

Child and Family Emotional Functioning: A Cross-National Examination of Families from China and the United States

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Abstract Scant research has examined links between particular emotion socialization processes and child emotion functioning cross-nationally. In this study, we assessed a sample of 55 families from the United States (U.S.; 28 boys and 27 girls) and 49 families from China (27 boys and 22 girls) on family emotional expressiveness and children's emotional experiences and regulation. Results indicated that children and families from the U.S. reported greater emotional expressiveness than their Chinese counterparts. Children from the U.S. also reported greater undercontrolled emotion than Chinese youth. Family expression of positive emotion was related to effortful emotion regulation in U.S. youth only, whereas family expression of negative emotion was associated with undercontrolled emotion for both U.S. and Chinese children. Our findings advance context-specific models of emotional development by illustrating similarities and differences in emotional functioning among U.S. and Chinese families. From a clinical perspective, the findings suggest that practitioners should consider the cultural variations of emotion communication within families when conducting both assessment and therapy.

Keywords Emotion socialization · Emotion regulation · Context-specific

Introduction

All development occurs in context (Bronfenbrenner 1986). Emotional development in particular occurs largely in the

context of the early parent–child relationship (Malatesta and Haviland 1982; Thompson 1994), which in turn is embedded within the broader context of culture (Halberstadt and Lozada 2011). Undoubtedly, cultural norms influence emotional development directly and indirectly through emotion parenting behaviors (Cole and Dennis 1998; Cole et al. 2006), and through prescribing which, when, and how emotions should be displayed (Matsumoto and Juang 2013). Research on emotion socialization processes and emotion functioning in youth using diverse samples is emerging (e.g., Cole et al. 2006; Lewis et al. 2010), though is still relatively scant in comparison to studies using European American samples. Our study builds upon this work by examining family emotional climate and child emotion regulation in families with school age children living in China and the United States (U.S.). Thus, nationality is used as one specific cultural context through which children's emotional development can be investigated. Such investigations are important given the links between emotional functioning in children and their social, academic, and psychological adjustment (Davis and Levine 2012; Kochenderfer-Ladd and Skinner 2002; Vasilev et al. 2009) and because they advance context-specific models of emotional development. Additionally, the findings can help practitioners to better understand the ways that emotion expression and communication vary within families of diverse ethnic backgrounds. Given that the inclusion of emotion-focused components in parenting programs is becoming increasingly popular (see Baker et al. 2011 for a review), the need for practitioners to understand the diversity surrounding family emotion environments is particularly salient.

A recent review identified individualism–collectivism as one context of emotion socialization (Halberstadt and Lozada 2011). Hofstede (1980) initially proposed the individualism–collectivism dimension to help describe

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primary differences among cultures that have implications for how the societies within the culture function. In short, Individualistic societies have a focus on the self where members are largely independent and strive for achievement and leadership. In contrast, Collectivistic societies focus on the group and its well-being. A meta-analysis revealed that, in general, people from China tend to be more Collectivistic and less Individualistic compared to people from the U.S. (Oyserman et al. 2002). Though it is overly simplistic to equate individualism and collectivism with nationality, the constructs provide a theoretical framework for the present study. For instance, Collectivistic cultures tend to value emotional suppression as an indication of self-control and respect for interpersonal harmony (Mesquita and Frijda 1992). As a result, parents living in Collectivistic nations such as China tend to encourage the suppression of ego-focused emotions (e.g., anger) for the sake of interpersonal harmony and encourage the expression of group-oriented emotions (e.g., sympathy, gratitude; Markus and Kitayama 1991; Saw and Okazaki 2010; Wu et al. 2002). In contrast, Individualistic cultures tend to encourage emotional expression and emphasize the subjective nature of emotions. For example, Wu et al. (2002) examined self-reported parenting practices of mothers of preschool-aged children living in mainland China compared to mothers living in the U.S. Results supported collectivism-based approaches for Chinese mothers, who reported encouraging modesty in their children more than U.S. mothers. Additionally, Chinese mothers viewed shaming and love withdrawal to be more acceptable emotion parenting strategies than U.S. mothers. Mothers from the U.S. reported higher levels of warmth/acceptance than Chinese mothers. Similarly, a study that evaluated emotion parenting styles of Chinese mothers living in Hong Kong found that mothers reported valuing relational emotional competence in their children (ages 6–8) more than they valued Individualistic emotional competence (Chan et al. 2009). Relationships between particular socialization behaviors and youth psychological functioning also appear to vary by nationality (Mesquita and Frijda 1992). For instance, Tao et al. (2010) found that punitive responses to youth's expressions of negative emotions were associated with youth's externalizing symptoms in a Chinese sample. However, no relationship was found between maternal minimizing or encouraging of youth's expressions of negative emotions as is typically found with U.S. samples, suggesting the importance of examining relations between socialization behaviors and youth outcomes by nationality.

Some cross-cultural research has also examined emotion regulation (Butler et al. 2007; Davis et al. 2012; Johnson 2007), which includes the internal and external processes involved in initiating, maintaining and modulating the

occurrence, intensity, and expression of emotions to accomplish one's goals (e.g., Thompson 1994). A developmentally-acquired process, emotion regulation emerges primarily within the context of early parent–child interaction (Thompson 1994) and is heavily influenced by cultural norms (Mesquita and Frijda 1992). Emotion dysregulation occurs when one has difficulty managing emotional experiences either in intensity, duration, and/or contextual appropriateness. Emotion dysregulation is often associated with a perceived loss of control over one's emotions and/or inflexible emotion management strategies that do not permit one to adapt to the demands of their environment (Gross and Muñoz 1995). Though the majority of studies on child emotion regulation come from Western nations, there is increasing research with Eastern nations (e.g., Chang et al. 2003; Eisenberg et al. 2001; Yagmurlu and Altan 2010). Findings from this line of research generally support the functional view of the relations between culture and emotion regulation—people from Individualistic cultures seem to express more emotions, whereas those from Collectivistic cultures are more likely to suppress emotions (Matsumoto et al. 2008). For example, one study examined parenting and preschoolers' reactions to hypothetical interpersonal dilemmas in a sample of Japanese and U.S. participants (Zahn-Waxler et al. 1996). Overall, U.S. children showed more anger and undercontrolled emotions (i.e., disorganized, unusual, or incoherent displays of emotion) than Japanese children. Mothers from the U.S. encouraged emotion expression in their children more than Japanese mothers, who were more likely to employ guilt and anxiety induction strategies and to show disappointment in the child if they failed to meet parental expectations compared to U.S. mothers. In another study, Lewis et al. (2010) compared White American, Black American, and Japanese preschoolers' emotional reactions to success and failure on a sticker matching task. During the failure manipulation condition, U.S. children expressed more shame and sadness than Japanese children. Whereas during the success condition, U.S. children showed more pride than Japanese children, who in turn expressed more embarrassment than U.S. children. No differences emerged between White and Black youths living in the U.S.

Results with adults likewise support the notion of cultural differences in emotion expression and regulation. For instance, in a cross-national study that asked participants to report the typical intensity of their emotional experience, Chinese young adults reported much less intense positive and negative emotions than did U.S. participants (Eid and Diener 2001). Similarly, a recent study showed that Chinese undergraduate students reported relatively low levels of positive and negative emotions compared to their U.S. counterparts when viewing a series of pictures that were intended to elicit different emotions (Davis et al. 2012).

Collectively, preliminary literature supports differences in emotion socialization behaviors and emotion regulatory processes that can be explained within the individualism–collectivism dimension of culture. Much less research, however, has examined links between particular emotion socialization processes and child emotion functioning cross-nationally. For instance, family expressiveness, which refers to the general emotional climate in the home, has been theoretically and empirically linked to emotion understanding and regulation in U.S. youth (Denham and Grout 1992; Garner 1995). The ways in which the relations hold however, are complex and vary by emotion valence and age of child (see Halberstadt and Eaton 2003 for a review). It is reasonable to anticipate that relations between family expressivity and child outcomes might also vary by cultural context. In Individualistic cultures where individual expression is encouraged, there may be stronger relationships between positive family expressiveness and child emotion regulation than in Collectivistic cultures where expressiveness is expected to be lower overall (Lin and Fu 1990). Family expression of positive emotion has been linked to effortful emotion regulation and social competence in U.S. samples (Boyum and Parke 1995; Garner 1995). However, it may be more important for young children in Individualistic cultures to have exposure to family expressions of positive emotions than children from Collectivistic cultures given the expectation for such youth to express their own positive emotions in desirable ways during social interactions. For youth from Collectivistic cultures, expression of positive emotion within the family may be less related to emotion regulation in youth because of the expectation that youth will suppress at least some positive emotions (e.g., pride) for the sake of social harmony. Thus, emotion regulation for youth from Individualistic cultures may well involve different facets of familial positive emotion expressivity than for children from Collectivistic cultures.

Negative emotional expressiveness is another aspect of the family emotion climate in which children learn about emotions and develop emotion regulatory styles. Research with U.S. samples supports the notion that high levels of negative family expressiveness are related to child emotion dysregulation (e.g., Ramsden and Hubbard 2002). Chronic expression of high levels of negative affect may simply serve as a model for emotion dysregulation for youth. Youth exposed to high levels of negative affect may also experience such emotions themselves through contagion (Hatfield et al. 1994). In turn, chronically negative and intense emotions may become difficult to regulate and result in emotion management difficulties (Suveg and Zeman 2004). The majority of the research documenting the link between familial negative expressivity and child emotion dysregulation has primarily been conducted in European American

samples and compared to that literature base, research on individuals living in Collectivistic nations is more scarce and less clear. For example, there is some empirical support that chronic familial negative expressivity is likely to be associated with poor developmental outcomes for youth of different nationalities. In fact, a recent study by Chen et al. (2011) found that, consistent with research on European American samples, parental negative expressivity in a Chinese sample was associated with child externalizing problems. Alternatively, shaming, a socialization strategy frequently used in Collectivistic cultures, may not be associated with detrimental outcomes for youth being raised in such cultures given that it is consistent with broader Collectivistic cultural norms (Wu et al. 2002). Although emotional reactions intended to elicit shame may fall under the umbrella of negative emotional expressivity, researchers have theorized that shaming in Collectivistic cultures is a normative strategy intended to teach children to be sensitive to the social responses of others (Fung 1999). Such research illustrates the fact that “adaptive” is a culturally-bound construct and highlights the need for more research examining outcomes associated with emotional expressivity in different cultural contexts.

Cross-cultural investigations of emotion socialization and emotional development in youth are emerging, though are still relatively scant compared to studies with U.S. samples. Our study addresses this gap by conducting a cross-national investigation of family emotional climate and child emotion regulation in a sample of U.S. and Chinese families. This study is intended to be an exploratory investigation of family emotional expressivity and child emotion regulation in a sample of children from China and a sample of children in the U.S. We use nationality as a contextual framework to further our understanding of context-specific versus universal aspects of children’s emotional development. Based on the empirical and theoretical literature we hypothesized that: (a) U.S. children would report experiencing a greater frequency and intensity of both positive and negative emotions than Chinese youth; (b) U.S. parents would report expressing a greater frequency of both positive and negative emotions in their families than will Chinese parents; and (c) U.S. children and parents would report greater undercontrolled emotion than Chinese youth and parents. We did not expect to find differences in parent-reports of child effortful emotion regulation. The examination of patterns of correlations between family and child emotion variables by nationality was exploratory and no specific hypotheses were posited to this end for the Chinese sample. However, we generally expected family expression of positive and negative emotions to be associated with child emotion regulation and undercontrolled emotion, respectively for the U.S. sample.

Method

Participants

The current study consisted of two samples recruited from the southeastern U.S. and China. Participants from the U.S. sample were recruited through the local community. Participants for the Chinese sample were recruited from a private English tutoring school located in Datong, China, which is located in the Shanxi province in northern China. Due to logistical reasons (e.g., time available to administer the questionnaires), the study procedures and inclusion criteria for the two samples varied somewhat and are articulated in the following paragraphs.

The sample recruited from the U.S. consisted of 55 children aged 7–13 ($M = 9.18$ years, $SD = 1.66$ years; 51 % male) and their parents (55 Mothers and 54 Fathers; one father's data was not collected, as he could not attend the lab visit). The majority of children in the sample (78.2 %) were European American. African Americans ($n = 5$) comprised 9.1 %, Asian Americans ($n = 2$) 3.6 %, Hispanics ($n = 4$) 7.3 %, and one participant identified as "Other." Family yearly income for the current sample in U.S. Dollars was variable: 10,000–29,999 (7.3 %), 30,000–59,999 (47.2 %), 60,000–79,999 (16.3 %), and more than 80,000 (29.1 %). Most of the children's parents (90.9 %) were currently married, because the study was interested in gaining both parents' reports of family and child emotional functioning, both a female and a male caregiver had to have lived with the child for at least 2 years. Inclusion criteria for children also included being between the ages of 7–13 and an IQ equal to or above 80, given the requisite abilities needed to complete the study questionnaires. Exclusionary criteria included child psychotic symptoms and suicidal ideation, as assessed during a screening questionnaire.

The sample recruited from China consisted of 49 children aged 8–13 ($M = 10.53$ years, $SD = 1.35$ years; 55.6 % male) and their parents (37 Mothers and 35 Fathers). In the Chinese sample, eleven of the children's parents did not participate, three of the children had only mother-reports, and one child had only father-report. The majority of children in this sample were Asian (88.9 %); however, 11.1 % of participants identified as multiracial. Family income for the Chinese sample was reported yearly in Yuan (¥): 0–23,999 (6.2 %), 24,000–59,999 (62.5 %), 60,000–119,999 (6.2), 120,000–299,999 (12.5), 300,000–599,999 (9.4 %), and over 600,000 (3.1 %). Most of the parents in the Chinese sample were married (97.2 %). Inclusion criteria for children included being between the ages of 7–13 and verbal/language abilities adequate to complete the questionnaires in Chinese. Child psychotic symptoms, suicidal ideation, and IQ were not assessed in the Chinese sample, given that the assessment took

place in a school setting and there was a need to keep the duration short. Collectively, in both the U.S. and Chinese samples the vast majority of parents were married, had a similar percentage of girls and boys, and a comparable standard of living suggested by yearly incomes.

Measures

Wechsler's Abbreviated Scale of Intelligence (WASI; Wechsler 1999)

In the U.S. sample, research assistants administered the vocabulary and matrix reasoning subtests of the WASI to ensure that the children had the requisite verbal abilities to understand the study questionnaires and Likert scale used by the measures. Youth from the U.S. sample scored at least average on the Vocabulary ($M = 56.85$, $SD = 11.43$) and Matrix Reasoning ($M = 55.51$, $SD = 8.60$) subtests.

Children's Emotion Management Scales (CEMS): Anger and Sadness (Zeman et al. 2001)

The CEMS assesses children's self-report of anger (11 questions) and sadness (12 questions) regulation. Responses follow a Likert scale format ranging from 1 (hardly ever) to 3 (often) reflecting how often a child engages in the particular emotion management strategy. The Emotion Regulation Coping and Dysregulated Expression scales were used in this study, resulting in four subscales of child-reported emotion management (i.e., two for anger and two for sadness). The Emotion Regulation Coping scale assesses effortful methods of emotion regulation (e.g., "When I'm feeling mad, I can control my temper," "I stay calm and don't let sad things get to me"), whereas the Dysregulated Expression scale assesses externalizing types of emotion management (e.g., "I slam doors when I'm angry," "I whine/fuss about what is making me sad"). Consistent with prior work (Morelen et al. 2012), the descriptors of the subscales were relabeled with neutral descriptors given that emotion regulation behaviors can have different meanings within varying cultural contexts. The Emotion Regulation Coping subscale was relabeled to "Effortful Emotion Regulation," to reflect purposeful attempts to manage emotional experiences. The Dysregulated Expression scale was relabeled to "Undercontrolled Emotion," to reflect a potential lack of effortful emotion regulation. The scores on each of the subscales represent a mean value from the anger and sadness scales combined. The psychometric properties of the CEMS scales are well established (Zeman et al. 2001) and have been used with youth of different nationalities (Morelen et al. 2012). Coefficient alphas for the U.S. and China samples were adequate for the Effortful Emotion Regulation scale ($\alpha = .76$ and $.70$, respectively). For the

Undercontrolled Emotion scale, coefficient alpha was .63 and .55, respectively. Though the coefficients were lower than is desirable, previous research has found similar internal consistency estimates using U.S. samples (e.g., McAuffiffe et al. 2007; Suveg et al. 2009). Further, the lower estimates for the Undercontrolled Emotion scale may be due to the relatively few items (i.e., 3) on the scale (Kline 2000). Given the relatively clear pattern of results, the relatively low reliability was attributed to scale length and the scale was included in the study.

Emotion Regulation Checklist (ERC; Shields and Cicchetti 1997)

The ERC is a 24-item parent-report measure of child emotion regulation that uses a Likert response format from 1 (never) to 4 (always). The ERC has two subscales, the Emotion Regulation scale that assesses appropriate emotional expression, empathy, and emotional self-awareness (e.g., “Responds positively to neutral or friendly overtures by adults”), and the Lability/Negativity scale that assesses inflexibility, lability, and dysregulated negative affect (e.g., “Exhibits wide mood swings”). Consistent with our reasoning for relabeling the scales of the child-report measure of emotion regulation we also relabeled the Lability/Negativity scale to the “Undercontrolled Emotion” scale. Coefficient alphas were adequate for the Emotion Regulation ($\alpha = .80$ and $.72$ and $\alpha = .65$ and $.55$ for U.S. and Chinese mothers and fathers, respectively) and Undercontrolled Emotion ($\alpha = .77$ and $.82$ and $\alpha = .77$ and $.73$ for U.S. and Chinese mothers and fathers, respectively) scales. The scales have established psychometric properties (Shields and Cicchetti 1997) and have been used previously with Chinese samples and yielded coefficient alphas of .69 and .94, respectively (Chang et al. 2003; Xu and Zhang 2008).

Positive and Negative Affect Scales for Children (PANAS-C; Laurent et al. 1999)

The PANAS-C is 30-question child self-report measure of positive and negative emotion. The PANAS-C uses a Likert response format ranging from 1 (very slightly) to 5 (extremely) to rate intensity of emotions experienced in the previous 2 weeks. The PANAS-C has two subscales: Positive Affect and Negative Affect. Coefficient alphas for the current study were acceptable for both Positive ($\alpha = .72$ and $.82$) and Negative ($\alpha = .90$ and $.80$) Affect for the U.S. and China samples, respectively. This measure has established psychometric properties and has also been used previously in a sample of Chinese individuals and showed a similar internal consistency and reliability to its

past use in English speaking samples (Weidong et al. 2004).

Family Expressiveness Questionnaire (FEQ; Halberstadt 1986)

The FEQ is a 40-question parent-report measure of the overall level of family emotional expressiveness. The FEQ uses a Likert response format ranging from 1 (not at all in my family) to 9 (very frequently in my family) to rate how often emotional expression occurs in the family. The FEQ has two subscales, Positive Family Expressivity (e.g., “Showing forgiveness to someone who broke a favorite possession”) and Negative Family Expressivity (e.g., “Expressing dissatisfaction with someone else’s behavior”). Coefficient alphas for the current study were acceptable for the Positive ($\alpha = .90$ and $.89$ and $\alpha = .92$ and $.82$ for U.S. and Chinese mothers and fathers, respectively) and Negative Family Expressivity scales ($\alpha = .85$ and $.85$ and $\alpha = .82$ and $.88$ for U.S. and Chinese mothers and fathers, respectively). The Positive and Negative Family Expressivity scales have been previously used in a Chinese sample and yielded coefficient alphas of .90 and .84, respectively (Liu et al. 2009), similar to those found in U.S. samples (Ramsden and Hubbard 2002).

Demographics

Parents completed a demographic form to assess participants’ age, sex, race/ethnicity, parental marital status, parental employment, and family income.

Screening Questionnaire

A brief screening questionnaire was included for the U.S. sample in our study via an initial phone call to assess for parent-report of child psychotic symptoms and suicidal ideation.

Procedures

All procedures were approved by the Institutional Review Board of the participating university. Participants were recruited from flyers posted throughout the community (e.g., bulletin boards) and sent to local schools. Child participants recruited from the U.S. provided written assent and their parents provided written informed consent. Research assistants administered measures separately to parents and children in the U.S. sample, as to allow them to answer independently.

Child participants recruited from China provided assent and their parents provided written informed consent. Parental permission forms were sent home with the children from school. Research assistants informed participants

that their participation was voluntary. As in the U.S. sample, Chinese parents and children completed the measures independently of each other. Chinese parents completed the measures in the home, and the measures were returned to the school at a later date. Research assistants administered measures to small groups of children who had parental consent in a classroom setting. As per the standards established by Zhou et al. (2004), all measures were forward- and back-translated into Chinese by a graduate student at a university in the U.S. whose native language is Chinese and who is also fluent in English. Researchers at the U.S. data collection site then reviewed the measures for accuracy of the back-translations. Finally, a professor at a Chinese university whose native language is Chinese and who is fluent in English checked the measures for accurate wording, representative of the constructs of interest. In both samples, all measures were given in the same order, except for the CEMS measures, which were counterbalanced by emotion type (i.e., anger, sad).

Results

Analyses examined group differences in parent- and child-reports of child emotion functioning, parent-reports of family emotional environment, and patterns of correlations by group. We obtained measures of effect size (i.e., Cohen's d) for all analyses where appropriate and interpreted according to Cohen's (1988) criteria: .20 (small effect), .50 (medium effect), and .80 (large effect). We then computed correlations to examine whether patterns of relationships between variables varied by group. Age was entered as a covariate into all group comparisons; however, because it was not significant in any analyses, results are reported without age.

We conducted two separate Multivariate Analyses of Variance (MANOVA) to test the hypotheses that U.S. children and their parents would report greater individual and familial emotional expressivity, respectively than their Chinese counterparts. For the child report, a MANOVA examined differences on the PANAS: Positive and Negative subscales. A significant Group effect emerged, $F(2, 96) = 6.57, p < .002$; U.S. children reported a greater frequency of both positive ($d = .53$) and negative emotion ($d = .50$) expression than did Chinese youth.

The second MANOVA examined Group differences on parent-reports of family expression of positive and negative emotions. Maternal and paternal reports were correlated on the Positive subscale for both the U.S. (.35) and Chinese (.61) sample. Maternal and paternal reports of family expression of negative emotions were correlated for the Chinese (.47) but not for the U.S. sample (.20). Nonetheless, the scores were not significantly different

from one another, $t(53) = .78, p = .44$, so a composite was also formed for the U.S. sample by averaging the subscale score for mothers and fathers. Further, the pattern of correlations for mothers and fathers separately generally did not differ in meaningful ways from the combined report. For instance, when combined in the Chinese sample, family expression of negative emotions correlated .46 with child-reports of undercontrolled emotion. Individual correlations for mothers and fathers with child-reports of undercontrolled emotion expressions was .44 and .35, respectively. Thus, scores for the U.S. and Chinese samples were combined to form a composite parent report. Results of the MANOVA indicated a significant Group effect, $F(2, 77) = 36.71, p < .001$; U.S. parents indicated greater family expressivity of both positive ($d = 1.13$) and negative emotions ($d = 1.60$) than did Chinese parents.

To examine the hypothesis that U.S. children and their parents would report greater child undercontrolled emotion than Chinese children and their parents, we conducted a MANOVA on the CEMS subscales (i.e., Effortful Emotion Regulation, Undercontrolled Emotion). A significant effect emerged for Group, $F(2, 101) = 19.09, p < .001$; U.S. children indicated greater levels of undercontrolled emotion expression than did Chinese children ($d = 1.11$) (see Table 1). No significant effects were found on the Effortful Emotion Regulation subscale.

Another MANOVA examined maternal and paternal reports on the ERC: Effortful Emotion Regulation and Undercontrolled Emotion subscales. The subscale scores were related for both the U.S. (.56, .50, respectively) and Chinese samples (.42, .52, respectively). Further, the patterns of correlation when conducted separately by parent sex were not meaningfully different than when combined. Thus, we combined the scores into a parental composite for both the U.S. and Chinese samples. Results of the MANOVA indicated a significant effect for Group, $F(2, 79) = 9.76, p < .001$; U.S. parents reported greater child effortful emotion regulation than did Chinese parents ($d = 1.06$). See Table 1.

The final set of analyses examined patterns of relations among the family emotion expression variables and child emotion regulation by nationality. With respect to the expression of positive emotion in the family, this variable was positively associated with parent-reported effortful emotion regulation and negatively related to parent-reported undercontrolled emotion for the U.S. ($r = .46$ and $-.43$, respectively) but not the Chinese ($r = .10$ and $.16$, respectively), sample. Family expression of positive emotion was not related to child-reported emotion regulation for either sample. Regarding family expression of negative emotion, significant relations emerged for both the U.S. and Chinese samples. For the U.S. sample, family expression of negative affect was related to parent-reported

Table 1 Intercorrelations, means, and standard deviations by nationality

	1	2	3	4	5	6	7	8	U.S.	Chinese
1. CEMS effortful ER	–	–.63**	–.16	.36**	–.14	.16	.04	–.15	2.08 (.44)	2.15 (.42)
2. CEMS undercontrolled emotion	–.36*	–	.14	–.14	.10	–.02	.08	.15	1.81 (.48)	1.34 (.36)
3. PANAS NA	–.003	.34*	–	–.04	.38**	–.21	–.18	.10	32.00 (11.14)	27.05 (8.26)
4. PANAS PA	.24	–.07	.02	–	–.04	.11	–.04	.19	55.31 (7.50)	50.66 (9.89)
5. Parent ERC under control of emotion	–.12	.30	.25	.00	–	–.57**	–.41**	.28*	53.09 (8.99)	55.68 (8.64)
6. Parent ERC reg	.03	–.12	.20	.30	–.57**	–	.46**	–.20	49.43 (6.19)	43.75 (4.39)
7. FEQ pos	–.10	–.03	.14	.11	.15	.11	–	–.07	276.04 (31.62)	232.11 (44.96)
8. FEQ neg	–.26	.46**	.39*	–.16	.37	–.39*	.18	–	191.83 (31.62)	137.93 (32.88)

Correlations above the diagonal are for the U.S. sample and correlations below the diagonal are for the Chinese sample

CEMS effortful ER = Children's Emotion Management scale, Effortful Emotion Regulation subscale; Effortful Emotion Regulation subscale
PANAS NA and PA = Positive and Negative Affectivity scale for children, Negative Affect and Positive Affect subscales, respectively; parent ERC reg = emotion regulation checklist, Regulation subscale; FEQ pos and neg = Family Expressivity scale, Positive and Negative subscales, respectively

* $p < .05$; ** $p < .01$

child undercontrolled emotion ($r = .29$). For the Chinese sample, family expression of negative affect was significantly related to child-reported undercontrolled emotion ($r = .46$), child-reported experience of negative affect ($r = .39$), and parent-reported effortful emotion regulation ($r = -.36$). Family expression of negative affect approached a significant relationship with parent-reported undercontrolled emotion ($r = .37$, $p = .057$) (see Table 1).

Discussion

Cross-national investigations are needed to assess the ways that emotion socialization behaviors and their relations to youth emotional functioning vary by cultural context. This research is especially important given the clear role of children's emotional functioning in the broader context of development (Cunningham et al. 2009). The clear pattern of results supports and extends previous literature and contributes to the development of context-specific models of emotional development. Overall, Chinese parents and children reported less emotional expression than their U.S. counterparts. Relations among emotion socialization behaviors and emotion regulation in youth varied by nationality, providing further evidence for the need to examine emotional developmental processes within context.

The first two hypotheses that U.S. children and families would report greater family expressiveness than their Chinese counterparts were fully supported. The findings are consistent with previous work (Lewis et al. 2010; Zahn-Waxler et al. 1996) and can be considered within a broad cultural framework. As a group, individuals living in China

are typically believed to ascribe to Collectivistic values. Though we acknowledge that there are cultures within cultures, broadly speaking individuals living in Asian countries typically value behaviors that facilitate social harmony (Mesquita and Frijda 1992). When applied to emotions, Collectivistic values generally warrant the suppression of states that might interrupt social relationships, such as anger, or those that focus on the self, such as pride. Undoubtedly, emotions serve a relational context—facilitating, maintaining, and/or disrupting relationships with others. Given the potential for emotional expression to have significant relational impacts, it may be adaptive for youth from Collectivistic cultures to be less expressive. The finding is particularly noteworthy given that parent- and child-reports were consistent, yet completed independently from one another.

The third hypothesis that U.S. children and parents would report greater child undercontrolled emotion than Chinese youth was partially supported. Children from the U.S. reported greater undercontrolled emotion than Chinese youth but there were no differences for parent-report. Child-reported undercontrolled emotion comprised externalizing types of managing emotional experiences, such as slamming doors when angry and fussing/whining when sad. Children and parents from the U.S. were expected to report greater levels of undercontrolled emotion than Chinese youth and parents given that cultural norms in the U.S. generally encourage the expression of emotions. It is not clear why no differences were found for undercontrolled emotion based on parent-report (i.e., ERC-Under Control of Emotion subscale) though the finding that U.S. youth reported more undercontrolled expression of emotions than Chinese youth is consistent with previous findings

(Zahn-Waxler et al. 1996) and with an Individualistic-Collectivistic framework. Inspection of the means of parent-reported undercontrolled emotions actually reveals that Chinese parents rated their children higher, though not statistically significantly so, than U.S. parents. It could be that Chinese parents have greater expectations for emotional control than U.S. parents and thus, are more aware when behaviors reflecting a lack of emotional control occur. For instance, if a child occasionally slams a door when angry, U.S. parents may be more accustomed to such behavior and thus, not notice it or otherwise find it concerning. This would be consistent with the “kids will be kids” colloquialism in the U.S. that may allow for leniency on such externalized emotional displays. However, the same child behavior might be more noticeable to a Chinese parent, living in a Collectivistic culture that might discourage the expression of negative emotions (e.g., Wu et al. 2002). Further, Chinese parents might also have more heightened awareness given the norm in some Collectivistic nations for children to reflect upon the family’s honor. For example, Chinese parents might be more aware of social evaluation of their child’s behavior than U.S. parents given the potential social consequence of bringing shame upon the family (e.g., Chan et al. 2009). Future research would benefit from disentangling national differences in children’s externalizing emotional behavior versus parents’ perceptions of children’s behavior.

Although we did not expect to find group differences in parent report of children’s effortful emotion regulation, parents from the U.S. reported greater levels of effortful emotion regulation than did Chinese parents. It could be that the expectations for the behaviors captured on that scale (e.g., “Responds positively to neutral or friendly overtures by adults,” “Can recover quickly from episodes of upset or distress.”) are simply greater for Chinese, than U.S. youth. Given the higher expectations for emotional control, parents from China may be more discriminating when rating their children on such behaviors than are parents from the U.S. In other words, even when Chinese and U.S. children display similar levels of emotion regulation, Chinese parents may rate them lower, because they have higher expectations for such behavior. It may also be that the items captured on this scale occur more frequently in Individualistic, than Collectivistic, cultures. For instance, emotion discussion (e.g., “Can say when s/he is feeling sad, angry or mad, fearful or afraid”) and displays of positive affect (e.g., “Is a cheerful child”) may occur less frequently in Collectivistic cultures that value modesty and emotional inhibition (Markus and Kitayama 1991; Saw and Okazaki 2010; Wu et al. 2002). Thus, there simply may have been more opportunity for parents from the U.S. to observe these behaviors.

The examination of patterns of correlations between family and child emotion variables by nationality was

exploratory; therefore, we did not posit specific hypotheses for the Chinese sample. However, we generally expected family expression of positive and negative emotions to be associated with child emotion regulation and undercontrolled emotions, respectively for the U.S. sample. Findings documented differences in patterns of correlations among family expression of emotions and child emotion regulation. Family expression of positive emotions was positively related to parent-reported effortful emotion regulation and negatively related to parent-reported emotion under control for the U.S. sample, as we anticipated. Youth whose families express positive emotions likely have more opportunity for learning effortful emotion regulation strategies. A family environment characterized by the expression of positive emotions is also likely to facilitate an environment that is conducive to emotion learning for youth. Youth may view their parents as sources of support and open to emotional experiences. In Individualistic cultures where emotion expression is encouraged, such opportunities for learning may be especially important. For the U.S. sample, it is interesting that the expression of positive emotion was not just related to effortful emotion regulation in youth, but was also negatively related to undercontrolled emotion in children. Thus, there is something about a positive family environment that is not just important for the development of adaptive regulatory abilities but that also relates to less under control in youth. It might be that when the family emotional environment is positive and children are engaging in a preponderance of effortful emotion regulation strategies there is simply less opportunity for the expression of dysregulated emotions. Importantly, however, it is also likely that the family environment is shaped by youth. Temperamentally positive and well regulated youth may evoke increased expression of positive emotion in the home. Such transactional parent–child processes are widely recognized in the emotional development literature and require further investigation (Morris et al. 2007).

Regarding family expression of negative emotion, this variable showed more correlations with child emotion functioning in the Chinese, than the U.S. sample. For the U.S. sample, only one significant positive relation was found between family expression of negative affect and parent-reported child undercontrolled emotion. For the Chinese sample, family expression of negative affect was positively related to child-reported undercontrolled emotion and child-reported experience of negative affect, and negatively associated with parent-reported effortful emotion regulation. Further, the relationship between family expression of negative affect approached a significant relationship with parent-reported under controlled emotion. Thus, while family expression of negative emotions appears to be meaningful for both groups and the finding is

consistent with previous work (Chen et al. 2011; Hatfield et al. 1994), it appears particularly salient for the Chinese sample. The meaningful nature of family expression of negative emotion for the Chinese sample is also evidenced in the fact that on average, U.S. parents reported a greater frequency of the expression of negative emotion in the home. It could be that in the Chinese sample, a focus on group harmony that is characteristic of a Collectivistic culture, leads to clear and strong expectations for limited negative emotion expression. Exposure to frequent expression of negative emotion in the family might be inconsistent with the broader cultural value to suppress negative emotion for the sake of group harmony, thus resulting in negative emotional experiences and regulation difficulties for the child him/herself. The contagion effect (Hatfield et al. 1994) also provides a possible explanation for the findings. Specifically, the contagion effect posits that negative emotions in families result in children experiencing high levels of negative emotions that they have difficulty regulating. It could also be that a home characterized by frequent expression of negative emotion is simply an unpleasant place to be, which leads youth to also experience negative emotions themselves. Families who report experiencing high levels of negative emotion may not be appropriately modeling or discussing the regulation of emotions. Regardless, the relation between family expression of negative emotions with both parent- and child-reports suggests a meaningful association, and particularly so for the Chinese sample.

The pattern of results found here is consistent with theory and across reporters. Despite this, limitations are noted. The challenges inherent in cross-cultural research resulted in moderate sample sizes that did not permit examination of child sex in the analyses. The study is limited by the cross-sectional design that prevents directional conclusions. It is likely that there are reciprocal relations between child regulatory styles and family emotional expressivity; longitudinal designs are needed to further investigate the temporal nature of these phenomena. The present study used nationality as a proxy for values associated with collectivism or individualism. Future research would benefit from assessing levels of Collectivistic versus Individualistic values in families to better understand how such values shape socialization practices and child emotion regulation. Both child-reports of undercontrolled emotions (U.S. and Chinese children) and parent-report of emotion regulation (Chinese parents) yielded low reliability coefficients. Despite the low reliability however, the measures generally yielded findings consistent with theory and hypotheses. Time constraints prevented us from administering formal assessments of intellectual and psychological functioning to the Chinese sample and thus, it is not known how differences among

these domains might have impacted the results. Lastly, the U.S. sample was predominately married couples from a relatively high income bracket (45 % made \$60,000 or more), thereby limiting the generalizability of these results to other demographic groups in the U.S. The demographics of the Chinese and U.S. sample were relatively comparable; however, thereby facilitating the comparability of the samples for the present study's purpose.

Despite these limitations, the study has notable strengths such as the inclusion of fathers, multiple informant report, and a cross-national design. Cross-cultural research is needed to move away from Euro-centric models of emotion socialization and to consider emotion socialization and child emotion regulation embedded within context. The findings from this study advance culture-specific models of emotional development as they illustrate similarities and differences in family emotion expressivity, child emotion regulation strategies, and the patterns of relations between them. The results also have potential clinical applications. In particular, the results suggest that practitioners should consider the cultural variations of emotion communication within families when conducting both assessment and therapy.

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