Parental emotion socialization in Chinese and US families: Roles of parents' beliefs about emotions and self-construals

Danhua Zhu

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Martha Ann Bell, Chair

Julie C. Dunsmore

Jungmeen Kim-Spoon

Cynthia L. Smith

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Abstract (academic)

Recent studies have addressed the importance of identifying determinants of parental emotion socialization (ES) to clarify how and why parents engage in ES practices. Furthermore, emotions occur within cultural contexts. Recent work has drawn attention to the importance of cross-cultural research for developmental science. Consistent with these calls for research, I examined parents' beliefs about emotions and self-construals as two sets of distinct factors guiding parental ES responses in China and the United States (US). Three emotion-related beliefs (*manipulation* [children can use emotions to manipulate parents]; *parental knowledge* [parents have to know all about their child's emotions]; *autonomy* [children can work through emotions on their own]) and two self-construals (*independence* [view self as unique entity]; *interdependence* [view self as connected with others]) were highlighted.

One hundred seven parents with 7- to 11-year-old children (75 Chinese, 32 US; 90 mothers, 17 fathers) completed online questionnaires in their native language. MANCOVA analyses indicated cultural differences. Compared with Chinese parents, US parents less strongly endorsed beliefs about *manipulation*, *parental knowledge*, and *autonomy*. US parents endorsed more supportive and less nonsupportive responses towards children's emotions than Chinese parents. There was a trend for Chinese parents to endorse more interdependence than independence in self-construals, whereas no within-person difference was found for US parents' endorsement of these two self-construals. For both Chinese and US parents, beliefs about emotions and self-construals were significantly associated with ES responses. Linear regressions

showed that parents' stronger *manipulation* belief was associated with higher nonsupportive responses to positive and negative emotions. Parents with stronger *parental knowledge* or *autonomy* beliefs reported more supportive responses to negative emotions and explanations of positive emotions. Stronger belief in *parental knowledge* was also related to more endorsed encouragement of positive emotions and lower nonsupportive responses to negative emotions. After controlling for the effects of beliefs, parents with higher *interdependent* self-construal reported more supportive responses to negative emotions and more explanatory responses to positive emotions. Parents who endorsed higher *independent* self-construal reported more encouraging responses to positive emotions and less nonsupportive responses to negative emotions. Results are discussed in relation to meaning and significance within socio-cultural contexts.

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General Audience Abstract

Parental emotion socialization (ES) refers to the process through which parents socialize children's social and emotional competence. Parents from different cultures may enact different ES practices. To better clarify the cross-cultural similarities and differences as well as to better understand how and why parents endorse various ES practices, I conducted the current study. I worked with Chinese and US families and examined how parents' beliefs and perceptions of self (self-construal) as guiding factors were associated with parental ES responses to children's emotions. I focused on three beliefs about emotions: manipulation (children can use emotions to manipulate parents); parental knowledge (parents need to know all about their child's emotions); autonomy (children can handle emotions on their own) and two self-construals: independence (view self as unique entity); interdependence (view self as connected with others).

One hundred seven parents (75 Chinese, 32 US; 90 mothers, 17 fathers) participated and their children were 7- to 11-year-old. Parents completed online questionnaires in their native language. I found cultural differences in parents' beliefs and ES responses. Compared with Chinese parents, US parents believed less strongly in children using emotions as manipulations, in parents knowing all about their child's emotions, and in children being able to work through emotions on their own. US parents reported more supportive and less nonsupportive responses to children's emotions than Chinese parents. I found no cultural differences in how parents' beliefs and self-construals associated with their ES responses. For both Chinese and US parents, the more strongly they believed children using emotions to manipulate others, the more

nonsupportive responses they endorsed towards children's emotions. Parents' stronger beliefs in parents knowing their child's every emotion and in child's own capability of handling emotions were both related to their more supportive and exploratory responses to children's emotions. In terms of the effects of parents' self-construals, the higher parents viewed themselves as connected to others, the more support and explanation they reported in reaction to children's emotions. Meanwhile, the higher parents viewed themselves as unique and independent, the more encouraging and less nonsupportive responses towards children's emotions they reported. Overall, findings contributed to the understanding of parental ES within the cultural context in relation to parents' beliefs about emotions and perceptions of self.

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人要有,	*A person has to have,*
遥远的梦想,	*A distant dream,*
朴素的生活,	*And a mundane life,*
即使明天天寒地冻,	*Even though tomorrow could be freezing cold,*
路遥马亡。	*And unable to live through.*

Table of Contents

List of Tables

List of Figures

Introduction

Abundant research has demonstrated relations between parents' emotion socialization (ES) behaviors and children's socio-emotional competence (e.g., Baker et al., 2011; Tao et al., 2010; see Eisenberg et al., 1998a and 1998b for a heuristic model based on review of the literature and Eisenberg, 2020 for updated reflection on the state of the literature). Consistent with Eisenberg and colleague's (1998a, 1998b) heuristic model, it is important to identify potential determinants of parental ES to understand the mechanisms underlying socialization processes. Understanding such mechanisms is essential for prevention and intervention work to optimize children's socio-emotional competence. The current study focused on two sets of such determinants that have been addressed in multiple models of parental ES (Dunsmore & Halberstadt, 2009) – parents' beliefs about emotions and parents' self-construals. Furthermore, research has demonstrated the influence of cultural values on parents' perceptions, expressions, and reactions to emotions (Lugo-Candelas et al., 2016). Thus, it is important to study ES mechanisms within the broad cultural context. Parents' emotion-related beliefs and self-construals may be especially pertinent for understanding cross-cultural similarities and differences in ES processes, as these determinants may provide one way to index within-culture heterogeneity in endorsement of cultural values relevant to ES. The current study included families from both the United States (US; a Western culture where individualistic values are commonly held) and China (an Eastern culture where collectivistic values are commonly held) to explore cross-cultural differences and similarities in ES and its determinants.

The introduction is organized as follows. I first address parental ES and how it fosters children's socio-emotional competence. Then I describe how parents' beliefs about children's emotions and their self-construals function as potential determinants of parental ES. I finally

conclude this introduction by giving an overview of the current cross-cultural study, some preliminary explorations, and hypotheses.

Parental ES

Children's socio-emotional competence, consisting of self-awareness, emotion regulation and social skills, is a key element that shapes children's social and emotional development (Tarasova, 2016). Research with both Western and Chinese samples has indicated benefits of children's socio-emotional competence for children's adaptive functioning, including peer relationships, academic performance, and mental health (e.g., Bermejo-Martins et al., 2019; Chen et al., 1995). A crucial component of children's socio-emotional competence is learning how to appropriately regulate and react to their own and others' emotions (Eisenberg et al., 2001), and parents' ES has been well-validated as an important way through which children obtain such skill (e.g., Han et al., 2015; Morris et al., 2017; Shaffer et al., 2012).

ES refers to the process where socializers enact behaviors to influence children's learning or lack thereof regarding emotional experience, expression, and regulation (Eisenberg et al., 1998b). As central agents in the family, parents use different parenting behaviors to socialize children's emotions. Literature has often highlighted three major behaviors which are parents' own emotional expression, parental emotional discourse with children, and parental responses to children's displays of emotions (Eisenberg et al., 1998b). The current study focused on parental responses to children's emotions, a direct way of socializing emotions.

Generally speaking, parents can react to children's emotions in a supportive or nonsupportive way (Fabes et al., 1990). Parents' supportive responses include comforting, encouraging the emotional expression, and helping the child to manage the emotion or problem-solve about the upsetting event (Eisenberg et al., 1996; O'Neal & Magai, 2005). The research

base has tended to focus on families from Western cultures. Research with non-Western families has also identified explanation-oriented responses (helping children reflect on the cause or impact of their own emotions) and training responses (teaching children appropriate emotion display rules) as additional supportive reactions (Chan, 2012; Chan et al., 2009). By reacting supportively, parents foster children's acceptance, understanding, and management of their emotions, which promotes emotional well-being (Lozada et al., 2016). In contrast, nonsupportive responses involve parents' minimization, punishment of children's emotions, and focus on their own distress (Eisenberg et al., 1996). Scolding and not talking with children for a while have also been identified as nonsupportive socialization responses in studies with non-Western samples (Raval et al., 2018; Raval & Martini, 2011). When reacting nonsupportively, parents dismiss children's emotional displays and intensify children's emotional arousal, which increase the likelihood of dysregulated behaviors (Rogers et al., 2016; Tao et al., 2010).

Despite the robust relations between parental ES responses and child outcomes, the current literature holds three gaps. First, though research is beginning to include non-Western samples, there remains a need for cross-cultural research on ES (Eisenberg, 2020). The current study addressed this by including both Chinese and US families. Second is the lack of attention to children's positive emotions (Yi et al., 2016). Recent studies have advocated the important role of positive emotions in reducing problematic behaviors and fostering children's emotion regulation and independence (Raval et al., 2019; Yi et al., 2016). Therefore, the current study examined parental socialization of both children's positive and negative emotions. A third gap is the lack of knowledge about potential determinants of parental ES to clarify how and why parents engage in various behaviors to socialize children's emotions (Baker et al., 2011). To

bridge this gap, the current study focused on parents' beliefs about emotions and their self-construals as precursors to socialization responses to children's emotions.

Parents' Beliefs about Emotions and ES

Eisenberg and colleagues' (1998a, 1998b) heuristic model included parental beliefs about emotions as a potential influence on parents' ES responses. Parents holding different beliefs about emotions react differently to children's emotional displays. For example, US parents who accepted and endorsed the value of children's emotions reported more encouragement of children's emotional displays and fewer hostile responses to children's emotions (Wong et al., 2009). US parents with a stronger belief that emotions can be dangerous less frequently labeled negative emotions (Lozada et al., 2016) and less frequently explained emotions (Perez Rivera & Dunsmore, 2011) during parent-child interactions. In a study with Hong Kong-Chinese families, mothers who endorsed the belief in children's open exposure to emotional experiences reported more coaching and more emotion-supportive approaches when handling children's emotional displays (Chan, 2012). All of these studies address beliefs regarding children's emotions as acceptable or valuable.

Meta-emotion philosophy is an impactful construct that addresses parents' overall accepting feelings and thoughts about children's emotions in combination with their behaviors responding to children's emotions (Gottman et al., 1996). After interviews on their reactions and beliefs about emotions, US parents were classified as using one of four meta-emotion philosophies: emotion coaching (viewing emotion as an opportunity for intimacy and teaching), emotion dismissing (ignoring or distracting children from emotion), emotion disapproving (reacting punitively to children's emotion or experiencing distress themselves), and laissez-faire (passively accepting emotion without active intervention). Research with both Western and

Eastern samples has confirmed associations between parents' meta-emotion philosophy and their supportive or nonsupportive socialization responses to emotions (e.g., Baker et al., 2011; Daga et al., 2015).

One insufficiency of research on meta-emotion philosophy is the mixture of parents' beliefs and behaviors. To better address parents' beliefs in their own right, Halberstadt et al. (2013) developed the multi-faceted Parents' Beliefs about Children's Emotions (PBACE) questionnaire with African American, European American, and Lumbee American Indian parents. The PBACE consists of seven subscales and the current study focused on three of them: (a) manipulation (belief about children using emotions as manipulations); (b) parental knowledge (belief about parents knowing all their child's emotions); and (c) autonomy (belief about children working through emotions on their own). *Manipulation* and *parental knowledge* beliefs were chosen because they both represent the relational nature of emotions (Parker et al., 2012). Relying on focus groups with African American, European American, and Lumbee American Indian parents to explore parents' beliefs about emotions, Parker and colleagues (2012) found that across all three ethnic groups, parents discussed how emotions were embedded within and influenced the parent-child relationship in the family setting. Emotions were viewed as contagious and as a thread that promoted parent-child connection and attunement. Consistent with the relational nature of children's emotions, the *manipulation* subscale describes parents' belief that children can use emotions to get attention from others and to manipulate others (Halberstadt et al., 2013). The *parental knowledge* subscale denotes the active role of parents in engaging with and supporting their children's emotional development (Dunsmore & Karn, 2001). The *autonomy* belief was also examined as a representation of the prominent value of independence in Western cultures like the US. Parents who value autonomy believe children are

responsible for managing and working through their own emotions (Halberstadt et al., 2013). These beliefs about the relational nature of emotions and children's emotional autonomy have not received the research attention that beliefs related to valuing or accepting emotions have. Thus, focusing on these beliefs will provide an innovative way to examine within-culture variation in the determinants of parental ES in Chinese and US cultural contexts.

Culture, Self-Construal, and Parental ES

Culture influences how individuals experience, understand, and react to emotions (Garrett-Peters & Fox, 2007). Western cultures that emphasize individualism tend to value self-expression and promote individuals' pursuit of personal goals and happiness (Markus & Kitayama, 1994). Expressions of both positive and negative emotions are often encouraged as they affirm individuality within a society. Empirical studies have indicated that parents in Western cultures tend to endorse socialization responses that promote children's emotional expression (Eisenberg et al., 1998; Butler et al., 2007). In contrast, traditional Chinese culture tends to values collectivism and embeddedness (Markus & Kitayama, 1991). Emotions are viewed as harmful to the body and soul in Taoism and overt expression of positive or negative emotions is often believed to be disruptive to interpersonal relationships or group harmony (Chan, 2012; Cheah & Rubin, 2003). As such, there tends to be an overall emphasis on control or inhibition of emotion (Tao et al., 2010). Empirical research shows that Chinese parents are less emotionally expressive than Western parents when interacting with children and tend to down-regulate children's emotions (Camras et al., 2008; Louie et al., 2013).

This above evidence supports the significance of addressing parental ES within the cultural context. However, the existing behavioral and psychological literature has largely included WEIRD (Western and overwhelmingly White, Educated, Industrialized, Rich, and

Democratic) samples (Arnett, 2016; Henrich et al., 2010). Only a few studies have explored Chinese parents' ES (see Camras et al., 2008; Chan, 2012; Tan, 2017; and Tao et al., 2010 for some exceptions). Thus, the present study included families from both America and China to investigate cross-cultural differences in parental ES as well as the effects of potential determinants on ES. Another limitation in the current literature is that researchers mainly focus on using the dichotomous individualism-collectivism categorization of cultural context to explain findings, which limits our understanding of how the continuum of cultural values impacts individual-level behaviors (Hsu, 2002). To help with addressing this gap, the current study also focused on parents' self-construal as a liaison between macro-culture and individual micro-level socialization behaviors.

Self-construal describes the way individuals conceive of themselves in relation to cultural values. Markus and Kitayama (1991) constructed parents' self-construal as independent, associated with individualistic cultures, or interdependent, associated with collectivistic cultures. The independent self-construal denotes the view of self being an autonomous and unique entity. Individuals who endorse high independent self-construal tend to strive for personal goals and express themselves (Her et al., 2012; Singelis, 1994). Parents with such endorsement have been found to nurture children's individuality through emotion expression and elaboration (Markus & Kitayama, 1991; Wang & Fivush, 2005). In contrast, interdependent self-construal involves the view of the self as connected to others. The important tasks for individuals with high interdependent self-construal are obtaining interpersonal relationships and advancing in-group goals (Cheng et al., 2011; Singelis, 1994). For parents with high endorsement of interdependent self-construal, emotions are socialized to be controlled and regulated for the sake of group harmony (Hsu, 2002; Markus & Kitayama, 1991).

Independent and interdependent self-construals are not exclusive but rather different dimensions that co-exist in individuals (Singelis, 1994). People from an individualistic society like the US usually demonstrate a stronger independent than interdependent self-construal. In collectivistic societies like China, the interdependent rather than independent self-construal is often found to be predominant (Eid & Diener, 2001). However, in both individualistic and collectivistic societies, variation is seen in independent and interdependent self-construals (e.g., Neff et al., 2008; Rao et al., 2001). Therefore, examining independent and interdependent self-construals as determinants of parental ES in Chinese and US families may illuminate within-culture variation while addressing cross-cultural similarities and differences.

The Current Study

Based on the aforementioned literature review, parents' beliefs about emotions may be potential precursors to their ES responses. Embedded within the broader cultural context, cultural values may also affect socialization behaviors through parents' self-construals – the way individual parents view themselves as independent and as interdependent. However, little research has been conducted to examine how parental beliefs about emotions and their self-construals relate to their ES practices. Moreover, as most studies have employed Western samples, research can benefit from direct cross-cultural comparisons to illuminate how and why parents engage in various ES behaviors. The present study was proposed to address these gaps by working with families from China and the US and examining parents' beliefs about emotions and their independent and interdependent self-construals as two potential, distinct sets of antecedents to their ES responses to children's emotional displays. Families with children in middle childhood (7-11 years old) were recruited because this is an important period in emotional development. Middle childhood is a time during which children demonstrate major

advancements in their emotional understanding, expression, and regulation (Parker et al., 2012). It is also a major transition for children relating to new social challenges in school and for parents increasing their expectations of children's social and behavioral competence (Lozada et al., 2016).

Preliminary Study with a Chinese Sample and Hypotheses

Centering around a similar set of key concepts, exploration of data from the Chinese sample in my master's thesis (Zhu, 2019) provides some preliminary results and insights for the hypotheses for the current study. Seventy-five parents with 7- to 11-year-old children from a rural town in Henan province, China participated (65 mothers, 10 fathers). Thirty-two children (42.7%) were boys, and 43 (57.3%) were girls. Parents were aged 29 to 47 years (M = 36.72 years, SD = 4.46) and all of them had completed at least some high school education. Almost all parents (98.7%) were Han people. All parents filled out online questionnaires in Chinese which were either requested from researchers who conducted the translation or translated by me when there was no existing Chinese version (see more details in the Procedure section below).

Multiple linear regression analyses were conducted to explore the distinct effects of parents' beliefs and self-construals on their ES responses in the sample. Chinese parents' belief that children can use emotion to *manipulate* others was associated with their nonsupportive reactions to children's positive ($\beta = .319$, $p = .005$) and negative emotions ($\beta = .293$, $p = .014$). Parents' endorsement of beliefs about *parental knowledge* was related to their reported supportive responses to both positive ($\beta = .265$, $p = .013$) and negative emotions ($\beta = .343$, $p = .001$). Parents with stronger belief that children are responsible to handle emotions on their own (*autonomy*) reported less nonsupportive responses to children's negative emotions ($\beta = -.274$, $p = .016$). When self-construals were added, parents' *interdependence* was significantly

positively related to their supportive responses to children's positive (β = .329, p = .006) and negative emotions (β = .448, p = .000). Altogether, these preliminary results provided empirical evidence for the proposed roles of parents' emotion-related beliefs and self-construals as precursors to their ES responses in the current study. Based on these preliminary results and existing literature, I proposed three sets of hypotheses as follows.

H1: Cross-cultural differences were expected in Chinese and US parents' endorsement of beliefs about emotions, independent and interdependent self-construals, and supportive and nonsupportive ES responses.

H1a: Compared with Chinese parents, US parents were expected to endorse lower *manipulation* belief, lower *parental knowledge* belief, and higher *autonomy* belief.

H1b: Compared with Chinese parents, US parents were expected to endorse higher independent self-construal and lower interdependent self-construal.

H1c: Compared with Chinese parents, US parents were expected to report more supportive and less nonsupportive responses to children's positive and negative emotions.

H2: After controlling culture, parents' beliefs about emotions were expected to be associated with their ES responses in both Chinese and US parents.

H2a: In both Chinese and US samples, parents who believe that children can use emotions to *manipulate* others were expected to report more nonsupportive responses to children's positive and negative emotions.

H2b: Different patterns were expected for Chinese versus US parents regarding the effect of the *parental knowledge* belief. Chinese parents' belief that parents

need to know their child's every emotion (*parental knowledge*) was expected to be related to their supportive responses to children's positive and negative emotions. For US parents, no relation was expected between parents' *parental knowledge* belief and their reported socialization responses. The different pattern was expected because I expected US parents' endorsement of *parental knowledge* to show a floor effect with low variation.

H2c: For both Chinese and US samples, parents who believe that children can work through emotions on their own (*autonomy*) were expected to report more supportive and less nonsupportive responses to children's emotions.

H3: After controlling parents' beliefs about emotions, parents' self-construals were expected to still be associated with their ES responses in both Chinese and US parents.

H3a: Compared with US parents, Chinese parents' endorsement of *interdependent* self-construal, the predominant self-construal in China, was expected to be associated with their more supportive and less nonsupportive ES responses to children's emotions.

H3b: Compared with Chinese parents, US parents' endorsement of *independent* self-construal, the predominant self-construal in the US, was expected to be associated with more supportive and less nonsupportive ES responses to children's emotions.

Method

Participants

Participants were 107 parents with their 7- to 11-year-old children from China and the US (75 Chinese parents and 32 US parents). Ninety (84.11%) were mothers, and 17 (15.89%) were

fathers. Parent age ranged from 29 to 50 years (M = 38.17 years, SD = 5.33). Sixty-three (58.88%) were girls and 44 (41.12%) were boys. Child age ranged from 7 to 11 years (M = 9.12 years, SD = 1.30). Chinese families were first recruited for my master's thesis (Zhu, 2019) from a rural town in Henan province, China through school headteachers and the snowball method. The full demographics for the Chinese sample are shown in Table 1. Parents were invited to fill out online questionnaires in Chinese and participate in four behavioral tasks with their child as part of a larger study. Upon participation, parents were given 60 RMB (approximate 10 USD) and children were given a box of crayons and a small gift. For parents who chose to fill out questionnaires only, they were given 30 RMB (approximate 5 USD). More details about the Chinese family recruitment can be found in my master's thesis (Zhu, 2019).

In order to match the rurality of families' place of residence in the Chinese sample for the current cross-cultural study, I then recruited US families in the New River Valley area in Virginia, which is the region of the Blacksburg campus of Virginia Tech. IRB approval for study procedures to be modified due to COVID-19 was received in July 2020 and IRB approval for the change to Dr. Bell as the IRB PI was received in September 2020. Thenceforth US family recruitment started through a departmental family database, two paid mailing lists, and online listings like the NRV Macaroni Kid, newsletters for churches, public libraries, boy scouts, and girl scouts. Please see Appendix A for approved recruitment materials. Interested families provided their contact information and were mailed study materials with links to online questionnaires and instructions for two out of four parent-child behavioral tasks that Chinese families participated in (see details below). After completing participation in the larger study, parents were compensated with $20 e-giftcards and children were given a sticker sheet and may keep the wordless book which was used in one behavioral task as part of the larger study. As of

August 2nd 2021, 57 interested families were mailed study materials, out of which three families indicated not being able to participate anymore, 13 families did not start the study and did not respond to emails inquiring whether they were having difficulty accessing the online questionnaires, 9 families started the study and completed less than 50% of questionnaire items, and 32 families completed questionnaires (see Table 1 for the full demographic information for the US sample). For the current study, 75 Chinese parents and 32 US parents were combined and only their responses to online questionnaires were analyzed. Post hoc power analyses were run in G*Power 3.1 with the achieved sample size (N = 107) and the observed power was .9597 for the most complex MANCOVA for H1 (see Results below) and .9997 for the most complex multiple regression model for H2 and H3 (see Results below).

Procedure

All family recruitment and data collection with the Chinese families was conducted by me with a hybrid of in-person and online forms in China. Before the data collection, existing Chinese versions of all the questionnaires were requested directly from researchers who conducted the translation. For those questionnaires that had no Chinese-translated versions, I took great care in translating them into Chinese by carrying out a translation and back-translation procedure to ensure item equivalence in both literal and sense meaning (Brislin, 1993). I first translated the scale from English into Chinese. Then another Chinese-English bilingual graduate student back-translated the translated document into Chinese. After two rounds of comparisons between the English and Chinese versions and revisions, interested Chinese parents were invited to complete online, Chinese versions of the questionnaires, which included parents' beliefs about emotions, independent and interdependent self-construals, and ES responses to children's negative and positive emotions. All questionnaires are fully described in the Measures section.

Once questionnaires were completed, parents and their children were invited to come to an activity room of an elementary school and participated in four behavioral tasks as part of a larger study (i.e., emotion discourse, marble maze, wordless book-reading, and drawing task). All the interactions were video-recorded and the task session lasted about 45 minutes. Parents were compensated with 60 RMB and children were compensated with a box of coloring crayons and a small gift. For those who chose to only fill out questionnaires, all recruitment happened online, and parents were compensated with 30 RMB through WeChat (a Chinese multi-purpose social and mobile payment app).

Following social distancing guidelines for the COVID-19 pandemic, data collection for the US families in the current study was moved fully online with no direct contact with families. Parents who were interested in participating provided their contact information including their name, mailing address, email address, phone number, and phone type. Then, all the study materials were mailed, including a hard copy of the informed consent form (see Appendix B), Qualtrics links and QR codes to online questionnaires (see Appendix C), a wordless picture book for the larger study, and a sticker sheet for the child. The English questionnaires were the same and presented in the same order as the questionnaires Chinese parents filled out (see the Measures section), except that nation-appropriate race/ethnicity and family income categories were included on the demographics form. As part of the larger study, parents were also invited to participate in two interaction tasks (emotion discourse and wordless book-reading) with their children and upload the audio-recordings of their interactions. Upon completion of participation, parents were emailed a $20 e-giftcard. Their contact information was deleted once they confirmed receipt of the e-giftcard. The current study only analyzed the questionnaire data in both samples.

Measures

Parental Beliefs about Children's Emotions

Parents' emotion-related beliefs were measured by the Parents' Beliefs about Children's Emotions questionnaire (PBACE; Halberstadt et al., 2013). The PBACE is a 33-item measurement and consists of seven different beliefs. A modified 68-item version of the PBACE from my master's thesis (Zhu, 2019) was administered in the current study and three of the initial seven subscales were targeted. These are (a) *manipulation* (4 items, e.g., "Children use emotions to manipulate others."); (b) *parental knowledge* (3 items, e.g., "Parents should encourage their child to tell them everything they are feeling."); and (c) *autonomy* (7 items, e.g., "It's usually best to let a child work through their negative feelings on their own."). Parents rated each item on a 1-6 Likert-type scale (1 = strongly disagree, 6 = strongly agree). A score for each subscale was computed by averaging the items in that subscale, with a higher score indicating a higher endorsement of that belief. Research with both US and Chinese samples has indicated good discriminant and construct validity (e.g., Lozada et al., 2016; Tan, 2017). Both the Chinese and US samples in the current study showed acceptable to good internal consistency on these subscales (for *manipulation*, *parental knowledge*, and *autonomy* subscales, respectively: Cronbach's α = .672, .485, and .722 in the Chinese sample, and α = .829, .689, and .829 in the US sample).

Independent and Interdependent Self-Construals

Parents' independent and interdependent self-construals were assessed by the Self-Construal Scale (SCS; Singelis, 1994). The SCS is a 30-item measurement derived from the cultural self-construal conceptualization (Markus & Kitayama, 1991). It consists of a 15-item *independent* subscale (e.g., "My personal identity independent of others, is very important to

me.") and a 15-item *interdependent* subscale (e.g., "It is important for me to maintain harmony within my group."). For each statement, parents responded on a 7-point Likert-type scale (1 = strongly disagree, 7 = strongly agree). A score for each subscale was computed by averaging the included 15 items, with higher scores meaning perceiving the self as more independent or interdependent. The SCS has been administered with diverse families in both the US (e.g., Cheng et al., 2011) and China (e.g., Hsu, 2002) with satisfactory psychometrics. Internal consistency was .707 (*independent* subscale) and .748 (*interdependent* subscale) for the current Chinese sample, and .651 (*independent* subscale) and .761 (*interdependent* subscale) for the current US sample.

Parental Socialization Responses to Negative Emotions

The Coping with Children's Negative Emotions Scale (CCNES; Fabes et al., 1990) was used to measure parents' socialization responses to children's negative emotions. The CCNES comprises 12 hypothetical vignettes where children experience and display negative emotions (e.g., "If my child loses some prized possession and reacts with tears."). For each vignette, parents were presented six types of responses and asked to indicate the likelihood they would enact each response on a 7-point Likert-type scale (1 = very unlikely, 7 = very likely). The six responses are expressive encouragement (promoting the expression), problem-focused responses (problem-solving the upsetting event), emotion-focused responses (soothing children), distress responses (experiencing distress themselves), punitive responses (punishing children), and minimization responses (minimizing the emotional arousal). For each response subscale, an average score was computed across 12 vignettes, with a higher value suggesting a stronger tendency of enacting that particular response. Literature often clusters parents' responses into supportive (expressive encouragement, problem-focused, and emotion-focused responses) and

nonsupportive (distress, punitive, and minimization responses) superscales (Fabes et al., 1990). Studies with both US and Chinese parents have demonstrated good internal consistency and reliability (e.g., Han et al., 2015; Rothenberg et al., 2019). The six subscales of the CCNES showed an internal consistency ranging from $\alpha = .704 – .859$ for the Chinese sample and ranging from $\alpha = .567 – .862$ for the US sample in the current study. The internal consistency for supportive and nonsupportive superscales was .913 and .876 for the current Chinese sample, and .892 and .871 for the current US sample.

Parental Socialization Responses to Positive Emotions

To assess parents' socialization responses to children's positive emotions, the Parental Reactions to Children's Positive Emotions Scale (PRCPS; Ladouceur et al., 2002) was administered. There are 12 scenarios where children are described displaying positive emotions (e.g., "If we have just purchased a puppy for my child and he/she plays with the puppy by chasing it around and making it bark."), and each scenario is presented with four possible responses. A modified version of the PRCPS from my master's thesis (Zhu, 2019), which includes 3 more scenarios, was administered to parents in the current study. However, only the original 12 scenarios were used for this dissertation. Parents were instructed to rate the likelihood that they would enact each type of response on a 1-7 Likert-type scale (1 = very unlikely, 7 = very likely). The PRCPS consists of four subscales: encouragement (validation or encouragement of children's emotional expression), socialization (explanations about the inappropriateness of the emotional display), reprimand (punishment of children's displayed emotion), and discomfort (parents' feelings of being upset by children's emotion). A score was computed for each subscale by averaging all 12 statements in that subscale, with a higher score meaning more endorsement of that response. Studies using the PRCPS have shown satisfactory

internal consistency (e.g., Moran et al., 2019; Yap et al., 2008). My master's thesis was the first to translate the PRCPS into Chinese and use the translated PRCPS with Chinese parents. The translation and back-translation process described above was administered with care to yield the Chinese version of the PRCPS. In the current study, internal consistency ranged from $\alpha = .678 – .837$ for the four subscales in the Chinese sample and ranged from $\alpha = .738 – .794$ in the US sample.

Some prior studies have merged PRCPS subscales into superscales based on correlations among subscales for the purpose of data reduction. Yi and colleagues (2016) combined reprimand and discomfort into a dismissing superscale and maintained socialization and encouragement as separate scales. Other researchers combined socialization, discomfort, and reprimand into one invalidating superscale together with encouragement as a separate validating scale (e.g., Halberstadt et al., 2013; Moran et al., 2019). All the aforementioned research worked with Western samples and considered the socialization subscale as nonsupportive. As noted before, my master's thesis was the first to use the PRCPS with a Chinese sample. The correlations (see Table 2) for the current sample of Chinese parents suggested a supportive superscale that consists of encouragement and socialization and a nonsupportive superscale with reprimand and discomfort (Zhu, 2019). Correlations for the US sample were examined subsequently (see Table 2) and showed that the socialization subscale was negatively correlated with encouragement subscale, and positively associated with both reprimand and discomfort subscales. Considering the distinct relations of encouragement to socialization in the current Chinese ($r = .23$, $p = .046$) versus US samples ($r = -.47$, $p = .008$), I constructed only a nonsupportive (reprimand, discomfort) superscale and retained encouragement and socialization as separate subscales for both samples.

Family Demographic Information

Parents reported demographic information about their children and their family, which includes children's sex, age, grade, race/ethnicity, parents' age, educational status, relation with children, race/ethnicity, and families' income. Please see Appendix D for the complete form for US families.

Analytic Plan

Preliminary Analyses

SPSS 24.0 was used to analyze descriptive statistics and bivariate correlations. For each cultural sample as well as both samples combined (i.e., the full sample), the demographic distributions were described in regard to child sex, child age, parent sex, parent educational status, and family income. Skewness and kurtosis values were examined for all measurement subscales. If needed, Osborne's (2002) recommendations on variable transformations would be conducted to normalize distributions. T-tests and ANOVA analyses were conducted to test culture (for samples combined only; 1 = China, 2 = US), child sex, parent sex, parent educational status, and family income differences in all study variables. Then, bivariate correlations among child age, parent age, and parents' beliefs about emotions, self-construals, and ES responses were explored. If there were significant differences or correlations for any of these demographic factors with parents' ES responses (either in each sample separately or the full sample), they were included as covariates in subsequent analyses testing hypotheses.

H1a-c: Cross Cultural Differences

In order to account for within-subjects variation, three MANOVAs or MANCOVAs were planned to address H1a-H1c, one each for parents' beliefs (H1a), parents' self-construals (H1b), and parents' ES responses (H1c). If preliminary analyses showed no demographic differences

between US and Chinese samples, these would be one-way MANOVAs (US vs Chinese groups). If preliminary analyses showed that all demographic differences tested vary across US and Chinese samples, these would be 2 (US vs Chinese) X 2 (mother vs father) X 2 (daughter vs son) MANCOVAs with child age, parent educational level, and family income as covariates and type (type of belief; type of self-construal; type of socialization response) as the repeated factor.

H2 and H3: Associations of Parental Beliefs and Self-Construals with ES Responses

Multiple stepwise linear regression analyses were conducted with the full sample in SPSS 24.0 to test hypotheses H2a-H2c and H3a-H3b regarding relations of parents' beliefs about emotions and self-construals with their ES responses. Five regression models were examined with each of the five ES responses (supportive responses to negative emotions, nonsupportive responses to negative emotions, encouragement to positive emotions, socialization to positive emotions, and nonsupportive responses to positive emotions) being the dependent variable. For each model, culture (1 = China, 2 = US) was entered in Step 1. If preliminary analyses showed significant ($p < .05$) bivariate correlations of child age, child sex, parent sex, parental education, and/or family income with the dependent variable, they were also controlled on Step 1, and entered together with culture. Then, the three types of parents' beliefs about emotions (*manipulation*, *parental knowledge*, *autonomy*) were entered on Step 2 to test the effects of beliefs on parents' ES responses after controlling for culture. Following this, parents' two self-construals (*independent*, *interdependent*) were entered on Step 3. I considered self-construal as a factor that is more distal from emotions and more proximal to culture than beliefs about emotions, hence it was entered after beliefs to test its effects on ES responses after controlling for culture and beliefs. Finally, as exploratory analyses, I computed the interaction terms of culture by each belief as well as culture by each self-construal. These interactions were entered

on Step 4. Results including Step 4 were planned to be reported only when adding the interactions at Step 4 brought a significant change to the model *F* value when compared with the Step 3 model *F* value. In this case, any significant interactions would be explored through follow-up analyses in each sample separately. Otherwise, regression coefficients and model results from Step 3 were reported as final results.

Results

Preliminary Analyses

All study variables displayed a normal distribution indexed by skewness and kurtosis values lower than 2.00. This held for each sample separately and for the full sample. As planned, *t*-tests, ANOVAs, and bivariate correlations were conducted in each sample separately and the full sample to decide which demographic variable(s) should be included as covariates. For parent sex differences, Chinese mothers reported higher endorsement of socialization response to positive emotions than Chinese fathers (t (19.152[1]) = 3.142, p = .005). The same pattern was identified in the full sample, in that mothers reported more socialization response to positive emotions than fathers (t (38.016[2]) = 3.370, p = .002). Chinese families with higher yearly income were higher in parents' endorsement of *autonomy* belief (F (2, 71) = 4.014, p = .022). US families with higher yearly income were lower in parents' endorsement of *parental knowledge* belief (F (5, 26) = 3.739, p = .011). As shown in Table 3, in the US sample, parents of older children reported higher interdependent self-construal. As shown in Table 4, this finding held for the full sample, and older parents reported lower nonsupportive responses to negative and positive emotions.

[1] This df value was reported as equal variances assumption was rejected by the Levene's test (F = 4.809, p = .032).
[2] This df value was reported as equal variances assumption was rejected by the Levene's test (F = 6.803; p = .010).

Based on preliminary analyses, family income was controlled as a covariate for the MANCOVA analysis testing cultural effects on parents' beliefs about emotions (H1a). Child age was entered as a covariate for the MANCOVA analysis testing cultural effects on parents' self-construals (H1b). For parents' ES responses (H1c), a two-way (culture: Chinese vs US X parent sex: mother vs father) MANCOVA was analyzed with parent age as a covariate to test cultural effects. Regarding the regression analyses, parent age was entered as covariate for the regressions on parents' nonsupportive responses to negative emotions and on nonsupportive responses to positive emotions. Parent sex was entered as covariate for the regression on parents' socialization response to positive emotions.

Table 3 shows the bivariate correlations among study variables in the separate Chinese and US samples. Within the Chinese and US samples, only one significant relation of parents' self-construals with their beliefs about emotions was found – Chinese parents' *autonomy* belief was positively associated with their interdependent self-construal. This suggests that beliefs about emotions and self-construals are separate potential determinants of parental ES. In the Chinese sample, parents' endorsement of the *manipulation* belief was positively related to their endorsement of the *parental knowledge* belief. Parents' independent and interdependent self-construals were positively associated. Each of the parental beliefs was associated with at least one supportive or nonsupportive ES response, as was each type of self-construal. In the US sample, parents' endorsement of independent self-construal was positively correlated with their report of encouragement responses to positive emotions. Table 4 shows the correlations among study variables in the full sample. All three parents' beliefs about emotions were positively associated with each other, as were the two self-construals. Parents' *autonomy* belief was

positively related to interdependent self-construal. Each of the three beliefs and each self-construal was associated with at least one ES response to emotions.

H1: Cultural Differences in Study Variables

The first set of hypotheses was tested in the full sample by conducting three MANCOVAs. For cultural effects on parents' three beliefs about emotions, a significant within-subjects effect for type of beliefs was shown (F (2, 103) = 3.47, Wilk's λ = .94, p = .035), meaning three types of beliefs had within-individual variations. Follow-up contrasts indicated that on average, parents endorsed higher *parental knowledge* belief than *manipulation* (F (1, 104) = 5.50, p = .021) and *autonomy* (F (1, 104) = 4.42, p = .038) beliefs, which did not differ from each other (p = .930). A significant between-subjects effect for culture was identified (F (1, 104) = 15.77, p = .000). The interaction of the within-subjects factor of type of belief with culture was not significant (p = .736). This indicated that the magnitude of the cultural differences did not differ across parents' three beliefs about emotions. Least squares means (LSM) controlling for the covariate of family income showed that Chinese parents endorsed each of the three beliefs (*manipulation*, *parental knowledge*, and *autonomy*) more than US parents did (see Figure 1).

For cultural differences in parents' self-construals, there was a significant two-way interaction of the within-subjects factor of type of self-construals (independence vs interdependence) and the between-subjects factor of culture (Chinese vs US; F (1, 104) = 8.15, Wilks' λ = .93, p = .005), indicating a cross-cultural difference in within-person endorsement of independent versus interdependent self-construals. Compared with Chinese parents, US parents endorsed higher independence. Follow-up analyses within each cultural sample showed that there was a trend for Chinese parents to endorse more interdependent than independent self-

construal (F (1, 72) = 2.78, Wilks' λ = .96, p = .100), whereas there was no difference between US parents' report of independence versus interdependence (p = .720). Figure 2 displays the LSM for each self-construal across cultures, controlling for the covariate of child age.

For cultural effects on parents' ES responses to children's emotions, results showed a significant between-subjects effect for culture (F (1, 103) = 11.60, p = .001) as well as a significant two-way interaction of the within-subjects factor of type of ES responses (supportive negative, nonsupportive negative, encouragement positive, socialization positive, vs nonsupportive positive) and the between-subjects factor of culture (Chinese vs US; F (4, 100) = 7.85, Wilk's λ = .76, p = .000). This interaction indicated that the magnitude of cultural differences varied across type of ES responses. Please see Figure 3 for LSM for each response across cultures, controlling for the covariates of parent sex and parent age. Follow-up MANCOVA contrast analyses showed that parents' report of overall supportive versus nonsupportive responses to children's emotions (both positive and negative) differed across cultures (F (1, 103) = 23.04, Wilk's λ = .82, p = .000), with Chinese parents endorsing less supportive and more nonsupportive ES responses than US parents. There was no cultural difference for parents' overall (supportive and nonsupportive combined) responses to children's positive versus negative emotions (p = .823). Within each culture, the within-individual difference for Chinese parents' report of type of ES responses was not significant (p = .790), whereas there was a marginally significant within-individual difference for US parents (F (4, 26) = 2.57, Wilk's λ = .72, p = .062). Follow-up MANCOVA contrast analyses within the US sample only indicated that US parents reported more overall supportive versus nonsupportive responses to emotions (positive and negative emotions combined; F (1, 29) = 9.85, Wilk's λ = .75, p = .004). As with the full sample, there was no difference across emotional valences (i.e.,

responses to positive versus negative emotions, with supportive and nonsupportive responses combined; $p = .489$). Finally, encouragement and socialization responses to positive emotions were followed up on specifically because of the mixed findings in the literature regarding whether socialization is a supportive response that were described in the Measures section. A follow-up MANCOVA contrast analysis showed a cultural difference in endorsement of encouragement versus socialization of positive emotions (F (1, 103) = 12.41, Wilks' $\lambda = 0.89$, $p = .001$), with Chinese parents endorsing encouragement of positive emotions less and socialization of positive emotions more than US parents.

H2 and H3: Effects of Parents' Beliefs about Emotions and Self-Construals on Their ES Responses

Multiple regression analyses were then conducted to examine unique effects of culture, parental beliefs about emotions, and self-construals on parents' ES responses with covariates being controlled (see Table 5). For the regression on parents' supportive responses to negative emotions, Step 1 showed that US parents reported higher endorsement than Chinese parents. When adding beliefs about emotions on Step 2, parents' beliefs about *parental knowledge* and *autonomy* were positively associated with their supportive responses to negative emotions. Parents' self-construals were then entered on Step 3 and parents' endorsement of interdependent self-construal showed a positive effect. After adding the interactions on the exploratory Step 4, the model did not change significantly ($\Delta F = .067$, $p = .645$), and so results through Step 3 are considered the final results for parents' supportive responses to negative emotions.

For the regression model on parents' nonsupportive responses to children's negative emotions, Step 1 showed that Chinese parents reported higher endorsement than US parents. When beliefs about emotions were added on Step 2, parents' belief that children use emotions as

manipulation was related to more nonsupportive responses to negative emotions, whereas parents' belief that they should know all their child's emotions (*parental knowledge*) was associated with less nonsupportive responses to negative emotions. There was a non-significant trend for parents' belief about *autonomy* to be negatively associated with their nonsupportive responses to negative emotions. Self-construals were then added on Step 3. A non-significant trend was shown for parents' interdependent self-construal, in that parents with more endorsement of interdependence tended to report less nonsupportive responses to negative emotions. Adding the interactions in the exploratory Step 4 did not bring a significant model change ($\Delta F = .964$, $p = .444$). Again, results through Step 3 are considered the final results for parents' nonsupportive responses to negative emotions.

For parents' encouragement of children's positive emotions, Step 1 showed that US parents reported higher endorsement than Chinese parents; Step 2 showed a positive effect for parents' belief about *parental knowledge*, and Step 3 showed a positive effect for independent self-construal. In other words, after accounting for the effect of culture, parents who showed more belief about them knowing all their child's emotions (*parental knowledge*) or who endorsed more independent self-construal reported higher level of encouragement of children's positive emotions. The exploratory Step 4 yielded no significant model change after adding the interactions ($\Delta F = .320$, $p = .900$), and thus results through Step 3 are considered the final results for parents' encouragement of children's positive emotions.

For the regression on parents' socialization response to positive emotions, no culture effect was observed in Step 1. When beliefs about emotions were entered on Step 2, parents' beliefs about *parental knowledge* and *autonomy* both were positively related to socialization of positive emotions. After adding independent and interdependent self-construals on Step 3,

parents' interdependent self-construal was positively associated with their endorsement of socialization to positive emotions. Including the interactions on the exploratory Step 4 did not change the model significantly ($\Delta F = .922$, $p = .471$). Therefore, results through Step 3 are considered the final results for parents' socialization of children's positive emotions.

Finally, for parents' nonsupportive responses to positive emotions, Step 1 showed that Chinese parents endorsed more nonsupportive responses than US parents. Step 2 showed that parents with stronger belief about children using emotions as *manipulation* reported more nonsupportive responses to positive emotions. On Step 3, parents' independent self-construal was negatively associated with their nonsupportive responses to positive emotions. Again, adding the interactions on the exploratory Step 4 did not change the model significantly ($\Delta F = .800$, $p = .553$), and results through Step 3 are considered the final results for parents' nonsupportive responses to children's positive emotions.

Discussion

This dissertation was proposed as a cross-cultural study with Chinese and US parents of 7- to 11-year-old children. The purpose was to explore parents' beliefs about emotions and self-construals as two distinct potential antecedents of parents' responses to children's emotional displays. I focused on three types of beliefs which reflect the relational nature of emotions (i.e., *manipulation*, *parental knowledge*) and children's emotional independence (i.e., *autonomy*) and two self-construals as cultural value-implied factors (i.e., *independence*, *interdependence*). Parents' ES responses to children's positive as well as negative emotions were examined. Chinese and US parents were invited to fill out the same set of online questionnaires in their native language and responses were combined as a full sample for analyses. I expected to identify cross-cultural differences in parents' endorsement of beliefs about emotions, self-

construals, and ES responses. I also hypothesized that parents' beliefs about emotions and self-construals would each distinctively predict their endorsement of ES responses. The overall study purpose was to identify similarities and differences in associations of potential antecedents with ES responses for parents from China and the US, thereby providing better understanding of ES processes within socio-cultural contexts.

Assessment of Hypotheses

In general, hypotheses were partially supported. The first set of hypotheses regarded cultural differences in beliefs about emotions, self-construals, and ES responses. Consistent with hypotheses, compared with US parents, Chinese parents more strongly endorsed beliefs about *manipulation* and *parental knowledge.* Contrary to hypothesis, Chinese parents also more strongly endorsed beliefs about children's emotional *autonomy.* As expected, US parents reported higher independent self-construal than Chinese parents, but the expected difference in interdependent self-construal was not seen, and only Chinese parents showed a trend for within-person differences in independent and interdependent self-construals. Finally, hypothesized differences in ES responses were found. Compared with US parents, Chinese parents reported less supportive responses and more nonsupportive responses to children's positive and negative emotions.

The second set of hypotheses regarded associations of parents' beliefs about emotions with their ES responses. As hypothesized, the *manipulation* belief of parents in the full sample was associated with more nonsupportive ES responses. Contrary to hypothesis, culture did not moderate associations of the *parental knowledge* belief with ES responses. However, for the full sample, parents' *parental knowledge* belief was related to more supportive/explanatory reactions and less nonsupportive responses to children's emotions. This is consistent with what was

hypothesized for the Chinese parents. Consistent with hypothesis, parents' *autonomy* belief was related to more supportive/explanatory reactions and less nonsupportive responses to children's emotions.

The third set of hypotheses regarded relations of parents' self-construals to their ES responses. Contrary to hypotheses, these relations were not culture-specific. Rather, for both Chinese and US parents, endorsement of interdependence predicted more supportive or explanatory and less nonsupportive ES responses. These findings are consistent with what was hypothesized for Chinese parents. Furthermore, for both Chinese and US parents, endorsement of independence predicted more encouragement and less nonsupportive responses to positive emotions. These findings are consistent with what was hypothesized for US parents.

The remainder of the discussion is organized as follows. I first discuss conceptualization of parents' ES responses to positive emotions and significant demographic differences found in the preliminary analyses. Then I discuss findings regarding cross-cultural differences (H1a-H1c). Following this, I talk about the meaning and significance of associations of parents' beliefs about emotions and self-construals with their reported ES responses (H2 and H3). I then note some themes and similarities and differences across ES responses in the full sample. In the next section, I address strengths, limitations, and future directions of the current study. Finally, I draw conclusions from the current work.

Conceptualization of Parents' ES Responses to Positive Emotions

When I constructed the PRCPS superscales for parents' ES responses to children's positive emotions for the purpose of data reduction, the Chinese sample and the US sample displayed different patterns of subscale correlations, specifically in regard to the *Socialization* subscale. The positive association between socialization and encouragement in the Chinese

sample indicates that Chinese parents viewed socialization as a favorable and supportive response. In contrast, there was a negative correlation between socialization and encouragement in the US sample, which suggests that US parents perceived the socialization response to children's positive emotions as invalidating and nonsupportive. Socialization was defined as parents' explanation of why their child's emotional expression may be considered as socially inappropriate (Ladouceur et al., 2002). An example is when a child says to a friend in front of other friends "you are my favorite friend, and the only one that I will invite to my birthday party", and the parent explains to the child that "it is great that you have a good friend but not to say that in front of others because this will make them feel bad about not being invited". Western cultures like the US tend to value independence and open emotional expression is often emphasized as confirmation of individuality (Markus & Kitayama, 1994). When parents talk about emotions with children, children are often the focal point of the conversation and US parents tend to use elaborations and encourage children to express their thoughts and feelings (Fivush & Wang, 2005). Socialization responses captured in the PRCPS may serve the function of minimizing and inhibiting children's emotional displays which may thus be appraised by US parents as nonsupportive. In contrast, traditional Chinese culture values collectivism and parents often use strategies to control or inhibit children's emotional expressions to keep group harmony (Cheah & Rubin, 2003). Socialization responses that acknowledge positive feeling while explaining what expression is appropriate align well with these cultural values, and thus may be endorsed by Chinese parents in the current study as supportive because they validate the child's emotional experience while teaching display rules that will avoid negative consequences for the child as well as others in the group.

Demographic Differences

In the full sample and within Chinese parents, mothers reported more socialization of children's positive emotions than fathers. The current ES literature has widely acknowledged the influence of parent sex on parental ES behaviors with diverse samples. Mothers have been found to be more emotionally expressive and supportive in response to children's emotions than fathers across cultures and across ethnoracial groups within Western culture (Brown et al., 2015; Chen & Zhou, 2019; Gamble et al., 2007). Compared with fathers, mothers may be more knowledgeable of and sensitive to children's emotional experiences and peer and family relations as they are often main caregivers of children in middle childhood. Thus, when children display positive emotions in an exuberant fashion that could affect their relationships with peers or other family members, mothers may be more likely than fathers to engage with children about their positive emotional expression by elaborating on the causes or consequences of emotions or the appropriateness of emotional expression in the situation.

In the full sample, parent age was negatively associated with parents' report of nonsupportive ES responses such that older parents endorsed less nonsupportive responses towards children's positive and negative emotions than younger parents. Perhaps older parents may be more experienced with emotions and emotion regulation, so when their child displays various emotions, either negative or positive, older parents may feel less distress or discomfort and use less reprimanding or minimizing reactions. Existing parental ES research has often explored child age as an index of children's developmental stage that may influence parents' ES responses and found that parents of older children are less supportive and more punitive towards their child's emotional displays (Klimes-Dougan et al., 2007). However, parent age and child age were not correlated in the current study, and child age was unrelated to parents' ES responses.

The fact that children were all within the middle childhood stage may have restricted associations of child age with parental ES. However, in the full sample, child age was associated with parents' interdependent self-construal, such that parents of older children endorsed more interdependence. Perhaps children's increasing capacity for autonomous roles in school and community organizations as they mature in middle childhood may foster parents' own awareness of how their sense of self connects to their social relationships.

Parents' Beliefs about Emotions, Self-Construals, and ES Responses Across Cultures

I expected that, compared with US parents, Chinese parents would endorse higher *manipulation* belief, higher *parental knowledge* belief, and lower *autonomy* belief. These hypotheses were partially supported, in that Chinese parents reported higher *manipulation* belief and higher *parental knowledge* belief. However, Chinese parents also reported higher *autonomy* belief than US parents. Both beliefs that children use emotions as *manipulation* and that parents need to know their child's emotions at all times (*parental knowledge*) were focused on in the current study as they are beliefs about the relational nature of emotions (Halberstadt et al., 2013; Parker et al., 2012). Chinese society as a collectivistic culture emphasizes social connections and relatedness, whereas US culture is viewed as generally individualistic and personal goals are emphasized. In accord with these values, it was not surprising that Chinese parents' endorsement of *manipulation* and *parental knowledge* beliefs were more salient than that in the US sample. Parker and colleagues (2012) found that Lumbee American Indian and African American parents, whose cultures tend to desire closeness and family proximity, similarly reported higher belief that parents need to know all their child's emotions than European American parents. It was argued that this may be a result of parents' overall interest in monitoring their child and providing guidance to a greater extent.

I was surprised to find the higher endorsement of the *autonomy* belief in the Chinese sample than the US sample. Autonomy conveys the message that parents believe their child can manage emotions independently (Halberstadt et al., 2013) and I therefore expected it to be higher in US parents, who are from a culture that emphasizes independence. However, due to industrialization/westernization across the globe, parents from Asian cultures like China and India have been receiving more and more exposure to Western values and developing an autonomous relational self (Kağitçibaşi, 2006). With such a self, people value social interconnections as well as autonomy. Parents with an autonomous relational self have been found to endorse both relational and autonomous socialization goals (Chan, 2011; Raval et al., 2014). The salient endorsement of autonomy in the current Chinese sample may reflect autonomous relational sense of self in Chinese parents in the current study, and thus valuing children's autonomy. Alternatively, the *autonomy* belief may reflect parents' perception of children's developmental capacity rather than parents' cultural values. If so, findings may indicate that Chinese parents have greater confidence in their child's capability of coping with emotions on their own than do US parents. A systematic review shows that East Asian children perform better on executive functioning tasks than European American or British children, and that their advantage in executive functioning increases from early childhood to adolescence (Schirmbeck et al., 2020). Furthermore, associations of inhibitory control and attentional focusing with physiological indices of emotion regulation differ for Chinese and US children, suggesting culture-specific emotion management processes (Grabell et al., 2015). Thus, this difference in Chinese and US parents' *autonomy* belief may reflect cultural differences in children's emotion-related skills, in emotion regulation strategies and processes, or in parents' conceptualization of autonomy in regard to emotions.

Compared with US parents, Chinese parents were expected to endorse higher interdependent and lower independent self-construals. This hypothesis was partially supported. Analyses identified the expected significant two-way the interaction of culture with type of self-construals. Follow-up analyses showed that Chinese parents had a trend of endorsing more interdependence than independence. This is consistent with literature showing that interdependence is still the predominant self-construal in traditional collectivistic cultures like China (Chan, 2011). US parents did not show differences in their reports of the two self-construals. Examination of least squares means showed that US parents endorsed more independence than Chinese parents, but endorsement of interdependence was similar across cultures. Singelis (1994) pointed out that independent and interdependent self-construals were not mutually exclusive and rather co-exist in individuals and societies. In the current study, there was a significant correlation between independence and interdependence in the full sample and the Chinese sample, but the correlation was not significant for the US sample. Although lower sample size may have limited power to find a significant correlation within the US sample, this suggests that the nature of co-existence of these two self-construals may vary across Chinese and US cultures.

I expected compared with US parents, Chinese parents would report less supportive and more nonsupportive responses towards children's emotions. This hypothesis was supported. For the US sample, there was a within-person finding for parents to endorse more supportive than nonsupportive responses to children's emotions as well. These results are consistent with cross-cultural literature on parental ES which shows that Chinese parents are less emotionally expressive, less encouraging, and more punitive in response to children's emotional displays compared with European American parents (Camras et al., 2006; Cheah & Rubin, 2003).

European-American parents typically endorse supportive responses like encouragement of expression, soothing children, and helping children solve emotion-eliciting situations to a greater extent than nonsupportive responses like punishment, minimization (Wong et al., 2009). Friedlmeier and colleagues (2011) outlined two aspects of emotion competence–individualistic and relational emotion competence–to understand parental ES in a cross-cultural perspective. US parents, like those recruited in the current study, tend to strive to promote children's individualistic emotion competence, characterized as self-sufficiency, autonomy, and independence, and often carry out an emotion coaching and supportive style. In contrast, Asian-cultural parents, like recruited Chinese parents in the current study, tend to endorse higher relational emotion competence (i.e., relational sensitivity, hierarchy, relatedness) and tend to facilitate such competence through responses that are often viewed as nonsupportive in Western cultures (e.g., minimization, teaching children about emotional display rules, unacceptability of emotions). Parents' ES responses did not vary across emotional valences in the current study, indicating a similar reaction style from parents towards children's positive and negative emotions. This is important new knowledge because research on socialization of positive emotions has only recently begun to accrue, and research supports a distinct role of positive emotions in the development of psychopathology (Yi et al., 2016).

Overall, findings regarding cultural differences in relational beliefs about emotion (*manipulation, parental knowledge*) and in ES responses were consistent with hypotheses. However, findings regarding cultural differences in parents' belief about children's emotional *autonomy* contradicted hypotheses, and those regarding cultural differences in their independent and interdependent self-construals were only partially consistent with hypotheses. Put together,

this suggests the importance of future research addressing nuances in cultural understanding of autonomy or independence and relatedness or interdependence across development.

Effects of Parents' Beliefs about Emotions on ES Responses

I expected parents' beliefs about emotions would be associated with their ES responses in both cultures. In particular, I expected parents' *manipulation* belief to be associated with more nonsupportive ES responses in Chinese and US parents. This hypothesis was supported with *manipulation* being positively related to parents' nonsupportive responses to both negative and positive emotion displays by children after controlling for culture. In the article by Halberstadt and colleagues (2013) where the PBACE was developed and validated with European American, African American, and Lumbee American Indian parents, a similar pattern was found such that parents who viewed children's emotions as manipulative reported more invalidating and less validating ES responses. The *manipulation* belief has a negative connotation that children's emotional displays are not sincere and are untrustworthy, that children use emotions just to get attention and to their own advantage. This belief also shares some similarities with the emotion dismissing meta-emotion philosophy, in which parents perceive children's emotions not as beneficial but rather as a demand that they fix everything and make it better (Gottman et al., 1996). Thus, when parents hold the belief that children's emotions are manipulative, they would endorse reacting to children's emotional expressions in a nonsupportive fashion such as feeling distressed, reprimanding, or minimizing. From a developmental perspective, middle childhood is a stage where children start to learn emotion regulation skills and develop emotional autonomy (Klimes-Dougan & Zeman, 2007). When parents of children in middle childhood believe children can control their emotions to the extent of using emotions to *manipulate* others, this may indicate some unrealistic expectations about their child's socio-emotional capabilities. Thus, the

discrepancies between their expectations and their child's actual performance may also lead to parents' endorsement of nonsupportive responses towards children's emotional expressions.

Parents' *parental knowledge* belief was expected to be associated with supportive ES responses in the Chinese sample and to be unrelated to parents' ES responses in the US sample. Results partially supported this hypothesis. For both samples, the more highly parents endorsed the *parental knowledge* belief, the more supportive and less nonsupportive responses to children's negative emotions they reported. In response to children's positive emotional displays, parents with a stronger *parental knowledge* belief also endorsed more encouragement and socialization response. Culture did not moderate these effects. Parents in Halberstadt et al. (2013) who endorsed the *parental knowledge* belief also were more supportive of children's emotions. Halberstadt and colleagues explained that being supportive might function as a way of communicating to children that parents need to know what their child is feeling. Parents' belief in *parental knowledge* may denote that they play an active role in engaging with, monitoring, and learning about their children's emotional development (Dunsmore & Karn, 2001). In Parker et al.'s (2012) qualitative study exploring beliefs about emotions with parents from three cultures (European American, African American, and Lumbee American Indian), parents from all three groups mentioned the belief about parents knowing children's emotions in order to share in their happiness, to better guide and help them when necessary, to show emotional availability, and to form a deeper emotional connection. Enacting more supportive ES responses, such as expressive encouragement and helping children to understand and solve the emotion-eliciting situations, would provide rich opportunities for parents to interact with their children and know more about their children's feelings. In contrast, being nonsupportive in ES responses, such as minimizing and punishing emotional expressions, would prevent children from displaying emotions, thus

setting back parents' engagement with children's emotional lives. I noted that the *parental knowledge* belief was associated with parents' higher endorsement of socialization response to children's positive emotions. Though socialization was viewed as an invalidating strategy in the current US sample as discussed before, it is possible that the explanations and elaborations about the causes and (in)appropriateness of the emotions involved in the socialization response are still beneficial for parents to connect with their child (Fivush & Wang, 2005; Ladouceur et al., 2002).

US parents were expected to show a floor effect for their endorsement of *parental knowledge* belief with low mean value with small variation due to the overall emphasis on independence and emotional privacy in US society. Different from my hypothesis, US parents recruited in the current study reported a mean of 4.41 (*SD* = 1.06) on a 1-6 scale for the *parental knowledge* subscale. Considering that the US sample recruitment happened during the ongoing COVID-19 pandemic, the high endorsement of parents knowing their child's every emotion in the US sample could be related to the socio-emotional disturbances incurred by families during the pandemic (Benner & Mistry, 2020). As the COVID-19 pandemic has disrupted all facets of families' daily lives and emotional well-being, US parents may perceive more need to know and monitor their child's affective status so they can more quickly detect problems and provide help when needed. To test this possibility, future research will benefit from exploring longitudinal trajectories of parents' beliefs about emotions following this pandemic. Qualitative studies will also be useful for understanding parents' underlying stances towards their role in their children's emotional development in relation to the pandemic.

I expected parents' *autonomy* belief would be related to more supportive and less nonsupportive ES responses. Parents' *autonomy* belief was associated with their higher endorsement of supportive responses to negative emotions and socialization response to positive

emotions. There was also a trend for parents with stronger belief in *autonomy* to endorse less nonsupportive responses to children's negative emotions. As mentioned earlier, the *autonomy* belief denotes parents having confidence in their child and believing that children are capable of handling emotions in an autonomous fashion (Halberstadt et al., 2013). Contrary to the disrespect for emotion implicit in the *manipulation* belief, the *autonomy* belief implies valuing and respect for children's emotions and capabilities. The belief that children can work through emotions on their own also shares some similarities with the socialization goal of individualistic emotion competence (Friedlmeier et al., 2011). Chan and colleagues (2009) worked with Hong Kong Chinese mothers and found that mothers with higher individualistic emotion competence socialization goals were more coaching and supportive of children's emotions. Parents with stronger *autonomy* beliefs may endorse more supportive and less nonsupportive responses (to children's negative emotions, in particular) in part because they already view their children as emotionally capable, and therefore their child's negative emotions are not overwhelming to them and they may show acceptance, validation, and encouragement of negative emotions to further promote their child's independence in coping with their own negative emotions. As for the association between the *autonomy* belief and higher endorsement of socialization response to positive emotions, perhaps parental elaborations on the (in)appropriateness of emotional expressions involved in the socialization response is similarly viewed as within the child's capacity to understand, and thus endorsed by parents as a way of teaching their child more advanced emotional display rules to further foster the child's expressive self-sufficiency (Ladouceur et al., 2002; Stettler & Katz, 2014).

Effects of Parents' Self-Construals on ES Responses

After controlling for effects of parents' beliefs, I expected parents' self-construals, as a liaison between micro-individual and macro-cultural values, would still play a role in influencing their ES responses. Interdependence was expected to relate to ES responses in the Chinese sample, and there was a parallel expectation for independence in the US sample. Results in the current study were mixed. Parents' interdependent self-construal was related to higher endorsement of supportive responses to negative emotions and of socialization response to positive emotions. There was a trend such that interdependence was associated with less reported nonsupportive responses to children's negative emotions. Interdependent self-construal views the self as connected with others. The tasks are to fit in with the social context and to engage in appropriate actions that promote others' goals (Singelis, 1994). Emotional experiences vary systematically with self-construal. Other-focused emotions that have the other person as the primary referent (e.g., sympathy, feelings of interpersonal communion, shame) typically result from the interdependent construal of self (Markus & Kitayama, 1991). In the current study, the association of more supportive and less nonsupportive responses to children's negative emotions with interdependence may be relevant to parents' sympathy. When children display negative emotions like sadness, anger, or fear, parents' feeling of sympathy may lead them to pay attention to those emotions and work with children to problem-solve rather than punishing and minimizing the expressions. Parents' interdependence was associated with their higher endorsement of socialization response to children's positive emotions. When children express strong positive emotions that may be disruptive to the social relationships (e.g., showing a toy the child wins at a birthday party proudly to the other children who have not received one), parents who endorse restraining oneself to maintain group harmony may step up and explain the

(in)appropriateness of the emotions in the social context to the child to foster their child's sensitivity to others' thoughts and feelings. Working with Indian and Chinese mothers, Raval and colleagues (2018) found similarly that mothers' endorsement of relational socialization goals was associated with their reflection-enhancement and explanation-orientated responses to children's emotional displays.

Parents' independent self-construal was associated with more encouragement of children's positive emotions and less nonsupportive responses to children's positive emotions. Independent self-construal views the self as unique and separate from others. The tasks with independence are to express oneself and achieve personal goals (Markus & Kitayama, 1991). Ego-focused emotions that have individuals' internal attributes as the primary referent, such as pride, are more often expressed and valued by people high in independent self-construal. Parents who endorse the self being independent and autonomous may accept, validate, and encourage their child's expressions of emotions (positive emotions in particular). Meanwhile, they may feel less discomfort or distress and be less likely to reprimand their child's positive emotional expressions, viewing the child's expression as a separate issue from group harmony.

When looking at these results as a whole, it is clear that how parents' beliefs and self-construals relate to their endorsed ES responses is complex. Though beliefs about emotions and self-construals are two adjacent sets of variables that are both culturally embedded (Raval & Walker, 2019), they showed little to no association in the current study ($|r|$ ranged from .00-.30). Each set of variables was related to parents' ES responses differently, suggesting that beliefs about emotions and self-construals are two distinct sets of predeterminants of parents' ES behaviors. Within each set, every belief about emotions (*manipulation, parental knowledge, autonomy*) and self-construal (independence, interdependence) also plays a unique role in

relation to parents' ES responses. No interaction effects between culture and any of the predictors were found, meaning the magnitude and direction of associations of parents' beliefs or self-construals with their ES responses did not differ across Chinese and US parents. Together with the cultural differences found for parents' endorsement of beliefs, self-construals, and ES responses, the importance of examining culturally embedded factors guiding parents' ES practices is re-emphasized (Eisenberg, 2020; Raval & Walker, 2019). Doing so will help researchers better understand the underlying mechanisms of parental ES across diverse cultural groups and expand the field beyond use of the overgeneralized, dichotomous individualism-collectivism categorization of cultural context to explain findings.

Multiple ES responses were explored in the current study, including supportive responses to negative emotions, nonsupportive responses to negative emotions, encouragement of positive emotions, socialization of positive emotions, and nonsupportive responses to positive emotions. Results suggested that parents' supportive responses to negative emotions and encouragement response to positive emotions functioned similarly in terms of how they were impacted by the proposed predictors. Parallel patterns were also seen for parents' nonsupportive responses to negative and to positive emotions. Parents' socialization of positive emotions showed a distinct pattern in that findings suggested it may be viewed as an invalidating response by US parents and as an elaborative and supportive response by Chinese parents. However, interactions of culture with parents' beliefs about emotions and self-construals did not significantly change variance accounted for in the socialization response to positive emotions. Thus, for both Chinese and US parents, findings suggest that endorsement of the socialization response is related to a desire to know what children are feeling (*parental knowledge* belief), to foster children's

emotional autonomy (*autonomy* belief), and to train children in building social connections (interdependent self-construal).

Limitations and Future Directions

The recruitment of both Chinese and US parents, the inclusion of parents' responses to children's both positive and negative emotions, and the exploration of antecedents of parental ES responses are three major strengths of the current study. I also acknowledge four key limitations that may inspire directions for future research. First, despite strong efforts to recruit the US sample, the final sample includes only 32 US parents (29.91%) compared to 75 Chinese parents (70.09%). The observed power with the achieved sample size of 107 parents in the current study was .9597 for the most complex MANCOVA and .9997 for the most complex multiple regression model. Despite the observed power, the relatively small size for the US sample may lower the statistical power to detect significant patterns for US parents (Button et al., 2013), and specifically to detect significant interactions of culture with beliefs about emotions or self-construals when predicting ES responses. These uneven sample sizes may have skewed results in this dissertation, with more weight being carried by the Chinese parents. This is especially important because the beliefs about emotions examined in the current study have received little attention in prior research. Future research will benefit from expanding the US parent sample size to allow identification of medium and small effect sizes and thereby gain a better understanding of the similarities and variation in beliefs about emotions, self-construals, ES responses, and their interrelations across cultures.

Second, the generalizability of the results is limited by the representativeness of the samples from both cultures. Chinese parents were recruited from places near a rural town in Henan province, China and reported an average yearly income of 59,500 RMB. Based on the

National Bureau of Statistics of China in 2018, the year families were recruited, the Chinese sample represented underprivileged families in China. I recruited US families residing in areas around the Blacksburg campus of Virginia Tech to match the rurality of the Chinese families. Despite this match in rurality, the participating US parents reported an average yearly income of 71,250 USD which is higher than the median US household income (Semega et al., 2020). Furthermore, in the US sample 71.88% of the parents had a graduate degree and the majority (87.5%) identified as European American (Caucasian/White), thus representing a limited educational and ethnoracial range within the US. Future studies will benefit from recruiting a more diverse sample of parents in both China and the US with a wide range of social status positions to better represent each culture and to better understand varied contexts within each culture.

Third, analyses were limited to parents' self-reports of their beliefs about emotions, self-construals, and ES responses. In future work, it will be useful to expand beyond self-report methods for measuring how parents perceive emotions and the self in relation to others, as well as their ES behaviors (Eisenberg, 2020). In-depth interviews or focus groups with parents (e.g., Fishman et al., 2014; Parker et al., 2012) would provide a more comprehensive understanding of parents' multi-faceted belief systems related to the socio-cultural context. In one qualitative study with Indian immigrant mothers, Fishman and colleagues (2014) found a unique overarching philosophy emerged in which negative emotions were inevitable and the most practical response was to move on with one's life. They suggest that the philosophies Gottman et al. (1996) found in European American families might not be applicable in Indian immigrant families, which calls for the consideration of culture in understanding ES processes. Reaction time measures may also provide useful indices of salience of independence and interdependence

in parents' self-construals, and priming tasks may be helpful for identifying links among constructs. These measures are less subject to social desirability influences than self-report measures.

Regarding parents' ES responses, questionnaires like the CCNES and PRCPS are commonly used with overall supportive and nonsupportive categorization (e.g., Halberstadt et al., 2013; Tao et al., 2010; Yi et al., 2016). As noted earlier, my master's thesis (2019) was the first study that translated the PRCPS into Chinese and used the translated version with Chinese sample. Sample size was insufficient for confirmatory factor analyses to evaluate the factor structure. This remains a pertinent concern as the current study included the same Chinese sample as my thesis. Future research should consider conducting validation of the PRCPS with Chinese parents. Furthermore, behavioral observations of parents' ES responses (e.g., Fivush & Wang, 2005) may be used to capture ES dynamics in real time, and augmenting self-report with other-report (i.e., youth; other parent) may be useful for distinguishing intent from impact in ES responses. Regardless of assessment methods, a person-centered approach (e.g., Wang et al., 2019) will be useful in identifying various patterns of parental ES within and across cultures.

Finally, culture effects in the current study cannot be disentangled from the different recruitment periods for the two samples, notably the potential effect of the COVID-19 pandemic on participation and responses of US parents. Researchers in both China and the US have found the disruptions in families' daily lives due to the pandemic have increased parents' caregiver burden and mental health problems, which may thus impact parenting practices and the parent-child relationship (Bai et al., 2020; Russell et al., 2020). Therefore, self-reports of participating US parents may have been influenced by these pandemic effects on their parenting and relationships with their children. Recruitment and participation of US parents had to be modified

to take place with no in-person contact with the experimenter. The increased emotional burden of the pandemic may also have affected recruitment of the US sample in the current study. Across nearly a year of recruitment efforts, involving around 4,600 emails sent out to families from a departmental family database, two paid mailing lists, 11 online listings including the NRV Macaroni Kid, newsletters for churches, public libraries, boy scouts, and girl scouts, only 57 US parents sought to participate, and approximately 44% of these parents did not complete the questionnaires. Recruitment and retention of the US sample may have been detrimentally impacted by the stress of the pandemic, and the online nature of the study may have reduced the appeal of participating. The predominance of highly educated parents in the US sample may also be related to recruiting during the pandemic, as these parents may have been more likely to be able to work from home and therefore be in a position to participate. In some informal email communications that I had with families during the recruitment, many parents mentioned how this pandemic has limited their availability to find private time to fill out online questionnaires and interact with their child in the behavioral tasks for the larger study.

As discussed earlier, some of the findings in the US sample that were not expected or were inconsistent with previous literature may be relevant to the unique pandemic period during which US parents participated. The same questionnaires were administered across Chinese and US parents for the purpose of measurement consistency in this cross-cultural study. It would be helpful for future research to conduct follow-up interviews with the US sample to better understand the role the ongoing pandemic may have played in their responses. Also, longitudinal research following this pandemic may be beneficial to track the stability or fluctuation of parents' endorsement of study variables and tease out timing effects (Benner & Mistry, 2020).

Conclusions

Overall, this dissertation showed that compared with US parents, Chinese parents endorsed higher *manipulation* belief, higher *parental knowledge* belief, higher *autonomy* belief, and more nonsupportive and less supportive responses to children's emotions. Parents' beliefs about emotions and self-construals functioned as two distinct predeterminants of their ES responses across cultures. Parents' *manipulation* belief was associated with more nonsupportive ES responses. Parents with stronger *parental knowledge* or *autonomy* beliefs were more supportive and elaborative and less nonsupportive towards children's emotions. Parents' interdependent self-construal was associated with their supportive and elaborative ES responses, whereas independent self-construals were found to relate to more encouragement and less nonsupportive ES responses. These results contribute to a more comprehensive understanding of potential antecedents of parents' ES responses in China and the US and emphasize the importance of considering culture when examining emotional processes within the family system.

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Table 1. *Demographics for the separate Chinese (n = 75) and US (n = 32) samples*

Chinese Sample Demographics (continuous)			
	M	SD	Range
Child age (in years)	9.19	1.29	7 – 11
Child grade	2.99	1.20	1 – 6
Parent age (in years)	36.72	4.46	29 – 47
Number of children	1.97	0.52	1 – 3

US Sample Demographics (continuous)			
	M	SD	Range
Child age (in years)	8.93	1.31	7 – 11
Child grade	3.60	1.40	1 – 6
Parent age (in years)	41.56	5.72	31 – 50
Number of children	2.47	1.14	1 – 5

Chinese Sample Demographics (categorical)			
		Frequency	Percent
Child sex	Girls	43	57.3
	Boys	32	42.7
Parent sex	Mother	65	86.7
	Father	10	13.3
Parent marital status	Married	74	98.7
	Co-habit	1	1.3
Parent race/ethnicity	Han people	74	98.7
	Hui people	1	1.3
Family place of residence	Rural	59	78.7
	Urban	15	20
	Missing	1	1.3
Family yearly income (in RMB)	Lower than 50,000	48	64
	50,000–100,00	24	32
	100,000–150,000	2	2.7
	Missing	1	1.3
Parent education	High school begun	38	50.7
	High school degree	9	12
	Junior college begun	1	1.3
	Junior college degree	14	18.7
	Undergraduate begun	1	1.3
	Undergraduate degree	12	16

US Sample Demographics (categorical)			
		Frequency	Percent
Child sex	Girls	20	37.5
	Boys	12	62.5
Parent sex	Mother	25	78.1
	Father	7	21.9
Parent marital status	Married	29	90.6
	Divorced	2	6.3
	Separated	1	3.1
Parent race/ethnicity	Asian American	1	3.1
	European American	28	87.5
	Hispanic American	1	3.1
	Other	2	6.3
Family yearly income (in USD)	15,000–30,000	1	3.1
	30,000–45,000	2	6.3
	45,000–60,000	3	9.4
	60,000–75,000	5	15.6
	75,000–100,000	8	25
	Over 100,000	13	40.6
Parent education	College begun	2	6.3
	College degree	6	18.8
	Graduate begun	1	3.1
	Graduate degree	23	71.9

Table 2. *Bivariate correlations among PRCPS subscales in the separate Chinese (n = 75) and US (n = 32) samples*

	1	2	3	4
1. Encouragement	—	-.47**	-.50**	-.51**
2. Socialization	.23*	—	.37*	.74**
3. Discomfort	-.23*	-.31**	—	.51**
4. Reprimand	-0.21	0.18	.49**	—

Note: Statistics for the Chinese sample are under the diagonal and statistics for the US sample are above the diagonal. ** $p < .01$; * $p < .05$

Table 3. *Bivariate correlations among study variables in the separate Chinese (n = 75) and US (n = 32) samples*

		1	2	3	4	5	6	7	8	9	10	11	12	13[a]	14[a]	M	SD
1.	Manipulation	—	.06	-.12	.11	.30	.20	.22	.18	.17	.15	.19	.08	.04	.04	3.28	1.11
2.	Parental knowledge	.27*	—	-.26	.16	-.25	.13	-.16	.34	-.07	-.24	-.08	.07	-.01	.21	4.41	1.06
3.	Autonomy	.14	.10	—	.22	-.07	.32	.05	.01	.12	-.02	.16	-.05	-.13	-.05	2.84	0.79
4.	Independent self-construal	-.02	-.09	.18	—	.24	.18	-.19	.48**	.00	-.34	.16	.33	.06	-.03	4.76	0.64
5.	Interdependent self-construal	.05	.06	.29*	.53**	—	.15	.08	.11	.18	.21	-.08	.47*	-.08	-.09	4.94	0.68
6.	Supportive responses to negative emotions	.12	.32**	.29*	.16	.47**	—	-.27	.35	.17	.01	.04	.27	.08	-.10	5.78	0.59
7.	Nonsupportive responses to negative emotions	.22	-.14	-.31**	-.09	-.29*	-.45**	—	-.40*	.23	.40*	.02	-.16	.01	.18	2.75	0.64
8.	Encouragement to positive emotions	.13	.17	.10	.38**	.28*	.45**	-.29*	—	-.47**	-.57**	-.10	.14	.24	-.08	4.97	0.88
9.	Socialization to positive emotions	.14	.41**	.34**	.12	.45**	.73**	-.33**	.23*	—	.64**	.01	.34	-.16	.03	5.15	0.92
10.	Nonsupportive responses to positive emotions	.26*	.03	-.20	-.18	-.16	-.19	.56**	-.25*	-.07	—	.09	.36	-.03	-.02	3.07	0.74
11.	Parent age	.11	.07	.19	-.09	.14	.12	-.21	.05	.03	-.10	—	.25	.15	.12	41.56	5.72
12.	Child age	-.13	-.05	-.12	.16	.10	.01	-.09	-.02	.09	-.16	.23*	—	.03	.04	8.94	1.29
13.	Parent sex[a]	.01	-.11	-.24*	-.01	-.06	-.17	.09	.02	-.24*	-.05	.30**	.00	—	-.12	1.22	0.42
14.	Family yearly income[a]	-.04	.24*	-.05	-.01	.08	.00	-.05	.05	.03	-.20	-.03	.13	.31**	—	5.75	1.41
M		4.21	5.24	4.28	4.57	5.11	5.48	3.62	4.43	5.48	4.01	36.72	9.19	1.13	1.38	—	—
SD		1.09	0.73	0.77	0.68	0.62	0.65	0.71	0.62	0.69	0.68	4.46	1.29	0.34	0.54	—	—

Note: Statistics for the Chinese sample are under the diagonal and statistics for the US sample are above the diagonal. [a] Categorical variable. Parent sex for both Chinese and US samples: 1 = mother, 2 = father. Family yearly income for Chinese sample: 1 = lower than 50,000 RMB, 2 = 50,000-100,000 RMB, 3 = 100,000-150,000 RMB, 4 = 150,000-200,000 RMB, 5 = 200,000-250,000 RMB, 6 = 250,000-300,000 RMB, 7 = over 300,000 RMB. Family yearly income for US sample: 1 = lower than 15,000 USD, 2 = 15,000-30,000 USD, 3 = 30,000-45,000 USD, 4 = 45,000-60,000 USD, 5 = 60,000-75,000 USD, 6 = 75,000-10,000 USD, 7 = over 100,000 USD. ** $p < .01$; * $p < .05$

Table 4. *Bivariate correlations among study variables in the full sample (n = 107)*

	1	2	3	4	5	6	7	8	9	10	11	12	13[a]	14[a]
1. Manipulation	—													
2. Parental knowledge	.31**	—												
3. Autonomy	.29**	.26**	—											
4. Independent self-construal	-.03	-.05	.08	—										
5. Interdependent self-construal	.16	.00	.22*	.43**	—									
6. Supportive responses to negative emotions	.05	.13	.09	.19	.34**	—								
7. Nonsupportive responses to negative emotions	.36**	.10	.19	-.17	-.10	-.45**	—							
8. Encouragement to positive emotions	.01	.07	-.13	.42**	.17	.45**	-.43**	—						
9. Socialization to positive emotions	.21*	.26**	.33**	.05	.36**	.47**	-.02	-.13	—					
10. Nonsupportive responses to positive emotions	.37**	.17	.23*	-.25*	.03	-.23*	.64**	-.47**	.27**	—				
11. Parent age	-.04	-.17	-.14	.05	.00	.17	-.31**	.12	-.06	-.23*	—			
12. Child age	-.04	.06	-.01	.19	.20*	.06	-.06	.00	.18	.06	.19	—		
13. Parent sex[a]	-.02	-.11	-.20*	.03	-.07	-.06	.00	.14	-.22*	-.08	.26**	.02	—	
14. Family yearly income[a]	-.33**	-.30**	-.61**	.11	-.12	.18	-.44**	.29**	-.18	-.51**	.41**	-.04	.12	—
M	3.93	4.99	3.84	4.63	5.06	5.57	3.36	4.58	5.38	3.74	38.17	9.12	1.16	2.70
SD	1.17	0.92	1.01	0.67	0.64	0.65	0.80	0.74	0.78	0.81	5.33	1.30	0.37	2.21

Note: [a] Categorical variable. Parent sex: 1 = mother, 2 = father. Family yearly income were rated on 1-7 scale by both Chinese and US samples: 1 = lower than 50,000 RMB (Chinese)/lower than 15,000 USD (US), 2 = 50,000-100,000 RMB (Chinese)/15,000-30,000 USD (US), 3 = 100,000-150,000 RMB (Chinese)/30,000-45,000 USD (US), 4 = 150,000-200,000 RMB (Chinese)/45,000-60,000 USD (US), 5 = 200,000-250,000 RMB (Chinese)/60,000-75,000 USD (US), 6 = 250,000-300,000 RMB (Chinese)/75,000-10,000 USD (US), 7 = over 300,000 RMB (Chinese)/over 100,000 USD (US). ** $p < .01$; * $p < .05$

Table 5. *Results of multiple regression analyses on parental emotion socialization responses in the full sample (n = 107)*

Model	Dependent Variable	Predictors		β	t	R^2	F	ΔR^2	ΔF
a	Supportive responses to negative emotions	Step 1	Culture	.574***	4.715	.040	4.208*	.040	4.208*
		Step 2	Manipulation	.026	.273	.194	5.827***	.153	6.150**
			Parental knowledge	.306**	3.124				
			Autonomy	.284*	2.490				
		Step 3	Independence	-.023	-.230	.298	6.714***	.104	7.037**
			Interdependence	.343**	3.478				
b	Nonsupportive responses to negative emotions	Step 1	Culture	-.555***	-4.272	.244	16.133***	.244	16.133***
			Parent age (covariate)	-.130	-1.386				
		Step 2	Manipulation	.293**	3.243	.346	10.284***	.346	5.071**
			Parental knowledge	-.207*	-2.245				
			Autonomy	-.196~	-1.758				
		Step 3	Independence	-.006	-.063	.371	8.008***	.371	1.860
			Interdependence	-.160~	-1.709				
c	Encouragement response to positive emotions	Step 1	Culture	.404**	3.275	.071	7.662**	.071	7.662**
		Step 2	Manipulation	.091	.944	.144	4.070**	.073	2.740*
			Parental knowledge	.262*	2.646				
			Autonomy	.027	.231				
		Step 3	Independence	.368***	3.706	.279	6.118***	.135	8.888***
			Interdependence	.022	.216				
d	Socialization response to positive emotions	Step 1	Culture	.126	1.003	.099	5.512**	.099	5.512***
			Parent sex (covariate)	-.138	-1.536				
		Step 2	Manipulation	.045	.473	.195	4.710**	.096	3.861*
			Parental knowledge	.224*	2.248				
			Autonomy	.258*	2.188				
		Step 3	Independence	-.124	-1.253	.285	5.407***	.090	5.948**
			Interdependence	.343**	3.440				
e		Step 1	Culture	-.541***	-4.193	.270	18.325***	.270	18.325***

Nonsupportive responses to positive emotions		Parent age (covariate)	-.028	-.295				
	Step 2	Manipulation	.248**	2.735	.343	10.023***	.073	3.546*
		Parental knowledge	-.122	-1.301				
		Autonomy	-.141	-1.264				
	Step 3	Independence	-.190*	-2.028	.372	7.969***	.029	2.204
		Interdependence	.037	.395				

Note: *** $p < .001$; ** $p < .01$; * $p < .05$; ~ $p < .10$. All beta coefficients are from the Step 3 model with all predictors and covariate entered.

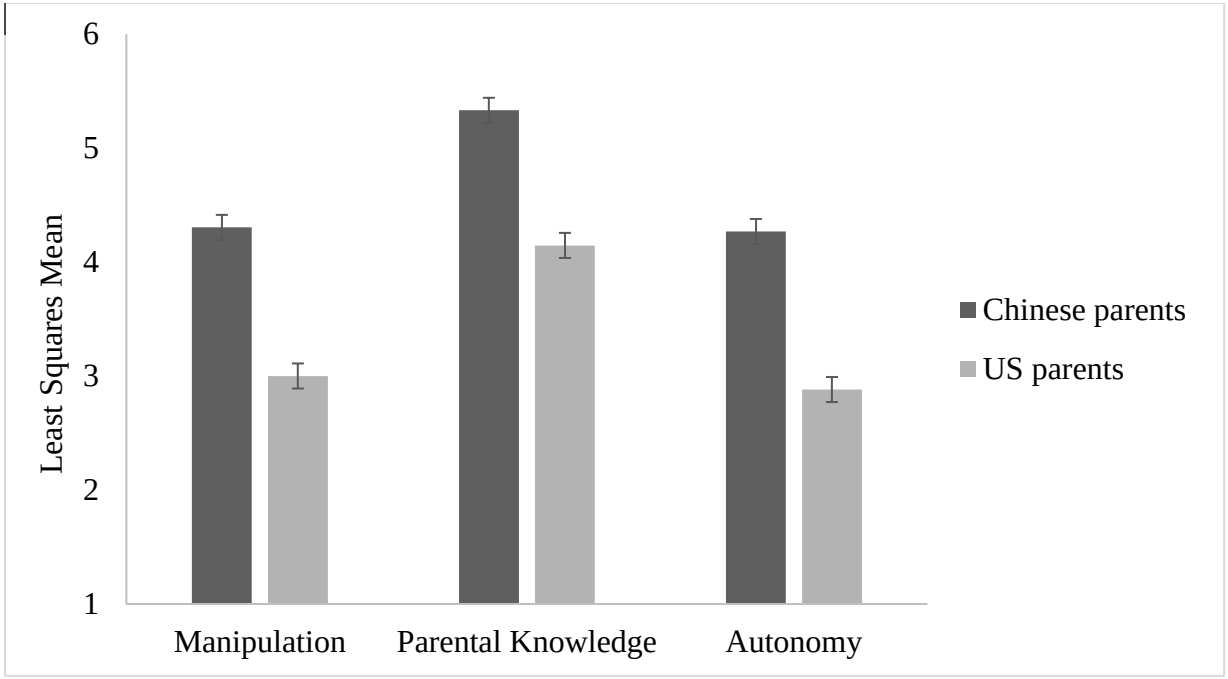

Figure 1. *Least Square Means of Parents' Beliefs about Emotions in the Chinese and US Samples*

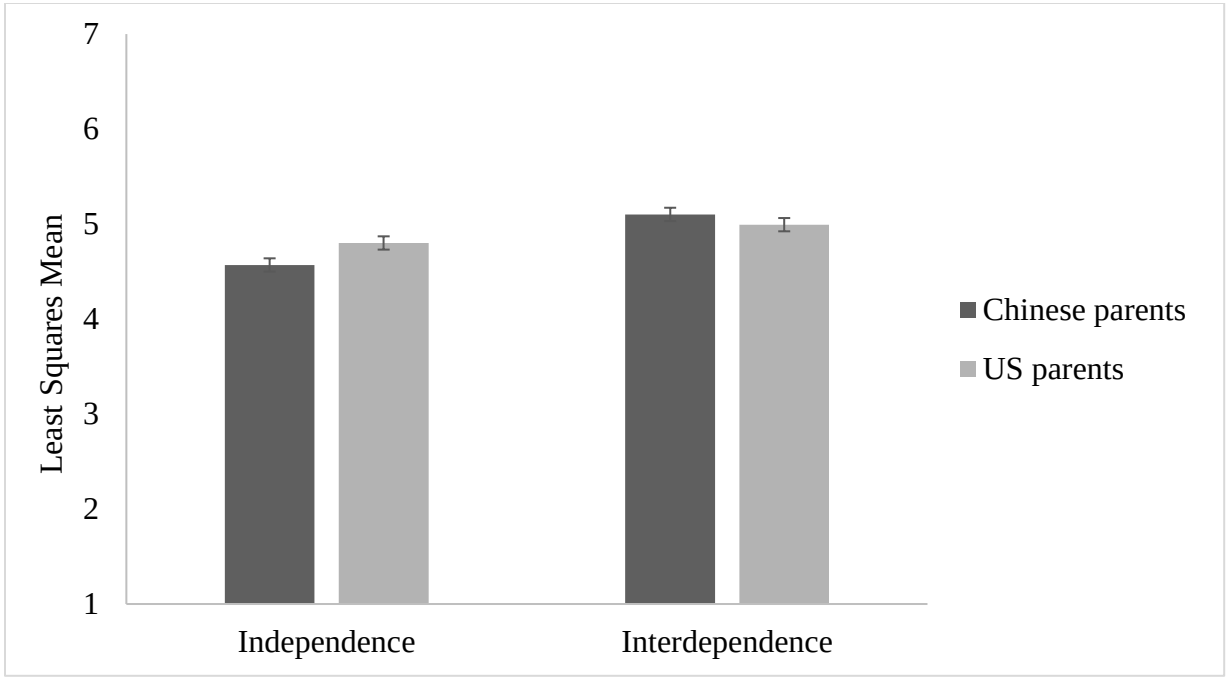

Figure 2. *Least Square Means of Parents' Self-Construals in the Chinese and US Samples*

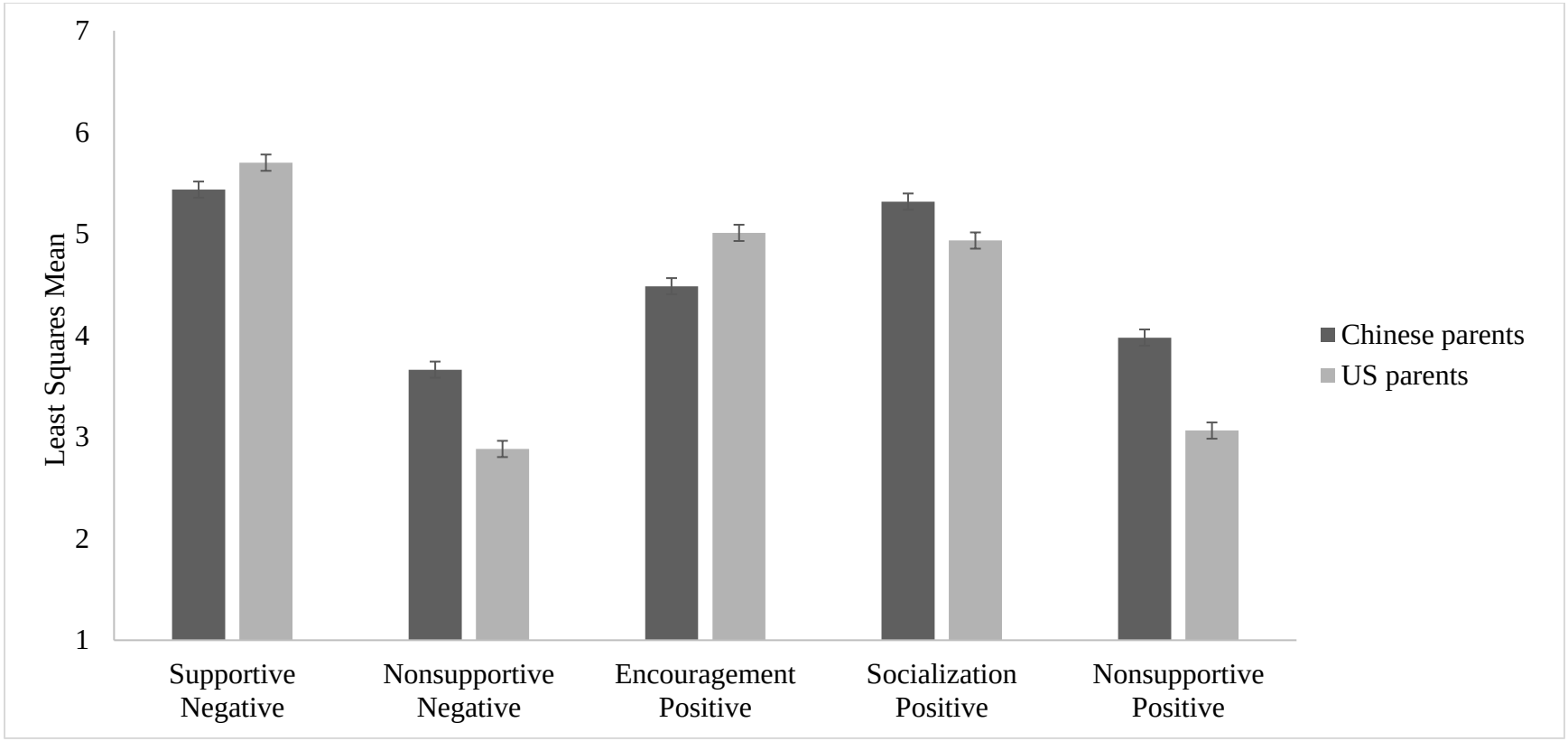

Figure 3. *Least Square Means of Parents' Socialization Responses to Children's Emotions in the Chinese and US Samples*

Appendix A: Sample recruitment materials

Recruitment letter for mailing

Dear Family,

These are challenging times around the world, and families are having to adapt in many ways. In these times it remains important to understand the role of family conversations in children's development. I am a Virginia Tech graduate student interested in learning more about family conversations in middle childhood (age 7 to 11 years), which is an important time when children develop more advanced social and emotional skills. With my advisors, I have a unique opportunity to learn more about how parents from different cultures help children develop these skills. We are looking for parents (primary caregivers) and their children (between 7-11 years of age) to participate in a research study on parents' thoughts and feelings about children's emotions, how parents and children talk about emotions and create stories together, and children's social competence. We will be working with families in the US and in China. If you have a child who is in the right age range for this study, I hope that you might be interested and willing to help me complete my dissertation and graduate!

Because we want to follow public health guidelines for social distancing, you may complete this study in the comfort of your home, with no face-to-face contact with us. Participation will take about an hour and fifteen minutes in total. We'll ask you to fill out online questionnaires, which will take about 30 minutes. We'll ask you and your child to talk about some emotional events and read a book together, and we'll ask you to audiorecord those conversations on your phone and upload them with your online questionnaires. Instructions for having these conversations and audiorecording them on your phone, as well as the book, will be mailed to you. Having these conversations and uploading the audiorecordings will take about 45 minutes. We will give you a $20 e-giftcard for your time, and your child will be given a sticker sheet and will get to keep the book as a thank you.

We very much hope you and your child will be interested in our research study if you have a child who is 7 to 11 years old. (If not, please feel free to mention this study to any of your friends who have children in the age group for this study!) If you would like to learn more about the research study, please go to [LINK] to view the consent form and give us your contact information, or call us at (540) 231 – 8179 (please leave a message with your name and phone number), or email us at danhuaz@vt.edu. Talking with us about the study over the phone or email does not obligate you to participate.

Thank you very much for your time and consideration!

Sincerely,

Danhua Zhu, M.S.
Graduate Student
Virginia Tech

Martha Ann Bell, Ph.D.
Professor, Psychology
Virginia Tech

Julie Dunsmore, Ph.D.
Professor, Psychological, Health & Learning Sciences
University of Houston

Rachel Han, Ph.D.
Associate Professor, Psychology
Beijing Normal University

Online advertisement

Parents and their 7- to 11-year-old children are needed for **Virginia Tech** research!

We are working with families both in the US and China to understand children's social development and family interactions. To follow public health guidelines for social distancing, parents and children may complete this study in the comfort of your home, with no face-to-face contact with us. The study involves parents completing online questionnaires and uploading audiorecordings of parent-child joint activities: A) talk with each other about events that made you or your child feel angry, proud, shame/guilt, and warmth; and B) read a wordless book together. Questionnaires will take about 30 minutes and parent-child activities will take about 45 minutes. Parents will be given a $20 e-giftcard and children will be given a wordless picture book and a sticker sheet. Interested? E-mail danhuaz@vt.edu.

Appendix B: Parent informed consent

VIRGINIA TECH SUBJECT INFORMATION AND INFORMED CONSENT FORM

Protocol Title: Cross-cultural study of parental beliefs about emotions, self-construal and emotion socialization
Protocol #: VT 18-547
Sponsor: Virginia Tech
Principal Investigator: Martha Ann Bell, Ph.D.
Institution: Virginia Tech
Address: Dept of Psychology
Mail Code 0436
Blacksburg, Virginia 24061-0436
United States
Telephone: 540-231-2546

KEY INFORMATION ABOUT THIS RESEARCH STUDY

You and your child are being asked to be subjects in a research study because you are living in the United States (US) and your child is aged 7 to 11 years old.

The following table is a concise and focused presentation of key information to assist you in understanding why you might or might not want to participate in the research.

Purpose	The purpose of this research is to examine how parents in the US and China think and talk about emotions with children in middle childhood (ages 7 – 11 years).
Experimental/ Investigational	You will not receive any experimental drugs or procedures as part of this study.
Voluntary Participation	Your decision to be in this study is voluntary.
Withdrawal	If you decide to be in this study and then change your mind, you can leave the study at any time without penalty.
Length of Participation	Participation takes place in one session lasting approximately 1 hour and 15 minutes in total.
Procedures	If you take part in this research, you will discuss four events with your child, read a book with your child, and complete questionnaires.
Risks	There are not expected to be any physical risks to you or your child as part of this study.
Benefit	There is no benefit to you for taking part in this study.
Costs	There is no cost to you for taking part in this study.
Confidentiality	There are provisions in place by the study protocol and study site to help protect the privacy and confidentiality of your personal information and study information.

This overview does not include all of the information you need to know before deciding whether or not to take part. Much additional detail is given in the full

consent document, which can be found on the pages that follow. Be sure to review the rest of this consent form before deciding about participation.

INFORMED CONSENT FORM

This consent form explains the research study. Before you decide to be a part of this study, you need to know why the research is being done, what it will involve and the risks and benefits. Ask the study staff to explain anything in this form or if you want more information. Please take time to read this form carefully. Feel free to discuss it with your relatives and friends. If you agree to take part in this research study, you must indicate consent by entering your initials.

DISCLOSURE OF FINANCIAL INTERESTS

There are no financial interests involved in this research study.

PURPOSE OF THE STUDY

The purpose of this study is to examine how parents in the US and China think and talk about emotions with children in middle childhood (ages 7 – 11 years).

NUMBER OF SUBJECTS AND LENGTH OF STUDY PARTICIPATION

About 220 subjects (approximately 110 families) are expected to participate in this study at 2 research sites, one in the United States and one in China.

Your participation in this study is expected to last approximately 1 hour and 15 minutes in total. Participating will take about 30 minutes for you to complete questionnaires and about 45 minutes for you and your child to complete activities together and for you to upload audiorecordings of those activities.

STUDY PROCEDURES

You will complete online questionnaires and activities in which you audiotape yourself talking with your child in your home.

We will ask you and your child to discuss four events that made you or your child feel pride, anger, warmth, and shame or guilt. Then, we'll ask you to read a wordless book with your child and try to create a story for the book. We'll ask you to audiorecord both activities on your phone so we can go back later to see how you and your child talked with each other. Instructions for doing these activities and audiorecording on your phone, as well as the wordless book, will be mailed to you. The wordless book will be yours to keep. We'll also ask you to fill out some online questionnaires about your thoughts and feelings about emotions, your reactions to typical child behaviors, your child's behavior, and your thoughts about yourself. You'll upload your audiorecordings at the end of the online questionnaires.

SUBJECT RESPONSIBILITIES

As a subject in this study, you will have certain responsibilities, including the following:

- Discuss four events with your child,
- Read a book with your child,
- Audiorecord your conversations with your child during these activities, and
- Complete questionnaires.

RISKS AND DISCOMFORTS

There is minimal risk involved in this research study. We ask and encourage you and your child to talk with each other normally, like you usually do. Some of the questions may make you or your child feel uncomfortable, bored, frustrated or disappointed.

NEW INFORMATION
You will be notified in a timely way if important new findings become known that may affect your willingness to continue in the study.

BENEFITS
We cannot promise any benefits to you or others from your taking part in this research. However, possible benefits to you may include the opportunity to think more about how you and your child talk about and manage emotions. Your child may find the activities fun. For developmental scientists, this research may contribute to understanding of how to promote children's social competence across cultures.

ALTERNATIVES TO STUDY PARTICIPATION
This research is not designed to diagnose, treat or prevent any disease. Your alternative is to not take part in the research.

COSTS OF PARTICIPATION
There is no cost to you for participating in this study.

REIMBURSEMENT
For taking part in this research, you will be given a $20 e-giftcard. Your child will be given a sticker sheet and will be able to keep the wordless book.

COMPENSATION FOR INJURY
For medical emergencies please call 911.

No other compensation will be offered by Virginia Tech or the Biomedical Research Alliance of New York.

You are not waiving any legal right to seek additional compensation through the courts by signing this form.

CONFIDENTIALITY
To the extent allowed by law, every effort will be made to keep your personal information confidential. The information you provide may be shared for auditing purposes with the Institutional Review Board (IRB) that reviewed this research and is responsible for the oversight of the protection of human subjects involved in research. In any study involving children, direct evidence of abuse must be reported. Data collected in this research might be deidentified and used for future research or distributed to another investigator for future research without your consent. The results of this research project may be presented at meetings or in publications; however, you will not be identified in these presentations and/ or publications.

VOLUNTARY PARTICIPATION AND WITHDRAWAL
Your participation in this study is voluntary. You may decide not to participate or you may stop your participation at any time, without penalty or loss of benefits.

CONTACTS FOR QUESTIONS, COMPLAINTS, CONCERNS

If you have any questions or requests for information relating to this research study or your participation in it, or if you want to voice a complaint or concern about this research, or if you have a study related injury, you may contact Dr. Julie Dunsmore at 540-231-4201.

If you have any questions about your rights as a research subject or complaints regarding this research study, or you are unable to reach the research staff, you may contact a person independent of the research team at the Biomedical Research Alliance of New York Institutional Review Board at 516-318-6877. Questions, concerns or complaints about research can also be registered with the Biomedical Research Alliance of New York Institutional Review Board at www.branyirb.com/concerns-about-research.

STATEMENT OF CONSENT

By signing this form, I confirm the following:

- I have read all of this consent form.
- All of my questions have been answered to my satisfaction.
- I can leave the study at any time without giving a reason and without penalty.
- I agree to the collection, use, sharing and analysis of my personal information and study information collected as part of this study by the sponsor and other authorized persons and regulatory agencies as described in this form.
- I will be given a copy of this consent form to keep.
- I do not give up any legal rights that I would otherwise have if I were not in this study.

I voluntarily agree to participate in this study.

Please type your initials in the box to indicate voluntary agreement to participate in this study.

I voluntarily consent for my child whose initials are typed below to participate in this study.

Please type your child's initials in the box to indicate voluntary agreement for them to participate in this study.

Clicking "next" to continue further indicates your voluntary agreement for you and your child to participate in this study.

Appendix C: Links and QR codes for participating families

Below are the links and QR codes to all 3 parts of our study. We suggest you to start with Questionnaire Part 1, then Questionnaire Part 2, and finally Parent-Child Interactions. Finishing all 3 parts should take you around 1 hour and 15 minutes in total. You can complete them at one time or multiple times.

1. **Questionnaire Part 1**
   - Go to the link [LINK]
   - **OR** scan this QR code [QR CODE]

2. **Questionnaire Part 2**
   - Go to the link [LINK]
   - **OR** scan this QR code [QR CODE]

3. **Parent-Child Interactions**
   - Go to the link [LINK]
   - **OR** scan this QR code [QR CODE]

Appendix D: Family Demographic Information

Please help us describe the group of families who participated in this study with the information below.

Yourself:
Age? _____
Relationship to child? (e.g., mother, father, grandmother, stepfather, etc.) _____
Education (please check one):
High school begun ___ High school degree ___ College begun ___
College degree ___ Graduate begun ___ Graduate degree ___
How would you describe your *racial background*? (please check as many as apply):
African American/Black ____ Hispanic American ____ Asian American ____
Native American ____ European American (Caucasian/White) ____
Other (please specify) _____

What is your **marital status**?
Single Married Divorced Separated Widow Co-Habit

Your child's other parent:
Age? _____
Relationship to child? (e.g., mother, father, grandmother, stepfather, etc.) _____
Education (please check one):
High school begun ___ High school degree ___ College begun ___
College degree ___ Graduate begun ___ Graduate degree ___
How would your child's other parent describe his/her *racial background*? (please check as many as apply):
African American/Black ____ Hispanic American ____ Asian American ____
Native American ____ European American (Caucasian/White) ____
Other (please specify) _____

Your Child's:
Age? _____ *Gender?* _____ *Grade?* _____ *Birthdate* (month & year only)? _____
How would you describe your child's *racial background*? (please check as many as apply):
African American/Black ____ Hispanic American ____ Asian American ____
Native American ____ European American (Caucasian/White) ____
Other (please specify) _____

How many children are there in your family? _____Please list their sex and age below:

	Age	Sex		Age	Sex		Age	Sex
Child 1	_____	_____	Child 2	_____	_____	Child 3	_____	_____

If you have more than 3 other children living in the home, please list their information here (age & sex):
_____

How much is **<u>your family</u>** yearly income? Please make the best estimate you can and include income

from all sources (wages, salaries, help from relatives, rent from property, ...)

_____lower than $15,000
_____$15,000 – $30,000
_____$30,000 – $45,000
_____$45,000 – $60,000
_____$60,000 – $75,000
_____$75,000 – $100,000
_____over $100,000

Thank you very much!