot” (4 points), to “I need support all the time” (5 points).

Employment

To assess the influence of employment interventions on the youth to see whether and how a tailored approach will improve future employment outcomes, entrance surveys inquired about their previous work experience in direct response format. Questions asked about previous paid, and/or volunteer work experience and if the youth was ‘currently employed’ at the entrance interview. Youth were subsequently asked about their work experiences and employment outcomes at the exit interview. This is important to gauge change in employment outcomes over time and the effectiveness of the IMPACT in providing employment training and engagement with the youth. Based on the data provided by the agencies related to the individual youth’s experience, it is possible to create an overview of the types of experiences youth engaged with and whether or not the experience was paid or volunteer-based. Important to note in the results below, is how some of the youth held multiple part time jobs and were very eager and active within the program.

Youth responses to IMPACT program

Part of the evaluation of IMPACT is gained from the youth themselves in the exit interview. Youth were asked four questions related to their experience with IMPACT and their overall satisfaction with the interventions. Answers could range between 1 and 5 on a Likert-scale from “Strongly disagree” (1 point) to “Strongly agree” (5 points). Apart from the measures described above, youth were asked about their knowledge about employment. Both youth and parents were asked to complete the MAS to assess eleven predictive domains of getting a job and keeping a job. Both entrance and exit results are provided below to allow assessment of change over time for IMPACT Cohort 2.[1]

Knowledge about employment

Youth were asked fill-in-the-blank questions related to their knowledge about employment. Table 3 displays the 5 questions asked. Question 1, 2, and 3 could be answered with “Nothing”, “A little”, “A fair amount” or “A lot” for 1 to 4 points, respectively. For question 4, answer options were “Not excited”, “A little excited”, “Fairly excited” or “Very excited” followed by question 5 with answer

1 Follow-up questions were distributed to Cohort 1 youth in 2021 and reported on to the respective agencies.

options “Not confident”, “A little confident”, “Fairly confident” or “Very confident”. All these were assigned from 1 to 4 points. Individual mean scores for these 5 questions are calculated based on the youth’s responses at both entrance and exit interviews to gauge change over time in their knowledge about employment after IMPACT interventions.

MAS Inventory

Entrance and exit Interviews for both youth and caregivers included the MAS. The MAS was originally developed by Meticulon Consulting (2020) as an assessment instrument covering multiple predictive domains for getting a job and job retention based on the research evidence. Meticulon Consulting (2020) provides employment support to working age individuals with autism spectrum disorder and is used to support these individuals with their employment journey. This scale allows for an assessment of the youth’s employment capacities and capability domains or employability skills. The MAS asks questions related to the following employment skills:

- Time Expectations (3 questions);
- Organization (4 questions);
- Authority (3 questions);
- Teamwork (4 questions);
- Perseverance (3 questions);
- Responsibility (3 questions);
- Motivation Level (3 questions);
- Mindfulness (3 questions);
- Self-Awareness (3 questions);
- Communication Skills (2 questions);
- Personal Appearance (1 question).

These questions were given values according to a 5-value Likert-scale ranging from “Strongly Disagree”, “Disagree”, “Neither Agree nor Disagree”, “Agree”, to “Strongly Agree”. Points allotted to these answers range from 1 to 5 respectively.

Control Group

Part of the engagement of youth in IMPACT is corroborated by a comparison with a control group. These youth completed the same above-mentioned questions and scales; however, they do not participate in the IMPACT interventions, workshops, or employment experiences.

The results of the entrance and exit interviews for Cohort 2 are presented in section 2 of this report. The discussion will provide some reflection about the use of the control groupand our sample size as of 2021. Of note, we recognize the small number of individuals that took part in the control group and hope that over time through all three cohorts, the sample size will increase allowing for increasingly valuable comparisons.

Parent/Caregiver Survey

During this second cohort, parents were asked to provide additional feedback and reflection about IMPACT and their youth’s engagement and change in “soft skills” as measured through the MAS over time. This line of inquiry was not part of the first cohort’s entrance and exit interviews in which

only the youth answered the MAS both at entrance and exit. This decision to have parents independently answer MAS at entrance and exit regarding the eleven employability domains or soft skills of their youth was made in response to Cohort 1. Cohort 1's, preliminary online survey format revealed additional relevant information could be gleaned from the parent experience and their interpretation of the youth's engagement in IMPACT. Apart from the parent MAS results the online survey from Cohort 1 was repeated by the parents in Cohort 2. This 10-minute questionnaire asks questions related to the youth's experience in the IMPACT program from the perspective of the parents. The respondents were asked to respond to 5 statements related to their experience with IMPACT and their observations about their youth's engagement with IMPACT. These statements ranged in possible responses from "Strongly Disagree" to "Strongly Agree" in a 5-point scale (ranging from 1 point – 5 points).

The following statements were posed:

- "I am overall satisfied with our experience with the Summer Employment Service Program"[2]
- "Your youth enjoyed learning and experiencing employment related activities"
- "I feel that the things my youth learned during our time with the program will help them to get a paid job in the future"
- "I feel like the program addressed potential barriers to employment/volunteer experience/work experience through skill and ability training"
- "I feel like the program improved the soft skills of my youth (soft skills refer to social and emotional skill, such as confidence and communication)"

1.3 Data Analysis

The collection of data based on the entrance and exit interviews, intervention diaries, employment outcomes (paid and unpaid), and parent survey was processed using the SPSS data analysis software (IBM SPSS Statistics Data Editor 27). Data and results for this report (see also Appendix A) were generated by running descriptive and frequency statistics within SPSS.

We included Pearson Two-Tailed Bivariate Correlation analyses[3] related to the level of support indicated in the ARC'sSelf-determination Subscale and Overall Support question on the entrance interview (see Table A11). Other correlation analyses were conducted to see what type of agency interventions are significantly correlated to the youth's employment outcomes. Additional tests were conducted based on demographic descriptive statistics, the ARC's Level of Support Subscale, and Overall Support as well as methods of intervention (in-person and virtual, one-on-one, and in a group setting).

Youth were asked about their knowledge about employment during the entrance and exit interview and these 5 individual questions were compared over time, reporting their mean scores and difference between exit and entrance with Paired Sample t-Tests as seen in table 4 of this report.

2 The 'Summer Employment Service Program' refers to IMPACT. Since not all agencies used thesame name for the IMPACT program, this is the common name for all agencies to engage with.

3 Correlation levels are deemed statistically significant at less than or equal to .05 level, less than or equal to .01 level, and less than or equal to .001 level indicated in result tables by *, **, or ***. When no asterisk is indicated the difference is not statistically significant on any of these levels.

Additionally, the scales related to the MAS were repeated over time and compared in Paired Samples t-Tests for both youth and parents.

2. Results[4]

Youth Participants

Ninety-one youth participated in Cohort 2 in 2021 despite COVID-19 limitations. Ten youth were assigned to the control group. They did not participate in any intervention and completed both the entrance and exit interviews. The results from the control group are described in this report after the preliminary analysis of the total of 91 active youth.

2.1 Demographic Results

Gender

Of the 91-participating youth, 65 (71.4%) identified as male, 25 (27.5%) as female, and 1 (1.1%) as non-binary (seeTable A1).

Age

The average age of this sample is 17, with a minimum age of 15 and a maximum age of 19 as of June 2021 (see Table A2). The mode of the sample was 17 years of age (30.8%) (see Table A3).

Ethnicity

Whereas the youth were previously asked about their ethnicity in Cohort 1, this question was directed to the parent in Cohort 2 to improve the rate of answers and avoid confusion. To the question “Do you identify as Indigenous?”, 7 (7.7%) identified as such, 81 (89.0%) did not identify as Indigenous, and 2 (2.2%) preferred not to answer the question (see Table A4).[5]

Minority

In line with ethnicity, youth’s parents were also asked if their youth identified as a visible minority, to which 31 (34.1%) answered “Yes”, 55 (60.4%) answered “No”, and 4 (4.4%) answered “I prefer not to answer” (see Table A5).[6]

Education

The youth were also asked about their highest level of education finished at the time of their entrance interview in the Summer of 2021.[7] Results show 23 youth completed Grade 10 (25.3%), 21 youth completed Grade 11 (23.1%), and Grade 12 was completed by 36 (39.6%) (see Table A6).[8]

4 The appendix provides tables with results generated through SPSS referenced in text as “see TableA#” to refer to corresponding data.

5 Missing values are indicated only when they occur.

6 1 missing (1.1%).

7 1 missing (1.1%).

8 Answers which for example contain “currently in Grade 11” are transferred to Grade 10 as the last finished grade.

2.2 Supports

The ARC's Level of Support Subscale

For 90 youth, this scale reveals a mean score of 1.910 overall which represents a general tendency to "a little" support needed in the 7 areas questioned (see Table A7).[9] Of the 7 areas, support in self-care reveals the lowest mean score of 1.286, whereas support in economic self-sufficiency (mean 2.264) and support in learning and independent living (both with a mean of 2.231) are the three highest mean scores for areas of self-determined support needed (see Table A8).

Overall Support

The mean score for this question (2.88) leans towards "A medium amount" of support needed as self-identified by the youth to do the things they do during the day with a standard deviation of 0.91 (see Table A9 and Table A10). When parents were asked the same question, the mean score is 3.01 also indicating "medium support" of overall support needed for the youth as identified by the parent, with a standard deviation of 0.90. The overall support indicated by both youth and parent, and the 7-item scale of the previously mentioned ARC's Level of Support Subscale, are statistically significant at the 0.05 level and the 0.01 level (2-tailed) (see TableA11).

2.3 Employment

Employment at entrance

Of the 91 participants, 13 youth (14.3%) were employed at the time of their entrance interview (see Table A12). Of those same 91 participants, 25 (27.5%) indicated to have had previous employment (see Table A13). Put together, 41.8% of the youth (38) were either previously or currently employed in July 2021. A majority of the youth (72.5%) indicated to have had 1 or more volunteer job experiences in the past (see Table A14). When we put this data together, table 1 provides an overview of the overall work experience of the 91 youth before any IMPACT intervention (see also Table A15).

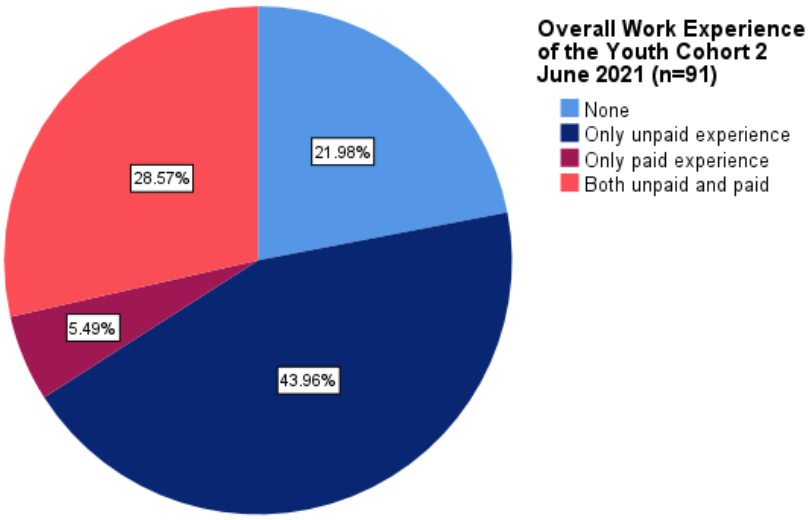
Table 1: Overall Work Experience of the Youth before the start of IMPACT

Work Experience	Frequency	Percent
None	20	22.0
Only unpaid experience	40	44.0
Only paid experience	5	5.5
Both unpaid and paid	26	28.6
Total	91	100.1*

*does not add to 100% due to rounding

9 1 participant is missing. The mean refers to the ARC's Level of Support Subscale of 90 participants.

Figure 1. Work experience before IMPACT intervention



Employment at exit

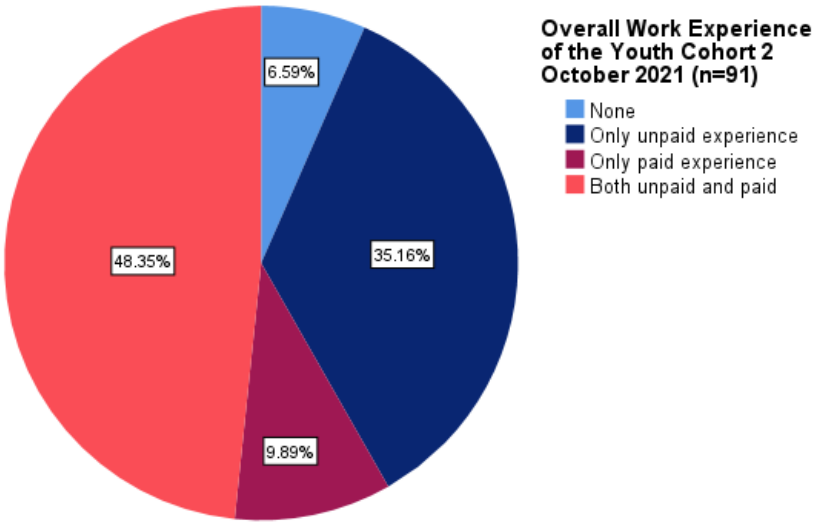
Thirty-four of the 91 youth (37.4%) are indicated by their agency to have held or obtained a paid job during exit interviews (see Table A16). Thirty-eight out of 91 youth (41.8%) participated in an unpaid work experience (see Table A17). Overall, 70 youth (76.9%) gained some form of work experience (whether paid or unpaid) during their involvement with IMPACT (seeTable A18). Participants were able to hold more than 1 job or to engage with more than 1 work experience through IMPACT, which resulted in 126 different employment outcomes for these 91 youth (see Table A19). Based on their previous work experience indicated in table 1, table 2 reflects change in the overall work experience of the youth after participation in IMPACT.

Table 2: Overall Work Experience After IMPACT

Work Experience	Frequency	Percent
None	6	6.6
Only unpaid experience	32	35.2
Only paid experience	9	9.9
Both unpaid and paid	44	48.4
Total	91	100.1*

* does not add to 100% due to rounding

Figure 2: Work Experience after IMPACT Intervention



Types of employment

Seventy out of 91 youth obtained either paid or unpaid work experience. Of these 70, twenty-three also obtained a second paid or unpaid work experience. Of these 23, fourteen obtained a third and/or more unpaid or paid work experiences through their engagement with IMPACT. The eight respective agencies also logged the respective industries the youth's work confirmations could be categorized in (see Table A20).

Types of work experience

Results from the agency data as reflected in the intervention diaries provides the level of engagement of the youth with the IMPACT training and exercises. Divided into four categories ranging from 0-25, 25-50, 50-75, 76-100 percent, 67 or 73.6% of the youth were very engaged (engagement level 76%-100%) (see Table A21). This participation or level of engagement was also measured through the number of interventions either in direct contactor on behalf of the youth (see Table A22 and A23).9 The distribution of work experiences of the 70 youth with some form of work engagement (76.9% of the sample) ranges from full-time employment (1), full-time seasonal employment (5), part-time employment (12), part-time seasonal employment (14), contract work (12), to self-employed (1), and unpaid work experience (81).[10] The multiple responses experiences for some of the youths are reflected here in Table 3, seen in the total work-related contracts – paid or unpaid – being 126 for 70 participants of the 91-youth sample.

10 Important to note that full-time employment does often not apply to this study sample. Most types of employment whether paid or unpaid are for under 12 hours a week. Most of the youth are combining this with some form of education.

Table 3: Work Experiences of 70 Participants according to Agency Data

Type of Employment	Frequency
Full-time	1
Full-time Seasonal	5
Part-time	12
Part-time Seasonal	14
Contract Work	12
Self-Employment	1
Work Experience[11]	81
	126

3. Evaluation

Youth response to IMPACT

When asked about their experience with IMPACT, 83 of the youth (91.3%) agreed or strongly agreed that they were satisfied with their experience in the program with a mean score of 4.36 (see Table A24 and Table A25). Seventy-nine youth (86.8%) enjoyed their employment/work experience while participating in the program (see Table A26). Seventy-two of the 91 youth participants (79.1%) indicate that they had learned strategies for acquiring a paid job during the program (see Table A27), and 80 youth (87.9%) indicated that the things they learned during the IMPACT program will help them get a paidjob in the future (see Table A28).

Knowledge about employment

The table below shows the mean scores based on the entrance and exit interviews followed by the difference between exit and entrance to allow for determination of statistical significance. Table 4 reveals an overall increase in the youths' mean scores related to knowledge about employment, of which four questions displayed in table 4 are statistically significant increases.

11 Work experience here refers to an experience within the IMPACT program, including for instance the warehouse simulation and other agency organized work experiences.

Table 4: Knowledge about Employment at Entrance and Exit Interviews

Question	Mean Entrance	Mean Exit	Difference Exit – Entrance
When it comes to employment, I know [blank] about how to start looking for a job.[12]	2.29	2.66	.37***
When it comes to employment, I know [blank] about the kind of job I want.	2.52	2.91	.39***
When it comes to employment, I know [blank] about what qualities employers are looking for in a good employee.	2.50	3.05	.55***
When it comes to getting a job, I feel [blank] excited about working.	3.07	3.16	n.s.
When it comes to getting a job, I feel [blank] confident.	2.60	2.99	.39***

*** Statistically significant at less than or equal to .001 level.
ns = not statistically sig

MAS Inventory

Table 5 engages with the mean scores per domain for the entrance and exit interview as well as the difference between exit and entrance and the potential statistical significance of that change in the mean score.Important to note here is the high mean scores already apparent in the entrance scale for these youth (see Table A29).

Parent MAS Inventory

Table 6 engages with the MAS for the parents that was conducted in the second Cohort. Mean scores are similarly provided per domain for the entrance and exit interviews as well as the difference between exit and entrance and potential statistical significance of the change in the mean score.

12 1 missing for this question (n=90).

Table 5: Paired Samples t-Test MAS Mean Scores Entrance and Exit Interview

Domain	Mean Entrance	Mean Exit	Difference Exit - Entrance
Time Expectations	3.8864	4.0916	.2052*
Organization	3.9753	4.0591	.0838
Authority	3.8791	4.1136	.2345**
Teamwork	3.9643	4.1951	.2308**
Perseverance	3.7363	3.8425	.1062
Responsibility	3.8828	3.9267	.0439
Motivation Level	4.0741	4.2015	.1274
Mindfulness	4.4066	4.4872	.0806
Self-Awareness	3.8315	3.9341	.1026
Communication Skills	3.9396	3.9780	.0384
Personal Appearance	4.2418	4.2747	.0329

* Statistically significant at less than or equal to .05 level.

** Statistically significant at less than or equal to .01 level.

Table 6: Paired Samples t-Test MAS Mean Scores Parent/Caregiver Entrance and Exit Interview[13]

Domain	Mean Entrance	Mean Exit	Difference Exit - Entry
Time Expectations	3.6322	3.7701	.1379
Organization	3.6178	3.6351	.0173
Authority	3.3448	3.4559	.1111
Teamwork	3.7184	3.7960	.0776
Perseverance	3.3276	3.4808	.1532*
Responsibility	3.6111	3.6648	.0537
Motivation Level	3.9080	3.7931	-.1149
Mindfulness	4.3506	4.3678	.0172
Self-Awareness	3.4885	3.6226	.1341
Communication Skills	3.3937	3.3017	-.092
Personal Appearance	3.7184	3.7299	.0115

* Statistically significant at less than or equal to .05 level.

4.Control Group

The sample of youth selected for the second cohort consisted of 103 participants.[14] Due to capacity of the agencies and personal circumstances, ten of those participants became our control group. These youth did not receive any interventions and completed the entrance and exit interview. More control group participants will join Cohort 3 of this study to corroborate our multi case study and the exploration of differences within and between cases. Envisioned segmentation for the control group of both Cohort 2 and Cohort 3 is approximately 20% of the total population engaged with IMPACT in those two cohorts.

Demographic information

Of the youth in the control group, seven identify as male (70%). This is close to our main participant pool, as 71.4% identified as male (see Table A31). In terms of age, the control group was a slightly younger on average (16 and 17) than the participating youth (see Table A32). None

13 4 missing for this question (n=87).

14 2 participants dropped out altogether and did not conduct exit interviews disqualifying them from thecontrol group.

of the youth in the control group identify as Indigenous (10) (see Table A33). Two youth (20%) identify as a visible minority, and one youth (10%) prefers not to answer (see Table A34). Most of the control group finished Grade 11 (50%) (see Table A35).

Support

In engaging with the questions related to the ARC's Self-determination Subscale and the overall need of support during the day, the control group scores are/were lower for the 7-item subscale with a mean score of 1.771 (see Table A36 and Table A37). To the question regarding the overall support needed during the day, the control group displays a mean of 1.87 (see Table A38).

Employment

Four youth (40%) indicated they have had a previous job (see Table A39). None of the 10 youth in the control group were employed at the time of the entrance interview (see Table A40). Six youth, or 60% indicated that they had previous unpaid/volunteer work experience (see Table A41). The overall previous work experience (paid and unpaid) of the control group is 80%, which was only 1% less than the participants in IMPACT. Upon exit, none of the youth in the control group indicated that they had gotten a paid or unpaid job or work experience (see Table A42). Their overall employment experience as indicated at entrance and exit is constant and unaltered. This means the initial distribution of work experience during the entranceinterview does not shift upon exit interview, as is reflected in table 7.

Table 7: Overall Work Experience Control Group for Entrance and Exit

Type of Work Experience	Frequency	Percent
None	2	20.0
Only unpaid work experience	4	40.0
Only paid work experience	2	20.0
Both paid and unpaid work experience	2	20.0
Total	10	100.0

Knowledge about Employment

Like the participating youth, the youth in the control group were asked about their knowledge about employment. Table 8 relates their respective mean scores for these questions and their difference subtracting entrance from exit scores.

Table 8: Knowledge about Employment at Entrance and Exit Interviews Control Group

Question	Mean Entrance	Mean Exit	Difference Exit – Entrance
When it comes to employment, I know [blank]about how to start looking for a job.	2.10	2.40	.30
When it comes to employment, I know [blank] about the kind of job I want.	2.30	2.80	.50*
When it comes to employment, I know [blank] about what qualities employers are looking for in a good employee.	2.40	2.50	.10
When it comes to getting a job, I feel [blank] about working.	2.20	2.30	.10
When it comes to getting a job, I feel [blank].	2.40	2.60	.20

* Statistically significant at less than or equal to .05 level.

MAS

The control group likewise conducted the Meticulon Assessment Scale (MAS) at both entrance and exit interviews. Their results are visible in table 9 (see also Table A43).

Table 9: MAS Mean Scores Entrance and Exit Interview Control Group

Domain	Mean Entrance	Mean Exit	Difference Exit - Entrance
Time Expectations	3.2333	3.7000	.4667*
Organization	3.4000	3.7000	.3000
Authority	3.3667	3.4000	.0333
Teamwork	3.5000	3.6000	.1000
Perseverance	3.4000	3.4333	.0333
Responsibility	3.5667	3.8333	.2667
Motivation Level	3.9000	4.0000	.1000
Mindfulness	3.9333	4.0333	.1000
Self-Awareness	3.5333	3.5333	0
Communication Skills	3.6500	3.8500	.2000
Personal Appearance	3.8000	3.4000	-.4000

* Statistically significant at less than or equal to .05 level.

4. Parent Reflections about IMPACT

Parent/Caregiver Online Survey

During this second cohort, 43 parents replied to the online survey. Of the 43 respondents, 42 (97.7%) identified as a parent, which corresponds with the total population of this sample in which 95% identified as a parent (see Table A44). The responses to five statements related to their experience with IMPACT and their observations about their youth's engagement with IMPACT show an overall positive response to these statements. Mean scores per question (between 1 and 5 points) gravitate to 4 points or "Agree" (see Table A45 to Table A49). To the statement, "As a parent/caregiver, I noticed changes in my youth's behaviour, attitude, and actions during the course of the Summer Employment program" 34 (79.1%) responded with "Yes".

5. Discussion

Objectives

As already established in the pilot or Cohort 1 of IMPACT, the purpose and objective of this research is to determine how intervening early with youth with IDD using a tailored approach will improve future employment outcomes. The results presented here for Cohort 2 provided some preliminary findings regarding this objective to be complemented by Cohort 3. Based on the feedback and answers related to knowledge about employment and the MAS, youth appeared to benefit and enjoy their participation in the IMPACT Summer Program. We are cautiously optimistic that the engagement and interventions will indeed increase the future job market engagement for these youth. The pre- and post-interviews conducted with youth in combination with the agency staff's recorded intervention activities through the developmental diaries reveal an overall enthusiasm among the youth to engage with employment and job readiness training.

Unfortunately, many youth with IDD often do not receive employment related transition planning and supports (Butcher & Wilton, 2008; Lysaght, Ouellette-Kuntz, & Lin, 2012; Simonsen & Neubert, 2012). IMPACT addresses this unmet need by focusing on tailored employment supports to youth, and findings from the research will inform best practices for supporting transitioning youth with IDD from school to work. Few interventions focus solely on employment or post-secondary aspirations for transitioning youth with IDD. Rather, much of transition planning for youth with IDD is focused on leisure or recreational activity without the inclusion of employment related planning and preparation that their peers without disabilities explore. Informed by the predictors of improved employment outcomes for youth with IDD (Simonsen & Neubert, 2012; Carter et al., 2010; Carter et al., 2012), IMPACT provides a consistent conduit to youth with IDD to explore different kinds of employment and to engage in activities (e.g., community involvement) that are demonstrated predictors of future labour market participation (e.g., Carter et al., 2010).

Demographic descriptive statistics

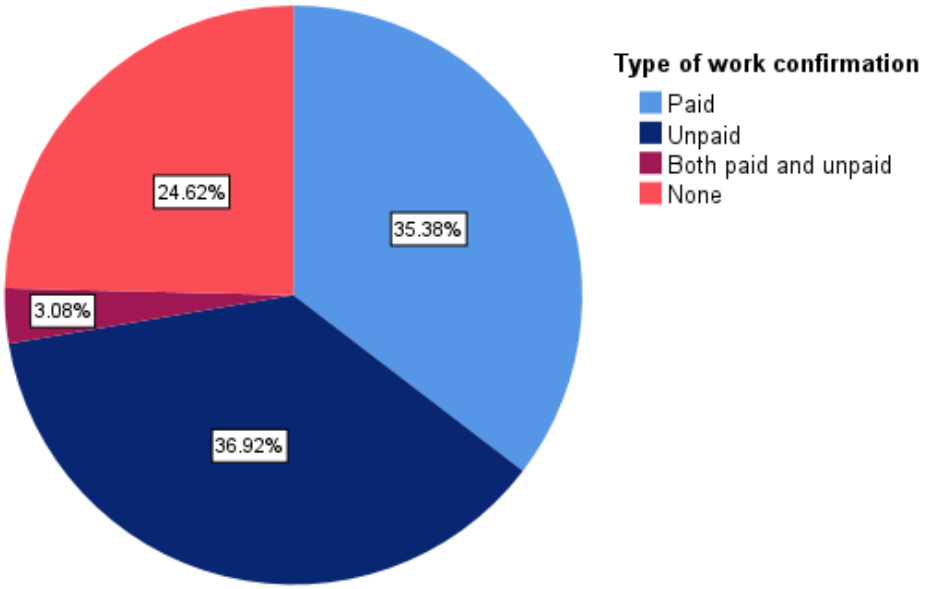
Based on the results, the sample for Cohort 2 similar to Cohort 1 is predominantly male, around 17 years of age and has completed Grade 11 or 12. While it is important to note that males are diagnosed with IDD more frequently than females, research that looks at gender, employment, and IDD indicates that when it comes to sex/gender, males are hired more frequently, work more hours, and are paid more (e.g., Kaya et al., 2018; Sung et al., 2015). Given this, a sex/gender-based analysis is an important part of this research moving forward.

Sex/Gender based analysis

A sex/gender-based analysis for Cohort 2 brings forward two dominant groups identifying as male (n=65) and female (n=25). One participating youth identifies as non-binary (n=1). In completing the ARC's Level of Support Sub-scale, males display a mean score of 1.92 ("A Little Amount" of support needed) and females have a mean score of 1.85. Females also had a slightly lower overall support score with a mean of 2.84, whereas the males reveal a mean score of 2.88.

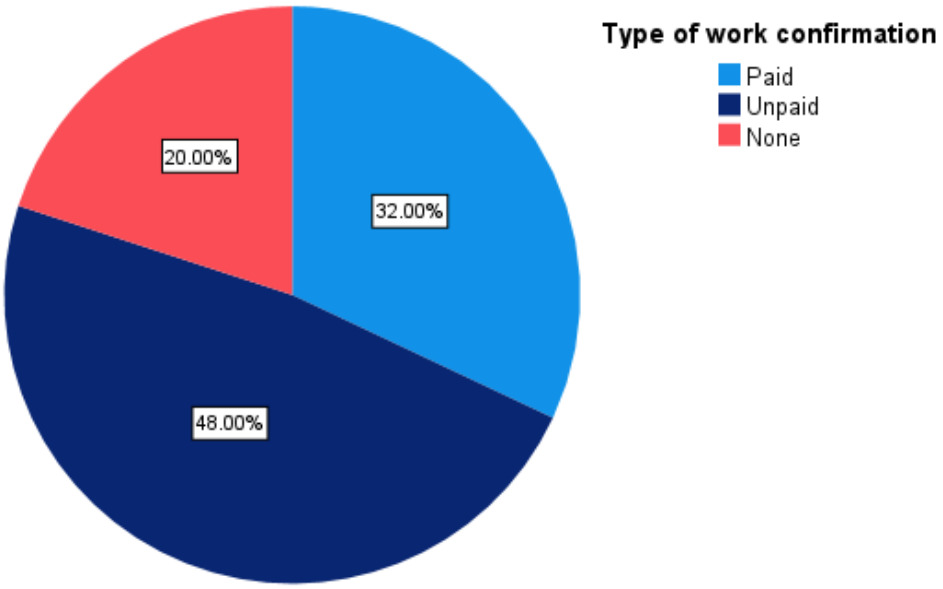
For the male participants, 49 of 65 youth (75.4%) gain work experience through their engagement with IMPACT. Of these 49, twenty-five gained paid work experience (51.0%) and twenty-six gained unpaid work experience (53.1%). These two types of employment gained are not mutually exclusive and some participants gained both paid and unpaid employment.

Figure 3: Work Confirmations Cohort 2 Males (n=65)



Twenty out of 25 female youth (80%) gained work experience through IMPACT. Of these 20, eight (40%) gained paid work experience, and twelve (60%) unpaid work experience.

Figure 4: Work Confirmations Cohort 2 Females (n=25)

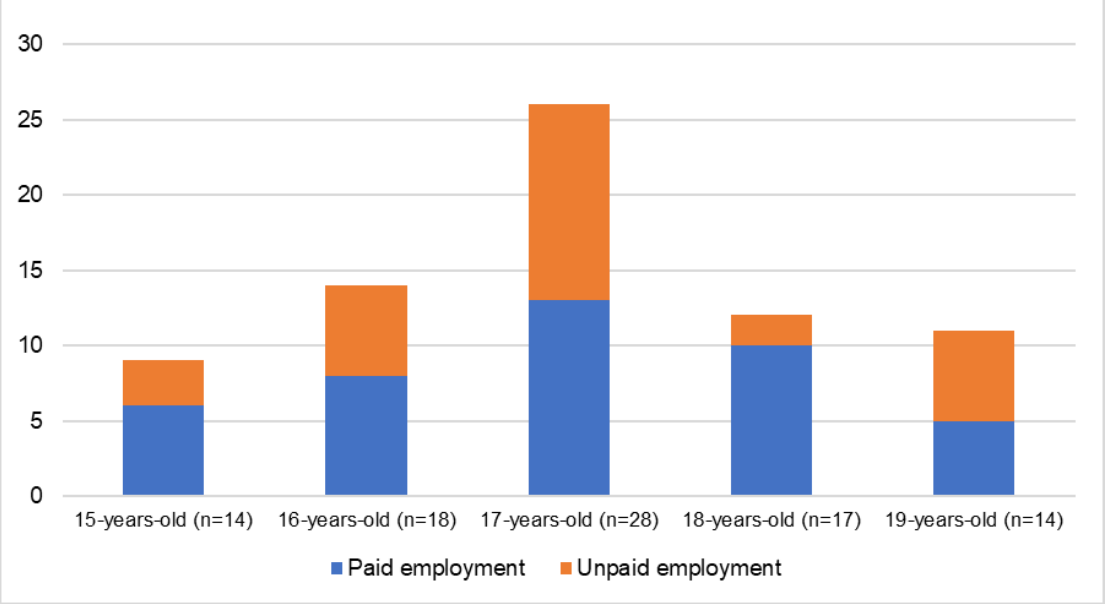


When splitting the file according to gender, a Paired Samples t-Test for the MAS reveals the domain for Teamwork to be a statistically significant increase (p-value .008) for those identifying as male (statistically significant at the .01 level). For females, the domains of Time Expectations (p</= .05) and Authority (p</= .05) reveal a statistically significant increase (statistically significant at the 0.05 level). The knowledge about employment survey split according to sex/gender reveals statistically significant results for both the male and female group (see Table A30).

Age based analysis

When we split the data file according to age and compare the groups and their work confirmations, we see that for the 15-year-old group (n=14), six gained paid employment (42.9%) and three (21.4%) gained unpaid employment. The 16-year-old group (n=18), eight youth (44.4%) gained paid employment and six (33.3%) gained unpaid work experience. In the 17-year-old group (n=28), thirteen or 46.4% of the age group gained paid work experience. Thirteen or 46.4% gained unpaid employment or work experience. Of the 18-year-old group (n=17), ten (58.8) gained unpaid work experience versus two (11.8%) who report on paid employment gained. Finally, in the 19-year-old group (n=14), five youth gained paid work (35.7%) and six (42.9%) gained unpaid work experience.

Figure 5: Paid and Unpaid employment per age group (n=91)



When conducting the Pearson Bivariate correlation, unpaid and paid work experiences gained upon exit interview are correlated significantly at the 0.01 level (2-tailed). Paid and unpaid work confirmations are negatively correlated, indicating an inverse or negative correlation, meaning as one variable increases, the other decreases, and vice-versa (Table A19).

Type of Intervention

The type of interventions as logged by the agencies in the intervention diaries for the youth can be analyzed against the gained paid or unpaid work experience. These types of interventions are logged per minute, creating a total amount of time for each activity as spent with the agency for each youth. Table 10 shows those types of activities that are in statistically significant correlation with the gaining of paid and/or unpaid work experience by the youth. For instance, gaining paid work experience and time spent in community work experience interventions show a positive or direct relationship (p</= .05).

Table 10: Pearson Correlation Bivariate for Work Experience Outcomes and Interventions

Correlations					
		Total time spent in skill building	Total time spent with Job coach	Total time spent in documentation	Total time spent in community work experience
Did the youth gain paid work experience?	Pearson Correlation	.356**	-.521**	-.323**	.278**
	Sig. (2-tailed)	.001	.000	.002	.008
	N	91	91	91	91
Did the youth gain unpaid work experience?	Pearson Correlation	-.372**	.282**	.082	-.485**
	Sig. (2-tailed)	.000	.007	.441	.000
	N	91	91	91	91

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Method of Intervention and Communication

Similar to the correlation's matrix above, agencies also kept track of the method of communication during and for interventions. Time was measured for each intervention as occurring in-person one-on-one, virtual one-on-one, in-person in a group, in a virtual group, on the phone, texting, and through emails. In general, the agencies were asked to keep track of whether these meetings and/or interventions were happening directly with the youth, or on behalf/behind the scenes to accommodate the youth. These types of communication and connection are also correlated to the paid and unpaid work confirmations of the youth and made visible in Table 11. We see this with paid work experience and time spent in person one-on-one interactions. Positive correlation is when two variables move in tandem, in the same direction – seen in unpaid work experience and time spent in in-person one-on-one interactions.

Table 11: Pearson Correlation Bivariate for Work Experience Outcomes and Agency Interactions

Correlations							
		Total time spent in in-person one-on-one	Total time spent in virtual one-on-one	Total time spent in in-person group	Total time spent in virtual group	Total time spent on the phone	Total time spent in emails
Did the youth gain paid work experience?	Pearson Correlation	-.537**	.275**	.137	.233*	.101	-.244*
	Sig. (2-tailed)	.000	.008	.196	.026	.341	.020
	N	91	91	91	91	91	91
Did the youth gain unpaid work experience?	Pearson Correlation	.312**	-.268*	-.374**	.037	-.212*	.109
	Sig. (2-tailed)	.003	.010	.000	.726	.043	.306
	N	91	91	91	91	91	91

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Employment outcomes and self-identified levels of support

Employment outcomes do not appear to be correlated with self-identified level of support needed. The ARC Level of Support Sub-Scale is positively correlated to the overall level of support distinguished by the youth, and is statistically significant at the 0.01 level (2-tailed). (This lack of statistically significant correlation might indicate level of support needed is not defining in the youth obtaining work experience through IMPACT).

Employment outcomes

The overall employment outcomes reveal a strong engagement from 70 youth in either paid or unpaid work experience opportunities. Other information gained from the data, is the type of employment most youth engage with. The demographic sample of the IDD youth does not allow for a direct application of full-time job parameters, or even paid part-time notions of employment. Often, these youth engage in part-time work only a few days a week and with short shifts (2-3 hours). This is less surprising when we consider these employment experiences are frequently in combination with education, volunteer work, and other community-based activities. Their work experiences whether paid or not, often engaged with service industry, paper routes, warehouse packaging, cash registries, and outside labour and maintenance. When describing their previous work experience and volunteer jobs, reports from the youth like Cohort 1 highlight the essential

community ties and connections in gaining employment experience through family and/or friends, school districts, and community-based social services. Agency engagement was instructive in expanding the horizon of employment possibilities and skill building for youth through for instance warehouse simulation training and building a resume for jobs and opportunities outside of their unpaid work experience within their smaller community environment.

Knowledge about employment

The questions engaging with the youths' self-assessed knowledge about employment as measured before and after IMPACT interventions, show statistically significant increase in the mean score of 4 out of 5 questions in the main participant group. These four questions show a statistically increase in the most significant way. Although question 4 stands out for a lack of statistically significant increase, the complete set reveals the impact of the agencies' interventions, including but not limited to how to go about looking for a job, how to dress, how to work in a team, and how to engage with authority. This is also supported by the MAS results where there was a statistically significant increase in the employability domains of authority and teamwork, a repetition of what was concluded in Cohort 1.

MAS

The MAS focuses on the self-reported strength or level of agreement with statements pertaining to 11 specific domains that are established as predictors of getting a job and keeping a job. One of the first things to notice about the results was the already high mean scores at entrance interviews across the 11 domains in which most statements score around a 4 ("Agree"). Most domains also reveal an increase in score post-intervention. As the results show, the statistically significant increase in mean score is discernible in the domains of authority and teamwork. This result aligns with the expectations of the slightly altered IMPACT program given the continued COVID restrictions and the adoption of different engagement methods during agency interventions with the youth in hybrid form (both online, in-person, and individual as well as in groups). This caused an indirect focus on teamwork and authority, as also visible in the agency diaries of the youth's engagement. Most engagement, due to COVID restrictions, occurred between the agency worker and the individual youth or group of youth linked to that specific agency through virtual meetings. At times, when restrictions allowed for it, some group and team work exercises took place. For instance, some agencies provided a warehouse worker training, gardener/landscaping training, or assistant property management training to their youth. This format of IMPACT 2021 is then visible in the statistically significant increase in the domains of teamwork and authority.

Control Group

Even though this control group is too small to look at the correlation between their work experience, the ARC's subscale, and the MAS domains, this will be of interest after the inclusion of control groups from Cohort 3, when we anticipate a larger control group to potentially look at the correlations between previous unpaid and paid work experience, the ARC's subscale of self-indicated need for support, and the MAS domains of employability. This can be compared with the participant group who receive intervention through IMPACT. Nevertheless, the small control group for this cohort hints at how IMPACT intervention created a change in work and employment experience in the positive sense for the engaged participant group not necessarily experienced by the ten youth in the control group. Future follow-up surveys related to employment will assess this further.

Parent/Caregiver Survey

In this cohort, the parent survey was distributed similar to the survey sent out during the Cohort 1 pilot. Results again reveal a positive response from most of the parents and caregivers. The feedback in these surveys combined with the newly introduced parent MAS at entrance and exit reveal the importance of programs such as IMPACT outside of specific employment goals. Soft skills such as confidence and responsibility in other areas of life are affected by the IMPACT program as well. In response to the open question about the noticeable changes in their youth due to the IMPACT program, responses include:[15]

- The job helped [the youth] with time management as [they] had to get to work on [their] own via transit.
- More confident, more organized, more sense of responsibility.
- [The youth feels] valued and got more confident in [their] own abilities and believed in themself more than ever.
- [Youth] was able to learn more job-related skills and socialize with other youths.
- [Youth] was more confident and felt good about [themself] because they were working and earning money!
- I see [the youth] being more confident and independent after taking the course.
- I think my [youth] gained confidence during this program.
- It made [the youth] more confident in knowing what to do when [they] would go into a job interview. As well as being prepped on what types of questions [they] would be asked and how to respond properly and clearly.
- More confident and conscientious that choices they make (good and bad) can impact their hiring potential.
- More self-aware regarding looks and preparing for things/events
- My child became more aware of the importance of time management, and [their] emotional well-being, and [their] flexibility when things change in general.
- They actually got excited about their future!
- They seemed more engaged with this program when compared to high school work.
- Willingness to become more mature and take on more adult roles in the future.

These responses reveal the use of the IMPACT program beyond the employment objectives in the everyday lives of the youth as observed by the people close to them.

Youth responses to IMPACT program

These feedback results from the youth, like the parent responses, reflect the enthusiasm and engagement of the youth within their respective IMPACT programs. Apart from the statistical results presented above, a more qualitative response from the participants reveals the importance of the interventions and the gained trust of the individual youth in being capable and able to function in an employment environment. Open answer responses to what the youth learned, include (but are not limited to):

- A bunch, cover letter and resume, how to get a job
- Being confident, working on computers, teamwork, respecting others

15 For the sake of anonymity, pronouns and names have been replaced in these responses and grammar and syntax altered for clarity

- Communication skills, safety, money management
- Conflict resolution, dealing with angry customers, interview skills, communication skills, office fridge etiquette
- How to apply for a job, how to write resume
- How to find a job, how to interview well, I also learned customer and people skills.
- I learned about different job opportunities.
- I learned how to get a job and lots of new skills.
- I learned how to work with other people and help others and how to improve my own skills.
- I learned researching jobs online. I learned a lot about work safety too!
- I learned time management skills and scheduling. I also learned how life would be as an employee.
- I learned to have more confidence.
- It gave me a better idea of what I would like to do
- Making new friends, how to be at the job on time, and other employer expectations
- Search for jobs with online and in person methods
- Teamwork
- That getting a job can be easier than it seems.
- To be more communicative, to not be embarrassed to show emotions, be more friendly and open-minded
- To make a resume, cover letter, skills needed for finding and keeping a job, how to dress professionally, how to be safe and aware of surroundings, how to do a job interview, how to write an email properly.
- Try and be who you are and connecting with people my age.

Logically these types of responses are found among the engaged to very engaged youth and the youth participating in more Agency interventions, respectively.

6. Assessment

Limitations

As mentioned in the report for Cohort 1 in 2020 and referenced in this report for Cohort 2, most of the limitations of IMPACT for 2021 were COVID-19 related. Agencies and the individual mentors had to adapt and move some of their program to either an online or COVID regulated format. It is interesting to note that the work confirmations correlate to both the number of in-person and virtual hours spent in Agency interventions. This might suggest that some of the hybrid delivery of the IMPACT programming and/or the youths' comfort with online engagement is less about the method of contact and more about the number of hours spent either in-person or online. Nevertheless, it should not be underestimated that youth and employment specialists all must work with the mental strain and the fear connected to COVID-19. We therefore continue to see this influence of the global pandemic on some of the results and qualitative feedback, and limitations brought about in Cohort 2. Although the program serviced and supported about 100 youth through their school districts and the agencies, their experiences within the programming of the eight agencies are diverse and connected to coping mechanisms and resilience during the summer employment activities, both online and in-person. Regardless of these limitations, results show an overall positive outcome for most of the actively engaged youth. Victories include the mentorship

experiences and overall appreciation of the connection made between youth and their employment specialists at the respective agencies.

Moving forward

We anticipate continuing IMPACT in 2022 in a similarly COVID adapted form in line with public health guidelines/orders. The relevance for research and long- term projections of IMPACT are important in its increased ability to compare between cohorts over time. Analyses of sex and gender, the control group, the parent surveys, agency assessments and reporting, interviews with employers, follow-up interviews with youth related to employment are detailed in Appendix B. These instruments will remain unaltered to increase the opportunity for comparing Cohort 2 and Cohort 3 and allowing for more statistical analyses to show the significance of the IMPACT programming and its mandate/hypothesis.

References

Baumann, P., Newman, C.J., & Diserens, K. (2013). Challenge of transition in the socio-professional insertion of youngsters with neurodisabilities. *Developmental Neurorehabilitation, 16*(4), 271 – 276.

Baxter, P., & Jack, S. (2008). Qualitative case study methodology: Study design and implementation for novice researchers. *The Qualitative Report, 13* (4), 544 – 559.

Burgess, S., & Cimera, R. (2014). Employment Outcomes of Transition-Aged Adults with Autism Spectrum Disorders: A State of the States Report. *American Journal on Intellectual & Developmental Disabilities*, *119*(1), 64 – 83.

Butcher, S., & Wilton, R. (2008). Stuck in transition? Exploring the spaces of employment training for youth with intellectual disability. *Geoforum, 39* (2), 1079 – 1092.

Carter, E.W., Ditchman, N., Sun, Y., Trainor, A.A., Swedeen, B., & Owens, L. (2010). Summer employment and community experiences of transition-age youth with severe disabilities. *Council for Exceptional Children, 76* (2), 194 – 212.

Carter, E.W., Austin, D., & Trainor, A.A. (2012). Predictors of postschool employment outcomes for young adults with severe disabilities. *Journal of Disability Policy Studies, 23* (1), 50 – 63.

Cheak-Zamora, N.C., Teti, M., & First, J. (2015). 'Transitions are scary for our kids, and they're scary for us': Family member and youth perspectives on the challenges of transitioning to adulthood with Autism. *Journal of Applied Research in Intellectual Disabilities,* Article first published online: 5 March 2015.

Chiang, H., Cheung, Y.K., Li,H., & Tsai, L.Y. (2013). Factors associated with participation in employment for high school leavers with autism. *Journal Autism Dev Disord*, 43, 1832 – 1842.

Cimera, R.E., Burgess, S., & Bedesem, P.L. (2014). Does providing transition services by age 14 produce better vocational outcomes for students with intellectual disability? *Researchand Practice for Persons with Severe Disabilities, 39*(1), 47 – 54.

Cimera, R. E., Burgess, S., & Wiley, A. (2013). Does providing transition services early enable students with ASD to achieve better vocational outcomes as adults? *Research and Practice for Persons with Severe Disabilities, 38*(2), 88 – 93.

Community Living British Columbia (2019). *Periodic report for employment*. Prepared for the Roundtable on Inclusive Employment, March 31, 2019.

Community Living British Columbia & Community Partners. (2013). *Community Action Employment Plan*. Community Living British Columbia, March 2013, 44 pages.

Cramm, J.M., Finkenflugel, H., Kuijsten, R., & Van Exel, J. (2009). How employment support and social integration programmes are viewed by the intellectually disabled. *Journal of Intellectual Disability Research*, *53*(6), 512 – 520.

Flores, N., Jenaro, C., Orgaz, B.M., & Martin, M. (2011). Understanding quality of workinglife of workers with intellectual disabilities. *Journal of Applied Research in Intellectual Disabilities*, *24*(2), 133 – 141.

Grigal, M., Migliore, A., & Hart, D. (2014). A state comparison of vocational rehabilitation support of youth with intellectual disabilities' participation in postsecondary education.

Journal of Vocational Rehabilitation, *40*(3). 185 – 194.

Grossi, T., Nord, D., & Andersen, J. (2020) Earning a real wage: A statewide investigation of young adults with intellectual and developmental disabilities. *Intellectual and Developmental Disabilities, 58*(4), 264 - 272.

Hole, R., Stainton, T., & Tomlinson, J. (2011). *Social and economic outcomes: Are supported employment services for individuals with developmental disabilities a good investment?* The Community Living Research Project, The Centre for Inclusion and Citizenship, University of British Columbia, and Community Living British Columbia, Provinceof British Columbia, May 2011. Report prepared for Community Living British Columbia, 23 pages.

Humber, L.A. (2014). Social inclusion through employment: the marketisation of employment support for people with learning disabilities in the United Kingdom. *Disability & Society, 29*(2), 275 – 289.

Jahoda, A., Banks, P., Dagnan, D., Kemp, J., Kerr, W., & Williams, V. (2009). Starting a new job: The social and emotional experience of people with intellectual disabilities. *Journal of Applied Research in Intellectual Disabilities*, *22*(5), 421 – 425.

Kaya, C., Fong, C., Philli, R., Hartman, E., Wehman, P., Iwanaga, K., Pai, C.H., & Avellone, L. (2016). Vocational rehabilitation services and competitive employment for transition-age youth with autism spectrum disorders. *Journal of Vocational Rehabilitation*, 4(1), p. 73-83.

Lysaght, R., Ouellette-Kuntz, H., & Lin, C-J. (2012). Untapped potential: Perspectives on the employment of people with intellectual disabilities. *Work, 41*, 409 – 422

Magnuson, L. (2013). Families and uncertainty: Using Problematic Integration Theory in transition services. *Journal of Applied Rehabilitation Counseling*, *44*(1), 12 – 17.

Seaman, R., & Cannella-Malone, H. (2016). Vocational skills interventions for adults with Autism Spectrum Disorder: A review of the literature. *Journal of Developmental & Physical Disabilities, 28*(3), 479 – 494.

Shattuck, P., Narendorf, S., Cooper, B., Sterzing, P., Wagner, M., & Taylor, J. (2012). Postsecondary education and employment among youth with an autism spectrum disorder. *Pediatrics, 129*(6), 1042 – 1049.

Simonsen, M.L., & Neubert, D.A. (2012). Transitioning youth with intellectual and other developmental disabilities: Predicting community employment outcomes. *Career Development and Transition for Exceptional Individuals, 36*(3), 188 – 198.

Statistics Canada. (2012). *Canadian Survey on Disability*. The Government of Canada.

Sung, C., Sanches, J., Kung, H-J., Wang, C-C., & Leahy, M.J. (2015). Gender differences in vocational rehabilitation service predictors of successful competitive employment for transition-aged individuals with autism. *Journal of Autism and Developmental Disorders, 45*(10), 3204 – 3218.

Wehman, P., Schall, C., & Carr, S. (2014). Transition from school to adulthood for youth with Autism Spectrum Disorder. *Journal of Disability Policy Studies, 25*(1), 30 – 40.

Wehman, P., Sima, A.P., Ketchum, J., West, M.D., Chan, F., & Luecking, R. (2014). Predictors of successful transition from school to employment for youth with disabilities. *Journal of Occupational Rehabilitation, 25*, 323 – 334.

Wehmeyer, M.L., & Palmer, S.B. (2003). Adult outcomes for students with cognitive disabilities three-years after high school: The impact of self-determination. *Education and Training in Developmental Disabilities, 38*(2), 131 – 144.

Wehmeyer, M. L. (1995). A career education approach: Self-determination for youth with mild cognitive disabilities. *Intervention in School and Clinic*, 30(3), 157-163. doi:10.1177/105345129503000305

Wehmeyer, M.L. (1995). *The ARC's self-determination scale: Procedural guidelines*. Arlington, Texas: Office of Special Education and Rehabilitation Services.

Yin, R.K. (2003). *Case study research: Design and methods.* Thousand Oaks, CA: Sage.

Appendices

Appendix A: Tables Corresponding to Results Section 2

1. Demographic descriptive statistics (n=91)

Tables A1 to A6 display the demographic statistics for the 91-participating youth (n=91)

Table A1: Gender

	Frequency	Percent
Male	65	71.4
Female	25	27.5
Non-binary	1	1.1
Total	72	100

Table A2: Age

Mean	16.99
Minimum	15
Maximum	19

Table A3: Age Distribution

	Frequency	Percent
15	14	15.4
16	18	19.8
17	28	30.8
18	17	18.7
19	14	15.4
Total	72	100.1

Table A4: Ethnicity

Do you identify as Indigenous?	Frequency	Valid Percent
Yes	7	7.8
No	81	90.0
I prefer not to answer	2	2.2
Total	90*	100.0

*1 missing

Table A5: Minority

Do you identify as a visible minority?	Frequency	Percent
Yes	31	34.4
No	55	61.1
I prefer not to answer	4	4.4
Total	90*	100.0

*1 missing

Table A6: Education

Highest level of education	Frequency	Valid Percent
Grade 9	3	3.3
Grade 10	23	25.3
Grade 11	21	23.1
Grade 12	36	39.6
Grade 13	6	6.6
Grade 14*	2	2.2
Total	91	100

* Refers to college

2. Supports

Tables A7 to A11 refer to the data in response to questions about self-determined level of support needed (ARC's Self-determination Subscale and Overall Support). Table A11 looks at the statistically significant correlation between the ARC's Subscale and the Overall Support.

Table A7: ARC's Subscale

ARC 7- item scale	
Valid	90
Missing	1
Mean	1.9095
Std. Deviation	.35879

Table A8: ARC's Subscale Descriptive Statistics

	N	Mean	Std. Deviation
When it comes to self-care how much support/assistance do you need?	91	1.286	.5634
When it comes to learning how much support/assistance do you need?	91	2.231	.4732
When it comes to mobility how much support/assistance do you need?	91	1.632	.7372
When it comes to self-direction how much support/assistance do you need?	90	1.850	.6201
When it comes to receptive and expressive language how much support/assistance do you need?	91	1.868	.6184
When it comes to capacity for independent living how much support/assistance do you need?	91	2.231	.6511
When it comes to economic self-sufficiency how much support/assistance do you need?	91	2.264	.7429

Table A9: Overall Support

*What level of support do you need to do the things you do?**		Parent	Youth
Mean	(n=91)	3.005	2.868
Std. Deviation		.8991	.9093

*Minimum is 1.0 and maximum is 5.0

Table A10: Support distribution

	Frequency	Valid Percent
None	5	5.5
A little	24	26.4
A little to medium amount	3	3.3
A medium amount	39	42.9
Medium to a lot	1	1.1
A lot	15	16.5
I need support all the time	4	4.4
Total	91	100

Table A11: Correlation ARC and Overall Support

		What level of overall support does your youth need (Parent)	*What level of overall support do you need* (Youth)	ARC Self-determination 7-item scale
What level of overall support does your youth need (Parent)	Pearson Correlation	1	.256*	.423**
	Sig. (2-tailed)		.014	.000
	N	91	91	90
What level of overall support do you need (Youth)	Pearson Correlation	.256*	1	.395**
	Sig. (2-tailed)	.014		.000
	N	91	91	90
ARC Self-determination 7-item scale	Pearson Correlation	.423**	.395**	1
	Sig. (2-tailed)	.000	.000	
	N	90	90	90

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).

3. Employment

Tables A12 to A18 relate the paid and unpaid work experience of the 91 youth. Tables A12 to A15 refer to work experience and employment before IMPACT intervention or during entrance interview. Tables A16 to A18 refer to the gained work experience after IMPACT intervention at exit interview.

Table A12: Employed at Entrance

	Frequency	Percent
Yes	13	14.3
No	78	85.7
Total	91	100

Table A13: Previously Employed

	Frequency	Percent
Yes	25	27.5
No	66	72.5
Total	91	100.0

Table A14: Unpaid Work Experience

	Frequency	Percent
Yes	66	72.5
No	25	27.5
Total	91	100.0

Table A15: Overall Work Experience of the Youth before the start of IMPACT

	Frequency	Percent
None	20	22.0
Only unpaid work experience	40	44.0
Only paid work experience	5	5.5
Both paid and unpaid work experience	26	28.6
Total	91	100.0

Table A16: Youth gained paid work experience

	Frequency	Percent
Yes	34	37.4
No	57	62.6
Total	91	100.0

Table A17: Youth gained unpaid work experience

	Frequency	Percent
Yes	38	41.8
No	53	58.2
Total	91	100.0

Table A18: Overall Work Experience of the Youth after IMPACT Interventions

	Frequency	Percent
None	6	6.6
Only unpaid work experience	32	35.2
Only paid work experience	9	9.9
Both unpaid and paid work experience	44	48.4
Total	91	100.0

Table A19: Correlations Education and Work Experience

		What grade did you finish before June 2021?	Did the youth gain paid work experience?	Did the youth gain unpaid work experience?
What grade did you finish before June 2021?	Pearson Correlation	1	.112	-.300**
	Sig. (2-tailed)		.289	.004
	N	91	91	91
Did the youth gain paid work experience?	Pearson Correlation	.112	1	-.562**
	Sig. (2-tailed)	.289		<.001
	N	91	91	91
Did the youth gain unpaid work experience?	Pearson Correlation	-.300**	-.562**	1
	Sig. (2-tailed)	.004	<.001	
	N	91	91	91

**. Correlation is significant at the 0.01 level (2-tailed).

4. Agency Data

Tables A20 to A23 display the specific data gleaned from agency intervention and employment diaries. They specify the type of employment in a multiple response set (Table A19), sectors of employment (Table A20), level of engagement with IMPACT activities and interventions (Table A21 and A22), and a follow question about employment (Table A23).

Table A20: Work Experiences of 70 Participants according to Agency Data*

Type of Employment	Frequency
Full-time	1
Full-time seasonal	5
Part-time	12
Part-time seasonal	14
Contract work	12
Self-employed	1
Work experience	81
Total	**126**

*21 youth did not gain any work experience during IMPACT

Table A21 – Work Confirmation Sectors of Industry for youth according to Agencies

	1st Job	*2nd Job*	*3rd, 4th, 5th Job*	Total
Business/Finance	8	-	-	8
Health Occupations	1	-	-	1
Education/Law/Social Service/Community	3	3	-	6
Arts/Culture/Recreation/Sport	3	-	-	3
Sales/Service	22	6	4	32
Trades/Transport/Equipment	19	2	10	31
Natural Resources/Agriculture	13	12	20	45
Manufacturing	1	-	-	1
Total	70	23	33	126

Table A22: Level of Engagement of Youth according to Agency

	Frequency	Percent
Minimally engaged 0% - 25%	1	1.1
Somewhat engaged 26% - 50%	4	4.4
Engaged 51% - 75%	19	20.9
Very engaged 76% - 100%	67	73.6
Total	91	100.0

Table A23: Interventions

Total time spent with the youth in minutes (n=91)	Directly	On behalf
Mean	2745	898
Std. Deviation	1768	531
Minimum	150	65
Maximum	10885	2040

Table A24: After IMPACT

Are you still employed?	Frequency	Valid Percent
Yes	22	52.4
No	20	47.6
Total	42*	100.0

*49 missing

5. Evaluation

Tables A25 to A29 correspond to evaluation questions asked of the participating youth in relation to their IMPACT experiences.

Table A25: Descriptive Statistics Youth Experience*

	N	Mean
I liked my experience in the IMPACT Program	91	4.36
I enjoyed the activities while participating in the IMPACT Program	91	4.22
I learned different ways about how to get a paid job during the IMPACT Program	91	3.99
I feel that the things I learned during my time in the IMPACT Program will help me paid get a job in the future	91	4.23

*Range from 1.0 to 5.0

Table A26 Youth Program Experience

I liked my experience in the IMPACT Program	Frequency	Percent
Strongly Disagree	1	1.1
Neutral	7	7.7
Agree	40	44.0
Strongly Agree	43	47.3
Total	91	100.0

Table A27 Youth Program Participation

I enjoyed the activities while participating in the MPACT Program	Frequency	Valid Percent
Disagree	1	1.1
Neutral	11	12.1
Agree	46	50.5
Strongly Agree	33	36.3
Total	91	100.0

Table A28 Youth Program Acquiring Paid Employment

I learned different ways about how to get a paid job during the IMPACT Program	Frequency	Percent
Disagree	2	2.2
Neutral	17	18.7
Agree	52	57.1
Strongly Agree	20	22.0
Total	91	100.0

Table A29 Youth Program Future Employment

I feel that the things I learned during my time in the IMPACT Program will help me paid get a job in the future	Frequency	Percent
Strongly Disagree	1	1.1
Neutral	10	11.0
Agree	46	50.5
Strongly Agree	34	37.4
Total	91	100.0

6. Meticulon Assessment Scale (MAS) Inventory and Knowledge about Employment

Table A30 displays the Paired Samples T-Test for the MAS inventory per employment skill domain at entrance and exit for the 91-participating youth. The eleven domains (Time expectations,

Organization skills, Authority, etc.) are paired according to their entrance and exit scores for each participant. Table A31 is an additional table to engage with the Knowledge about Employment at entrance and exit compared for notions of gender.

Table A30: Paired Samples T-Test Meticulon Assessment Scale (n=91)

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Time Expectations Exit - Time Expectations Entry	.20513	.80702	.08460	.03706	.37320	2.425	90	.017
Organization Exit - Organization Entry	.08379	.78662	.08246	-.08003	.24761	1.016	90	.312
Authority Exit - Authority Entry	.23443	.73953	.07752	.08042	.38845	3.024	90	.003*
Teamwork Exit - Teamwork Entry	.23077	.68336	.07164	.08845	.37309	3.221	90	.002*
Perseverance Exit - Perseverance Entry	.10623	.62830	.06586	-.02462	.23708	1.613	90	.110
Responsibility Exit - Responsibility Entry	.04396	.65208	.06836	-.09185	.17976	.643	90	.522
Motivation Level Exit - Motivation Level Entry	-.05495	.58640	.06147	-.17707	.06718	-.894	90	.374
Mindfulness Exit - Mindfulness Entry	.08059	.76067	.07974	-.07783	.23900	1.011	90	.315
Self-Awareness Exit - Self- Awareness Entry	.10256	.71611	.07507	-.04657	.25170	1.366	90	.175
Communication Skills Exit - Communication Skills Entry	.03846	.74993	.07861	-.11772	.19464	.489	90	.626
Appearance Exit - Appearance Entry	.03297	.99388	.10419	-.17402	.23995	.316	90	.752

Table A31: Knowledge about Employment compared for Sex/Gender

	Mean Entrance (Male)	Mean Exit (Male)	p-value (Male)	Mean Entrance (Female)	Mean Exit (Female)	p-value (Female)
When it comes to employment, I know [blank] about how to start looking for a job.	2.21	2.56	.001***	2.48	2.85	.010**
When it comes to employment, I know [blank] about the kind of job I want.	2.56	2.93	.005**	2.39	2.86	.001***
When it comes to employment, I know [blank] about what qualities employers are looking for in a good employee.	2.46	2.97	<.001***	2.57	3.07	.011*
When it comes to getting a job, I feel [blank] about working.	3.01	3.15	.260	2.95	2.89	.745
When it comes to getting a job, I feel [blank].	2.64	3.06	<.001***	2.50	2.71	.184

*Statistically significant at less than or equal to the .05 level.
**Statistically significant at less than or equal to the .01 level.
.***Statistically significant at less than or equal to the .001 level

7. Control Group

Demographic data for the 10-control group youth (n=10) is made visible in Tables A32to A39. Tables A40 to A43 relate their employment details which remained unchanged over the course of the IMPACT program. Table A44 provides the Paired Samples T- Test for the MAS inventory similar to Table A30 for the participating youth (n=72).

Table A32: Gender

What gender do you identify as?		Frequency	Percent
Control Group	Male	7	70.0
	Female	3	30.0
	Total	10	100.0
Participants	Male	65	71.4
	Female	25	27.5
	Non-binary	1	1.1
	Total	91	100.0

Table A33: Age as of June 2021

		Frequency	Percent
Control Group	15	1	10.0
	16	4	40.0
	17	4	40.0
	20	1	10.0
	Total	10	100.0
Participants	15	14	15.4
	16	18	19.8
	17	28	30.8
	18	17	18.7
	19	14	15.4
	Total	91	100.0

Table A34: Ethnicity

Do you identify as Indigenous?		Frequency	Valid Percent
Control Group	No	10	100.0
	Total	10	100.0
Participants	Yes	7	7.8
	No	81	90.0
	I prefer not to answer	2	2.2
	Total	90*	100.0

* 1 missing

Table A35: Minority

Do you identify as a visible minority?		Frequency	Percent
Control Group	Yes	2	20.0
	No	7	70.0
	I prefer not to answer	1	10.0
	Total	10	100.0
Participants	Yes	31	34.4
	No	55	61.1
	I prefer not to answer	4	4.4
	Total	90*	100.0

* 1 missing

Table A36: Education

Highest level of completed education		Frequency	Valid Percent
Control Group	Grade 10	2	20.0
	Grade 11	5	50.0
	Grade 12	3	30.0
	Total	10	100.0
Participants	Grade 9	3	3.3
	Grade 10	23	25.3
	Grade 11	21	23.1
	Grade 12	36	39.6
	Grade 13	6	6.6
	Grade 14	2	2.2
	Total	91	100.0

Table A37: ARC's Subscale

Control Group	N	10
	Mean	1.7714
Participants	N	90*
	Mean	1.9095

*1 missing.

Table A38: ARC's Subscale Descriptive Statistics Control Group

	N	Mean	Std. Deviation
When it comes to self-care how much support/assistance do you need?	10	1.200	.4216
When it comes to learning how much support/assistance do you need?	10	2.300	.4830
When it comes to mobility how much support/assistance do you need?	10	1.400	.5164
When it comes to self-direction how much support/assistance do you need?	10	1.600	.8433
When it comes to receptive and expressive language how much support/assistance do you need?	10	1.700	.6749
When it comes to capacity for independent living how much support/assistance do you need?	10	2.400	.6992
When it comes to economic self-sufficiency how much support/assistance do you need?	10	1.800	.6325

Table A39: Overall Support

What level of support do you need to do the things you do?		
Control Group	N	10
	Mean	2.90
Participants	N	91
	Mean	2.89

6.1 Control group employment data

Table A40: Previous Paid Work Experience

Did you previously have a paying job?		Frequency	Percent
ControlGroup	Yes	4	40.0
	No	6	60.0
	Total	10	100.0
Participants	Yes	25	27.5
	No	66	72.5
	Total	91	100.0

Table A41: Currently Employed

Are you currently employed?	Frequency	Percent
No	10	100.0
Total	10	100.0

Table A42: Unpaid Work Experience

Do you have unpaid volunteer or work experience?	Frequency	Percent
Yes	6	60.0
No	4	40.0
Total	10	100.0

Table A43: Paid Work Experience Exit

Did you get a paid job?		Frequency	Percent
ControlGroup	Yes	2	20.0
	No	8	80.0
	Total	10	100.0
Participants	Yes	43	47.3
	No	48	52.7
	Total	91	100.0

Table A44: Paired Samples T-Test Meticulon Assessment Scale Control Group Continued

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Control Group	Time Exit – Time Entry	.46667	.65168	.20608	.00048	.93285	2.264	9	.050*
	Org Exit – Org Entry	.30000	.84820	.26822	-.30677	.90677	1.118	9	.292
	Auth Exit – Auth Entry	.03333	.42889	.13563	-.27348	.34015	.246	9	.811
	Team Exit – Team Entry	.10000	.52967	.16750	-.27891	.47891	.597	9	.565
	Pers Exit – Pers Entry	.03333	.53171	.16814	-.34703	.41370	.198	9	.847
	Resp Exit - Resp Entry	.26667	.78253	.24746	-.29312	.82645	1.078	9	.309
	Mot Exit – Mot Entry	.10000	.62952	.19907	-.35033	.55033	.502	9	.627
	Mind Exit – Mind Entry	.10000	.41722	.13194	-.19846	.39846	.758	9	.468

	Self Exit – Self Entry	.00000	.54433	.17213	-.38939	.38939	.000	9	1.000
	Com Exit – Comm Entry	.20000	.53748	.16997	-.18449	.58449	1.177	9	.269
	App Exit – App Entry	-.40000	.96609	.30551	-1.09110	.29110	-1.309	9	.223
Participants	Time Exit – Time Entry	.20513	.80702	.08460	.03706	.37320	2.425	90	.017*
	Org Exit – Org Entry	.08379	.78662	.08246	-.08003	.24761	1.016	90	.312
	Auth Exit – Auth Entry	.23443	.73953	.07752	.08042	.38845	3.024	90	.003**
	Team Exit – Team Entry	.23077	.68336	.07164	.08845	.37309	3.221	90	.002**
	Pers Exit – Pers Entry	.10623	.62830	.06586	-.02462	.23708	1.613	90	.110
	Resp Exit – Resp Entry	.04396	.65208	.06836	-.09185	.17976	.643	90	.522
	Mot Exit – Mot Entry	-.05495	.58640	.06147	-.17707	.06718	-.894	90	.374
	Mind Exit – Mind Entry	.08059	.76067	.07974	-.07783	.23900	1.011	90	.315
	Self Exit – Self Entry	.10256	.71611	.07507	-.04657	.25170	1.366	90	.175
	Com Exit – Comm Entry	.03846	.74993	.07861	-.11772	.19464	.489	90	.626
	App Exit – App Entry	.03297	.99388	.10419	-.17402	.23995	.316	90	.752

8. Reflection about Youth

Tables A45 to A50 reveal the data gleaned from the parent/caregiver online survey distributed in September and October of 2021, as well as the Meticulon Assessment Survey completed by the parents/caregivers at entrance and exit in perceived eleven domains of employability.

Table A45: Parent/Caregiver Relationto the Youth

	Frequency	Percent
Parent	42	97.7
Other: Godfather	1	2.3
Total	43	100.0

Table A46: Parental Program Satisfaction

"I am overall satisfied with our experience with the Summer Employment Service Program"		
Mean 4.37	Frequency	Percent
Neutral	6	14.0
Agree	15	34.9
Strongly agree	22	51.2
Total	43	100.0

Table A47: Parental Reflection on Youth's Experience

"Your youth enjoyed learning and experiencing employment related activities"		
Mean 4.23	Frequency	Percent
Neutral	6	14.0
Agree	21	48.8
Strongly agree	16	37.2
Total	43	100.0

Table A48: Parental Reflections on Youth's Future Employment

"I feel that the things my youth learned during our time with the program will help them to get a paid job in the future"		
Mean 4.26	Frequency	Percent
Neutral	5	11.6
Agree	22	51.2
Strongly agree	16	37.2
Total	43	100.0

Table A49:Parental Reflection on Youth's Barriers to Employment

"I feel like the program addressed potential barriers to employment/volunteer experience/work experience through skill and ability training"		
Mean 3.91	Frequency	Percent
Disagree	4	9.3
Neutral	6	14
Agree	23	53.5
Strongly agree	10	23.3
Total	43	100.0

Table A50: Parental Reflection on Soft Skills

Table A50: *"I feel like the program improvedthe soft skills of my youth (Soft skills refer to social and emotional skills, such as confidence and communication)"*		
Mean 4.02	Frequency	Percent
Disagree	2	4.7
Neutral	7	16.3
Agree	22	51.2
Strongly agree	12	27.9
Total	43	100.0

Appendix B: Moving forward...

To begin the discussion, the 2021 IMPACT Cohort has demonstrated positive results. Given the continued context of the COVID-19 pandemic, we recognize the incredible work, flexibility, and commitment of the eight partner agencies. While navigating their ongoing roles to support individuals with IDD in the agencies, the partnering agencies were able to actively, creatively, and safely engage with 91 youth with positive results. This second cohort brought forward the decisions and considerations for the continuation for the IMPACT Project for Cohort 3 in 2022. In general, the results prove promising and the future cohort will not only offer another important summer program of youth support and interventions in the eight agencies, but will also provide considerable strength in terms of the statistical results and potential analysis from Cohort 2.

After careful consideration and recognition of how COVID 19 has marginalized and impacted individuals with IDD, agencies committed whole heartedly in proceeding with Cohort 2. Given suspension of research with human participants at UBC, negotiations were undertaken to ensure the evaluation could proceed with UBC BREB Ethics approval. That said, some alterations to the original proposal were made for pragmatic reasons and given the current context. Moreover, the interview instruments of Cohort 1 were adapted to better capture youth responses during entrance and exit interviews as well as more concise recording of the youth interventions and work confirmations. Additionally, parent/caregiver interviews for the MAS were added to better capture the observed increase of soft skills and employability domains by the people closest to the youth. Moving on from the pilot project of Cohort 1, Cohort 2 provided many insights that will inform and be duplicated for Cohort 3.

Instruments

Several instruments employed for Cohort 1 were revised to better engage with the youth answering the questions and increase systematic and concise data collection. The collaboration between the agencies and the Canadian Institute for Inclusion and Citizenship allowed us to modify the wording and improve the entrance and exit interviews to reduce repetitiveness and address accessibility issues. Additional demographic questions and clarification were identified to likewise enhance our data analysis moving forward. One important decision for the systematic collection of demographic data was to ask those demographic questions of the parent/caregiver(s). In addition, the MAS was conducted with the parent/caregiver in this Cohort, and will likewise be offered to parents/caregivers in Cohort 3. Including the results of the MAS with youth continues to be important to assess what domains are best served through IMPACT programming. Parents results of the MAS is meant to complement further robust analysis related the effects of IMPACT.

Sex/Gender based analysis

As indicated in Cohort 1 and visible in Cohort 2, male-identifying youth with IDD are more represented in IMPACT. Youth with IDD experience discrimination when entering or trying to engage with employment options and the labour market. Differences such as race, ethnicity, visible minority status, and gender intersect in different ways. As such an intersectional analysis will be conducted as the sample allows. In particular, gender proves to be instrumental in gaining access to support and programs that focus on employment. Moving forward it will be interesting to see if IMPACT can add to the research literature on how this gender disparity is evident or not with youth who participate in IMPACT.

The Control Group

Moving forward, we hope to see increased numbers of youth in the control group. That said, it is an ethical imperative of the agencies participating to not deny support to youth who indicate a desire to be involved in the program. Moving forward we will continue to invite those who express interest to participate but then decline to participate in entrance and exit interviews, and as such be added to our control group. Based on the number of youth in the control group for cohort 2, a comparative analysis and more complex statistical questions were not feasible due to low sample size. However, with the continuation of IMPACT and around 30 or 40 control group participants across the three cohorts (while not ideal statistically), we will undertake more complex analyses as our sample sizes allow for the summative evaluation of impact assess the success rate of the IMPACT program.

The Parent/Caregivers

The parent/caregiver survey is the result of a pilot online survey distributed in September and October of 2021. As shown in the results and addressed in the discussion, the 43 responses gained from this survey provided additional useful information regarding the youth, their engagement, and the results of IMPACT interventions. Soft skills addressed in the MAS inventory prove to be visible in other aspects of the youth's lives as well. The parent/caregiver survey indicates a positive response to IMPACT interventions and affirmation of the youth's capabilities in the open answer questions. This result combined with the agency experiences with the parents/caregivers created the idea to engage more with this group of people in close contact with the youth to measure and analyse the tailored approach of the IMPACT interventions and to increase the success rate and employment engagement of the youth connected to these agencies and employment programs.

Agency Assessments and Reporting

An important part of the assessment of IMPACT and the tailored approach envisioned in the study objective is based on reporting of the youth by IMPACT employment specialists. For Cohort 1, the staff conducting data collection received training from the project consultant and lead researcher (Hole) from the UBC Canadian Institute for Inclusion and Citizenship to ensure the collection of data was conducted consistently and similarly across all agencies. The personal intervention diaries and employment results were catalogued in spreadsheets by the agency employment specialists after each engagement with or on behalf of the youth. Upon review of the data for Cohort 1, we highlighted a need to further ensure a systematic and consistent process of data collection across all agencies. Additional training and support was provided to the employment specialists involved with data collection for Cohort 2. Again, training and support will be provided to ensure rigorous data collection for Cohort 3. More detailed description of the rationale for reporting will be provided and we will review the diaries after one week of data collection to provide feedback to the employment specialists in order to ensure consistent documentation of activities is occurring. Consistent completion of these diaries, interventions, and employment outcomes improves the reportingon each agency's hard and diligent work and is necessary in order to compare outcomes across agencies and evaluate the outcomes of IMPACT.

Follow-up Interviews Cohort 2

In the spring of 2022, IMPACT mentors from the different agencies will follow up with their youth and ask questions regarding their continued employment and job market interactions.This is to gage the long-term impact of the interventions and skills learned through IMPACT and will be included in the summative report in 2023.