

IMPLICATIONS OF CHINESE AND AMERICAN MOTHERS' GOALS FOR CHILDREN'S  
EMOTIONAL DISTRESS: INVESTIGATION OF A CULTURAL TRANSMISSION MODEL

BY

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THESIS

Submitted in partial fulfillment of the requirements  
for the degree of Master of Science in Psychology  
in the Graduate College of the  
University of Illinois at Urbana-Champaign, 2018

Urbana, Illinois

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## ABSTRACT

This research examined a cultural transmission model in which differences in Chinese and American parents' socialization goals foster differences in children's emotional distress via parents' responses to children's performance. 397 Chinese and American mothers and their children (mean 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 their 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-focused responses (e.g., highlighting children's mistakes), which accounted for Chinese (vs. American) children's heightened emotional distress over early adolescence.

*Keywords:* China; culture; emotional distress; parenting; responses to performance

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## INTRODUCTION

In preparing children for socially accepted navigation of physical, economic, and psychological situations, parents often adopt goals for children in line with their culture's norms and values (e.g., Bornstein, 2009, 2012; Luo, Tamis-LeMonda, & Song, 2013; Suizzo, 2007). As part of the process of cultural socialization, these goals in turn may organize and guide parenting practices (e.g., Bornstein, Putnick, & Suwalsky, 2017; Brody, Flor, & Gibson, 1999; Darling & Steinberg, 1993; Luo et al., 2013; Spera, 2006), which are a key channel of influence in children's psychological development (for reviews, see Bornstein, 2015; Marbell & Grolnick, 2015; Parke & Buriel, 2007; Pomerantz & Thompson, 2008). In essence, parents' goals for children, which often reflect the culture in which they reside, may shape children's psychological development via their parenting practices, thereby leading to variation among children from different cultures in various aspects of their development (Bornstein, 2009).

Empirical attention to the role of parents' goals in cultural socialization has been limited in that the full set of pathways involved in transmission has not been examined. There is substantial evidence of cultural variation in parents' goals for children (e.g., Chao, 1996; Luo et al., 2013; Mone, Benga, & Opre, 2016; Qu, Pomerantz, & Deng, 2016; Tamis-LeMonda, Wang, Koutsouvanou, & Albright, 2002), their parenting practices (e.g., Chen & Stevenson, 1989; Dennis, Cole, Zahn-Waxler, & Mizuta, 2002; F. Ng, Pomerantz, & Deng, 2014; Senese, Bornstein, Haynes, Rossi, & Venuti, 2012), and children's development along a variety of dimensions (e.g., Chen & Stevenson, 1995; Holloway, 1988; Huntsinger, Jose, Larson, Balsink Krieg, & Shaligram, 2000; Siegler & Mu, 2008; Wang & Pomerantz, 2009). However, whether

the variation in parents' goals plays a role in variation in children's development via parenting practices has received little, if any, empirical attention.

The current research took a step toward addressing this lacuna by evaluating a cultural transmission model starting with parents' goals for children (see Figure 1). Drawing from the idea that parents may have distinct "ethnotheories" of children's development (Harkness, Super, Bermudez, Moscardino, Rha, Mavridis et al., 2009), I investigated if Chinese and American parents differ in the value they place on children's efforts to improve (i.e., self-improvement goal) and feelings of worth (i.e., self-worth goal; path A in Figure 1) and if this is accompanied by differences in how they respond to children's performance (path B in Figure 1). I also evaluated the implications for children's emotional distress (path C in Figure 1) over early adolescence. Examining such a cultural transmission model can provide insight into one of the processes by which culture shapes children's development, thereby moving away from simply documenting differences between Chinese and American children to elucidating what undergirds such differences.

### **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 (e.g., how schools operate) of the two countries, may lead Chinese and American parents to hold different goals for children (e.g., Qu et al., 2014; Tamis-LeMonda et al., 2002). East Asian countries, including China, are often characterized as more collectivistic than North American countries (e.g., Fernandez, Carlson, Stepina, & Nicholson, 1997; Markus & Kitayama, 1991; Oyserman, Coon, & Kimmelmeier, 2002; Triandis, 1989). The emphasis on interdependence typical of a collectivistic orientation places priority on group harmony. One way that such harmony may be maintained is through one's expression of their commitment to the

shared standards of the group, which involves constantly identifying one's shortcomings and working to improve oneself (Heine, 2001; Heine, Lehman, Markus, & Kitayama, 1999). Historically, this emphasis on self-improvement aligns with the Confucius value of continuous learning, the purpose of which is to morally and socially perfect the self to contribute constructively to society (Li, 2005). Given these cultural beliefs, Chinese parents may be particularly likely to hold *self-improvement goals* for children such that they prioritize children always working toward improving themselves.

Chinese parents' self-improvement goals may also be driven by more practical concerns that arise as a consequence of the structure of the school system in China. Historically, achievement in school—or rather, on the civil examination—has been associated with upward social mobility in China due to the supreme status given to civil officials (for a review, see OECD, 2010). Today, children's achievement, particularly on high-stakes standardized national examinations during adolescence, determines the prestige of the school they later attend (e.g., high school and college). Moreover, educational attainment is more predictive of career status and income in China than the United States (Tang, Luk, & Chiu, 2000). Suggestive of the idea that Chinese parents may be particularly likely to hold self-improvement goals, children's achievement has consistently been found to be a top priority for Chinese and Chinese-American mothers (e.g., Goyette & Xie, 1999; Hao & Bonstead, 1998; Yamamoto & Holloway, 2010; see also Chao, 1996). In addition, studying Chinese and African-American mothers, F. Ng, Sze, Tamis-LeMonda, and Ruble (2016) found that Chinese (vs. American) mothers were more likely to respond to a protagonist's "B" grade by saying improvement was necessary.

In contrast to China, the United States has traditionally been characterized as relatively individualistic (e.g., Fernandez et al., 1997; Hofstede, 1980; Markus & Kitayama, 1991; Morling

& Lamoreaux, 2008; Triandis, 1989). As such, more emphasis is placed on the individual, with one's uniqueness, freedom, and independence being highly valued. Given the centrality of the individual, one's feelings of worth are paramount as such feelings signal the possession of internal attributes key to the attainment of standards that affirm one's individuality. Thus, feelings of worth are viewed as a critical source of motivation, as well as well-being (Heine, 2001; Heine et al., 1999). As a consequence, American parents may hold *self-worth goals* for their children: They may place emphasis on protecting—and even boosting—children's feelings of worth. Supportive of this possibility, in interviews with mothers, European American mothers, who often see children's feelings of worth as a foundation for children's happiness and future success, mention the importance of building children's self-esteem more than do their Chinese counterparts (e.g., Chao, 1996; Miller, Wang, Sandel, & Cho, 2002; Tamis-LeMonda et al., 2002; see also Qu et al., 2014).

### **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; Bornstein et al., 2017; Darling & Steinberg, 1993; Sigel & McGillicuddy-De Lisi, 2002). Thus, the differences in Chinese and American parents' goals for children in terms of self-improvement and self-worth may be accompanied by differences in their parenting. When parents hold self-improvement goals, they may highlight to children the importance of striving to improve, pointing out where improvement is needed and providing instruction to support it. This may include the use of *failure-focused responses* to children's performance: When children do poorly, parents may make a big deal out of it, going over everything children missed and urging them to work harder; when children do well, parents may acknowledge their success, but direct most of their attention to the few mistakes they did

make. In contrast, when parents hold self-worth goals, their practices may be aimed at ensuring children maintain their feelings of worth. Thus, parents' may adopt *success-focused responses* to children's performance, such that they focus on children's accomplishments (e.g., making a big deal of their success and dwelling on what children got right when they have done poorly), regardless of their performance.

Although research has not directly examined the role of parents' self-improvement and self-worth goals in their parenting practices, 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, Ng, Cheung, & Qu, 2014). Chinese parents' responses emphasize children's failures, whereas American parents' responses emphasize children's successes (e.g., F. Ng, Pomerantz, & Lam, 2007; Hess, Chang, & McDevitt, 1987). For example, in observations of parents interacting with children after a failure or success at a cognitive task, F. Ng and colleagues (2007) found that Chinese mothers made more negative (e.g., "So you've gotten these two wrong" and "You only got six out of 12?") and fewer positive (e.g., "Sounds like you did very well!" and "Don't worry about those, you still got these ones right.") comments than did their American counterparts, both when children did well and when they did poorly. Chinese mothers are also more likely to discuss children's misdeeds and convey moral lessons in the context of stories about children compared to American mothers, whose stories tend to focus instead on affirming children (Miller, Wiley, Fung, & Liang, 1997).

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

If indeed 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



psychological development. Although the failure-focused responses that may accompany Chinese parents' self-improvement goals appear to foster children's learning (F. Ng et al., 2007), they may put undue pressure on children, conveying that they can never do well enough. Over time, this may heighten emotional distress even among children who may be quite successful. In line with this idea, the more parents use failure-focused responses, the more children report feeling upset after failing and this partially accounts for the tendency for Chinese (vs. American) children to report feeling more upset after failing (F. Ng et al., 2007). Although not entirely consistent, some research suggests that East Asian children and adults tend to be more prone to emotional distress than are their North American counterparts (e.g., Chang, 2002; Dennis et al., 2002; Diener & Suh, 1999; Diener, Diener & Diener, 1995; for an exception, see Eid & Diener, 2001). For example, Chen and Stevenson (1995) found that Taiwanese—but not Japanese—high school students report more depressive symptoms than do their American counterparts.

The success-focused responses that accompany American parents' self-worth goals may be more complex in regards to their role in children's emotional distress. It is possible that such responses may buffer children against emotional distress by conveying to children that they are competent and worthy, even when they do poorly. In line with this perspective, the more parents use success-focused responses, the happier children report feeling after succeeding and this partially accounts for American (vs. Chinese) children's tendency to report feeling happier after succeeding (F. Ng et al., 2007). However, Brummelman, Thomaes, Orobio de Castro, Overbeek, and Bushman (2014) 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 a review, see Brummelman, Crocker, & Bushman, 2016). Indeed, the more parents use inflated praise, the more children's

self-esteem decreases overtime, especially among children with lower self-esteem to whom parents tend to give more inflated praise (Brummelman, Nelemans, Thomaes, & Orobio de Castro, 2017). Thus, the role of the success-focused responses that are relatively common among American (vs. Chinese) parents may sometimes protect children against emotional distress, but may foster such distress if they are inflated.

### **Overview of the Current Research**

This research evaluated a cultural transmission model in China and the United States (see Figure 1). Chinese parents were expected to hold self-improvement goals more than their American counterparts who were expected to hold self-worth goals to a greater extent (path A). These goals were anticipated to be associated with how parents' respond to children's performance such that self-improvement goals are accompanied by failure-focused responses and self-worth goals are accompanied by success-focused responses (path B). As a consequence of the differences in Chinese and American parents' goals and responses, Chinese (vs. American) children may be more prone to emotional distress over time (path C). In testing this cultural transmission model, I also evaluated additional pathways that may contribute to differences in Chinese and American children's emotional distress. For example, I examined if the difference in parents' goals in China and the United States have a direct effect on children's emotional distress (e.g., perhaps because they foster parenting practices not assessed in the current research). I examined this cultural transmission model during the early adolescent years because children are often at emotional risk at this time (for a review, see Steinberg, Dahl, Keating, Kupfer, Masten & Pine, 2015). Moreover, in China, children experience substantial pressure as they must take a high-stakes national examination at the end of middle school that determines the prestige of their high school. Parents' focus on children's improvement strivings during the early

adolescent years may further compound this pressure.

In the context of examining the cultural transmission model, I also assessed whether the strength of the individual paths comprising the 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-focused responses to achieve self-improvement goals (see above), American parents may do so through both failure- and success-focused responses as the individualistic orientation of the American culture may support the view that building children's feelings of worth will motivate them to strive to improve. The role of parents' responses in children's emotional distress (path C) may also differ in the two countries. Parents' failure-focused responses, for example, may be interpreted by American (vs. Chinese) children as more rejecting given that such responses are not normative in the United States (Pomerantz et al., 2014); as a consequence, parents' failure-focused responses may be more likely to foster emotional distress in the United States (vs. China). However, to date the effects of parents' responses to children's performance do not appear to differ in China and the United States (F. Ng et al., 2007).

I evaluated the cultural transmission model among mothers and their children in China and the United States. Although it was not possible to capture the substantial heterogeneity of each country, efforts were made to sample from comparable areas (e.g., in regards to social class and achievement levels of the schools). Mothers and children were followed across two waves of assessment a year apart starting when children were in seventh grade. 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 the role of parents' child-based worth in their controlling parenting, see F. Ng et al., 2014). Given this concurrent element of the design, I made a major effort to rule out potential confounds (e.g., children's achievement and mother's education attainment) in a set of supplementary analyses.

## METHODS

### 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 (mean age = 39.13 years at Wave 1) and their children (54% girls; mean age = 12.62 years at Wave 1) took part in the project. 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. Although children's achievement within each of the schools was relatively homogenous due to region-wise selection and ability streaming, there was still variability in achievement within schools, albeit to a lesser extent than is found in American schools. Mothers and children were predominantly (99%) of *Han* decent, 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 (91%) mothers worked at least part-time outside the home and almost all (99%) reported being married. On average, children had 0.14 siblings (range = 0 to 1) given China's one-child policy in place at the time.

In the United States, 203 mothers (mean age = 41.32 years at Wave 1) and their children (46% girls; mean age = 12.76 years at Wave 1) participated. They were recruited from five middle schools in a small urban area in the Midwest. The middle schools achieved at the state

average, with much variation in achievement within schools. 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, 2010). Hence, as was the case for the Chinese parents, a substantial proportion of the American mothers were more educated than average in their region. Most (81%) mothers worked at least part-time outside the home; 74% of mothers reported being married. On average, children had 1.67 siblings (range = 0 to 4).

## **Procedure**

Mothers provided reports of their goals for children and responses to children's performance in the fall when children were in seventh grade (Wave 1). Children reported on their emotional distress at this time and one year later in the fall of eighth grade (Wave 2). Attrition from seventh to eighth grade among children was 2%. This was due entirely to 4% of children in the United States who did not provide reports at Wave 2, as there was no attrition among Chinese children. American mothers and children completing reports at both waves did not differ from those only doing so at the first wave in regards to any of the variables included in this report at Wave 1. Mothers and children received a financial token of appreciation for their participation: USD 125 in the United States and RMB 345 in China.

## **Measures**

The measures used in this study 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). Linguistic factors were taken into account so that the questions were easily understandable to both Chinese and American participants (e.g., unfamiliar and awkward terms and phrases were avoided).

Prior to data analyses, I conducted measurement invariance analyses to ensure valid comparisons of means and associations between samples (e.g., Little, 1997). First, exploratory factor analyses (EFA) were conducted on the items for each measure within each country to ensure that all measures have the same factor structure (i.e., possess configural invariance) in both countries. Items that appeared to create additional factors in one country but not the other were removed. Subsequently, I examined the measures' metric and scalar invariance, which are necessary and sufficient for comparisons of the associations and means, respectively, between countries (e.g., Chen, 2007). Invariance was evaluated in Mplus 7.4 (Muthén & Muthén, 1998-2017) using the alignment method, which is less computationally demanding than traditional multi-group confirmatory factor analysis while also able to identify specific items that lack metric and scalar invariance (Asparouhov & Muthén, 2014). Following Asparouhov and Muthén's (2014) guidelines, the baseline model of each measure consisting of a latent construct that represented the variable of interest was established, with the respective items as indicators; the residuals of the indicators were allowed to correlate based on modification indices. Upon confirming that the baseline model achieved adequate fit as indicated by the CFI, TLI, and RMSEA, alignment was conducted using the FIXED option. Measures with 25% or fewer items being non-invariant were considered to possess invariance as per Asparouhov and Muthén's (2014) guidelines. The means, standard deviations, and internal reliabilities of the measures are presented in Table 1; the correlations are presented in Table 2.

**Mothers' goals.** Prior research has examined parents' goals for their children via open-ended interviews with parents (e.g., Chao, 1996; Miller et al., 2002) or open-ended listing tasks (e.g., Qu et al., 2016), with some studies using close-ended rating measures (e.g., Chao, 2000; Li, Costanzo, & Putallaz, 2010; Wang & Tamis-Lemonda, 2003) or goal choice or ranking measures (e.g., Mone et al., 2016). Although open-ended methods have yielded themes of self-improvement and self-worth in parents' goals, they may underestimate the prevalence of such goals because self-improvement and self-worth goals may manifest themselves in other goals as well. For example, parents concerned with self-improvement may have high standards for children's achievement as it can be a marker of improvement strivings; self-worth goals may be reflected in goals for children to feel competent, worthy, and happy as well as to pursue what they desire. Unfortunately, to date, the close-ended rating measures of parents' goals do not comprehensively cover self-improvement and self-worth, specifically. Thus, a team of Chinese and American investigators created measures of parents' self-improvement and self-worth goals for the purpose of evaluating the cultural transmission model guiding this research.

To this end, the team generated items for both types of goals. The self-improvement goal items asked about parents' value of 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?"). Self-worth goal items asked about parents' value of behavioral and attitudinal tendencies in children that reflect their feeling worthy or competent (e.g., "How important is it for your child to feel good about him/herself?"). For each item, mothers responded by indicating the importance of the behavioral or attitudinal tendency (1 = *Not at all* to 5 = *Very much*). The EFAs of each of the two measures suggested that I retain all eight of the original items for mothers' self-improvement goals scale and six of the original eight items for mothers'



self-worth goals scale (for the list of items used, see Appendix A).

The two scales possessed metric and scalar invariance. The baseline models achieved good fit,  $\chi^2$ s (dfs = 10-34) < 51.33, CFIs > .98, TLIs > .91, RMSEAs < .06. Alignment results indicated that while all self-improvement goal items were invariant on the metric level, two items were non-invariant on the scalar level. All of self-worth goal items were invariant at both the metric and scalar level. Because only 25% of the items in the self-improvement goals measure were non-invariant at the scalar level, the full measure was retained for subsequent analyses. The means were taken across items from each measure, with higher numbers indicating stronger endorsement of the goals. The two goals were positively associated in both China,  $r = .56, p < .001$ , and the United States,  $r = .25, p < .001$ , indicating that some parents have more goals for their children than others. Interestingly, the association was stronger in China than the United States,  $z = 3.84, p < .001$ .

Because these measures of parents' goals are new, I examined their convergent and discriminant validity. To this end, I evaluated the overlap of mothers' self-improvement and self-worth goals overlap with their mastery and performance goals. At first glance, self-improvement goals may seem like they are simply mastery goals (i.e., a concern with developing competence). However, in the Chinese idea of self-improvement, as well as my operationalization of self-improvement goals, this is not necessarily the case. Self-improvement goals are about constantly striving to do better, which could be to develop competence or demonstrate competence (i.e., performance goal). But the key is to do better no matter how well children may already be doing. Hence, self-improvement goals should be moderately associated with both mastery and performance goals. Self-worth goals may also be associated with both these goals as parents may see both developing and demonstrating competence as leading children to feel positive about

themselves.

Drawing from Grant and Dweck's (2003) measures, as well as more recent measures used with Chinese and American parents (F. Ng et al., 2014), mothers' mastery goals were assessed with six items that asked about the value mothers' place on children's development of competence (e.g., "Even if it is difficult, I like my child to have schoolwork that makes him/her think hard";  $\alpha_s = .74$  in China and  $.71$  in the United States). Mothers' performance goals were assessed with six items that asked about their value of children's demonstration of competence (e.g., "My child showing that he/she is intelligent in school is important to me";  $\alpha_s = .85$  in China and  $.88$  in the United States). For each item on both scales, mothers responded by indicating how true (1 = *Not at all true* to 5 = *Very much true*) they thought it was, with higher numbers indicating greater endorsement of the goal. In both countries, mothers' self-improvement and self-worth goals were generally positively correlated with their mastery and performance goals, but not to such an extent to suggest that they were simply redundant with one another. Interestingly, the associations were stronger in China ( $r_s = .53$  and  $.54$  for self-improvement goals and  $.50$  and  $.42$  for self-worth goals with mastery and performance goals, respectively), than in the United States ( $r_s = .33$  and  $.40$  for self-improvement goals and  $.21$  and  $.05$  for self-worth goals with mastery and performance goals, respectively); for the correlations between mothers' performance and mastery goals with their self-improvement and self-worth goals as well as their responses to children's performance, see Appendix B),  $z_s > 2.02$ ,  $p_s < .05$ .

**Mothers' responses to children's performance.** Mothers reported on their responses to children's performance using a modified version of F. Ng and colleagues' (2007) instrument that they used with children as reporters. The key modification was that items were added so that

responses to failure and success were more equivalently represented within the failure-focused responses scale and the success-focused responses scale (for a full list of the items, see Appendix C). 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. Immediately following each scenario, mothers indicated how often (1 = *Never* to 5 = *Very often*) they used a variety of responses. *Failure-focused responses* involve highlighting children's mistakes in the context of both children's 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."). Conversely, *success-focused responses* involve highlighting children's success when children failure (e.g., "I would point out what my child did well on the test.") and succeed (e.g., "I would make a big deal out of my child's success."). The EFA results suggested keeping 10 of the original 13 items to assess failure-focused responses and 10 of the original 13 items to assess success-focused responses.

Both baseline models for mothers' failure-focused and success-focused responses achieved adequate fit,  $\chi^2(\text{dfs} = 30-44) < 234.84$ , CFIs  $> .93$ , TLIs  $> .90$ , RMSEAs  $< .08$ . The alignment analyses indicated that all 10 failure-focused responses items were invariant at the metric level, with two being non-invariant at the scalar level. All 10 success-focused items were invariant both at the metric level and the scalar level. Because fewer than 25% of the items were non-invariant in the failure-focused responses scale, the full measure was retained. The mean of the 10 items for each type of responses was taken, with higher numbers indicating greater use of the response. The two types of responses were positively associated in both China,  $r = .48$ ,  $p < .001$ , and the United States,  $r = .24$ ,  $p < .001$ , suggesting that some parents are more responsive overall than others. Interestingly, the association was stronger in China than the United States,  $z$

= 2.75,  $p < .001$ .

**Children's emotional distress.** Three measures adapted from prior research were used to assess children's emotional distress. First, children indicated how often (1 = *Never* to 5 = *Very often*) in the past week they experienced nine negative emotions (i.e., nervous, depressed, worried, lonely, guilty, afraid, sad, ashamed, unhappy) selected from scales used in past research with adults from different countries (e.g., Diener, Smith, & Fujita, 1995; Scollon, Diener, Oishi, Biswas-Diener, 2004; 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 often (1 = *Never* to 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 using 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 in prior research (e.g., Wang et al., 2007). Children indicated how often (1 = *Never* to 5 = *Very Often*) they experienced each of the twenty-five symptoms (e.g., "I worried about what my parents might say to me") in the past week. EFA conducted for each measure confirmed configural invariance between the Chinese and American samples; thus, all items in each measure were retained.

Metric and scalar invariance of each measure were examined individually across waves. Each baseline model consisted of one latent factor (e.g., negative emotions) at Wave 1 and one at Wave 2, with their respective items as indicators. The two latent factors in each model as well as the residuals of the indicator items were allowed to correlate across waves based on modification

indices. All baseline models achieved adequate fit,  $\chi^2_s(df = 244-2138) < 3377.04$ , CFIs  $> .91$ , TLIs = .90, RMSEAs  $< .06$ . The alignment analyses indicated that most items in the three measures achieved metric and scalar invariance at both waves, with fewer than 17% of the items in each measure being non-variant. Hence, all the items were retained. Given that the three measures were highly correlated at both waves in both countries ( $r_s > .70$ ,  $p < .001$  in China and  $r_s > .73$ ,  $p < .001$  in the United States), following prior research (e.g., Zhang, Pomerantz, Setoh, & 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.

**Children's achievement.** Children's school grades in the four core subjects in each country (i.e., language arts, math, science, and social studies in the United States; language arts, math, science, and English in China) were obtained from schools in the fall of seventh and eighth grades. Grades in the American schools were in letters and were converted to numbers (F = 0 to A+ = 12). In the Chinese schools, grades were numerical, ranging from 0 to 120. Grades were standardized within schools to take into account differences in grading systems between schools. The average of the standardized scores across the four subjects was taken as an index of children's grades within country, with higher numbers indicating better grades.

## RESULTS

Three central sets of analyses were conducted to test the cultural transmission model depicted in Figure 1. In the first set, 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: (1) mothers' goals, (2) their responses to children's performance, and (3) children's emotional distress. In the second set of analyses, the full cultural transmission model was tested in the context of structural equation modeling (SEM) using Mplus 7.4 (Muthén & Muthén, 1998-2017) to examine 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, multi-group SEM was conducted in Mplus 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. Mplus handles missing data with full information maximum likelihood estimates, thereby providing more reliable standard errors under a wider range of conditions than do list- and pair-wise deletion as well as mean imputation (Wothke, 2000).

### **Do the Cultural Transmission Model Constructs Differ in China and the United States?**

In the cultural transmission model, differences in Chinese and American mothers' goals accompany differences in their responses to children's performance, which ultimately set off differences in children's emotional distress. Thus, I used MANOVAs to evaluate whether there are differences in China and the United States in each of the constructs in the model.

**Mothers' goals.** I conducted a mixed-model MANOVA on mothers' goals 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-participant factor. The MANOVA yielded a main effect of

type,  $F(1, 393) = 138.07, p < .001$ , such that there was a general tendency for mothers to endorse self-worth goals to a greater extent 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,  $t(192) = 1.43, p > .05$ , mothers endorsed self-worth goals significantly more than they endorsed self-improvement goals. Consistent with expectations, Chinese mothers endorsed self-improvement goals to a greater extent than did American mothers,  $t(393) = -6.52, p < .001$ , who in contrast saw children's self-worth as more important than did Chinese mothers,  $t(393) = 9.47, p < .001$ .

**Mothers' responses to children's performance.** To identify if there were differences in Chinese and American mothers' responses to children's performance, a mixed-model MANOVA on mothers' responses was conducted with type of response (i.e., failure-focused and success-focused) as the within-participant factor and country as the between-participant factor. Mothers' responses were more success- than failure-focused (see Table 1),  $F(1, 394) = 1063.95, p < .001$ . This was moderated by country, however,  $F(1, 394) = 413.32, p < .001$ . Although mothers' success-focused responses were more common than their failure-focused 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. Moreover, Chinese mothers used more failure-focused responses,  $t(394) = -10.98, p < .001$ , than did American mothers, who used more success-focused responses,  $t(394) = 12.08, p < .001$ , than did Chinese mothers.

**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-participant factor. Chinese children were more emotionally distressed than were American children,  $F(1, 384) = -10.92, p < .001$ , with this difference being evident both at 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,  $F(1, 384) = 2.08, ns$ .

**Supplementary analyses.** Because Chinese mothers were less educated than were their American counterparts due to access to and norms around educational attainment, such attainment (1 = did not complete high school, 2 = high school diploma, 3 = associate's degree, 4 = bachelor's degree, 5 = master's degree, 6 = professional degree) was added as a covariate in the mixed-model MANOVAs described above. These analyses yielded a Goal Type x Educational Attainment interaction,  $F(1, 381) = 3.33, p < .01$ , such that mothers' educational attainment was positively associated with their endorsement of self-worth goals,  $r = .19, p < .001$ , but not self-improvement goals. However, this did not account for the country differences as the Goal Type x Country interaction remained evidence,  $F(1, 381) = 18.08, p < .001$ , with the follow-up tests within and between the two countries yielding a similar pattern to that reported above. Mothers' educational attainment was not associated with either type of their responses to children's performance,  $r_s > -.05, ns$ , or children's emotional distress,  $r = -.02, ns$ . Thus, not surprisingly it did not account for any of the differences between China and the United States reported above.

### **Is There Evidence for the Cultural Transmission Model Pathways?**

SEM was used to test the idea that differences in Chinese and American parents' goals in terms of self-improvement and self-worth 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 both 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, were set to predict both their failure-focused and success-focused responses at Wave 1, with the errors of the two responses allowed to covary; country was also set to predict the responses. The two responses, in turn, as well as the goals, were set to predict children's emotional distress at Wave 2, which was also predicted by country. Children's emotional distress at Wave 1 was included in the model as well: It 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 was saturated, as all possible paths were included. Thus, it had perfect fit,  $\chi^2$  ( $df = 4$ ) = 1.02, CFI = 1, TLI = 1.02, RMSEA = 0. In line with prior research (F. Ng et al., 2007) and our MANOVA findings, results from 1000 bootstrap resamples indicated a significant total effect from country to mothers' failure-focused and success-focused responses (see Figure 2), reflecting the tendency for Chinese mothers to use more failure-focused responses than did American mothers,  $\beta = .48, p < .001$ , who used more success-focused responses,  $\beta = -.52, p < .001$ . As in the MANOVAs, country was also associated with mothers' self-improvement goals and self-worth goals, with Chinese mothers endorsing self-improvement goals to a greater extent than did American mothers,  $\beta = .31, p < .001$ , who endorsed self-worth goals to a greater extent,  $\beta = -.43, p < .001$ . Mothers' self-improvement goals were in turn associated with their failure-focused responses such that the more mothers valued children's self-improvement, the more they focused on children's failures, taking into account country,  $\beta = .27, p < .001$ . Notably, as shown in Table 3, the delta method indicated an indirect path from country to mothers' failure-focused responses via their self-improvement goals,  $\beta = .09, 95\% \text{ CI} = (.054, .132)$ , with self-improvement goals reducing the total effect by 18%. However, the direct effect remained

significant,  $\beta = .42, p < .001$ , reflecting partial mediation. Conversely, mothers' self-worth goals were associated with their success-focused responses, adjusting for country,  $\beta = .27, p < .001$ , 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-focused responses via their self-worth goals was evident,  $\beta = -.12, 95\% \text{ CI} = (-0.169, -0.075)$ , accounting for 23% of the difference in Chinese and American mothers' success-focused responses, which remained significant,  $\beta = -.46, p < .001$ , indicating partial mediation. Interestingly, mothers' self-improvement goals were associated with their success-focused responses,  $\beta = .18, p < .001$ , but their self-worth goals were not associated with their failure-focused responses,  $\beta = .04, p > .05$ .

I 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,  $\beta = .08, p < .05$ , such that Chinese (vs. American) children experienced more emotional distress (see Figure 2). The model with all the indirect effects taken together yielded a direct effect of  $\beta = -.01, ns$ . Mothers' self-improvement goals predicted children's Wave 2 emotional distress,  $\beta = .09, p < .05$ , such that the more mothers prioritized self-improvement, the more emotional distress children reported at Wave 2, adjusting for Wave 1 emotional distress and country. Mothers' failure-focused responses also predicted heightened emotional distress,  $\beta = .10, p < .05$ . As shown in Table 4, the delta method provided evidence for the indirect path from country to children's emotional distress via mothers' self-improvement goals and failure-focused responses,  $\beta = .01, 95\% \text{ CI} = (.001, 0.019)$ . The indirect path from country to emotional distress via mothers' failure-focused responses alone,  $\beta = .04, 95\% \text{ CI} = (0.004, 0.082)$ , and that via mothers' self-improvement goals alone,  $\beta = .03, 95\% \text{ CI} = (0.002, 0.064)$ , were also evident.

Together, the three indirect pathways accounted for 92% of the variance in the tendency for Chinese (vs. American) children to be more emotionally distressed. Neither mothers' self-worth goals,  $\beta = -.03$ ,  $p = .54$ , nor their success-focused responses,  $\beta = -.02$ ,  $p > .05$ , predicted children's emotional distress (see Table 4).

**Supplementary analyses.** To rule out potential confounds I conducted a set of supplementary analyses. For these analyses, the model became too complex if I included the potential confounds (i.e., mothers' educational attainment, mothers' mastery and performance goals, and children's grades) either individually or together in the model. Thus, I carried out two sets of multiple regression analyses. In the first, I predicted each of the two responses to children's performance from the self-improvement and self-worth goals simultaneously including each of the potential covariates, explored in separate analyses. Then I predicted children's emotional distress at Wave 2 adjusting for their emotional distress at Wave 1 first from their failure-focused responses and then from their self-improvement goals—the two variables that predicted children's emotional distress over time—along with the potential covariates, each explored in a separate analyses. In all both sets of analyses, the effects identified in the model described above remained significant,  $\beta$ s  $> .08$ ,  $ts > 1.94$ ,  $ps < .05$ .

In another set of supplementary analyses, I explored whether mother' goals or responses may differentially contribute to the emotional distress of children doing well versus poorly in terms of their grades (e.g., self-improvement goals and failure-focused responses may be particularly detrimental to children doing poorly because they do not feel they are meeting their parents' standards for them). These regression analyses were identical to those described above in which grades were included as a covariate, but in a final step the moderating effect of grades was tested with an interaction term (e.g., Grades x Failure-focused Responses) with a separate

analysis for each of the two goals and each of the two responses. None of the interactions reached significance,  $\beta$ s < .02,  $t$ s < 1.

### **Do the Cultural Transmission Model Pathways Differ in China and the United States?**

The next set of analyses examined whether any of the pathways in the cultural transmission model differed in China and the United States. To this end, two-group nested model comparisons were employed. The model was identical to the model examined above (see Figure 2) except that country was no longer included as it was used as the nesting variable. The model with the four key hypothesized paths (i.e., self-improvement goals predicting failure-focused responses, failure-focused responses predicting emotional distress at Wave 2, self-worth goals predicting success-focused responses, and success-focused responses predicting emotional distress at Wave 2) left unconstrained between the two countries was compared to constrained models in which each key path in the cultural transmission model was constrained to be equal across the two countries, with each path examined in a separate constrained model. The models all fit well,  $\chi^2$ s ( $dfs > 6$ ) < 6.54, CFIs > .99, TLIs > 1.00, RMSEAs < .01. If the unconstrained model fits better than the more parsimonious constrained model as indicated by a significant difference in chi-square values ( $\Delta\chi^2$ ) between the two models, this would mean the pathway constrained differs between the two countries. The chi-square difference tests indicated that all of the six pathways were similar in China and the United States,  $\Delta\chi^2$ s ( $dfs = 1$ ) < 1.34, *ns*.

## DISCUSSION

Parents often adopt goals for their children that are in line with the norms and values of the culture in which they live (e.g., Bornstein, 2009, 2012; Luo et al., 2013; Suizzo, 2007). As part of the cultural socialization process, parents may transmit their goals through their parenting practices, which ultimately shape children's psychological development. The current research yielded support for such a cultural transmission model in China and the United States.

Specifically, Chinese mothers held self-improvement goals more than did their American counterparts; these goals were accompanied by more failure-focused responses to children's performance, which were more common among Chinese (vs. American) mothers and predictive over time of heightened emotional distress among children. Chinese (vs. American) mothers' self-improvement goals and failure-focused responses contributed to the tendency for Chinese (vs. American) children to be more emotionally distressed. Although much research has focused on identifying differences in Chinese and American parents' goals and practices as well as children's psychological functioning (for reviews, see Pomerantz, Ng, & Wang, 2008; Pomerantz et al., 2014), this is the first test of a cultural transmission model, which is key in understanding the process by which differences between Chinese and American children develop.

### **Parents' Self-improvement and Self-worth Goals in China and the United States**

I expected Chinese and American parents to differ in terms of their focus on promoting self-improvement and self-worth among children given the differences in the cultural ideologies and societal structure (e.g., education system) in China and the United States. Consistent with this expectation, 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; Yu, 1999). Chinese (vs. American) parents' heightened concern for children's self-improvement may also be driven by the emphasis on children's achievement in school in China due in part to how schools are structured (e.g., a test at the end of middle school determines if and where children go to high school). In contrast, consistent with prior research (e.g., Chao, 1996; Miller, Wang, Sandel, & Cho, 2002; Qu et al., 2014; Tamis-LeMonda et al., 2002), American (vs. Chinese) mothers' were more likely to hold self-worth goals, which is likely to be a result of 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, 2001; Heine et al., 1999).

Although American mothers saw children's self-worth as more important than children's self-improvement, Chinese mothers put equal emphasis on the two (see Table 1). One possible reason for Chinese parents' equal concern with children's self-worth and self-improvement 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 practices (e.g., low warmth, high control and high power assertion) consistent with traditional Chinese values (e.g., social responsibility and obedience and self-control; Chen & Chen, 2010; Luo et al., 2013). Chen and Chen (2010) make the case that the urban, market-oriented context may put emphasis on individual initiative and competitiveness, which may be incompatible with traditional Chinese values. Hence, Chinese mothers' equal emphasis on children's self-worth and self-improvement in the current study may reflect increased exposure

to Western and urbanization influence over the years. It may also be that there is a universal tendency across cultures to want children to have a foundation of feeling worthy, and only when children's improvement strivings have practical (e.g., academic achievement) and moral (e.g., the Confucian emphasis on continual self-perfection) significance are such strivings weighted equally in parents' goals for children.

At first blush, mothers' self-improvement and self-worth goals may appear redundant with the emphasis they place on mastery and performance for their children. Indeed, both self-improvement and self-worth goals were generally positively associated with parents' concern with developing (i.e., mastery goal) and demonstrating (i.e., performance goal) with the associations not differing from one another. In addition, although mothers' performance and mastery goals were associated with their failure- and success-focused responses, neither predicted children's emotional distress and the effects of self-improvement and self-worth goals on both mothers' responses and children's emotional distress over time held, supporting the discriminant validity of these goals. Interestingly, in China all of mothers' goals were more strongly associated with one another than in the United States, which is in line with the tendency for Chinese, but not American, mothers to hold self-improvement goals to the same extent as self-worth goals. It may be that Chinese (vs. American) parents tend to view the goals we assessed less as being at odds with one another. For example, it may be that whereas American parents place much import in children's feelings of worth, seeing that as more important than their self-improvement, Chinese parents may view self-improving as a process by which children gain positive feelings about themselves. Likewise, Chinese (vs. American) parents may believe that children's feelings of worth may come naturally when they are able to develop and demonstrate competence.

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

Given that parents' goals have been argued to drive their parenting practices (e.g., Bornstein & Lansford, 2010; Bornstein et al., 2017; Darling & Steinberg, 1993; Sigel & McGillicuddy-De Lisi, 2002), I expected the differences in Chinese and American parents' self-improvement and self-worth goals to be accompanied by differences in their parenting practices. In the current research, differences in Chinese and American mothers' self-improvement and self-worth goals partially mediated the differences in their responses to children's performance (see Table 3). Specifically, the more mothers held self-improvement goals the more they used failure-focused responses, presumably to highlight to children that they need to improve and how to do so; the more that mothers held self-worth goals, the more they used success-focused responses, likely in an effort to ensure children feel good about themselves. 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: In line with prior research (e.g., F. Ng et al., 2007), Chinese mothers used significantly more failure-focused responses and less success-focused responses than did American mothers.

Notably, however, the differences between Chinese and American mothers' responses to their children's performance remained significant after taking mothers' socialization goals into account, indicating that there may be other factors at play. For instance, it is possible that mothers' child-based worth may contribute to the differences in their responses to children's performance. Chinese (vs. American) parents base their worth more on children's performance (F. Ng et al., 2014), which is associated with heightened negative affective reactions to children's failure, likely because it is threatening to parents (F. Ng, Pomerantz, Lam, & Deng, in press). As a consequence, Chinese (vs. American) mothers may use more failure-focused



responses to children's performance. The cultural normativeness of the responses may also be influential. Social norms are considered central in guiding behavior (e.g., Ajzen, 2005; Cialdini, Kallgren, & Reno, 1991), including parenting as such norms signal what is appropriate and valuable for parents in raising children (e.g., Belsky, 1999; Bornstein, 2012; Chao & Tseng, 2002; Taylor, Hamvas, Rice, Newman, & DeJong, 2011). Norms have been described as providing a decisional shortcut about how to behave requiring simply registering what others are doing and then imitating it (Cialdini, 1988). Thus, parents' goals may differ from those of their culture, but they may still engage in parenting in line with their culture's norms and values.

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

A key component of the cultural transmission model is that the differences in Chinese and American parents' goals contribute to differences in Chinese and American children's emotional experience via differences in their parenting practices. In line with this idea, 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-focused responses was evident. It may be that mothers' self-improvement goals and failure-focused responses put undue pressure on children, conveying that they can never do well enough. Over time, the negative affect that children experience (F. Ng et al., 2007) may accumulate to create emotional distress. In line with this idea of accumulation, mothers' failure-focused responses—as well as self-improvement goals—were only associated with children's emotional distress at Wave 2, but not Wave 1 (see Table 2). It is also of note that mothers' failure-focused responses appear to foster achievement, particularly when children are doing well

(F. Ng et al., 2007) suggesting that there may be emotional costs but learning benefits to such responses. Mothers' self-improvement goals and failure-focused responses operated similarly in China and the United States in predicting children's emotional distress, with supplementary analyses also indicating similarity for children doing well and poorly in school as reflected in their grades.

Second, the indirect path from country to children's emotional distress a year later via only mothers' failure-focused responses was evident over and above the predicted path via both mothers' self-improvement goals and failure-focused responses described previously. Parents' self-improvement goals may not be the only triggers for their failure-focused responses, which in turn contribute to children's emotional distress overtime. As discussed above, other factors such as parents' child-based worth may heighten parents' failure-focused responses. Third, the indirect path from country to children's later emotional distress via only mothers' self-improvement goals also was evident. Parents' self-improvement goals may contribute to children's emotional distress overtime through not only their heightened focus on children's failures, but also their other parenting practices. For instance, it may be that heightened self-improvement goals lead to more psychological control, as parents attempt to focus children on improving. Although no research to date has examined the link between parents' self-improvement goals and psychological control, there is much evidence that Chinese (vs. American) parents tend to be more psychologically controlling (for a review, see Pomerantz et al., 2014), which appears to play a role in children's emotional distress overtime in both China and the United States (for a review, see Pomerantz & Wang, 2009).

Mothers' self-worth goals and success-focused 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 (F. Ng et al., 2007), it is unclear whether de-emphasizing children's failure, which success-focused 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 overtime and lose its effectiveness. In line with this idea, parents' inflated praise is detrimental to children's emotional adjustment overtime, particularly for children with low self-esteem (for a review, see Brummelman et al., 2017). In the current research, some of the items used to assess success-focused responses (e.g., "I would make a big deal out of his/her success") may reflect inflated praise. Thus, more fine-grained assessments of success-focused responses be fruitful to identify the unique effects of emphasizing children's success and de-emphasizing their failure on children's emotional adjustment overtime, with attention to the potential moderating role children's self-esteem. In addition, recent research suggests that parents' use of person praise that focuses on children's abilities (e.g., "You did so well. You are really smart!") can undermine children's motivation (e.g., Pomerantz & Kempner, 2013). However, we did not specifically examine such praise or its counterpart, process praise (e.g., "You did so well. You must have worked hard.") which sometimes can be beneficial for children of this age (Amemiya & Wang, 2018).

### **Limitations and Future Directions**

Several limitations of the current research warrant drawing conclusions with caution and set the way for future research. First, because mothers' self-improvement and self-worth goals were measured at the same time as their responses to children's performance, it is particularly difficult to draw conclusions 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 for children's

psychological functioning. However, identifying the causal link between parents' goals and practices is difficult, particularly by the time children enter adolescence as in the current research. F. Ng and colleagues (2014) suggest that parents' goals may drive their parenting practices early in children's lives, but then only maintain (vs. increase) them overtime, which 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. To get at the causal role of goals in mothers' responses, future research may instead experimentally manipulate mothers' goals and observe potential changes in their responses to children's performance.

Second, the utilization of mothers' reports for both their goals as well as their responses to children's performance poses a limitation. Although parents' (vs. children's and observer's) reports seem to be the most appropriate measure of their socialization goals given that they reflect their internal beliefs and values, parents' retrospective reports of their parenting practices have strengths and weaknesses (for a review, see Pomerantz & Monti, 2015). For example, parents are ultimately the individuals who engage in the practices (e.g., responses to children's performance) and hence should be particularly aware of them (Pomerantz & Monti, 2015). However, parents' reports are subject to biases such as parents' desire to present themselves in a positive light and reporting based on their intentions rather than their actual behavior. In the current study, it is possible that mothers were less likely to report on their use of responses that they perceived as non-normative. Mothers may also have reported based on how they would like to respond rather than how they actually respond. Children's reports of parents' responses (as used in F. Ng et al., 2007) have their own strengths and weaknesses as well (for a review, see Pomerantz & Monti, 2015). It will be useful for future research to also include assessment of parents' responses from children's reports as well as observations.

Third, the cultural values of individualism and collectivism presumed to underlie the differences in Chinese and American mothers' self-improvement and self-worth goals were not assessed in the current research. For instance, it is unclear whether Chinese (vs. American) mothers' heightened endorsement of self-improvement goals were driven by their collectivistic orientation or aspects of the societal structure in China (e.g., school system or the one-child policy). For this reason, generalization of the current findings to other collectivistic or individualistic cultures should be made with caution. An important direction for research is to examine how parents' self-improvement and self-worth goals may be shaped by cultural norms and values (e.g., collectivism and individualism), as well as other forces (e.g., the structure of the school system).

Fourth, 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; 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 addition, it is difficult to perfectly match the samples (e.g., in terms of socioeconomic status) across the two countries. Thus, caution is recommended when generalizing the current findings to either country as a whole. That said, although within-country variation is important, the current study's focus on between-country differences to understand how differences between Chinese and American parents' goals and their responses to children's performance on average contribute to the differences between Chinese and American children's emotional distress is important for elucidating the development of these differences.

## CONCLUSIONS

Despite the limitations, the current study found support for a cultural transmission model in which differences in Chinese and American parents' self-improvement goals accounted for the differences in Chinese and American children's emotional distress overtime via the differences in parents' use of failure-focused responses to children's performance. Specifically, Chinese mothers prioritized children's self-improvement more than did American mothers. Mothers' self-improvement goals were associated with heightened failure-focused responses, which were more common among Chinese (vs. American) mothers and predictive of children's emotional distress overtime, accounting for Chinese (vs. American) children's tendency to experience more emotional distress. Moving away from simply documenting cultural differences between Chinese and American parents and children, these results highlight one process by which culture shapes children's development.

## TABLES AND FIGURES

Table 1

*Differences in the Variables in China and the United States*

	China			United States			<i>d</i> <sup>a</sup>
	<i>M</i>	<i>SD</i>	$\alpha$	<i>M</i>	<i>SD</i>	$\alpha$	
Mothers' goals for children							
Self-improvement goals	4.29 <sub>b1</sub>	0.60	.81	3.79 <sub>a1</sub>	0.89	.73	0.66
Self-worth goals	4.23 <sub>b1</sub>	0.62	.87	4.74 <sub>a2</sub>	0.41	.92	0.97
Mothers' responses to children's performance							
Failure-focused responses	2.93 <sub>b1</sub>	0.64	.77	2.23 <sub>a1</sub>	0.64	.79	1.09
Success-focused responses	3.38 <sub>b2</sub>	0.64	.76	4.14 <sub>a2</sub>	0.61	.83	1.22
Children's emotional distress							
Wave 1	2.00 <sub>b1</sub>	0.62	.87-.95	1.85 <sub>a1</sub>	0.68	.90-.96	0.23
Wave 2	2.15 <sub>b2</sub>	0.65	.88-.95	1.91 <sub>a1</sub>	0.73	.83-.96	0.35

*Note.* All ratings were made on 5-point scales. For mothers' goals and responses, higher numbers indicate greater endorsement of goals and use of responses. Children's emotional distress means were taken from their means on the negative emotions, depressive symptoms and anxiety symptoms scale, with higher numbers indicating higher emotional distress. 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 *within* countries between the two goals or the two responses.

<sup>a</sup>Cohen's *d* for the difference between the United States and China.

Table 2

*Associations between Mothers' Socialization Goals and Responses to Children's Performance in China and the United States.*

	1	2	3	4	5	6
1. Self-improvement goals	--	.56***	.31***	.29***	-.02	.02
2. Self-worth goals	.25***	--	.28***	.40***	.05	.07
3. Failure-focused responses	.33***	-.03	--	.48***	.01	.08
4. Success-focused responses	.33***	.32***	.24***	--	.05	.03
5. Wave 1 emotional distress	-.04	-.14	.01	-.02	--	.71***
6. Wave 2 emotional distress	.12	-.07	.12	.05	.67***	--

*Note.* Zero-order correlations for the American sample are presented in the lower triangle; those for the Chinese sample are presented in the upper triangle. \*\*\* $p < .001$ , \*\* $p < .01$ , \* $p < .05$



Table 3

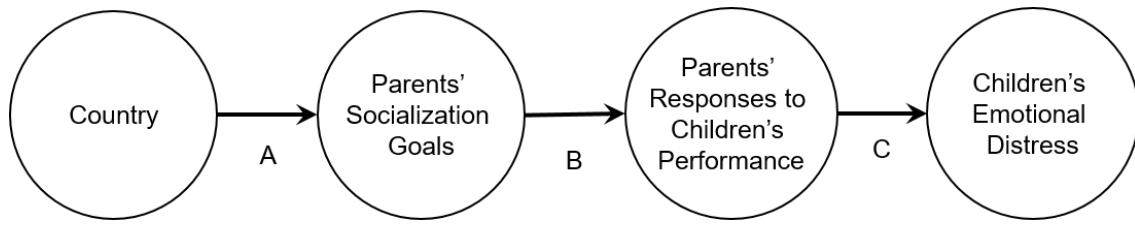
*Mediation of Country Differences in Mothers' Responses to Children's Performance*

	Standardized effects (S.E.)	95% CI
<b>Effects from Country to Failure-focused Responses</b>		
Total effect	.48 (.04)	(.401, .546)
Direct effect	.42 (.05)	(.306, .506)
Indirect effects		
Country -> Self-improvement goals -> Failure-focused responses	.09 (.02)	(.054, .132)
Country -> Self-worth goals -> Failure-focused responses	-.02 (.02)	(-.064, .018)
<b>Effects from Country to Success-focused Responses</b>		
Total effect	-.52 (.04)	(-.592, -.453)
Direct effect	-.46 (.05)	(-.550, -.352)
Indirect effects		
Country -> Self-improvement goals -> Success-focused responses	.06 (.02)	(.024, .101)
Country -> Self-worth goals -> Success-focused responses	-.12 (.03)	(-.169, -.075)

Table 4

*Mediation of Country Differences in Children's Emotional Distress Over Time*

	Standardized effects (S.E.)	95% 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-focused responses indirect effects		
Country -> Self-improvement goals -> W2 Emotional distress	.03 (.02)	(.002, .064)
Country -> Failure-focused responses -> W2 Emotional distress	.04 (.02)	(.004, .082)
Country -> Self-improvement goals -> Failure-focused responses -> W2 Emotional distress	.01 (.00)	(.001, .019)
Country -> Self-improvement goals -> Success-focused responses -> W2 Emotional distress	.00 (.00)	(-.009, .003)
Self-worth goals and success-focused responses indirect effects		
Country -> Self-worth goals -> W2 Emotional distress	.01 (.02)	(-.028, .050)
Country -> Success-focused responses -> W2 Emotional distress	.01 (.02)	(-.025, .063)
Country -> Self-worth goals -> Success-focused responses -> W2 Emotional distress	.00 (.01)	(-.007, .017)
Country -> Self-worth goals -> Failure-focused responses -> W2 Emotional distress	.00 (.002)	(-.008, .001)



*Figure 1.* Guiding model.

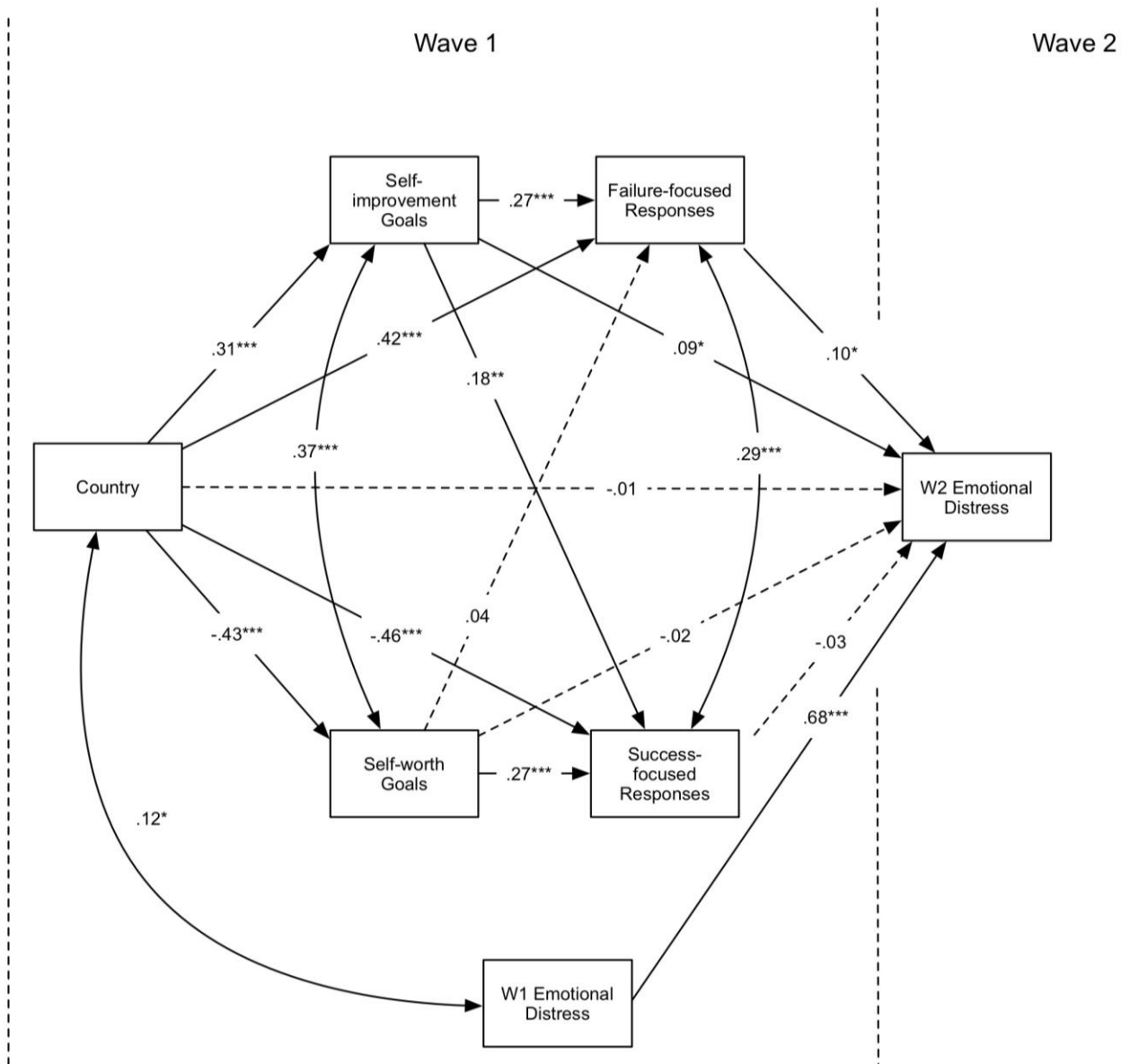


Figure 2. Mothers' self-improvement goals and failure-focused responses mediate differences in Chinese and American children's emotional distress. Coefficients presented are standardized.

\*\*\* $p < .001$ . \*\* $p < .01$ . \* $p < .05$ .

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## APPENDIX A

### Measure of Parents' Self-Improvement and Self-Worth Goals

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#### Parents' Self-improvement Goals

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Has improving himself/herself on his/her mind much of the time  
Believes that he/she should always try to improve his/her abilities  
Knows that he/she should never become too satisfied with himself/herself  
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

---

#### Parents' Self-worth Goals

---

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

---



APPENDIX B

Correlations between Parents' Goals and Responses

Table A1

*Associations between Mothers' Self-improvement, Self-worth, Mastery and Performance goals in the China and the United States.*

	1	2	3	4	5	6
1. Self-improvement goals	--	.56***	.53***	.40***	.31***	.29***
2. Self-worth goals	.25***	--	.50***	.42***	.28***	.40***
3. Mastery goals	.33***	.21***	--	.44***	.23**	.35***
4. Performance goals	.40***	.05	.26***	--	.32***	.43***
5. Failure-focused responses	.33***	-.03	.12	.37***	--	.48***
6. Success-focused responses	.33***	.32***	.26***	.22***	.24**	--

*Note.* Zero-order correlations for the American sample are presented in the upper triangle; those for the Chinese sample are presented in the lower triangle. \*\*\* $p < .001$ , \*\* $p < .01$ , \* $p < .05$ .

## APPENDIX C

### Measure of Parents' Responses to Children's Performance

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#### Parents' Failure-focused Responses

---

##### In response to children's failure

- I would be very disappointed with my son/daughter
- 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

##### In response to children's success

- I would go over with my son/daughter the questions he/she missed
  - I would talk about why he/she didn't get an even higher score
  - I would concentrate on the mistakes he/she made
  - I would encourage him/her to learn from any mistakes he/she made
  - I would focus on any problems he/she missed
- 

#### Parents' Success-focused Responses

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##### In response to children's failure

- I would point out what he/she did well on the test
- 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
- I would talk about what he/she did right

##### In response to children's success

- I would be very proud of my son/daughter
  - 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
  - I would point out what he/she did well on the test
-