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## Emotion Talk in Chinese American Immigrant Families and Longitudinal Links to Children’s Socio-emotional Competence

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### Abstract

Parent emotion talk (ET), a type of emotion-related socialization practice, is theorized to foster children’s emotion-related regulation and socio-emotional skills. Yet, there has been limited research linking parent ET to children’s effortful control, a top-down regulatory process. Despite the observed cultural differences in ET between Chinese and European American families, few researchers tested whether the socio-emotional benefits of ET are generalizable to Chinese American families, an immigrant group with contrasting values in their heritage and host cultures. The present study examined Chinese American parents’ ET, its associations with socio-cultural factors, and prospective relations to school-aged children’s effortful control, sympathy, and socially appropriate behaviors. In a two-wave (1.5 years apart) longitudinal study of 1<sup>st</sup>- and 2<sup>nd</sup>-generation Chinese American children ( $N = 258$ , age = 6–9 years at Wave 1, 52% from low-income families), the content and quality of parent ET (e.g., the overall quality of emotion talk, frequency of emotion explanations, emotion questions, and number of emotion words) was coded from a video-recorded shared book reading task. Children’s effortful control, sympathy, and social behaviors were rated by parents, teachers, and children. Results showed that the Chinese American parents from lower-SES families, families with lower English proficiency, or more recent immigrants displayed lower ET. Parent ET was prospectively related to children’s higher effortful control controlling for stability, and higher effortful control was concurrently associated with children’s higher sympathy and more socially appropriate behaviors. The findings provide empirical support for the socioemotional benefits of ET for school-age children in Chinese American immigrant families.

### Keywords

emotion talk; effortful control; socioemotional competence; Chinese American immigrants

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Parent emotion talk (ET), or discussions about emotion or emotional experiences, has been highlighted as one type of emotion-related socialization practices (ERSPs, Eisenberg, Cumberland, & Spinrad, 1998). ERSPs, which also include parent expression of emotion and parent reactions to children’s emotions, are theorized to shape children’s socio-emotional skills primarily through affecting children’s arousal and emotion regulation

(Eisenberg et al., 1998). Empirical support for this theory has been found in research linking parent reactions to children's emotions or parent expression of emotions to children's emotion-related regulation and social competence (see Eisenberg, Spinrad, & Eggum, 2010 for a review). However, there is limited research on links between parent ET and children's emotion-related regulation, or its related construct of effortful control, and whether effortful control might be a pathway through which ET shapes other socio-emotional skills such as sympathy and socially appropriate behaviors.

It is well acknowledged that culture shapes both parental socialization goals and the functions of socialization practices (including ERSPs) (Eisenberg et al., 1998). Indeed, research has identified cultural differences in the frequency and quality of ET between Chinese/Chinese American and European American families (Doan & Wang, 2010; Tao, Zhou, Lau, & Liu, 2013; Wang & Fivush, 2005). However, few researchers have tested the links between parent ET and children's socioemotional skills in non-Western families. Thus, whether parents' explicit verbal communications about emotions would foster children's socio-emotional competence in cultures that may not prioritize ET remains to be tested with empirical data. Additionally, given cultural variations in the socialization tools that parents use to cultivate culturally appropriate competence in children, Chinese American immigrant families present an interesting case because they are exposed to different values and norms on emotion expression and ET in their heritage and host cultures (Chen, Zhou, Main, & Lee, 2015; Tao et al., 2013). Thus, it is worth testing whether the positive associations found between parent ET and children's socioemotional competence generalize to Chinese American immigrant families.

Furthermore, given the rapid growth of immigrant families in the U.S. and elsewhere, more research is needed to understand the heterogeneity in ERSPs and its links to family sociocultural factors (e.g., socioeconomic status/SES, language proficiencies of parents and children) in children of immigrant families. Elementary school years (middle childhood) is a salient developmental period for studying the links of parent ET to children's effortful control, because parent-child conversations (including ET) continue to be a critical socialization context (Leventon, Merrill, & Bauer, 2019) and variations in children's effortful control continue to manifest with important implications for their school adjustment in middle childhood (Eisenberg, Spinrad, & Eggum, 2010).

The present study addresses these gaps by linking parent ET to children's effortful control and socio-emotional skills (sympathy and socially appropriate behaviors) in Chinese American families, an immigrant group with different ET-related values and norms between its heritage and host culture. Specifically, we had two aims: 1) to examine the links between family socio-cultural factors and parent ET in a socio-economically diverse but ethnically homogeneous sample; and 2) to test the longitudinal relations of parent ET to children's effortful control (temperament-based self-regulatory capacities closely linked to emotion regulation, Eisenberg, Spinrad, Eggum, Silva et al., 2010), sympathy, and socially appropriate behaviors. Based on Eisenberg et al. (1998)'s heuristic model, the study addressed cultural factors shaping ERPPs and contributed to the growing literature testing the socialization functions of ERPPs in non-Western cultures.

## Links between Parent Emotion Talk and Children's Effortful Control

Researchers have found that as early as infancy, parents of different cultures use various forms of emotion talk with children in multiple contexts (e.g., book reading, talking about past events, pretend games), such as positive and negative emotion labels, references to internal states (e.g., thinking, knowing, feeling), and desire language (e.g., like, want, hope). These affect-salient conversations provide an important context for children's development of emotion understanding, emotion talk, and other socio-emotional skills (Bornstein et al., 1992; Garrett-Peters, Mills-Koonce, Adkins, Vernon-Feagans, & Cox, 2008). In toddlerhood, parents use more sophisticated ET, such as explaining the antecedents and consequences of emotion, commenting or asking questions about emotions, or providing guidance on alleviating or maintaining emotion states. These conversations have been positively associated with children's emotion vocabulary and emotion understanding (Dunn, Bretherton, & Munn, 1987; Dunn, Brown, & Beardsall 1991). In preschool- to school-age children, parent ET has been associated children's emotion knowledge, emotion regulation, and emotion displays in peer interactions (Denham, Cook, & Zoller, 1992; Lunkenheimer, Shields, & Cortina, 2007).

Multiple developmental theories hypothesize that parent ET can foster children's emotion-related self-regulation (i.e., the process of managing and changing one's emotional experience, emotion-related motivation, physiology, and behaviors, Eisenberg, Spinrad & Eggum 2010). Eisenberg, Spinrad, and Eggum (2010) argued that emotion-related self-regulation involve both top-down, effortful processes (effortful control) and bottom-up, reactive processes (impulsivity and behavioral inhibition). Effortful control is defined as "the efficiency of executive attention, including the ability to inhibit a dominant response, to activate a subdominant response, to plan, and to detect errors" (Rothbart & Bates, 2006, p. 129). As a dimension of temperament, effortful control involves capacities such as attention focusing and shifting, inhibitory control, activation control, planning, and detecting errors, with executive attention being its core (Rothbart & Bates, 2006). Effortful control is conceptualized as a top-down control process and offers the individual more flexible and optimal levels of control than reactive control processes such as impulsivity and behavioral inhibition (Eisenberg, Spinrad, & Eggum, 2010; Rothbart & Bates, 2006). Consistent with this theory, children low on effortful control capacities (e.g., attention regulation and inhibitory control) displayed greater difficulties in regulating negative emotions during challenging situations (Tan, Armstrong, & Cole, 2013).

Multiple theories suggested that parent ET can shape children's effortful control development. First, Eisenberg et al. (1998) theorized that ERSPs can influence the child's arousal, which in turn shape their acquisition of regulation capacities. Similarly, Hoffman (1983) argued that socialization practices that are somewhat, but not overly arousing, provide the optimal context for children's learning and internalization. Because parent ET can occur independently of an emotional event in which the child is highly aroused (e.g., talking about a past event or the feelings of a third person), parent ET likely creates an optimal level of arousal for children to experience and learn about emotion and its regulation. Moreover, a growing literature has supported the hypothesis that parents' elaborative reminiscing (i.e., discussing the past in a detailed, emotional, and collaborative

way) can promote children's optimal learning and memory, which in turn foster their emotion and regulatory skills in Western culture (see Fivush, Haden, & Reese, 2006; Salmon & Reese, 2016 for reviews). For example, parents' greater use of elaborative conversation style when talking about past emotional experiences was associated with school-aged children's reduced late positive potentials (LPPs) at posterior sites, a neural marker for better emotion regulation (Leventon et al., 2019). Grady and Callan (2019) found that parent ET behaviors (measured using a similar picture book reading task as the present study) such as explaining emotions were effective in helping shy toddlers with low dispositional self-regulation regulate their fear and socially engage with an unfamiliar experimenter. On the other hand, parents' use of negative, non-constructive language in emotional situations was associated with preschoolers' reduced use of adaptive emotion-regulation strategies (August, et al., 2017). In conjunction, these findings suggest that not only parent ET is linked to children's arousal and regulatory capacities, but also the type of ET matters.

Second, parent ET can promote children's emotion vocabulary and emotion language use (Dunn et al., 1987). In turn, children's greater emotion vocabulary and greater use of emotion language and self-directed speech can facilitate the acquisition of self-regulatory capacities including executive functions and effortful control (Kopp, 1992; see Müller, Jacques, Brocki, & Zelazo, 2009 for a review). Indeed, an experimental study of adults provided evidence that emotion verbalization (as opposed to fact verbalization) can effectively down-regulate one's physiological arousal (Matejka et al., 2013). Third, parent ET can promote children's understanding of emotion, mental states, and self (see Fivush et al., 2006 for a review; LaBounty, Wellman, Olson, & Lagattua, 2008). These socio-cognitive skills have been positively associated with self-regulatory capacities including effortful control (Cunningham, Kliewer, & Garner, 2009; Korucu, Selcuk, & Harma, 2017).

Despite these theories, there is limited research on the links of parent ET to children's regulatory capacities such as effortful control. Because parent ET often co-occurs with other ERSPs (e.g., expression of positive emotions, supportive reactions to children's emotions), researchers often combined ET with other types of ERSPs. For example, researchers found that parents high on emotion coaching (i.e., a broad meta-emotion philosophy that includes parental beliefs and awareness of children's emotions, and parental behaviors to acknowledge, validate, and support children's experience of emotions, and/or teach children about understanding, coping with, or appropriately expressing emotions; Dunsmore, Booker, Ollendick, & Greene, 2016) tended to have children with higher effortful control or emotion regulation (e.g., Dunsmore, Booker, & Ollendick, 2013; Miller, Dunsmore, & Smith, 2015; Shortt, Stoolmiller, Smith-Shine, Mark Eddy, & Sheeber, 2010; Spinrad et al., 2007). Although these studies provide some evidence for the ET-effortful control link, the findings lack specificity with regard to which parenting behaviors account for the associations -- an important question when designing parenting interventions. It is also important to note the relation between parent ET and children's effortful control can be bidirectional. Laible (2004) showed that mothers were more able to engage in elaborative reminiscing with children who were higher on effortful control, and children's dysregulation limited mothers' ability to communicate with them. Thus, by testing longitudinal relation of parent ET to children's effortful control while controlling for stability in effortful control, we can provide a more robust test of ET's socialization function.

## Links between Effortful Control to Children's Sympathy and Social Behaviors

In addition to effortful control, we examined two other socio-emotional competencies as related to parent ET: sympathy and socially appropriate behaviors. Sympathy refers to an understanding of another's emotions that involves feelings of sorrow and concern for the distress of a needy other (Eisenberg, Eggum, & DiGiunta, 2010). Because the experience of sympathy requires the ability to sustain attention to another's emotional displays and modulate one's own emotional responses to another's distress to maintain an optimal level of arousal, effortful control is theorized to facilitate sympathy (Liew et al., 2011). Socially appropriate behaviors reflect children's age-appropriate social behaviors in public (Eisenberg et al., 1995). Effortful control is theorized to facilitate the development of social behaviors, as children who are better at regulating their attention, emotion, and behavioral impulses are better at adjusting their behaviors according to the social context (Eisenberg, Spinrad, Eggum, Silva, et al., 2010). Indeed, effortful control consistently predicts higher sympathy and socially appropriate behaviors in school-age children in European American, Chinese and Chinese immigrant families (e.g., Eisenberg et al., 2007; Main, Zhou, Liew, & Lee, 2017; Spinrad et al., 2007; Zhou, Eisenberg, Wang, & Reiser, 2004). When assessing children's sympathy and social behaviors, it is important to consider the context in which these behaviors occur. Because parents and teachers observe children in different settings (home vs. school), informant discrepancy in reports of children's behaviors is common, and cross-informant correspondence was in the low-to-moderate range in a meta-analysis (De Los Reyes et al., 2015). Thus, by collecting ratings on children's behaviors from multiple informants, we can examine the extent to which parent ET (typically occurring at home) has impact on children's behaviors in other settings (e.g., school).

## Emotion Talk in Chinese American Immigrant Families: Cultural Considerations

Because the majority of studies on parent ET and child adjustment were conducted with predominantly European American samples, the question remains whether the socialization function of ET is generalizable to families from cultures where ET is less commonly practiced. Consistent with the view that parent emotion socialization beliefs and practices are shaped by cultural values and norms (Eisenberg et al., 1998), researchers have found cultural differences in parent ET. Specifically, when discussing past negative and positive events with preschoolers, European American mothers focused more on explaining the causes of emotional states, whereas Chinese mothers focused more on teaching proper behaviors and values (Wang & Fivush, 2005). A similar pattern was found in parent-child picture book reading: Chinese mothers focused more on teaching social rules than African American, Dominican, and Mexican mothers (Luo, Tamis-Lemonda, Kuchirko, Ng, & Liang, 2014); Chinese mothers also used more behavior language than European American mothers (Doan & Wang, 2010). However, despite the cultural differences in the content or quality of parent ET, the positive links between parent ET and children's socio-emotional outcomes seem to be similar. Maternal references to cognitions, emotions, and desires predicted preschoolers' emotion situation knowledge for both European American and

Chinese American mother-child dyads (Doan & Wang, 2010). The present study will test whether the hypothesized positive relation between parent ET and children's effortful control and socio-emotional skills generalize to Chinese American immigrant families.

Recent research has revealed much heterogeneity within Chinese American immigrant families in terms of SES, cultural orientation and language proficiency, parenting, and children's socio-emotional outcomes (Chen et al., 2015; Yu, Cheah, Hart, & Yang, 2018). Eisenberg et al. (1998) theorized that ERSPs are shaped by child characteristics (e.g., age and sex), parent characteristics (e.g., sex, general parenting style), and cultural factors (e.g., cultural values and norms). In this study, we focused on the following socio-cultural factors salient for ERSPs in Chinese American families: 1) *SES*, past research showed that parents from higher-SES families used more ET than those from lower-SES families (Garrett-Peters, et al., 2008); 2) *parents' and children's language proficiency and parents' time living in the U.S.*, previous studies with Chinese and Latino immigrant families in the U.S. showed that parents' host culture (American) orientation was positively associated with parent ET or parental positive beliefs about emotion, whereas the opposite relations were found with parents' heritage culture (Chinese or Latino) orientation (Rivera & Dunsmore, 2011; Tao et al., 2013). Consistent with the view that language is the principal medium for social interactions and transmission of cultural norms (Vygotsky, 1978), both parents' and children's language proficiencies have been associated with parental expression of emotions in Chinese immigrant families (Chen et al., 2015; Chen & Zhou, 2019). To capture parents' length of exposure to the American culture, we also examined parents' length of time living in the U.S.; 3) *authoritative parenting*, as researchers found that Chinese parents who were higher on authoritative parenting style also reported more supportive responses to children's negative emotions (Tao, Zhou, & Wang, 2010).

## The Present Study

Using a storybook reading task, the present study examined the quality and quantity of parents' ET in Chinese American immigrant families with school-aged children. The study had two aims. First, we examined the concurrent relations between socio-cultural factors and parent ET. We hypothesized that family SES, parents' and children's English proficiency, and authoritative parenting would be positively associated with parent ET, whereas parents' and children's Chinese proficiency would be negatively associated with ET. Second, we tested the longitudinal link of parent ET to children's effortful control, sympathy, and social behaviors. We hypothesized that parent ET would predict children's higher effortful control, which in turn, would be concurrently associated with children's sympathy and socially appropriate behaviors.

## Method

### Participants

Participants were 207 Chinese American children from immigrant families (105 girls, *M* age = 7.4 years, *SD* = 0.7, range = 5.8–9.1 years old at Wave 1), and their parents and teachers living in a metropolitan area of the western United States. The children were either first-generation (i.e., foreign-born, 22%) or second-generation (i.e., U.S-born and had at least one



foreign-born parent, 78%). The majority of children came from two-parent families (92%) where both parents were living together, and the remaining 8% came from families where the parents were divorced, single, widowed, or living apart. All parents (81.6% mothers and 18.4% fathers,  $M$  age = 39.5 years,  $SD$  = 5.2, age range = 27.9–54.8 years at Wave 1) self-identified as either Chinese or Chinese American. The majority of parents were first-generation immigrants (born outside the United States) from mainland China (72%), Hong Kong (9%), and Taiwan (3%). Of the remaining parents, 2% were U.S.-born and 14% were born outside the U.S. in other parts of the world. On average, parents had spent 30% of their lives in the United States ( $M$  number of years in the U.S. = 12.0,  $SD$  = 7.6, range = 1–38 years at Wave 1). Parents' years of education ranged from 7 years (middle school) to 20 years (doctoral or other advanced degree), and the average level of education was 13.4 years (some education beyond high school,  $SD$  = 2.3). At Wave 1 (W1), 64% of parents were employed full-time, 12% were employed part-time, 10% worked solely in the home, and 14% were either employed less than part-time or unemployed. Families' per capita income in the past year ranged from \$625-\$41,250 ( $M$  = \$11,645,  $SD$  = \$7,997). At W1, 56% of the children were eligible for free- or reduced- price lunch at school.

The sample was drawn from a larger longitudinal study of 258 Chinese American children in immigrant families (Chen & Zhou, 2019). Of the full sample, 51 children did not have coded video data either due to technical problems with the videos or the families spoke a dialect that was difficult to comprehend. Thus, videotaped parent-child interactions were collected and coded for the 207 children and their parents included in the present study. We compared the excluded 51 children with those who were included in the present study on Wave 1 key demographic (including child age, gender, generation, parent education, and income) and child adjustment variables and no differences were found.

Of the 207 children who had video data at Wave 1, 190 children ( $M$  age = 9.2,  $SD$  = 0.7, range = 7.5–11.0 years old) completed the Wave 2 (W2) assessment, approximately 1.5 to 2.5 years after Wave 1 (retention rate = 91.8%). Attrition analyses were conducted to compare the children who were only assessed at W1 ( $N$ =17) with the 190 children who were assessed at both waves. The two groups did not differ on W1 key demographic variables (i.e., child age, gender, generation, parent education, and income), parent ET, or child adjustment variables.

## Procedures

The original sample was recruited using multiple strategies, including handing out fliers at shopping centers and grocery stores in Asian American communities (62.6% of the sample), recruiting at open house or school fairs at private and public elementary schools with large proportions of Asian American students (19.8%), and seeking referrals from Chinese American community organizations (17.6%). The project was described as a research study on Chinese American children's psychological adjustment. Because of the study's focus on underserved immigrant populations, low-income families were intentionally over-sampled by focusing recruitment in socioeconomically disadvantaged neighborhoods. Eligibility criteria for the study included: a) the child was in either first or second grade at the time of screening, b) the child living with at least one of their biological parents, c) both biological



parents identified as ethnic Chinese, d) the child was either first generation (born outside the United States) or second generation (born in the United States and with at least one foreign-born parent), and e) the parent and child being able to understand and speak English or Chinese (Mandarin or Cantonese). Initially parents of 380 children expressed interest in the study. Of those, 353 were screened over the phone, 291 were eligible, and 258 consented and completed the assessment.

All research procedures were approved by the Institutional Review Board at the University of California Berkeley (CPHS Protocol Number, 2010-11-2570, “The Risk and Protective Factors for Mental Health Adjustment in 1<sup>st</sup> and 2<sup>nd</sup> generation Chinese American Immigrant Children”). At both waves, the child and one parent participated in a 2.5–3.0 hour laboratory assessment, which included parent questionnaires, child questionnaires and psychological testing, and parent-child interaction tasks. Because mothers were asked to participate in the lab assessment whenever possible, the majority of the 207 children with video data at W1 had mothers as the participating parents (82% at W1, 80% at W2), and 18% of children at W1 and 20% children at W2 had fathers as the participating parent. All written consent and assent materials were available in English, simplified Chinese, or traditional Chinese. The assessment and questionnaires were administered in the parents’ and children’s preferred languages. The majority of parents (77% at W1 and 74% at W2) completed the questionnaires in Chinese, and the majority of children (95% at W1 and 100% at W2) completed the questionnaires in English. After the lab assessment, the child’s main classroom teacher was asked to complete a teacher survey by mail. Teacher surveys were collected for 83% of children at W1 and 81% at W2. All teachers completed the surveys in English. At both waves, families were paid \$50 and children received small prizes. Teachers were paid \$20 per survey.

## Measures

The present study used data collected from parent, teacher, and child questionnaires, and a video-recorded parent-child book reading task. Measures that had not been previously used in Chinese-speaking samples (i.e., the family demographics questionnaire and the sympathy questionnaires) were translated, back translated, and piloted following the procedures recommended by Knight, Roosa, Calderón-Tena, and Gonzales (2009).

**Parent emotion talk (W1, observed).**—The parent-child dyad participated in a video-recorded picture book reading task. Parents and children, seated side-by-side, were given a wordless picture book “Frog Where Are You?” (Mayer, 1969). The book has 30 pages of black and white illustrations and tells the story of a boy looking for his lost frog. The story provides ample opportunities to discuss emotions and while it has been primarily used in assessing children’s linguistic skills (e.g. Slobin, 1996), it has also been used in past emotion socialization research (Harkins, 1993; Pasupathi, Henry, & Carstensen, 2002). Parents were instructed to tell the story to the child using whichever language they would typically use at home. The dyad was given a maximum of 10 minutes to finish the book with no minimum time. The videos were coded by five bilingual coders who were trained and reached reliability on a set of five training videos. The majority of the dyads in the sample (132 out of 187) spoke mostly Cantonese during this task, while the remainder spoke mostly

Mandarin or English. All videos were coded by one main coder (2 Cantonese, 1 Mandarin/English main coder), and 30% of videos were also coded by a reliability coder (1 Cantonese, 1 Mandarin/English reliability coder). For each dyad, we recorded the length of discussion (in seconds). On average, the dyads spent 308 seconds (range = 108 to 600 sec, SD = 129) on the storytelling task. In addition, parents' and children's language use during the storytelling task were separately coded using a global 5-point code: -2 = all English, -1 = more English than Chinese (Mandarin/Cantonese), 0 = equal amount of English and Chinese, 1 = more Chinese than English, 2 = all Chinese. In this sample, the parents' average language use score was -1.13 (range = -2 to 2, SD = 1.45) and the children's average language use score was -0.56 (range = -2 to 2, SD = 1.69).

Emotion talk (ET) is defined as discussions that address feeling states, which encompass the quality of consciousness (e.g. sleep, fatigue), sensations and physiological states (e.g. hunger, pain), and emotion state words (e.g. pleasure, anger, fear, etc.) (Dunn et al., 1987; Dunn et al., 1991). The content and quality of parents' ET were coded on three dimensions: 1) parents' use of emotion words, 2) parents' emotion questions and comments, and 3) quality of parent emotion talk. The manual was adapted from an unpublished coding manual by Nancy Eisenberg and colleagues at Arizona State University. We added several codes to capture individual differences in the quantity and quality of parents' emotion talk. First, emotion words were defined as words that denoted a specific emotion state (e.g. scared, happy, and angry) and broader feeling and mood states as well (e.g. worried, confused, and grumpy). In addition to feeling states, emotion language that described feelings toward someone or something was also included (e.g. love, hate, and care). All emotion words were then categorized as positive (e.g. happy, excited) or negative (e.g. scared, angry). Interrater reliabilities, calculated using two-way mixed, consistency, average-measured intra-class correlations (ICCs), were 0.85 and 0.91 for positive and negative emotion words respectively.

Second, parents' emotion questions and comments were counted and coded in four categories: 1) linking, which refers to instances in which parents linked emotional events depicted in the book back to the child's own past emotional experiences (e.g. "You were sad too when you lost your pet turtle"); 2) self-report of emotion, or comments where parents reported their own emotional experience during the reading (e.g. "I feel sorry for the little boy"); 3) emotion questions, in which parents asked emotion-related questions (e.g. "Do you think the boy cares a lot about the frog"); and 4) emotion explanations, which refer to instances where parents provided emotion explanations (e.g. "The bees are angry because the boy hit the hive"). Each instance of an emotion comment or question was counted separately and independently, even in utterances where a statement was repeated multiple times or included different categories of emotion comments and questions. Interrater reliabilities (calculated as ICCs) were 0.80, 0.93, and 0.73 for self-report, emotion questions, and emotion explanations respectively. However, it was not possible to calculate an ICC for linking due to limited range. Thus, the linking variable was dropped from subsequent analyses.

Third, the ET quality code captures differences in the level of detail and elaborateness of emotion talk shown by parents. Considerations in applying this code include the level of

sophistication of emotion talk, the amount of information delivered, and the degree to which parents attempted to engage their child in the story. A rating on a 5-point interval scale was provided for every 20 seconds of the storytelling (1 = no emotion talk, 2 = one low display of emotion talk, 3 = one display of emotion talk that is mediocre in sophistication, or multiple low displays of emotion talk, 4 = sophisticated emotion talk, 5 = very sophisticated emotion talk). Instances of labeling emotions (e.g. “The boy is sad”) were considered as displays of low-quality emotion talk. Sophisticated emotion talk included details and explanations (e.g. “Maybe the boy grew up with the frog and had so many experiences with it, that’s why he is sad to see that the frog is gone” or “The owl is flying at them so fast, and it’s so big and mean, no wonder they are scared!”). Another distinction captured by this code is the difference between emotion talk where parents ask a causal question (e.g. “Why is the boy so sad?”) and turn the page without waiting for an answer, versus those who pause for the child to think, or rephrase to elicit an answer. If one 20-second epoch contained multiple emotion conversations or utterances, coders considered all utterances when coding that segment. If an emotion conversation spanned more than the 20-second epoch, it was coded separately in each epoch. Finally, parents’ ET quality scores across all 20-second epochs were averaged to obtain a composite ET quality score for each dyad. The ICC for the composite ET quality code was .92.

**Child effortful control (W1 & W2, parent & teacher report).**—Parents and teachers rated children’s effortful control using the attention focusing (9 items for parents and 8 items for teachers) and inhibitory control (13 items) subscales of the Children’s Behavior Questionnaire (CBQ; Rothbart, Ahadi, Hershey, & Fisher, 2001). Subscale items were rated on a 7-point scale (1 = *extremely untrue*, 7 = *extremely true*), and items were averaged to create subscale scores. In previous studies of European American and native Chinese children, both English and Chinese versions of the two subscales showed satisfactory alphas (ranged from 0.64 to 0.85 for parents and 0.82 to 0.94 for teachers; Eisenberg et al., 2005; Zhou et al., 2008). In the present sample, the  $\alpha$ s for attention focusing were 0.73 (W1) and 0.80 (W2) for parents and 0.90 (W1 and W2) for teachers. The  $\alpha$ s for inhibitory control were 0.70 (W1) and 0.72 (W2) for parents and 0.80 (W1) and 0.81 (W2) for teachers. Consistent with the theory that inhibitory control and attention focusing are core components of effortful control (Rothbart & Bates, 2006), the attention focusing and inhibitory control subscales were positively correlated with each other within reporter ( $r$ s = 0.50 and .66 for parents’ reports at W1 and W2 respectively,  $r$ s = .70 and .75 for teachers’ reports). Thus, at both waves and for both parents’ and teachers’ reports, the item scores across the two subscales were averaged within reporter to create a composite effortful control (effortful control) score. The  $\alpha$ s for the combined effortful control scale are .81 and .86 for parents’ reports at W1 and W2 respectively, and .91 and .92 for teachers’ reports. At both waves, parents’ and teachers’ ratings of effortful control were positively correlated with each other ( $r$ s = 0.22 and 0.31,  $p < .001$ ).

**Child dispositional sympathy (W2 only, child, parent, and teacher report).**—During the lab assessment, children were individually administered the 6-item Child Report of Sympathy Scale (Spinrad et al., 1999), which assesses children’s perception of their own sympathetic feelings towards others (e.g., “I feel sorry for kids who don’t have toys or

clothes,” “When I see someone being picked on I feel sorry for them.”). Moreover, parents and teachers rated children’s dispositional sympathy using the 5-item Adult Report of Children’s Sympathy/Empathy Scale (Eisenberg, Fabes, et al., 1998; e.g., “My/This child often feels sorry for others who are less fortunate,” and “My/This child rarely feels sympathy for others”). Similar measures have been correlated with observed indexes of children’s sympathy in predominantly European-American school-aged children (Eisenberg & Miller, 1987). As reported in a previous paper using data from the same sample (Main et al., 2017), parents’ and teachers’ ratings of child sympathy were positively correlated with their reports of child social competence and negatively correlated with their reports of child externalizing behaviors. For each reporter, a composite score was computed by averaging the item scores. In the present sample, the  $\alpha$ s were 0.73, 0.75, and 0.84 for children’s, parents’, and teachers’ reports, respectively. The cross-informant associations on sympathy were low: although parents’ and children’s reports of sympathy were weakly and positively correlated with each other ( $r = .15, p < .05$ ), neither parents’ nor children’s reports of sympathy were correlated with teachers’ reports.

**Child socially appropriate behaviors (W1 & W2, parent & teacher report).—**

Parents and teachers rated children’s socially appropriate behaviors using a four-item subscale from an adapted version of Harter’s Perceived Social Competence Scale (HPCSC; Harter, 1979; Eisenberg et al., 1995). The scale included items such as “My child is usually well-behaved” and “My child usually acts appropriately,” which were rated on a 1–4 scale (1 = *Really false*, 4 = *Really true*). In a study with native Chinese children (Zhou, Main, & Wang, 2010), the Chinese language version of the scale demonstrated satisfactory alpha reliabilities ( $\alpha$ s = .63). At each wave and for each reporter, a composite score was computed by averaging the item scores. The  $\alpha$ s were 0.69 (W1) and 0.71 (W2) for parents’ reports, and 0.86 and 0.83 for teachers’ reports of social behaviors in the present sample. At both waves, parents’ and teachers’ reports of socially appropriate behaviors were positively correlated with each other ( $r$ s = 0.25 and 0.26,  $p < .001$ ).

**Family socio-cultural factors:** First, *parent education and age, family income, child age, gender, and generation status, child’s and parents’ countries of birth, and parents’ lengths of stay in the U.S.* were reported by parents using a modified version of the Family Demographic and Migration History Questionnaire (Roosa et al., 2008). Second, *authoritative parenting* was measured by parent report on the authoritative parenting scale of the Parenting Styles and Dimensions Questionnaire (PSDQ, Robinson, Mandleco, Olsen, & Hart, 1995). Parents rated the items on a 5-point scale (from 1 = Never to 5 = Always) and the item scores were averaged to compute a composite (27 items,  $\alpha = .90$  in this sample). Third, *parents’ and children’s English and Chinese proficiency* was measured using parents’ reports on the language proficiency subscale of the Cultural and Social Acculturation Scale (CSAS; Chen & Tse, 2010). Parents rated their own and the target child’s proficiency in speaking, understanding, reading, and writing English or Chinese using a 5-point scale (from 1 = extremely poor to 5 = very well). The  $\alpha$ s were .95 and .92 for parents’ English and Chinese proficiency, and .91 and .87 for children’s English and Chinese proficiency.

## Results

### Aim 1. Relations between Family Sociocultural Characteristics and Parent Emotion Talk

Descriptive statistics of parent ET and child socio-emotional variables are presented in Table 1. Four of the five emotion talk variables (number of positive and negative emotion words, emotion questions, and emotion explanations) were positively skewed and displayed high kurtosis (meaning that few parents had high scores on these variables and these variables displayed limited variability in the sample).

To address the first study aim, we examined the pairwise correlations between family socio-cultural and language variables and emotion talk variables (see Table 2). A continuous index of family socioeconomic status (SES) was created by first computing the mean of maternal and paternal education levels and then averaging the standardized scores of mean parent education and family income (see Zhou et al., 2008). Family SES was positively correlated with parent use of positive emotion words (.21), emotion questions (.19), and emotion explanations (.27). Parents' length of stay in the U.S. was positively correlated with their use of emotion explanations (.19). With regard to language, the parents with higher English proficiency used more ET ( $r$ s range from .14 to .26). By contrast, the parents with higher Chinese proficiency asked fewer emotion questions (–.14) and used fewer emotion explanations (–.17). Moreover, parents used more positive emotion words and more emotion explanation with children who had higher English proficiency ( $r$ s = .19 and .20). By contrast, parents used fewer emotion explanations with children who had higher Chinese proficiency (–.19).

### Aim 2: Testing the Longitudinal Relations of Parental Emotion Talk to Child Effortful Control and Socio-emotional Skills

Because Aim 2 focused on the links between ET and children's effortful control and socio-emotional competence, we selected the covariates based on their correlations with the ET and child outcomes. Based on Table 2, the following socio-cultural variables showed significant correlations with both ET and children's outcomes and might confound the ET-child outcome associations: family SES, parent's length of time in the US, parent's English and Chinese proficiency, and children's English proficiency. Thus, these five variables were included as covariates in the analyses for Aim 2.

Before conducting SEM analyses, we examined the zero-order correlations between parent ET and child outcomes (see Table 3). The five ET variables were positively correlated with each other ( $r$ s = .12 to .74). Parents' use of positive emotion words and quality of ET were positively correlated with teacher-reported child effortful control at W2 ( $r$ s = .19 and .17) and child-reported sympathy at W2 ( $r$ s = .16 and .15). Parents' use of positive emotion words was positively correlated with parent-reported child social behaviors at W2 (.17).

**Measurement models.**—To test the hypothesized relations, two structural equation models were specified: one for predicting child sympathy (Figure 1), and one for predicting child social behaviors (Figure 2). The models were tested in Mplus 8.1 (Muthén & Muthén, 2012–2018). Because attrition analyses did not find any relation between the pattern of

missingness and study variables, the data can be considered missing at random (MAR). Thus, missing data were handled using the Full Information Maximum Likelihood (FIML) method. Because some ET variables were skewed, we tested the models using the Maximum Likelihood Robust estimator (MLR, Muthén & Muthén, 2012–2018) to adjust for correction of standard errors due to the presence of nonnormally distributed variables.

Before testing the full models, we tested the measurement models using confirmatory factor analysis (CFA). For the hypothesis predicting sympathy, we first tested a four-factor CFA model: W1 parent ET (indicated by the five observed ET variables), W1 child effortful control (indicated by parent and teacher report), W2 child effortful control, and W2 child sympathy (indicated by parent, child, and teacher report). Although the four-factor model fit the data well, the indicator loadings for W2 child sympathy were non-significant, suggesting that different measures of child sympathy did not converge onto a common factor (which is consistent with the correlations). Thus, measures of child sympathy were kept as separate outcomes in the final model. For the hypothesis predicting social behaviors, we tested a five-factor CFA model: W1 parent ET, W1 child effortful control, W2 child effortful control, W1 child social behaviors (indicated by parent and teacher report), and W2 child social behaviors. The five-factor model fit the data well and all the indicators loaded positively and significantly onto the designated latent factors, suggesting convergence in multiple measures of these constructs.

Next, we tested the full models. The effects of selected covariates (family SES, parent's length of time in the US, parent's English and Chinese proficiency, and children's English proficiency) on W2 child effortful control, W2 social skill, and W2 sympathy factors/variables were controlled. The loadings of effortful control and social skill indicators were constrained to be invariant across time. To improve model fit, the error terms of indicators measured by the same informant (e.g., parents' reports of child effortful control at W2 and parents' reports of child social competence at W2) were correlated with each other. Because child sympathy was only assessed at W2, the autoregressive effects of child sympathy at W2 could not be controlled (Figure 1). For social behaviors, we first tested a model in which the autoregressive effect of W1 child social behaviors was controlled (Figure 2). We then tested the model without controlling for the autoregressive effect of W1 child social behaviors (Figure 3).

**The model for sympathy (Figure 1).**—Based on the model fit criteria suggested by Hu and Bentler (1999), the model fit the data adequately,  $\chi^2 (df = 81, N = 207) = 109.45, p = .02$ , the comparative fit index (CFI) = .95, RMSEA = .041, SRMR = .059. As shown in Figure 1, the autoregressive effect of W1 child effortful control to W2 child effortful control was positively significant, suggesting there is cross-time rank-order stability in children's effortful control. Controlling for the autoregressive effect of child effortful control, the latent factor of W1 parent ET positively predicted W2 child effortful control. W2 child effortful control, in turn, was positively associated with W2 teacher- and child-reported sympathy. As for the covariates, children's Chinese proficiency had a negative path to W2 child-reported sympathy.



**The models for social behaviors (Figure 2 and Figure 3).**—We first tested the model in which the autoregressive effect of W1 child social behaviors on W2 child social behaviors was controlled (Figure 2). The model fit the data adequately,  $\chi^2 (df = 108, N = 207) = 153.15, p = .003, CFI = .96, RMSEA = .045, SRMR = .063$ . As shown in Figure 2, although the cross-time path from W1 parental ET to W2 child effortful control (controlling for W1 effortful control) was positively significant, neither the autoregressive path between W1 and W2 child social behaviors nor the path from W2 child effortful control to W2 child social behaviors was significant. We also tested the path from W1 child effortful control to W2 social behaviors while controlling for W1 effortful control and it was not significant. The lack of unique effect of effortful control (W1 or W2) on W2 social behaviors might be due to the relatively high correlations between effortful control and social behaviors (both within and across times) and the relatively high cross-time stability in measures of social behaviors ( $r_s = .49$  and  $.57$ ). Next, we dropped W1 social behaviors from the model. The revised model (in Figure 3) fit the data well,  $\chi^2 (df = 71, N = 207) = 87.86, p = .08, CFI = .98, RMSEA = .034, SRMR = .06$ . Similar to the other two models, W1 parent ET positively predicted W2 effortful control (controlling for W1 effortful control). W2 effortful control, in turn, was positively and concurrently associated with W2 social behaviors. The covariates did not have unique relations to W2 effortful control or social behaviors.

To supplement the quantitative analyses, we reviewed the general themes of parent-child conversations during the storybook task from a randomly selected subsample of 10 dyads (with various language statuses). The parents mainly discussed the plot of the story page by page, describing the action of characters (e.g., “His dog ran away”), the emotion/feeling state (e.g., “He is so tired”), and the context (e.g., “The frog is in the pond”). Parents used both statements and questions. Some parents tried to engage the child into storytelling by asking questions (e.g., “What happened next”, “What are they doing”), or engaged in teaching words or numbers (e.g., “What is this animal called”, “How many little froggies”).

## Discussion

To our knowledge, this is the first longitudinal study examining the links between parent emotion talk (ET) and children’s socio-emotional competence in Chinese American immigrant families. We found that Chinese American parents’ ET was associated with a number of socio-cultural factors, including family SES, and parent and child language proficiency. Importantly, the quantity and quality of parent ET, measured when children were in early elementary school, predicted children’s higher effortful control two years later. In turn, children’s effortful control was concurrently associated with their higher sympathy (by teacher and child report) and socially appropriate behaviors. Overall, findings support the view that parent ET can promote children’s self-regulatory capacities and other socio-emotional skills (Eisenberg et al., 1998), even in a culture group where ET is de-emphasized and less commonly practiced than the Western culture.

In contrast to previous cross-cultural studies that focused on comparing Chinese/Chinese American families with families from other culture groups (e.g., Doan & Wang, 2010; Wang & Fivush, 2005), we focused on within-group differences among Chinese American families. Parents’ ET was associated with a number of socio-cultural factors. Consistent with



studies conducted with other ethnic groups in the U.S. (e.g., Zhou et al., 2004; Garrett-Peters et al., 2008), Chinese American parents from higher-SES families were more likely to engage in high-quality ET (e.g., greater use of emotion words, emotion questions, and emotion explanations). Moreover, the findings that higher English proficiency (in parents and children) and parents' longer time living in the U.S. were both associated with higher ET (both quantity and quality) and higher Chinese proficiency (in parents) was associated with lower ET are consistent with previous findings using global dimensions of cultural orientations (Rivera & Dunsmore, 2011; Tao et al., 2013). Together, these findings suggest a dose-dependent relation between contact with American culture and practice of ET in immigrant parents. Thus, as immigrant parents become assimilated, they are also adopting the parenting practices that are valued by the host culture. In addition, contrary to our hypothesis, parent ET was unrelated to authoritative parenting, a global parenting dimension. Thus, ET seems to be a context- or domain-specific parenting practice independent from family's global emotional atmosphere.

Parent ET was coded using a coding scheme developed from Western families. In the SEM analysis, the five observed ET codes loaded positively on the ET latent factor, suggesting that the parents who used ET more frequently than others used a variety of ET strategies and the parents who used more ET (captured by the count variables of emotion words, emotion questions, and explanations) also showed a higher quality of ET (captured by the ET quality code). However, two additional observed count variables, self-report of emotions and linking, were not included in the latent factor analysis because of their restricted range and extremely low frequency in the present Chinese American sample. Moreover, four out of the five variables included in the latent factor analysis were positively skewed and had high kurtosis, meaning that most Chinese American parents displayed few of these linguistic practices during the picture book reading task. These results are consistent with previous cross-cultural findings that Chinese parents use ET less frequently with children than European American parents (Doan & Wang, 2010; Wang & Fivush, 2005), probably because Chinese parents tend to focus on other aspects of teaching (e.g., teaching proper behaviors and values) during their book-related conversations with children. In support of this hypothesis, a review of conversations from a small subsample of participants in this study showed that parents tended to focus their conversations on the story plot, actions of the characters, and teaching opportunities the picture book afforded.

Despite its relatively low frequency, immigrant parents' practice of ET is associated with socio-emotional benefits for children. Parent ET predicted Chinese American children's higher effortful control two years later. The cross-time path was significant after adjusting for stability in children's effortful control (i.e., effortful control at W1) and covariates that might confound the ET- effortful control associations. Moreover, because ET was measured by behavioral observation and effortful control was measured by parents' and teachers' reports, the association is unlikely due to shared method effects. The findings are consistent with previous studies linking combined indices of supportive ERSPs to children's effortful control with non-Chinese families (e.g., Dunsmore et al, 2013; Miller et al., 2015; Shortt et al., 2010; Spinrad et al., 2007). Together, these findings support the theory that children's emotion-related self-regulatory process might be a key mechanism through which ERSPs shape children's socio-emotional outcomes (Eisenberg et al., 1998; Denham et al., 1992).

However, because we did not code other aspects of parent-child conversation during the book reading task, it is possible that ET co-occurred with other parenting behaviors (e.g., parental use of dialogic reading, or elaborated reminiscing) that also confer benefits on children's cognitive and socio-emotional development (Fivush, Haden, & Reese, 2006). Future research should consider ET in a broader context of parenting and examine its unique relations to child outcomes, as well as to examine the mediators underlying the link between parent ET and children's effortful control (e.g., children's physiological arousal, emotion vocabulary, and emotion understanding).

Other researchers suggested that the link between parent ET and child effortful control is bidirectional, as children with higher effortful control can enable parents to engage in more ET (Laible, 2004). Because parent ET was assessed only at W1, we were unable to test the child-driven effect (child effortful control → parent ET). The few longitudinal studies that tested bidirectional relations between emotion socialization and child effortful control failed to find evidence for the child-driven effects (Eisenberg, Spinrad, Eggum, Silva et al., 2010; Miller et al., 2015; Spinrad et al., 2007). Nonetheless, future studies on ET and child adjustment should consider both parent-driven and child-driven hypotheses.

We found concurrent relations between effortful control and other two socio-emotional skills. Without controlling for stability in children's social behaviors, the latent factor of effortful control at W2 was concurrently associated with children's higher social behaviors (Figure 3). However, the concurrent path from effortful control to social behaviors became nonsignificant after controlling for W1 social behaviors (Figure 2). This finding suggests that the positive link between effortful control and social behaviors may be established in early development (e.g., by preschool or beginning elementary school years) and becomes relatively stable in middle childhood. Similar results have also been reported in previous longitudinal studies that used autoregressive models (e.g., Eisenberg, Spinrad, Eggum, Silva, et al., 2010b; Spinrad et al., 2007). Furthermore, without controlling for stability, the concurrent links between effortful control and sympathy were only significant for teacher- and child- (but not parent-) reported sympathy. Moreover, the cross-informant correlations on children's sympathy in this sample were low (.01 to .15), which is lower than the cross-informant correlations in meta-analysis studies (De Los Reyes et al., 2015). The low cross-informant correspondence on children's sympathy might be related to: (a) differences in contexts (home vs. school), as children of immigrant families may display sympathy differently towards family or in-group members than out-group members (Drwecki, Moore, Ward, & Prkachin, 2011); and (b) cultural differences between immigrant parents' and teachers' perceptions. The significant associations between parent ET and children's (but not parents') reports of sympathy suggest that ET might have a stronger influence on children's sympathy displayed towards out-group members (e.g., peers and adults outside home).

The study has other limitations. First, the two-wave longitudinal data are not suitable for testing mediation, which requires time intervals between the predictor, mediator, and outcome. Second, although shared book reading is a common parent-child interaction, the book used in this study (*Frog Where are You*) might not offer sufficient opportunity for parents to engage in ET because it only contained a few emotion scenarios (e.g., lost a pet frog, being chased by an owl). Moreover, because parents were not explicitly instructed to

engage in ET, they tended to focus on the actions and contexts in the story rather than the emotional content. Thus, this task may have underestimated Chinese parents' ET in other everyday situations (e.g., discussing a past emotional experience or conflict discussion). Third, the ET coding scheme was originally developed for European American families and only captured explicit verbal references to emotions. Tsai, Simeonova, and Watanabe (2004) found that less acculturated Chinese American adults used more somatic and social words than European Americans when describing emotional experiences. Future research on ET in Chinese families should develop coding themes that capture both explicit and subtle languages about emotion. Fourth, because we did not code other aspects of parent-child interaction during the book reading task (e.g., parent's use of dialogic reading, or elaborated reminiscing, see Fivush et al., 2006), the exact mechanisms through which ET is associated with child outcomes remain to be investigated. Fifth, this study did not examine children's ET, and thus the effects of children's ET on parents' ET and children's effortful control cannot be tested. Sixth, although we examined the links between socio-cultural factors (e.g., language) and ET, we did not test more complex relations involving culture (e.g., whether cultural orientation moderated the links between ET and children's outcomes). These limitations offer directions for future research.

The study has some clinical implications. Several evidence-based parenting training programs include the component of teaching ET or other positive communication strategies (e.g., Dozier, Roben, Caren, Hoye, & Bernard, 2018; Salmon, Dadds, Allen, & Hawes, 2009). Whether (or not) and how to adapt these interventions to a new culture group need to be guided by research testing the underlying developmental theory in the target group (Zhou, Chen, Cookston, & Wolchik, 2014). This study provided some initial support that these interventions can benefit children in Chinese immigrant families. Moreover, the findings suggested that Chinese American parents from low-SES families and families with low English proficiency may encounter more barriers to learning and practicing ET skills. Thus, clinicians working with these families need to tailor the interventions to fit their needs (Zhou et al., 2014).

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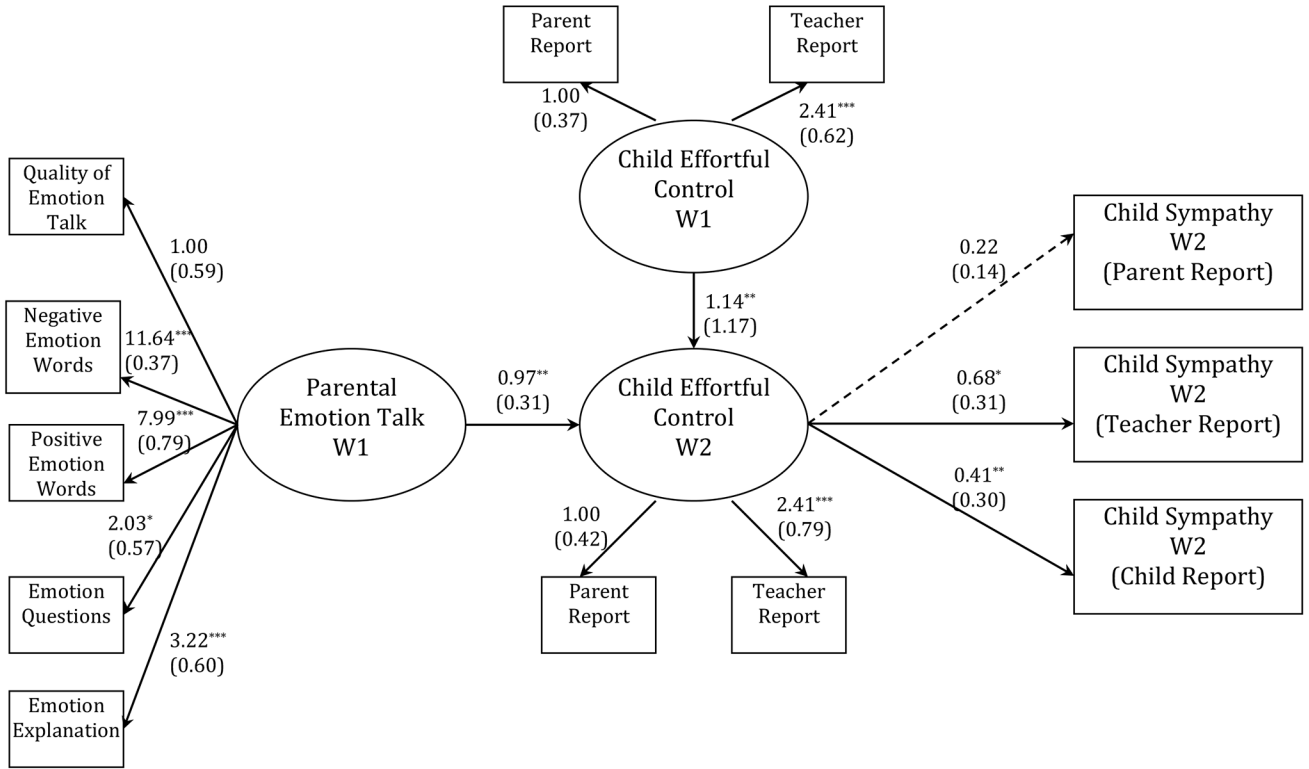
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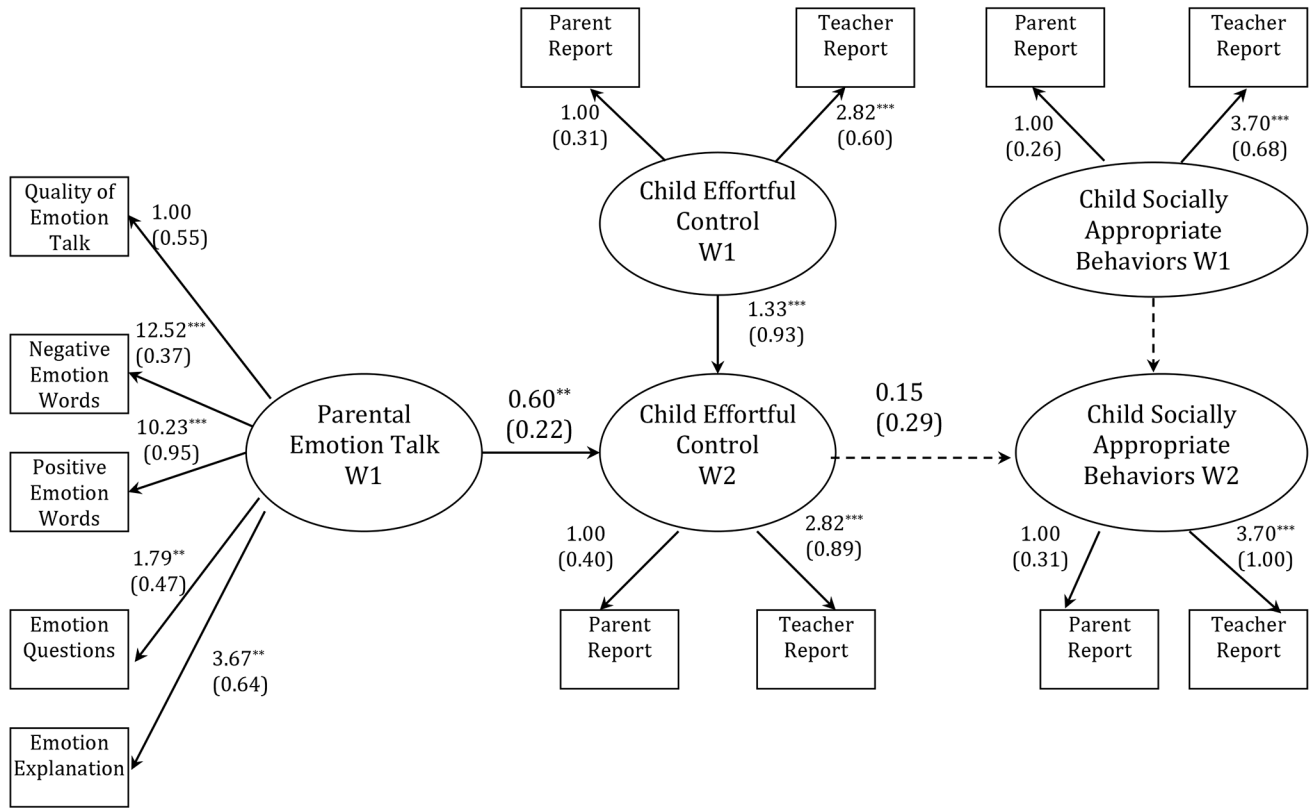
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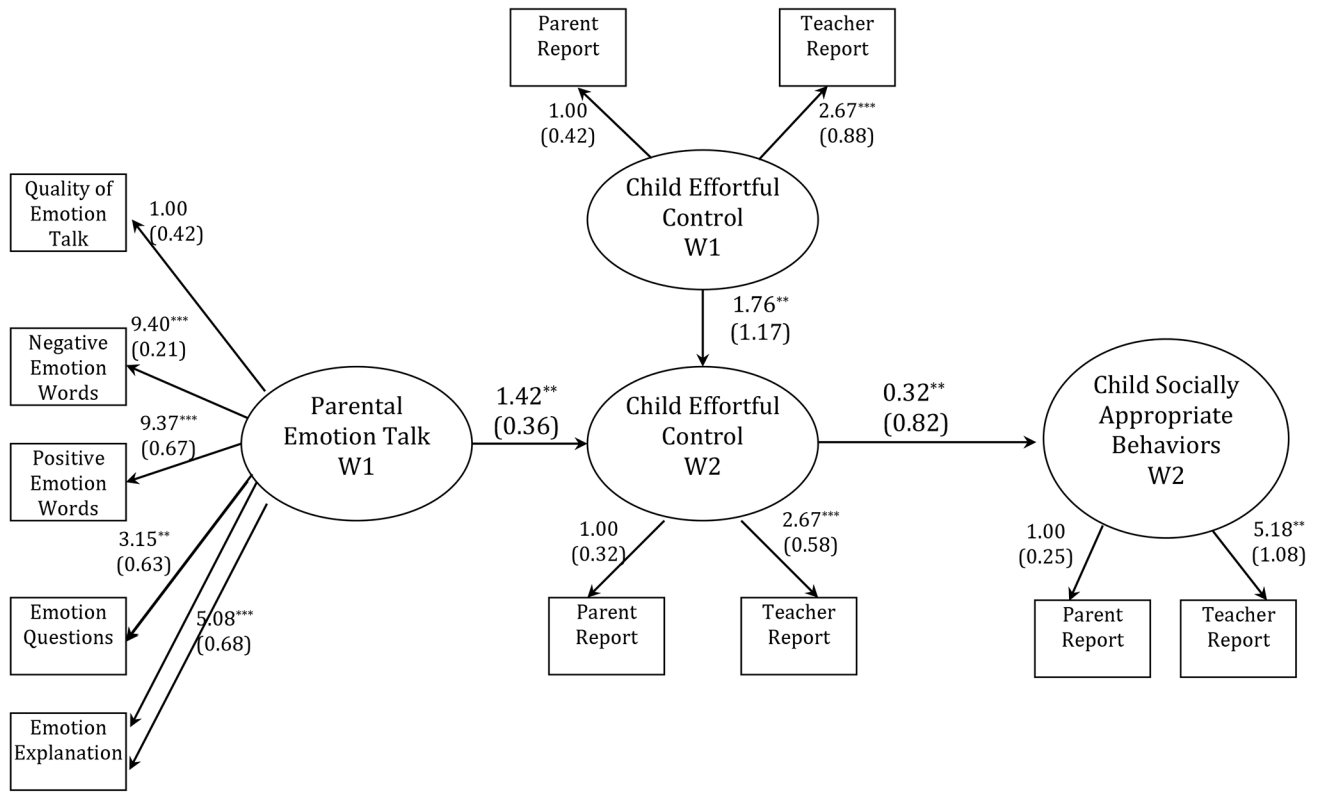




**Figure 1.** The model testing longitudinal relations of parental emotion talk to child effortful control and sympathy. *Notes.* In the hypothesized model, the latent factor of parental emotion talk at W1 is specified to predict child effortful control at W2 (controlling for W1 effortful control), which in turn predicts child sympathy variables at W2. The direct paths from parental emotion talk to child sympathy variables were also controlled. Although not shown in the graph, the effects of covariates (family SES, parent’s time in the U.S., parent’s English and Chinese proficiency, and child’s English proficiency) on child effortful control factor and sympathy variables were controlled. For ease of presentation, only significant paths are shown in the graph. The numbers above parentheses are unstandardized loadings or path coefficients, and the numbers inside parentheses are standardized loadings or path coefficients. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .



**Figure 2.** The model testing longitudinal relations of parental emotion talk to child effortful control and social behaviors (controlling for W1 social behaviors). *Notes.* In the hypothesized model, the latent factor of parental emotion talk at W1 is specified to predict child effortful control at W2 (controlling for W1 effortful control), which in turn predicts child social behaviors at W2 (controlling for W1 social behaviors). The direct path from parental emotion talk to W2 child social behaviors was also controlled. Although not shown in the graph, the effects of covariates (family SES, parent’s time in the U.S., parent’s English and Chinese proficiency, and child’s English proficiency) on child effortful control and social behaviors were controlled. For ease of presentation, only significant paths are shown in the graph. The numbers above parentheses are unstandardized loadings or path coefficients, and the numbers inside parentheses are standardized loadings or path coefficients. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .



**Figure 3.** The model testing longitudinal relations of parental emotion talk to child effortful control and social behaviors (without controlling for W1 social behaviors). *Notes.* In the hypothesized model, the latent factor of parental emotion talk at W1 is specified to predict child effortful control at W2 (controlling for W1 effortful control), which in turn predicts child social behaviors at W2. The direct path from parental emotion talk to W2 child social behaviors was also controlled. Although not shown in the graph, the effects of covariates (family SES, parent’s time in the U.S., parent’s English and Chinese proficiency, and child’s English proficiency) on child effortful control and social behaviors were controlled. For ease of presentation, only significant paths are shown in the graph. The numbers above parentheses are unstandardized loadings or path coefficients, and the numbers inside parentheses are standardized loadings or path coefficients. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

**Table 1.**

## Descriptive Statistics of Study Variables

Variables	N	Min	Max	Mean	SD	Skewness	Kurtosis
W1 parent emotion talk							
Negative emotion words <sup>a</sup>	207	0.00	23.00	3.15	3.63	2.10	6.08
Positive emotion words <sup>b</sup>	207	0.00	7.00	0.69	1.17	2.42	7.37
Emotion questions <sup>c</sup>	207	0.00	3.00	0.10	0.41	4.94	27.37
Emotion explanations <sup>d</sup>	207	0.00	4.00	0.22	0.62	3.77	16.52
Emotion talk quality <sup>e</sup>	207	1.00	2.00	1.20	0.19	1.49	2.62
W1 effortful control-P	203	2.57	6.05	4.59	0.68	-0.24	0.02
W1 effortful control-T	171	1.95	6.95	5.07	0.96	-0.54	-0.04
W2 effortful control-P	187	2.57	6.57	4.66	0.78	0.21	-0.18
W2 effortful control-T	168	2.35	7.00	5.32	0.99	-0.67	-0.04
W2 sympathy-P	181	1.60	4.00	3.34	0.52	-0.17	-0.73
W2 sympathy-T	157	1.40	4.00	2.95	0.71	-0.41	-0.79
W2 sympathy-C	191	1.00	3.00	2.21	0.43	-0.33	-0.36
W1 social behaviors-P	201	2.00	4.00	3.20	0.51	-0.21	-0.63
W1 social behaviors-T	164	1.25	4.00	3.38	0.69	-1.22	0.99
W2 social behaviors-P	185	1.00	4.00	3.38	0.50	-0.99	1.87
W2 social behaviors-T	168	1.00	4.00	3.48	0.60	-1.58	2.57

Notes. W1 = Wave 1; W2 = Wave 2; P = parent report; T = teacher report; C = child report.

<sup>a</sup>Negative emotion words is the total number of negative emotion words used by parents.

<sup>b</sup>Positive emotion words is the total number of positive emotion words used by parents.

<sup>c</sup>Emotion questions is the total number of emotion-related questions asked by parents.

<sup>d</sup>Emotion explanations is the total number of emotion-related explanations provided by parents.

<sup>e</sup>Emotion talk quality was first rated every 20 seconds on a 5-point scale (1 = no emotion talk, 2 = one low display of emotion talk, 3 = one display of emotion talk that is mediocre in sophistication, or multiple low displays of emotion talk, 4 = sophisticated emotion talk, 5 = very sophisticated emotion talk), and then averaged to form a total emotion talk quality score.

**Table 2.** Correlations between Socio-Cultural Variables and Parent Emotion Talk or Child Socioemotional Competences

	W1 Neg words	W1 Pos words	W1 Emo quest	W1 Emo explain	W1 ET quality	W1 EC-P	W1 EC-T	W2 EC-P	W2 EC-T	W2 Sym-P	W2 Sym-T	W2 Sym-C	W1 Soc-P	W1 Soc-T	W2 Soc-P	W2 Soc-T
Family SES	-.05	.21**	.19**	.27***	.02	.10	.01	.14	.03	.09	-.09	.13	.12	.02	.17*	-.06
Child age	.05	-.11	-.07	.04	.02	.001	-.002	-.003	.07	-.05	-.08	.02	-.01	.003	.01	.02
Child gender <sup>a</sup>	-.07	-.004	-.06	-.10	-.06	-.09	-.21*	-.13	-.45***	-.18*	-.18*	-.12	-.13	-.30**	-.10	-.40**
Child generation <sup>b</sup>	-.07	.08	.10	.13	-.10	.20**	.07	.09	-.08	-.01	-.09	.02	.15*	.11	.12	-.08
Parent's time living in US	-.02	.06	-.004	.19**	-.08	.15*	-.03	-.02	-.09	.01	-.16	.08	.18*	.01	.01	-.09
Parent age	-.01	.02	.04	.03	-.06	.21**	-.004	.06	.07	.05	-.08	-.05	.18*	.03	.01	-.01
Parent figure <sup>c</sup>	-.03	-.12	-.09	.04	-.11	-.07	-.02	-.17*	-.13	-.07	-.004	-.14	-.07	-.08	-.24**	-.16*
Authoritative parenting	.01	-.02	-.09	-.08	-.01	.41***	-.06	.33***	.03	.31***	-.02	.01	.43***	.05	.32***	.04
Parent English	.03	.23**	.14*	.26***	.10	.08	.02	.06	-.01	.12	-.05	.15*	.20**	-.02	.07	-.02
Parent Chinese	-.07	-.07	-.14*	-.17*	-.06	.07	-.01	.13	.05	.13	.10	.06	.07	-.03	.07	-.01
Child English	.13	.19**	.06	.20**	.13	.31***	.19*	.26***	.14	.12	-.11	.18*	.37***	.22**	.14	.13
Child Chinese	-.04	-.07	-.05	-.19**	-.06	.05	.08	.08	.14	-.06	.08	-.14*	.06	.06	.00	.07

Notes. W1 = Wave 1, W2 = Wave 2, Neg words = negative emotion words, Pos words = positive emotion words, Emo quest = emotion questions, Emo explain = emotion explanations, ET quality = quality of emotion talk, EC = effortful control, P = parent report, T = teacher report, C = child report, Sym = sympathy, Soc = socially appropriate behaviors. Parent English = parent English proficiency, Parent Chinese = parent Chinese proficiency, Child English = child English proficiency, Child Chinese = child Chinese proficiency.

<sup>a</sup>Child gender is coded as: 0 = girls, 1 = boys.

<sup>b</sup>Child generation status is coded as: 0 = first generation, 1 = second generation.

<sup>c</sup>Parent figure is coded as: 0 = mothers, 1 = fathers.

**Table 3.** Correlations among Parental Emotion Talk and Children’s Socio-emotional Competence

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. W1 Neg words	--														
2. W1 Pos words	0.37***	--													
3. W1 Emo quest	0.12	0.44***	--												
4. W1 Emo explain	0.31***	0.43***	0.43***	--											
5. W1 ET quality	0.74***	0.54***	0.24***	0.32***	--										
6. W1 effortful control-P	0.07	-0.02	-0.01	-0.05	0.02	--									
7. W1 effortful control-T	0.06	0.01	-0.05	0.03	0.05	0.22**	--								
8. W2 effortful control-P	0.04	0.02	0.13	0.06	0.03	0.69***	0.27***	--							
9. W2 effortful control-T	0.15	0.19*	0.15	0.14	0.17*	0.29***	0.52***	0.31***	--						
10. W2 Sym-P	0.09	-0.05	0.01	-0.07	-0.03	0.28***	0.04	0.30***	0.13	--					
11. W2 Sym-T	0.09	-0.02	-0.01	-0.03	0.07	0.02	0.06	0.04	0.28***	0.05	--				
12. W2 Sym-C	0.07	0.16*	0.05	0.09	0.15*	0.09	0.26***	0.11	0.21**	0.15*	0.05	--			
13. W1 Soc-P	0.07	0.15*	0.09	0.05	0.07	0.55***	0.15	0.44***	0.27***	0.40***	0.08	0.11	--		
14. W1 Soc-T	0.04	0.08	0.02	0.10	0.09	0.24**	0.79***	0.27***	0.57***	0.05	0.16	0.19**	0.25**	--	
15. W2 Soc-P	0.10	0.17*	0.05	0.00	0.11	0.35***	0.11	0.48***	0.16*	0.39***	0.11	0.14	0.49***	0.21**	--
16. W2 Soc-T	0.06	0.14	0.10	0.10	0.05	0.26***	0.47***	0.31***	0.75***	0.10	0.32***	0.18*	0.32***	0.57***	0.26***

Notes. W1 = Wave 1; W2 = Wave 2; Neg words = negative emotion words; Pos words = positive emotion words; Emo quest = emotion questions; Emo explain = emotion explanations; ET quality = quality of emotion talk; Sym = sympathy; Soc = socially appropriate behaviors; P = parent report; T = teacher report; C = child report.

\*  $p < .05$ ,

\*\*  $p < .01$ ,

\*\*\*  $p < .001$ .