

Implications of Chinese and American Mothers' Goals for Children's Emotional Distress

Janice Ng and Yu Xiong
University of Illinois at Urbana-Champaign

Yang Qu
Northwestern University

Cecilia Cheung
University of California at Riverside

Florrie Fei-Yin Ng
Chinese University of Hong Kong

Meifang Wang
Capital Normal University

Eva M. Pomerantz
University of Illinois at Urbana-Champaign

This research examined a cultural socialization model in which differences in Chinese and American parents' goals for children foster differences in children's emotional distress via parents' responses to children's performance. Chinese and American mothers and their children ($N = 397$; $M_{\text{age}} = 13.19$ years) participated in a 2-wave study spanning a year. Mothers reported on their self-improvement (i.e., children striving to improve) and self-worth (i.e., children feeling worthy) goals, as well as responses to children's performance. Children reported on their emotional distress (e.g., anxiety and depression). Chinese (vs. American) mothers' greater endorsement of self-improvement goals predicted their more frequent use of failure-oriented responses (e.g., highlighting children's mistakes), which accounted for Chinese (vs. American) children's heightened emotional distress over time.

Keywords: China, culture, emotional distress, parenting, responses to performance

Supplemental materials: <http://dx.doi.org/10.1037/dev0000834.supp>

In preparing children for socially accepted navigation in social, economic, and other contexts, parents often adopt goals for children in line with their culture's values and norms (e.g., Bornstein, 2012; Harkness et al., 2009). As part of the cultural socialization process, these goals in turn may organize and guide parenting practices (e.g., Bornstein, Putnick, & Suwalsky, 2018; Darling & Steinberg, 1993), which appear to be a key channel of influence in children's psychological and behavioral development (for a review, see Bornstein, 2015). In essence, parents' goals for children,

which are often shaped by the values and norms of their culture, may influence children's development via their parenting practices, thereby leading to differences among children growing up in different cultures (e.g., Greenfield, Keller, Fuligni, & Maynard, 2003; Lamm et al., 2018).

The current research investigated such a *cultural socialization model* in China and the United States (see Figure 1). Chinese (vs. American) parents' responses to children's performance are often oriented toward children's failures (e.g., the problems they missed on a test), which appears to enhance children's learning (Ng, Pomerantz, & Lam, 2007). Indeed, Chinese children's achievement is higher than that of children in many other countries, including the United States (e.g., Mullis, Martin, Foy, & Hooper, 2016; OECD, 2016). However, such responses may also heighten children's emotional distress (Ng et al., 2007; Pomerantz, Ng, Cheung, & Qu, 2014), which may be one reason Chinese (vs. American) children are more anxious about their schoolwork (e.g., Foley et al., 2017; OECD, 2016). We examined if Chinese and American parents differ in the importance they place on children's efforts to improve and children's feelings of worth and if this difference is accompanied by differences in how they respond to children's performance, with attention to the implications for children's emotional distress.

Within China and the United States, there is likely to be variability in the extent to which parents adopt cultural values and norms, thereby creating variability in parenting and ultimately

This article was published Online First October 3, 2019.

Janice Ng and Yu Xiong, Department of Psychology, University of Illinois at Urbana-Champaign; Yang Qu, School of Education and Social Policy, Northwestern University; Cecilia Cheung, Department of Psychology, University of California at Riverside; Florrie Fei-Yin Ng, Department of Educational Psychology, Chinese University of Hong Kong; Meifang Wang, College of Elementary Education, Capital Normal University; Eva M. Pomerantz, Department of Psychology, University of Illinois at Urbana-Champaign.

This research was supported by the National Science Foundation (Grant BCS-1023170) and would not have been possible without the families who participated.

Correspondence concerning this article should be addressed to Janice Ng or Eva M. Pomerantz, Department of Psychology, University of Illinois at Urbana-Champaign, Champaign, IL 61820. E-mail: jng11@illinois.edu or pomerntz@illinois.edu

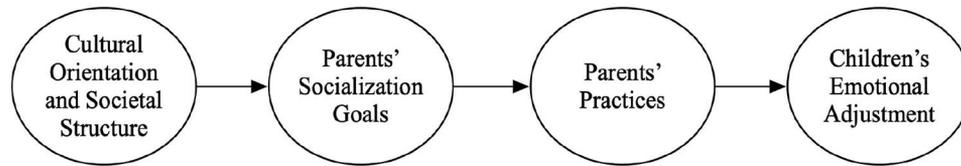


Figure 1. Guiding cultural socialization model.

children's development. For example, parenting practices differ among parents from different socioeconomic backgrounds residing in the same country (e.g., Roubinov & Boyce, 2017). Although such variability is of much significance, we focused on differences between China and the United States given our concern with elucidating parents' role in the differences in Chinese and American children's emotional distress. In taking this between-country approach, we were guided by the idea that parents, regardless of their socioeconomic background or other attributes, are exposed to mainstream cultural values and norms via the media and other venues (e.g., Sperber, 1996).

Parents' Self-Improvement and Self-Worth Goals in China and the United States

The distinct cultural ideologies of China and the United States, along with differences in the societal structure of the two, may lead Chinese and American parents to hold different goals for children (e.g., Qu, Pomerantz, & Deng, 2016). China has a relatively collectivistic culture in which group harmony is prioritized (e.g., Oyserman, Coon, & Kimmelmeier, 2002). One way individuals maintain such harmony is by constantly identifying their shortcomings and working to overcome them to meet the standards of their social context (Heine, Lehman, Markus, & Kitayama, 1999). Historically, this emphasis on self-improvement aligns with the Confucian value of continuous learning, the purpose of which is to morally and socially perfect the self to contribute constructively to society (Li, 2005). In contemporary China, children's efforts toward improvement are instrumental in preparing them for high-stakes standardized national examinations. Thus, Chinese parents may place much importance on children continually working to improve themselves—that is, they may be particularly likely to hold *self-improvement goals* for children.

In contrast, the United States is relatively individualistic, with emphasis placed on the individual, such that the individual's uniqueness, freedom, and independence are highly valued (e.g., Markus & Kitayama, 1991). Given the centrality of the individual, one's feelings of worth are paramount. Such feelings signal the possession of internal attributes key to the attainment of standards that affirm one's individuality; as such, they are viewed as a critical source of motivation and well-being (Heine et al., 1999). In fact, in comparison with mothers of Chinese descent, European American mothers tend to see children's feelings of worth as a foundation for children's happiness and future success, placing heightened importance on building children's self-esteem (e.g., Chao, 1996; Tamis-LeMonda, Wang, Koutsouvanou, & Albright, 2002). Thus, American parents may be particularly likely to hold *self-worth goals* for children in that they prioritize maintaining—and even enhancing—children's self-regard.

The Role of Parents' Goals in Their Responses to Children's Performance

Investigators have argued that parents' goals are major drivers of their parenting practices (e.g., Bornstein & Lansford, 2010; Darling & Steinberg, 1993). Thus, the differences in the importance that Chinese and American parents place on self-improvement and self-worth for children may be accompanied by differences in their parenting. When parents hold self-improvement goals, they may point out to children where improvement is needed and provide instruction to support it. This may include *failure-oriented responses* to children's performance. When children do poorly, parents may make a big deal out of it, including urging them to work harder; when children do well, parents may acknowledge their success, but concentrate on what children missed. In contrast, when parents hold self-worth goals, their practices may be aimed at protecting children's self-esteem. Thus, they may adopt *success-oriented responses*, such that they emphasize children's accomplishments, regardless of their performance (e.g., highlight what children did correctly when they have done well or poorly).

Although research has not directly examined the role of parents' self-improvement and self-worth goals in their parenting, Chinese and American parents' responses to children's performance are in line with what would be expected if such goals are influential (for a review, see Pomerantz et al., 2014). Chinese parents are more oriented toward children's failures than are American parents, who are more oriented toward children's successes (e.g., Hess, Chang, & McDevitt, 1987; Ng et al., 2007). For example, in observations of parents interacting with children after they failed or succeeded, Ng et al. (2007) found that Chinese (vs. European American) mothers made more negative (e.g., "You only got six out of 12?") and fewer positive (e.g., "Don't worry about those, you still got these ones right.") comments, regardless of children's performance. Chinese (vs. European American) mothers also discuss children's misdeeds and convey moral lessons in the context of stories about children more than do European American mothers whose stories focus more on affirming children's feelings of worth (e.g., Miller, Fung, Lin, Chen, & Boldt, 2012).

The Role of Parents' Responses in Children's Emotional Distress

If indeed the differences in Chinese and American parents' self-improvement and self-worth goals for children set the stage for differences in how they respond to children's performance, these differences may ultimately produce differences in Chinese and American children's development. The heightened failure-oriented responses that accompany parents' self-improvement

goals appear to enhance children's learning (Ng et al., 2007), which may contribute to Chinese (vs. American) children's higher achievement (e.g., Mullis et al., 2016; OECD, 2016). Such responses, however, may also put pressure on children, conveying that they can never do well enough, thereby heightening emotional distress. In line with this idea, the more parents use failure-oriented responses, the more children report feeling upset about failure and this partially accounts for Chinese (vs. American) children feeling more distressed when they fail (Ng et al., 2007). Although not entirely consistent, some research suggests that Chinese (vs. American) children are more prone to emotional distress (e.g., Chen & Stevenson, 1995; Foley et al., 2017; OECD, 2016). Moreover, East Asian countries tend to rank below many Western countries in happiness (Helliwell, Layard, & Sachs, 2018).

The heightened success-oriented responses that accompany parents' self-worth goals may be more complex. It is possible that such responses buffer children against emotional distress by conveying that they are competent and worthy. Indeed, the more parents use success-oriented responses, the happier children feel about succeeding and this partially accounts for American (vs. Chinese) children feeling more positive about their success, but there are not necessarily any learning benefits to such responses (Ng et al., 2007). In a different vein, Brummelman, Crocker, and Bushman (2016) make the case that when adults' praise is exaggerated (e.g., "You made an *incredibly beautiful* drawing!"), it may convey unrealistic expectations of continual exceptional performance to children, thereby leading to emotional distress (for other types of praise that may have costs rather than benefits, see Amemiya & Wang, 2018; Henderlong & Lepper, 2002). Indeed, the more parents use inflated praise, the more children's self-esteem decreases overtime (Brummelman, Nelemans, Thomaes, & Orobio de Castro, 2017). Thus, the role of parents' success-oriented responses in children's emotional distress is unclear.

Overview of the Current Research

In line with calls to move from simply documenting differences between countries to unpacking them (e.g., Bond & van de Vijver, 2009; Norenzayan & Heine, 2005), this research examined the cultural socialization model depicted in Figure 1 in China and the United States, thereby providing a window into how culture shapes development. Given differences in the cultural orientation and societal structure of the two countries, Chinese parents were expected to hold self-improvement goals more than were American parents, who were expected to hold self-worth goals more (Path A). These goals were anticipated to be associated with parents' responses to children's performance, such that self-improvement goals are accompanied by heightened failure-oriented responses and self-worth goals are accompanied by heightened success-oriented responses (Path B). Failure-oriented responses were hypothesized to heighten emotional distress among children, but the implications of success-oriented responses were less clear (Path C). Thus, differences between China and the United States were expected at every point in the process (e.g., in parents' goals and responses) depicted in Figure 1, culminating in Chinese (vs. American) children being more prone to emotional distress. Differences between the two countries at each point were hypothesized to be mediated by processes preceding each point, and thus to be reduced when accounting for the preceding pathways.

We evaluated whether the strength of the individual paths comprising the cultural socialization model differ in China and the United States. Chinese and American parents may have different beliefs about how to achieve the two socialization goals (Path B). For example, although Chinese parents may mainly use failure-oriented responses to achieve self-improvement goals, American parents may do so through both failure- and success-oriented responses as they may feel that building children's feelings of worth will motivate children to improve. The role of parents' responses in children's emotional distress (Path C) may also differ: Parents' failure-oriented responses, for example, may be interpreted by American (vs. Chinese) children as more rejecting as such responses are not normative in the United States (Pomerantz et al., 2014). However, the evidence to date does not suggest such differences (Ng et al., 2007).

Although it was not possible to capture the substantial heterogeneity of each country, efforts were made to sample from comparable areas in regards to social class. Mothers and children were followed across two waves of assessment a year apart starting when children entered seventh grade in middle school. We focused on this phase of development as children may experience substantial pressure in the context of the demands of middle school (e.g., Eccles et al., 1993), particularly in China where children must take a high-stakes national examination that determines the prestige of their high school (e.g., Pomerantz, Ng, & Wang, 2008). Mothers reported on their socialization goals and responses to children's performance at the first wave; children reported on their emotional distress at both waves. This longitudinal design permitted a window into the direction of effects in regards to the role of parents' goals and accompanying responses in children's emotional distress over time. However, mothers' goals and responses to children's performance were measured at the same time, as the two may form a stable system in which mothers' goals maintain their responses, but do not necessarily lead to changes in their responses unless they encounter a major event (for a similar argument in regards to parents' child-based worth in their parenting, see Ng, Pomerantz, & Deng, 2014).

Method

Participants

Participants were 397 mothers and their seventh-grade children who took part in the University of Illinois American-Chinese Middle School Motivation Project, which was carried out between 2011 and 2012 in Mainland China and the United States. In China, 194 mothers ($M_{\text{age}} = 39.13$ years at Wave 1) and their children (54% girls; $M_{\text{age}} = 12.62$ years at Wave 1) took part. They were recruited from two middle schools—one that was average achieving and one that was high achieving—in small urban areas in a large province located in the northeast region of China. Mothers and children were predominantly (99%) of *Han* descent, reflecting the ethnic composition of the area from which the sample was recruited. The majority (59%) of Chinese mothers had at least a college degree, 24% had a high school diploma, and 17% did not complete high school. Such a distribution of educational attainment is higher than the norm for the area from which families were recruited. At the time of the project, 9% of the population over 25 years in the area had a college degree or higher; 14% had a high

school diploma (National Bureau of Statistics of China, 2011). Almost all mothers worked at least part-time outside the home (91%) and reported being married (99%).

In the United States, 203 mothers ($M_{\text{age}} = 41.32$ years at Wave 1) and their children (46% girls; $M_{\text{age}} = 12.76$ years at Wave 1) participated. They were recruited from five middle schools in a small urban area in the Midwest, which achieved at the state average. Families were mainly (80%) European American, with 15% being African American, and 5% of other ethnicities (e.g., Asian, Pacific Islander, or Latino). The majority (74%) of mothers had at least a college degree, 25% had a high school diploma, and 1% did not complete high school. This distribution of educational attainment is higher than the average for the area, in which 28% of adults over the age of 25 years had at least a college degree, with 9% not having completed high school (U.S. Census Bureau, 2010). Most American mothers worked at least part-time outside the home (81%) and reported being married (74%).

Procedure

When children were in seventh grade, letters inviting families to take part in the study were sent home by schools via children at least three times in the early fall; recruitment tables were also set up at school events (e.g., parent-teacher conferences). Once families signed up to take part in the study, mothers and children were separately sent surveys which they completed at home and returned separately via mail. At this time (Wave 1), mothers provided reports of their goals for children and responses to children's performance; children reported on their emotional distress. A year later when children were in eighth grade (Wave 2), they reported on their emotional distress again in surveys sent and returned via mail. Attrition from Wave 1 to 2 was 2% due entirely to 4% of American children. Mothers and children received a financial token of appreciation for their participation (i.e., USD \$140 in the United States and RMB 345 in China). The Institutional Review Boards at the Institute of Psychology at the Chinese Academy of Sciences (Protocol #: H10005) and the University of Illinois at Urbana-Champaign (Protocol #: 10727) approved the procedures

used in this project (Title: "Parents' Role in Chinese and American Children's Academic and Emotional Functioning").

Measures

The measures were initially created in English. Standard translation and back-translation procedures (Brislin, 1980) were followed to generate the Chinese versions with repeated discussion among Chinese and American members of the research team to modify the wording of the items to ensure equivalence in meaning (Erkut, 2010). We took linguistic factors into account as well so that the questions were easily understandable to both Chinese and American children and mothers (e.g., unfamiliar and awkward terms and phrases were avoided). Every effort was made to ensure the content of the items comprising the measures was relevant to children and mothers in both countries. The means, standard deviations, and internal reliabilities of the measures are presented in Table 1.

Mothers' goals for children. Because current measures of parents' goals do not comprehensively assess their self-improvement and self-worth goals, our team of Chinese and American investigators created measures of these goals (for the complete set of items, see Appendix A). The eight self-improvement goal items focus on the value parents place on behavioral and attitudinal tendencies in children that reflect their striving to improve themselves (e.g., "How important is it to you that your child always try to overcome his/her weakness?"). The six self-worth goal items focus on the value parents place on behavioral and attitudinal tendencies in children that reflect their feeling worthy or competent (e.g., "How important is it to you that your child feels good about him/herself?"). For each item, mothers responded by indicating the importance (1 = *not at all*, 5 = *very much*). The mean of the items comprising the measure for each type of goal was taken, with higher numbers indicating greater endorsement of each goal. The two goals were positively associated in China, $r = .56, p < .001$, and the United States, $r = .25, p < .001$, but this was stronger in China, $z = 3.84, p < .001$.

Mothers' responses to children's performance. Mothers reported on their responses to children's performance using a mod-

Table 1
Means, Standard Deviations, and Internal Reliabilities for the Central Variables in China and the United States

Variable	China			United States			d^a
	<i>M</i>	<i>SD</i>	α	<i>M</i>	<i>SD</i>	α	
Mothers' goals for children							
Self-improvement goals	4.29 _{a1}	.60	.81	3.79 _{b1}	.89	.73	.66
Self-worth goals	4.23 _{a1}	.62	.87	4.74 _{b2}	.41	.92	.97
Mothers' responses to children's performance							
Failure-focused responses	2.93 _{a1}	.64	.77	2.23 _{b1}	.64	.79	1.09
Success-focused responses	3.38 _{a2}	.64	.76	4.14 _{b2}	.61	.83	1.22
Children's emotional distress							
Wave 1	2.00 _{a1}	.62	.87-.95	1.85 _{b1}	.68	.90-.96	.23
Wave 2	2.15 _{a2}	.65	.88-.95	1.91 _{b1}	.73	.83-.96	.35

Note. All ratings were made on 5-point scales. Children's emotional distress is the mean of their negative emotions, depressive symptoms, and anxiety symptoms. Different letter subscripts within each row indicate a significant ($p < .05$) difference *between* the two countries. Different number subscripts indicate a significant ($p < .05$) difference between goals, responses, or wave *within* each of the countries.

^a Cohen's d for the difference between the United States and China.

ified version of Ng et al. (2007) child-report measure, to which items were added so that responses to failure and success were more equivalently represented (for the complete set of items, see Appendix B). Mothers were asked to think of their children having a failure (i.e., doing very poorly on an exam) and a success (i.e., doing very well on an exam) in school. Following each scenario, mothers indicated how frequently (1 = *never*, 5 = *very often*) they used a variety of responses. *Failure-oriented responses* involve highlighting children's mistakes in the context of their failure (e.g., "I would tell my relatives and friends about my child doing poorly") and success (e.g., "I would concentrate on the mistakes he/she made"). *Success-oriented responses* involve highlighting children's accomplishments in the context of their failure (e.g., "I would point out what my child did well on the test") and success (e.g., "I would make a big deal out of my child's success"). The mean of the 10 items comprising the measure for each type of response was taken, with higher numbers indicating greater use of each response. The two responses were positively associated in both China, $r = .48, p < .001$, and the United States, $r = .24, p < .001$, with this being stronger in China (vs. United States), $z = 2.75, p < .01$.

Children's emotional distress. Three measures adapted from prior research were used to assess children's emotional distress. First, children indicated how frequently (1 = *never*, 5 = *very often*) in the past week they experienced nine negative emotions (e.g., nervous and depressed) selected from scales used with adults (e.g., Diener, Smith, & Fujita, 1995; Watson, Clark, & Tellegen, 1988), as well as Chinese and American children in the same age range as those in the current study (e.g., Wang, Pomerantz, & Chen, 2007). Second, children's depressive symptoms were assessed with the 13-item Short Mood and Feelings Questionnaire (Costello, Erkanli, & Angold, 2006), on which they indicated how frequently (1 = *never*, 5 = *very often*) they experienced each symptom in the past week (e.g., "I thought nobody really loved me"). Third, children's anxiety symptoms were assessed with a modified version (Pomerantz & Rudolph, 2003) of the Revised Child Manifest Anxiety Scale (Reynolds & Richmond, 1978), which has been used with both Chinese and American children (e.g., Wang et al., 2007). Children indicated how often (1 = *never*, 5 = *very often*) they experienced each of the 25 symptoms (e.g., "I worried about what my parents might say to me") in the past week. The three measures were substantially correlated in China, $r_s > .70, p_s < .001$, and the United States, $r_s > .73, p_s < .001$. Thus, following prior research (e.g., Zhang, Pomerantz, Setoh, Qu, & Wang, 2016), an emotional distress composite was created by taking the mean of the three at each wave, with higher numbers indicating heightened emotional distress.

Results

In a set of preliminary analyses, the invariance of the measures in China and the United States was evaluated using confirmatory factor analyses (CFA) with two-group nested structural equation modeling (SEM). Three central sets of analyses were then conducted to test the cultural socialization model depicted in Figure 1. In the first, mixed-model multivariate analysis of variance (MANOVA) was used to identify if there are differences between China and the United States in each construct of the model: (a) mothers' goals, (b) their responses to children's performance, and

(c) children's emotional distress. In the second set, the full cultural socialization model was examined with SEM to determine whether differences in Chinese and American mothers' goals undergird differences in their responses to children's performance, ultimately contributing to differences in Chinese and American children's emotional distress. In the third set of analyses, two-group nested SEM was used to test if the individual paths of the model shown in Figure 1 (i.e., Paths B and C) differed in strength in China and the United States. SEM was conducted with Mplus 7.4 (Muthén & Muthén, 1998–2017) which handles missing data with full information maximum likelihood estimates. In line with conventions, adequate fit of each model was indicated by a comparative fit index (CFI) and Tucker-Lewis index (TLI) of .90 or greater and a root mean square error of approximation (RMSEA) of .08 or less.

Measurement Invariance

Measurement invariance analyses were conducted using CFA with two-group nested SEM to ensure valid comparisons between China and the United States (e.g., Chen, 2008; Little, 1997). For each measure, the items comprising it were used as indicators of a latent construct. Configural, metric and scalar invariance were examined consecutively. First, adequate fit of the unconstrained model in which all of the parameters were freely estimated across China and the United States indicates equivalence in the factor structure between the two countries (Chen, 2008)—that is, *configural* invariance. Second, the metric model, in which the factor loadings were constrained to be equal between China and the United States, was compared with the unconstrained configural model. Following Chen's (2008) guidelines, decreases in model fit of less than .01 for the CFI and TLI and an increase of less than .015 for the RMSEA indicate *metric* invariance, which is sufficient for meaningful comparisons of associations between the two countries. Third, the scalar model, in which both factor loadings and intercepts were constrained to be equal between China and the United States, was compared to the metric model. Decreases of less than .01 for the CFI and TLI and an increase of less than .015 for RMSEA indicate *scalar* invariance (Chen, 2008), which is sufficient for meaningful comparisons of means between the two countries.

For measures that did not achieve full invariance (e.g., not all items had invariant factors loadings between countries), we examined partial invariance with models in which parameters of some items were constrained across countries, but others were unconstrained (Byrne, Shavelson, & Muthén, 1989). We used stepwise adjustment (Steenkamp & Baumgartner, 1998) by first identifying the most noninvariant item and then freeing the target parameter (e.g., factor loading when establishing partial metric invariance). To identify the most noninvariant item, we compared the constrained model to a set of partially constrained models in which each item constraint was freed one at a time. The improvement in model fit resulting from freeing each item constraint allows us to evaluate the influence of each item on the invariance of the measure. The item that led to the largest increase in CFI and TLI and decrease in RMSEA upon being freed compared to the fully constrained model was identified as the most noninvariant item. We repeated this procedure with the next most noninvariant item until the resulting differences in model fit indexes met Chen's (2008) criteria for invariance (see above) compared with the con-

figural (i.e., for partial metric invariance) or metric (i.e., for partial scalar invariance) model (van de Schoot, Lugtig, & Hox, 2012). As long as at least two invariant items exist per measure, partial invariance allows meaningful comparisons using latent constructs (Byrne et al., 1989; Steenkamp & Baumgartner, 1998).

Unfortunately, we did not have sufficient power to use latent constructs in our central analyses. Because all of the measures had only partial scalar invariance, in a set of supplemental analyses, we conducted the mixed-model MANOVA analyses investigating differences between China and the United States with composites excluding the items that were unconstrained in the partial scalar invariance models we established. We also compared the factor means from these partial invariance models. Because the alignment method for evaluating invariance (Asparouhov & Muthén, 2014) yields more reliable factor means when measures have only partial scalar invariance (Marsh et al., 2018), we also examined these factor means. As shown in Table S1 in the online supplementary materials, all three of these comparisons revealed a pattern similar to what we report below. The self-worth goals measure also did not have metric invariance; thus, in another set of supplemental analyses, we conducted the SEM analyses evaluating the cultural socialization model with the composite for this measure excluding the items that were unconstrained in the partial metric invariance model we established (see below). These analyses yielded practically identical findings (see Table S2 and S3 in the online supplementary materials) to those we report below.

Mothers' goals. The unconstrained model for the self-improvement goals measure fit adequately, $\chi^2(36, N = 395) = 63.91$, CFI = .98, TLI = .97, RMSEA = .06, indicating configural invariance. The differences in fit between the configural and metric model, $\chi^2(43, N = 395) = 79.59$, CFI = .98, TLI = .97, RMSEA = .07, were less than .01, indicating metric invariance. However, the differences in fit between the metric and scalar model were greater than .015. Thus, we freed one intercept at a time to identify the most nonvariant intercepts. When the two items that affected model fit the most (for items, see Appendix A) were freed, the differences in fit between the metric and scalar model, $\chi^2(50, N = 395) = 89.18$, CFI = .98, TLI = .97, RMSEA = .07, were less than .01, indicating partial scalar invariance.

The unconstrained model for the self-worth goals measure also fit adequately, $\chi^2(12, N = 395) = 25.03$, CFI = .99, TLI = .97, RMSEA = .07, indicating configural invariance. Comparison of the configural and metric model yielded differences in fit greater than .015. When the factor loadings of the three items that contributed most to noninvariance (for items, see Appendix A) were unconstrained, $\chi^2(15, N = 395) = 31.43$, CFI = .99, TLI = .97, RMSEA = .07, the differences in fit were less than .01. Examination of the scalar model indicated that it was necessary to free the intercepts of the three items that were not metrically invariant as well as the intercept of an additional item (for item, see Appendix A). The differences in fit of this partial scalar model, $\chi^2(16, N = 395) = 33.28$, CFI = .99, TLI = .97, RMSEA = .07, from the partial metric model were less than .01.

Mothers' responses to children's performance. The unconstrained model for the failure-oriented responses measure fit adequately, $\chi^2(46, N = 396) = 73.55$, CFI = .98, TLI = .95, RMSEA = .06, indicating configural invariance. Comparison of the configural and metric model, $\chi^2(57, N = 396) = 94.00$, CFI = .97, TLI = .95, RMSEA = .06, indicated metric invariance as the

differences in fit were less than .01. However, the differences in fit of the metric and scalar model were greater than .015. Based on follow-up analyses, the intercepts of six items (for items, see Appendix B) were freed. The differences in fit between the metric and this partial scalar model, $\chi^2(60, N = 396) = 107.65$, CFI = .96, TLI = .94, RMSEA = .06, were all less than .01.

The unconstrained model for the success-oriented responses measure fit adequately, $\chi^2(48, N = 396) = 89.98$, CFI = .97, TLI = .94, RMSEA = .07, indicating configural invariance. The differences in fit between the configural and metric model, $\chi^2(57, N = 396) = 110.97$, CFI = .96, TLI = .93, RMSEA = .07, were less than .01, indicating metric invariance. However, the differences in fit between the metric and scalar model were greater than .015. Based on follow-up analyses, we freed the intercepts of four items (for items, see Appendix B), $\chi^2(62, N = 396) = 130.74$, CFI = .95, TLI = .92, RMSEA = .08, which yielded differences in fit of less than .01.

Children's emotional distress. We examined whether the emotional distress measures possess invariance across time given that children completed these measures at Wave 1 and 2. For each measure, there were two latent constructs—one for each wave—which were allowed to covary. In SEM conducted within each country, we examined changes in fit when the factor loadings and intercepts of the items comprising each construct were constrained to be equal between Wave 1 and 2. These analyses revealed configural, metric and scalar invariance over time for all three of the emotional distress measures: The models not only fit adequately, χ^2 s(125–264, $N = 397$) < 529.72, CFIs > .91, TLIs > .90, RMSEAs < .08, but the differences in fit between the configural and metric models as well as the metric and scalar models were less than .01. To examine invariance between China and the United States, we conducted analyses similar to those for the other measures, but with covarying latent constructs at Wave 1 and 2.

For all three of the emotional distress measures, the unconstrained models fit adequately, χ^2 s(250–2068, $N = 397$) < 2985, CFIs > .93, TLIs > .91, RMSEA < .08, indicating configural invariance. Indicative of metric invariance, the differences in fit between the configural and metric models, χ^2 s(266–2116, $N = 397$) < 3105, CFI > .92, TLIs > .90, RMSEA < .08, were less than .01. However, the differences in fit between the metric and scalar models were more than .015. Based on the follow-up analyses, we freed the intercepts of three items at Wave 1 and two at Wave 2 (e.g., “sad”) for the negative emotion measure, one item at each wave (i.e., “I felt miserable or unhappy”) for the depressive symptoms measure, and five items at Wave 1 and four at Wave 2 (e.g., “It was hard for me to get to sleep at night”) for the anxiety symptoms measure. Doing so yielded partial scalar models, χ^2 s(277–2164, $N = 397$) < 1053, CFIs > .91, TLIs > .90, RMSEAs < .08, with differences in fit from the metric models of less than .01.

Do the Cultural Socialization Model Constructs Differ in China and the United States?

Mothers' goals for children. To identify if there are differences between China and the United States in mothers' goals, we conducted a mixed-model MANOVA with type of goal (i.e., self-improvement and self-worth) as a within-participant factor and country (i.e., China and the United States) as a between-participants factor. The MANOVA yielded a main effect of type of

goal, $F(1, 393) = 138.07, p < .001$, such that there was a general tendency for mothers to endorse self-worth goals more than self-improvement goals. However, as shown in Table 1, this was moderated by country, $F(1, 393) = 177.48, p < .001$, such that American, $t(201) = -15.20, p < .001$, but not Chinese, $t(192) = 1.43, p = .15$, mothers endorsed self-worth goals significantly more than self-improvement goals. Consistent with expectations, Chinese mothers endorsed self-improvement goals more than did American mothers, $t(393) = -6.52, p < .001$, who saw children's self-worth as more important than did Chinese mothers, $t(393) = 9.55, p < .001$.

Mothers' responses to children's performance. To examine if there were differences in Chinese and American mothers' responses to children's performance, a mixed-model MANOVA was conducted with type of response (i.e., failure-oriented and success-oriented) as the within-participant factor and country as the between-participants factor. Mothers' responses were more success- than failure-oriented, $F(1, 394) = 1063.95, p < .001$, but this was moderated by country, $F(1, 394) = 413.32, p < .001$. Although mothers' success-oriented responses were more common than their failure-oriented responses in both China, $t(193) = 9.40, p < .001$, and the United States, $t(201) = 35.17, p < .001$, the difference was smaller in China (see Table 1). Moreover, in line with prior research, Chinese mothers used more failure-oriented responses than did American mothers, $t(394) = -10.98, p < .001$, who used more success-oriented responses than did Chinese mothers, $t(394) = 12.08, p < .001$.

Children's emotional distress. Children's emotional distress was submitted to a mixed-model MANOVA with wave (i.e., Wave 1 and 2) as the within-participant factor and country as the between-participants factor. Chinese (vs. American) children were more emotionally distressed, $F(1, 384) = -10.92, p < .01$, with this difference being evident at both Wave 1, $t(393) = -2.38, p < .05$, and Wave 2, $t(386) = -3.48, p < .001$. There was also an overall tendency for children's emotional distress to increase from the fall of seventh grade to the fall of eighth grade, $F(1, 384) = 16.68, p < .001$, which was not moderated by country, $F(1, 384) = 2.08, p = .15$.

Is There Evidence for the Cultural Socialization Model Pathways?

SEM was used to test the idea that differences in Chinese and American parents' self-improvement and self-worth goals contribute to differences in Chinese and American children's emotional distress via the differences in how parents respond to children's performance. To this end, as shown in Figure 2, country ($-1 =$ United States; $1 =$ China) was set to predict mothers' self-improvement and self-worth goals at Wave 1, with the errors of the two goals allowed to covary. Each of mothers' goals, in turn, was set to predict their failure- and success-oriented responses at Wave 1, with the errors of the two responses allowed to covary; country was also set to predict mothers' responses. The two responses, in turn, as well as the goals, were set to predict children's emotional

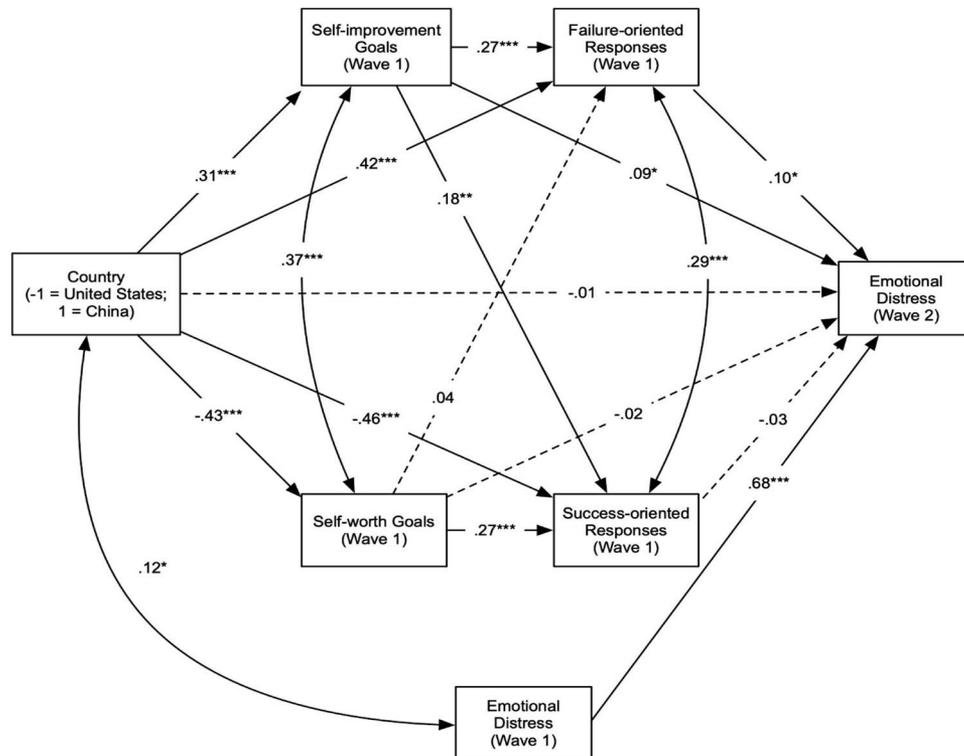


Figure 2. Mothers' self-improvement goals and failure-oriented responses mediate differences in Chinese and American children's emotional distress. Coefficient are the standardized estimates yielded by the SEM analyses. Solid lines indicate significant paths; dashed lines indicate nonsignificant paths. * $p < .05$. ** $p < .01$. *** $p < .001$.

distress at Wave 2, which was also predicted by country. Children's emotional distress at Wave 1 was allowed to covary with country and set to predict children's emotional distress at Wave 2, which took into account autoregression. All variables were treated as manifest variables. The model fit perfectly, $\chi^2(4, N = 397) = 1.02$, CFI = 1, TLI = 1.02, RMSEA = 0.

In line with our MANOVA findings, results from 1,000 bootstrap resamples indicated a significant total effect from country to mothers' failure- and success-oriented responses (see Table 2), reflecting the tendency for Chinese mothers to use more failure-oriented responses than did American mothers who used more success-oriented responses. In addition, as in the MANOVAs, country was associated with mothers' self-improvement and self-worth goals, with Chinese mothers endorsing self-improvement goals more than did American mothers who endorsed self-worth goals more (see Figure 2). Mothers' self-improvement goals were in turn associated with their failure-oriented responses such that the more mothers valued children's self-improvement, the more they focused on children's failures, taking into account country. Notably, as shown in Table 2, there was an indirect path from country to mothers' failure-oriented responses via their self-improvement goals, with self-improvement goals reducing the total effect by 19%. However, the direct effect remained significant, reflecting only partial mediation. Conversely, adjusting for country, mothers' self-worth goals were associated with their success-oriented responses such that the more mothers prioritized children's self-worth, the more they focused on their success. The indirect path from country to mothers' success-oriented responses via their self-worth goals was evident. This path accounted for 23% of the difference in Chinese and American mothers' success-oriented responses, but the difference remained significant, indicating only partial mediation. Interestingly, mothers' self-improvement goals were associated with their success-oriented responses, but their self-worth goals were not associated with their failure-oriented responses.

We next evaluated the indirect pathway from country to children's emotional distress via parents' goals and practices. Consistent with the MANOVA results reported above, there was a total effect from country to children's emotional distress at Wave 2, adjusting for Wave 1 (see Table 3) such that Chinese (vs. American) children

experienced more emotional distress. The model with all the indirect effects taken together yielded a nonsignificant direct effect of country on children's emotional distress at Wave 2. Mothers' self-improvement goals predicted children's emotional distress at Wave 2, such that the more mothers prioritized self-improvement, the more emotional distress children reported, adjusting for Wave 1 emotional distress and country (see Figure 2). Mothers' failure-oriented responses also predicted heightened emotional distress at Wave 2 over and above their goals. The delta method provided evidence for the indirect path from country to children's emotional distress via mothers' self-improvement goals and failure-oriented responses (see Table 3). Indirect paths from country to emotional distress via mothers' failure-oriented responses alone and via mothers' self-improvement goals alone were also evident. Together, the three indirect pathways accounted for 92% of the variance in Chinese (vs. American) children's heightened emotional distress. Neither mothers' self-worth goals nor their success-oriented responses predicted children's emotional distress.

Do the Cultural Socialization Model Pathways Differ in China and the United States?

The next set of analyses examined whether mothers' goals (i.e., self-improvement and self-worth) and responses to children's performance (i.e., failure-oriented and success-oriented) predicted children's emotional distress differently in China and in the United States. To this end, two-group nested model comparisons were employed. The model was identical to the model depicted in Figure 2 except that country was no longer included as it was used as the nesting variable. This unconstrained model was compared to constrained models in which each key path (i.e., self-improvement goals predicting failure-oriented responses, failure-oriented responses predicting emotional distress at Wave 2, self-worth goals predicting success-oriented responses, and success-oriented responses predicting emotional distress at Wave 2) was constrained to be equal across the two countries. Each path was constrained and examined in a separate model. Both the unconstrained, $\chi^2(8, N = 395) = 5.56$, CFI = 1, TLI = 1, RMSEA = 0, and constrained, $\chi^2(7, N = 394) < 6.01$, CFIs > .99, TLIs > 1, RMSEAs < .001, models had excellent fit.

Table 2
Total, Direct, and Indirect Effects Involved in Differences in Chinese and American Mothers' Responses to Children's Performance

Effect	Standardized effects (SE)	95% Confidence interval [CI]
Effects from country to failure-oriented responses		
Total effect	.48 (.04)	[.401, .546]
Direct effect	.42 (.05)	[.306, .506]
Indirect effects		
Country → self-improvement goals → failure-oriented responses	.09 (.02)	[.054, .132]
Country → self-worth goals → failure-oriented responses	-.02 (.02)	[-.064, .018]
Effects from country to success-oriented responses		
Total effect	-.52 (.04)	[-.592, -.453]
Direct effect	-.46 (.05)	[-.550, -.352]
Indirect effects		
Country → self-improvement goals → success-oriented responses	.06 (.02)	[.024, .101]
Country → self-worth goals → success-oriented responses	-.12 (.03)	[-.169, -.075]

Note. All estimates are from the SEM analyses (see Figure 2). All variables were assessed at Wave 1. Significant effects are indicated by 95% CIs that do not include 0.

Table 3

Total, Direct, and Indirect Effects Involved in the Differences in Chinese and American Children's Emotional Distress Over Time

Effect	Standardized effects (SE)	95% Confidence interval [CI]
Effects from country to children's Wave 2 emotional distress		
Total effect	.08 (.04)	[.018, .146]
Direct effect	-.01 (.06)	[-.139, .105]
Self-improvement goals and failure-oriented responses indirect effects		
Country → self-improvement goals → Wave 2 Emotional distress	.03 (.02)	[.002, .064]
Country → failure-oriented responses → Wave 2 emotional distress	.04 (.02)	[.004, .082]
Country → self-improvement goals → failure-oriented responses → Wave 2 emotional distress	.01 (.00)	[.001, .019]
Country → Self-improvement goals → success-oriented responses → Wave 2 emotional distress	.00 (.00)	[-.009, .003]
Self-worth goals and success-oriented responses indirect effects		
Country → self-worth goals → Wave 2 emotional distress	.01 (.02)	[-.028, .050]
Country → success-oriented responses → Wave 2 emotional distress	.01 (.02)	[-.025, .063]
Country → self-worth goals → success-oriented responses → Wave 2 emotional distress	.00 (.01)	[-.007, .017]
Country → self-worth goals → failure-oriented responses → Wave 2 emotional distress	.00 (.00)	[-.008, .001]

Note. All estimates are from the SEM analyses (see Figure 2). All variables with the exception of emotional distress were assessed at Wave 1. Significant effects are indicated by 95% CIs that do not include 0.

Notably, the models never differed, $\Delta\chi^2(1, N = 394) < 1, ps > .43$, indicating that all four pathways were similar in strength in China and the United States.

Discussion

Parents often adopt goals for children in line with the values and norms of the culture in which they reside (e.g., Bornstein, 2012; Harkness et al., 2009). As part of the cultural socialization process, parents' goals may shape their parenting practices, which contribute to children's development (e.g., Greenfield et al., 2003; Lamm et al., 2018). The current research yielded support for such a cultural socialization model in China and the United States. Although there was variability within each country, Chinese mothers held self-improvement goals more than did their American counterparts; these goals were accompanied by more failure-oriented responses to children's performance, which were more common among Chinese (vs. American) mothers and predictive over a year of greater emotional distress among children. Chinese (vs. American) mothers' heightened self-improvement goals and failure-oriented responses contributed to Chinese (vs. American) children's heightened emotional distress. Notably, the pathways from mothers' goals to children's emotional distress via mothers' responses were similar in strength in the United States and China.

Parents' Self-Improvement and Self-Worth Goals in China and the United States

We expected Chinese and American parents to differ in the emphasis they place on self-improvement and self-worth for children given differences in the cultural ideologies and societal structure of China and the United States. Indeed, on average, Chinese mothers placed more importance on children's self-improvement than did American mothers, who in contrast saw children's self-worth as more important. Chinese (vs. American) mothers' heightened endorsement of self-improvement goals is in line with both the more collectivistic orientation of China as well as the Confucian philosophy that stresses the continual process of self-perfection so as to constructively contribute to society (Li, 2005).

Chinese (vs. American) mothers' heightened concern with children's self-improvement may also be driven by the significance of children's achievement in school in China due in part to how schools are structured. In contrast, consistent with prior research (e.g., Chao, 1996; Tamis-LeMonda et al., 2002), American (vs. Chinese) mothers on average held self-worth goals more, reflecting the more individualistic orientation of the United States, in which individuals' feelings of worth are key to their individuality and seen as a critical source of motivation and well-being (Heine et al., 1999).

Although American mothers tended to see children's self-worth as more important than children's self-improvement, Chinese mothers tended to put equal emphasis on the two, which co-occurred more than among American mothers. One reason may be the rapidly changing Chinese society, particularly in the more urbanized (vs. rural) area we studied. Indeed, parents and educators in urban (vs. rural) areas of China are less likely to endorse parenting (e.g., low warmth, high control, and high power assertion) consistent with traditional Chinese values (e.g., Chen & Chen, 2010). Chen and Chen (2010) make the case that the urban, market-oriented context may put emphasis on individual initiative and competitiveness. The equal weight Chinese mothers gave to self-worth and self-improvement in the current study may reflect increased exposure to Western and urbanization influences, accompanied by the awareness that they are also preparing children for a life in China in which self-improvement continues to be valued. Notably, Sun and Ryder (2016) review evidence indicating that despite the rise over time in Chinese parents' endorsement of individualistic values, traditional values remain central.

The Role of Parents' Goals in Their Responses to Children's Performance

Differences between Chinese and American mothers in their self-improvement and self-worth goals partially mediated the differences in their responses to children's performance (see Table 2): The more mothers held self-improvement goals, the more they used failure-oriented responses, presumably to highlight children's shortcomings and the need to overcome them. The more mothers

held self-worth goals, the more they used success-oriented responses, likely in an effort to ensure children regard themselves positively. These links, which were similarly strong in China and the United States, appeared to translate into differences between American and Chinese mothers in their responses to children's performance: Although mothers in both countries used success-oriented responses more than failure-oriented responses, in line with prior research (e.g., Ng et al., 2007), Chinese mothers tended to use more failure-oriented responses and fewer success-oriented responses than did American mothers. The differences between Chinese and American mothers' responses to their children's performance, however, remained significant after taking mothers' socialization goals into account, indicating that there may be other factors at play—for example, social norms may provide pressure as well as a decisional shortcut (Cialdini, 1988) that guides parents' responses to children's performance.

The Role of Parents' Responses in Children's Emotional Distress

A key component of the cultural socialization model is that the differences in Chinese and American parents' goals contribute to differences in their children's psychological development via differences in their parenting practices. The current research identified three indirect paths that together accounted for 92% of Chinese (vs. American) children's tendency to experience more emotional distress when they entered eighth grade, adjusting for their emotional distress in seventh grade. First, the predicted path from country to children's emotional distress at Wave 2 via mothers' self-improvement goals and failure-oriented responses at Wave 1 was evident. It may be that mothers' self-improvement goals and failure-oriented responses put undue pressure on children, conveying they can never do well enough. However, prior research finds that mothers' failure-oriented responses are predictive of enhanced achievement (Ng et al., 2007). Thus, although there appear to be emotional costs to such responses, there also appear to be learning benefits. Mothers' self-improvement goals and failure-oriented responses operated similarly in China and the United States in predicting children's emotional distress, suggesting that when American parents possess self-improvement goals, they are also more likely to use failure-oriented practices that heighten children's emotional distress.

Second, the indirect path from country to children's emotional distress a year later via only mothers' failure-oriented responses was evident over and above the predicted path via mothers' self-improvement goals and failure-oriented responses just described. As discussed above, parents' self-improvement goals may not be the only triggers for their failure-oriented responses—for example, cultural norms may play a role as well. Third, there was also an indirect path from country to children's later emotional distress via only mothers' self-improvement goals. Parents' self-improvement goals may contribute to children's emotional distress over time through not only parents' heightened failure-oriented responses but also their other practices. For instance, self-improvement goals may lead parents to be more intrusive, as they attempt to ensure children make the effort to improve. Importantly, although mothers' self-improvement goals surprisingly appeared to accompany their success-oriented responses—perhaps because parents view such responses as motivating children in their

strivings to improve—the indirect path from mothers' self-improvement goals to children's emotional distress via mothers' success-oriented responses was not significant. Thus, when parents' self-improvement goals as accompanied by a success orientation, they may not foster emotional distress among children.

Mothers' self-worth goals and success-oriented responses did not contribute to children's emotional distress overtime. Although emphasizing children's success appears to boost children's positive feelings when they succeed (Ng et al., 2007), it is unclear whether de-emphasizing children's failure, which success-oriented responses also entail, buffers children against negative feelings when they fail. Another possibility is that chronically and excessively emphasizing children's success regardless of their actual performance may become empty praise and lose its effectiveness. In line with this idea, parents' inflated praise appears to be detrimental to children's emotional functioning (for a review, see Brummelman et al., 2017). In the current research, although none of the items explicitly asked about inflated praise, for some mothers, some of the items (e.g., "I would make a big deal out of his/her success") may reflect such praise. Parents' use of other types of praise (e.g., person praise that focuses on children's abilities) can also undermine children's motivation (Amemiya & Wang, 2018; Henderlong & Lepper, 2002). Unfortunately, we did not have enough items tapping into these different types of praise to examine them on their own.

Greenfield, Keller, Fuligni, and Maynard (2003) suggest that children's developmental pathways reflect adaptations to the culture in which they reside. Parents' goals and accompanying responses to children's performance may lead to culturally adaptive functioning in children. In China, children's heightened achievement is in line with the greater moral and practical importance placed on achievement compared with the United States (Pomerantz et al., 2014). Children's heightened emotional distress may also be culturally adaptive in that at least mild levels of such distress may be viewed as a form of modesty—an attribute valued more in collectivist than individualist cultures (for a review, see Heine et al., 1999). Moreover, negative affect has some benefits in that it can produce a more accommodative and externally focused thinking style (for a review, see Forgas, 2013) that may be particularly useful in China's more collectivistic culture. Of course, if the heightened emotional distress of Chinese (vs. American) children sets the foundation for physical or mental health problems, then it may be a costly byproduct of the learning adaptation. However, the difference in Chinese and American children's distress is small; future research will need to identify whether it heightens Chinese (vs. American) children's risk for physical and mental health problems.

Although the differences in Chinese and American mothers' goals and responses fell in the medium to large range in terms of size (Cohen, 1992), the associations reflecting the pathways between the two and children's emotional distress fell in the small range as did the difference in Chinese and American children's emotional distress. It may be that the small pathways we identified reflect only a small segment of a process that began earlier in children's lives and will continue for quite some years with the small effects accumulating into larger ones over time. It is also possible that there is a good deal of variation in regards to how parents' self-improvement goals and failure-oriented responses

contribute to children's emotional distress. For example, the effects may depend on how children interpret parents' responses (e.g., children see parents' focus on their mistakes as reflecting disappointment vs. concern) or their temperament (e.g., fearful children may be more sensitive to a failure orientation).

The key aim of the current research was on identifying differences between China and the United States to elucidate parents' role in differences in Chinese and American children's emotional distress. Although the findings provide support for a process of cultural socialization with differences between the two countries at each point along the way (see Figure 1), they also provide support for substantial similarity between China and the United States. Of particular note, in both countries, mothers used success-oriented responses more than failure-oriented responses. Whether this is due to the increasing exposure to Western culture in China (see above discussion about mothers' goals), to a universal tendency for parents to focus on children's accomplishments, or self-presentation motives in mothers' reports needs attention. Similarity between China and the United States was also evident in regards to the socialization pathways from mothers' goals to children's emotional distress via their responses to children's performance. For example, mothers' failure-oriented responses were similarly predictive of children's emotional distress in both countries. This is in line with evidence that controlling (vs. autonomy-supportive) parenting appears to similarly contribute to children's psychological development in China and the United States (e.g., Cheung, Pomerantz, Wang, & Qu, 2016).

Limitations and Future Directions

Several limitations of the current research warrant drawing conclusions with caution and set the way for future research. For one, because mothers' goals were measured at the same time as their responses to children's performance, conclusions cannot be made about the direction of effects. It is possible that over time mothers infer their goals from their responses or from the consequences of their responses. However, identifying the causal link between parents' goals and practices is difficult, particularly by the time children enter adolescence. Such a link may not be captured in longitudinal analyses predicting parenting practices from earlier goals while adjusting for earlier practices in which a model of change is assumed. Following prior research on the role of goals in parenting practices (e.g., Grolnick, Gurland, DeCoursey, & Jacob, 2002), it would be fruitful to experimentally manipulate parents' self-improvement and self-worth goals and observe changes in parents' responses to children's performance.

Second, the utilization of mothers' reports for both their goals and responses to children's performance poses a limitation. Parents' (vs. children's and observer's) reports seem to be the most appropriate measure of their goals given that they reflect parents' internal values and motives. However, parents' retrospective reports of their parenting have both strengths and weaknesses (for a review, see Pomerantz & Monti, 2015). For example, parents are the ones who engage in the practices (e.g., responses to children's performance) and hence should be particularly aware of them, but parents' reports are subject to biases such as their desire to present themselves in a positive light and reporting based on their intentions rather than their actual behavior (Pomerantz & Monti, 2015). In the current study, it is possible that mothers were less likely to

report their use of responses they viewed as non-normative. There may be additional subjectivity in the measure of parents' responses to children performance because a performance point (e.g., above 90th percentile for success) was not set for failure or success. It is possible that Chinese and American mothers' differed in their thresholds for what they considered doing very poorly and doing very well. It will be useful for future research to assess parents' responses using children's and observers' reports.

Third, despite our best efforts to ensure the Chinese and American samples were comparable, the samples do not reflect the heterogeneity of the two countries. There may be substantial variability within either country (e.g., urban vs. rural areas in China and cultural heritage in the United States) in parents' self-improvement and self-worth goals, leading to variability in their responses to children's performance and ultimately variability in children's emotional distress within each country. In fact, our analyses depended on such variability in the examination of the link between mothers' goals and responses with children's emotional distress (Path C). Relatedly, although differences in China and the United States in their cultural orientations and societal structure were presumed to drive the cultural socialization process we documented, we did not assess either, instead using country as a proxy for cultural orientation and societal structure.

Conclusions

Despite the limitations, the current research found support for a cultural socialization model in which differences in Chinese and American parents' self-improvement goals accounted for differences in children's emotional distress in part via differences in parents' failure-oriented responses to children's performance. Specifically, Chinese (vs. American) mothers prioritized children's self-improvement more. Mothers' self-improvement goals were associated with heightened failure-oriented responses, which were more common among Chinese (vs. American) mothers and predictive of children's emotional distress overtime in both China and the United States. These results add to a growing body of theory and research on parents as a key pathway by which culture shapes children's development such that it is an optimal fit with the culture in which children reside.

References

- Amemiya, J., & Wang, M. (2018). Why effort praise can backfire in adolescence. *Child Development Perspectives, 12*, 199–203. <http://dx.doi.org/10.1111/cdep.12284>
- Asparouhov, T., & Muthén, B. (2014). Multiple-group factor analysis alignment. *Structural Equation Modeling, 21*, 495–508. <http://dx.doi.org/10.1080/10705511.2014.919210>
- Bond, M. H., & van de Vijver, F. (2009). Making scientific sense of cultural differences in psychological outcomes: Unpacking the Magnum Mysterium. In D. Matsumoto & F. van de Vijver (Eds.), *Cross-cultural research methods* (pp. 75–100). Oxford, NY: Oxford University Press.
- Bornstein, M. H. (2012). Cultural approaches to parenting. *Parenting: Science and Practice, 12*, 212–221. <http://dx.doi.org/10.1080/15295192.2012.683359>
- Bornstein, M. H. (2015). Children's parents. In M. H. Bornstein, T. Leventhal, & R. M. Lerner (Eds.), *Handbook of child psychology and developmental science: Ecological settings and processes* (pp. 55–132). Hoboken, NJ: Wiley. <http://dx.doi.org/10.1002/9781118963418.childpsy403>

- Bornstein, M. H., & Lansford, J. E. (2010). Parenting. In M. H. Bornstein (Ed.), *Handbook of cultural developmental science* (pp. 259–277). New York, NY: Psychology Press.
- Bornstein, M. H., Putnick, D. L., & Suwalsky, J. T. D. (2018). Parenting cognitions → parenting practices → child adjustment? The standard model. *Development and Psychopathology, 30*, 399–416. <http://dx.doi.org/10.1017/S0954579417000931>
- Brislin, R. W. (1980). Translation and content analysis of oral and written materials. In H. C. Triandis & J. W. Berry (Eds.), *Handbook of cross-cultural psychology: Vol. 2. methodology* (pp. 389–444). Boston, MA: Allyn & Bacon.
- Brummelman, E., Crocker, J., & Bushman, B. J. (2016). The praise paradox: When and why praise backfires in children with low self-esteem. *Child Development Perspectives, 10*, 111–115. <http://dx.doi.org/10.1111/cdep.12171>
- Brummelman, E., Nelemans, S. A., Thomaes, S., & Orbio de Castro, B. (2017). When parents' praise inflates, children's self-esteem deflates. *Child Development, 88*, 1799–1809. <http://dx.doi.org/10.1111/cdev.12936>
- Byrne, B. M., Shavelson, R. J., & Muthén, B. (1989). Testing for the equivalence of factor covariance and mean structures: The issue of partial measurement invariance. *Psychological Bulletin, 105*, 456–466. <http://dx.doi.org/10.1037/0033-2909.105.3.456>
- Chao, R. K. (1996). Chinese and European American mothers' beliefs about the role of parenting in children's school success. *Journal of Cross-Cultural Psychology, 27*, 403–423. <http://dx.doi.org/10.1177/0022022196274002>
- Chen, C., & Stevenson, H. W. (1995). Motivation and mathematics achievement: A comparative study of Asian-American, Caucasian-American, and east Asian high school students. *Child Development, 66*, 1214–1234. <http://dx.doi.org/10.2307/1131808>
- Chen, F. F. (2008). What happens if we compare chopsticks with forks? The impact of making inappropriate comparisons in cross-cultural research. *Journal of Personality and Social Psychology, 95*, 1005–1018. <http://dx.doi.org/10.1037/a0013193>
- Chen, X., & Chen, H. (2010). Children's social functioning and adjustment in the changing Chinese society. In R. K. Silbereisen & X. Chen (Eds.), *Social change and human development: Concepts and results* (pp. 209–226). London, UK: Sage. <http://dx.doi.org/10.4135/9781446252161.n10>
- Cheung, C. S., Pomerantz, E. M., Wang, M., & Qu, Y. (2016). Controlling and autonomy-supportive parenting in the United States and China: Beyond children's reports. *Child Development, 87*, 1992–2007. <http://dx.doi.org/10.1111/cdev.12567>
- Cialdini, R. B. (1988). *Influence: Science and practice* (2nd ed.). Glenview, IL: Scott Foresman.
- Cohen, J. (1992). A power primer. *Psychological Bulletin, 112*, 155–159. <http://dx.doi.org/10.1037/0033-2909.112.1.155>
- Costello, E., Erkanli, A., & Angold, A. (2006). Is there an epidemic of child or adolescent depression? *Journal of Child Psychology and Psychiatry, 47*, 1263–1271. <http://dx.doi.org/10.1111/j.1469-7610.2006.01682.x>
- Darling, N., & Steinberg, L. (1993). Parenting style as context: An integrative model. *Psychological Bulletin, 113*, 487–496. <http://dx.doi.org/10.1037/0033-2909.113.3.487>
- Diener, E., Smith, H., & Fujita, F. (1995). The personality structure of affect. *Journal of Personality and Social Psychology, 69*, 130–141. <http://dx.doi.org/10.1037/0022-3514.69.1.130>
- Eccles, J. S., Midgley, C., Wigfield, A., Buchanan, C. M., Reuman, D., Flanagan, C., & Iver, D. M. (1993). Development during adolescence. The impact of stage-environment fit on young adolescents' experiences in schools and in families. *American Psychologist, 48*, 90–101. <http://dx.doi.org/10.1037/0003-066X.48.2.90>
- Erkut, S. (2010). Developing multiple language versions of instruments for intercultural research. *Child Development Perspectives, 4*, 19–24. <http://dx.doi.org/10.1111/j.1750-8606.2009.00111.x>
- Foley, A. E., Herts, J. B., Borgonovi, F., Guerriero, S., Levine, S. C., & Beilock, S. L. (2017). The math anxiety-performance link: A global phenomenon. *Current Directions in Psychological Science, 26*, 52–58. <http://dx.doi.org/10.1177/0963721416672463>
- Forgas, J. P. (2013). Don't worry, be sad! On the cognitive, motivational, and interpersonal benefits of negative mood. *Current Directions in Psychological Science, 22*, 225–232. <http://dx.doi.org/10.1177/0963721412474458>
- Greenfield, P. M., Keller, H., Fuligni, A., & Maynard, A. (2003). Cultural pathways through universal development. *Annual Review of Psychology, 54*, 461–490. <http://dx.doi.org/10.1146/annurev.psych.54.101601.145221>
- Grolnick, W. S., Gurland, S. T., DeCoursey, W., & Jacob, K. (2002). Antecedents and consequences of mothers' autonomy support: An experimental investigation. *Developmental Psychology, 38*, 143–155. <http://dx.doi.org/10.1037/0012-1649.38.1.143>
- Harkness, S., Super, C. M., Rios Bermudez, M., Mascardino, U., Rha, J.-H., Johnston Mavridis, C., & Olaf Zylicz, P. (2009). Parental ethnotheories of children's learning. In D. F. Lancy, J. Bock, & S. Gaskins (Eds.), *The anthropology of learning in childhood* (pp. 65–84). New York, NY: Rowan & Littlefield.
- Heine, S. J., Lehman, D. R., Markus, H. R., & Kitayama, S. (1999). Is there a universal need for positive self-regard? *Psychological Review, 106*, 766–794. <http://dx.doi.org/10.1037/0033-295X.106.4.766>
- Helliwell, J., Layard, R., & Sachs, J. (2018). *World happiness report 2018*. New York, NY: Sustainable Development Solutions Network.
- Henderlong, J., & Lepper, M. R. (2002). The effects of praise on children's intrinsic motivation: A review and synthesis. *Psychological Bulletin, 128*, 774–795. <http://dx.doi.org/10.1037/0033-2909.128.5.774>
- Hess, R. D., Chang, C. M., & McDevitt, T. M. (1987). Cultural variations in family beliefs about children's performance in mathematics: Comparisons among People's Republic of China, Chinese-American, and Caucasian. *Journal of Educational Psychology, 79*, 179–188. <http://dx.doi.org/10.1037/0022-0663.79.2.179>
- Lamm, B., Keller, H., Teiser, J., Gudi, H., Yovsi, R. D., Freitag, C., . . . Lohaus, A. (2018). Waiting for the second treat: Developing culture-specific modes of self-regulation. *Child Development, 89*, e261–e277. <http://dx.doi.org/10.1111/cdev.12847>
- Li, J. (2005). Mind or virtue. *Current Directions in Psychological Science, 14*, 190–194. <http://dx.doi.org/10.1111/j.0963-7214.2005.00362.x>
- Little, T. D. (1997). Mean and covariance structures (MACS) analyses of cross-cultural data: Practical and theoretical issues. *Multivariate Behavioral Research, 32*, 53–76. http://dx.doi.org/10.1207/s15327906mbr3201_3
- Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review, 98*, 224–253. <http://dx.doi.org/10.1037/0033-295X.98.2.224>
- Marsh, H. W., Guo, J., Parker, P. D., Nagengast, B., Asparouhov, T., Muthén, B., & Dicke, T. (2018). What to do when scalar invariance fails: The extended alignment method for multi-group factor analysis comparison of latent means across many groups. *Psychological Methods, 23*, 524–545. <http://dx.doi.org/10.1037/met0000113>
- Miller, P. J., Fung, H., Lin, S., Chen, E. C-H., & Boldt, B. R. (2012). How socialization happens on the ground: Narrative practices as alternate socializing pathways in Taiwanese and European-American families. *Monographs of the Society for Research in Child Development, 77*(1), 1–140.
- Mullis, I. V. S., Martin, M. O., Foy, P., & Hooper, M. (2016). *TIMSS 2015. International results in mathematics*. Retrieved from <http://timssandpirls.bc.edu/timss2015/international-results>

- Muthén, L. K., & Muthén, B. O. (1998–2017). *Mplus user's guide* (8th edition). Los Angeles, CA: Author.
- National Bureau of Statistics of China. (2011). *Communique of the National Bureau of Statistics of People's Republic of China on major figures of the 2010 population census*. Retrieved from http://www.stats.gov.cn/english/NewsEvents/201104/t20110428_26449.html
- Ng, F. F.-Y., Pomerantz, E. M., & Deng, C. (2014). Why are Chinese mothers more controlling than American mothers? "My child is my report card." *Child Development, 85*, 355–369. <http://dx.doi.org/10.1111/cdev.12102>
- Ng, F. F.-Y., Pomerantz, E. M., & Lam, S. F. (2007). European American and Chinese parents' responses to children's success and failure: Implications for children's responses. *Developmental Psychology, 43*, 1239–1255. <http://dx.doi.org/10.1037/0012-1649.43.5.1239>
- Norenzayan, A., & Heine, S. J. (2005). Psychological universals: What are they and how can we know? *Psychological Bulletin, 131*, 763–784. <http://dx.doi.org/10.1037/0033-2909.131.5.763>
- OECD. (2016). *PISA 2015 results (Volume I): Excellence and equity in education*. Paris, France: PISA, OECD Publishing. <http://dx.doi.org/10.1787/9789264266490-en>
- Oyserman, D., Coon, H. M., & Kemmelmeier, M. (2002). Rethinking individualism and collectivism: Evaluation of theoretical assumptions and meta-analyses. *Psychological Bulletin, 128*, 3–72. <http://dx.doi.org/10.1037/0033-2909.128.1.3>
- Pomerantz, E. M., & Monti, J. S. (2015). Measuring parents' involvement in children's education. In S. M. Sheridan & E. M. Kim (Eds.), *Foundational aspects of family-school partnerships* (pp. 55–76). Cham, Switzerland: Springer.
- Pomerantz, E. M., Ng, F. F.-Y., Cheung, C., & Qu, Y. (2014). Raising happy children who succeed in school: Lessons from China and the United States. *Child Development Perspectives, 8*, 71–76. <http://dx.doi.org/10.1111/cdep.12063>
- Pomerantz, E. M., Ng, F. F.-Y., & Wang, Q. (2008). Culture parenting and motivation: The case of East Asia and the United States. In M. L. Maehr, S. A. Karabenick, & T. C. Urdan (Eds.), *Social psychological perspectives* (pp. 209–240). Bingley, UK: Emerald Group Publishing. [http://dx.doi.org/10.1016/S0749-7423\(08\)15007-5](http://dx.doi.org/10.1016/S0749-7423(08)15007-5)
- Pomerantz, E. M., & Rudolph, K. D. (2003). What ensues from emotional distress? Implications for competence estimation. *Child Development, 74*, 329–345. <http://dx.doi.org/10.1111/1467-8624.7402001>
- Qu, Y., Pomerantz, E. M., & Deng, C. (2016). Mothers' goals for adolescents in the United States and China: Content and transmission. *Journal of Research on Adolescence, 26*, 126–141. <http://dx.doi.org/10.1111/jora.12176>
- Reynolds, C. R., & Richmond, B. O. (1978). What I think and feel: A revised measure of children's manifest anxiety. *Journal of Abnormal Child Psychology, 6*, 271–280. <http://dx.doi.org/10.1007/BF00919131>
- Roubinov, D. S., & Boyce, W. T. (2017). Parenting and SES: Relative values or enduring principles? *Current Opinion in Psychology, 15*, 162–167. <http://dx.doi.org/10.1016/j.copsyc.2017.03.001>
- Sperber, D. (1996). *Explaining culture: A naturalistic approach*. Oxford, UK: Blackwell.
- Steenkamp, J. B. E., & Baumgartner, H. (1998). Assessing measurement invariance in cross-national consumer research. *The Journal of Consumer Research, 25*, 78–90. <http://dx.doi.org/10.1086/209528>
- Sun, J., & Ryder, A. G. (2016). The Chinese experience of rapid modernization: Sociocultural changes, psychological consequences? *Frontiers in Psychology, 7*, 477. <http://dx.doi.org/10.3389/fpsyg.2016.00477>
- Tamis-LeMonda, C., Wang, S., Koutsouvanou, E., & Albright, M. (2002). Childrearing values in Greece, Taiwan, and the United States. *Parenting: Science and Practice, 2*, 185–208. http://dx.doi.org/10.1207/S15327922PAR0203_01
- U.S. Census Bureau. (2010). *Annual estimates of the resident population by race, Hispanic origin, gender and age for the United States: April 1, 2000 to July 1, 2009*. Retrieved from <http://www.census.gov/compendia/statab/2011/tables/11s0009.pdf>
- van de Schoot, R., Lugtig, P., & Hox, J. (2012). A checklist for testing measurement invariance. *European Journal of Developmental Psychology, 9*, 486–492. <http://dx.doi.org/10.1080/17405629.2012.686740>
- Wang, Q., Pomerantz, E. M., & Chen, H. (2007). The role of parents' control in early adolescents' psychological functioning: A longitudinal investigation in the United States and China. *Child Development Perspectives, 78*, 1592–1610. <http://dx.doi.org/10.1111/j.1467-8624.2007.01085.x>
- Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology, 54*, 1063–1070. <http://dx.doi.org/10.1037/0022-3514.54.6.1063>
- Zhang, X., Pomerantz, E. M., Setoh, P., Qu, Y., & Wang, M. (2016). The role of affect in the positive self: Two longitudinal investigations of young adolescents in the United States and China. *Journal of Personality and Social Psychology, 111*, 83–97. <http://dx.doi.org/10.1037/pspp0000082>

Appendix A

Mothers' Goals Measures

Self-improvement goals

Has improving himself/herself on his/her mind much of the time
 Believes that he/she should always try to improve his/her abilities^a
 Knows that he/she should never become too satisfied with himself/herself^a
 Understands there is always some way he/she can do better
 Always tries to overcome his/her weakness
 Is aware that he/she can always improve something about himself/herself
 Does not forget that he/she can still improve himself/herself, even when he/she is doing well
 Does not stop improving himself/herself-no matter what

Self-worth goals

Is confident in himself/herself^{ab}
 Thinks he/she is competent, even if the situation suggests otherwise^{ab}
 Has a positive view of himself/herself^a
 Thinks positively about his/her abilities
 Feels good about himself/herself
 Does not forget that he/she has much to be proud of, even when he/she is not doing very well^{ab}

^a Item's intercept unconstrained between countries in the final partial scalar model. ^b Item's factor loading unconstrained between countries in the final partial metric model.

Appendix B

Mothers' Responses to Children's Performance Measures

Failure-oriented responses

In response to children's failure
 I would be very disappointed with my son/daughter^a
 I would make a big deal out of it
 I would talk about how he/she had **not** worked hard
 I would tell my relatives and friends about my son/daughter doing poorly
 I would be upset about my son/daughter doing poorly^a
 In response to children's success
 I would go over with my son/daughter the questions he/she missed^a
 I would talk about why he/she didn't get an even higher score^a
 I would concentrate on the mistakes he/she made^a
 I would encourage him/her to learn from any mistakes he/she made
 I would focus on any problems he/she missed^a

Success-oriented responses

In response to children's failure
 I would point out what he/she did well on the test^a
 I would pay attention to the answers he/she got right
 I would encourage my son/daughter to think about things in school he/she has done well at in the past^a
 I would talk about what he/she did right
 In response to children's success
 I would be very proud of my son/daughter^a
 I would let my son/daughter know that he/she is pretty smart
 I would make a big deal out of his/her success
 I would tell my relatives and friends about his/her success
 I would be very excited about my son/daughter doing well^a
 I would point out what he/she did well on the test

^a Item's intercept unconstrained between countries in the final partial scalar model.

Received September 11, 2018
 Revision received August 15, 2019
 Accepted August 19, 2019 ■