



Published in final edited form as:

J Nonverbal Behav. 2009 June 1; 33(2): 121–140. doi:10.1007/s10919-008-0066-6.

Parents' Beliefs about Emotions and Children's Recognition of Parents' Emotions

Julie C. Dunsmore,

Department of Psychology, Virginia Tech

Pa Her,

Department of Psychology, Virginia Tech

Amy G. Halberstadt, and

Department of Psychology, North Carolina State University

Marie B. Perez-Rivera

Department of Psychology, Virginia Tech.

Abstract

This study investigated parents' emotion-related beliefs, experience, and expression, and children's recognition of their parents' emotions with 40 parent-child dyads. Parents reported beliefs about danger and guidance of children's emotions. While viewing emotion-eliciting film clips, parents self-reported their emotional experience and masking of emotion. Children and observers rated videos of parents watching emotion-eliciting film clips. Fathers reported more masking than mothers and their emotional expressions were more difficult for both observers and children to recognize compared with mothers' emotional expressions. For fathers, but not mothers, showing clearer expressions was related to children's general skill at recognizing emotional expressions. Parents who believe emotions are dangerous reported greater masking of emotional expression. Contrary to hypothesis, when parents strongly believe in guiding their child's emotion socialization, children showed less accurate recognition of their parents' emotions.

Keywords

Parent; emotion; middle childhood; nonverbal communication

Theorists and researchers who study parental socialization of emotion have increasingly recognized the importance of parents' beliefs, attitudes, and attributions about children's emotions. Dix (1991, 1992, 1993) hypothesized that parents' attributions about their children influence how they react emotionally toward their children, and subsequently, how they socialize their children. Dunsmore and Halberstadt (1997) proposed that parents' beliefs about emotions and their emotionally expressive behavior work together to help children create their own self- and world schemas about emotion. Gottman and colleagues similarly proposed that parents' beliefs and behaviors regarding emotion, that is, their "meta-emotion theories and coaching" affect important life outcomes for children (Gottman, Katz, & Hooven, 1996, 1997; Katz, Wilson, & Gottman, 1999).

In the current study, we examined how parents' beliefs about their role in guiding their child's emotion socialization and about the potential danger of emotions were linked to (a) parents' own emotional experience and expression and (b) their children's recognition of their parents' emotions in middle childhood. Parents' emotional experience and expression are important to understand because they influence children's socio-emotional outcomes, including emotion regulation, emotion knowledge, and social competence (Eisenberg, Cumberland, & Spinrad, 1998). Children's emotion recognition skill is important to understand because the ability to accurately receive others' emotional communications is a central component of affective social competence (Halberstadt, Denham, & Dunsmore, 2001) and has been linked to successful peer relations and school adjustment (e.g., Custrini & Feldman, 1989; Denham, 1986; Denham, Bouril, & Belouad, 1994; Nowicki & Duke, 1992; Philippot & Feldman, 1990).

Emotion Recognition Skill within the Context of Family Relationships

Parents' expressiveness and skill in clearly expressing emotions have implications for their children's general emotion recognition skill. For example, preschoolers whose mothers showed more clear emotional expressions had an advantage in recognizing the emotions of other children's mothers (Daly, Abramovitch, & Pliner, 1980). There is also a crossover effect such that in early childhood parents' expressivity is positively related to children's emotion recognition skill, but by later elementary school parents' expressivity is negatively related to children's emotion recognition skill (Halberstadt & Eaton, 2003). However, children's ability, during middle childhood, to recognize what their own parents are feeling has been heretofore unexamined. Indeed, despite the important role parents play in children's emotion socialization, little research has examined children's recognition of their own parents' emotions.

Only one study, to our knowledge, has addressed children's recognition of their own parents' emotions. Dunsmore and Smallen (2001) found no difference in children's ability to recognize their own parents' facial expressions compared to those of a stranger; however, when mothers were high in the expression of positive emotions, their children were better at recognizing positive emotions compared to other children, regardless of whether the expressor was their mother or a female stranger. With male expressors, only children's age predicted emotion recognition accuracy, regardless of whether the expressor was their father or a male stranger (Dunsmore & Smallen, 2001). We note that the extant literature consistently suggests that adult men show less clear emotional expressions compared with adult women (Buck, Miller, & Caul, 1974; Hall, 1984; Knapp, 1978; Noller, 2001).

When studying children's emotion recognition skill within family relationships, expressor, perceiver, and relationship effects are all important considerations for understanding nonverbal accuracy (Halberstadt et al., 2001; Kenny & Albright, 1987). The perception of someone's emotional expression is inextricably confounded with the clarity of the emotional expression. When children accurately recognize their parents' emotions, does that reflect children's general skill at emotion recognition, parents' general skill at expressing emotions clearly, or something specific about children's attention to parents' expressive cues? To clarify the contributions of each of these effects, two steps were taken. First, naïve observers judged parents' emotional expressions, thus providing an independent measure of parents' expressive clarity (Hall, Rosip, Smith LeBeau, Horgan & Carter, 2006; Snodgrass, Hecht, & Ploutz-Snyder, 1998). Second we included a standard measure of children's general emotion recognition skill. Thus, a central contribution of this study is our disentanglement of parents' expressive skill and children's general emotion recognition skill when predicting children's relationship-specific recognition of their own parents' emotions. We also contribute to the literature by examining the socialization influence of parental beliefs about children's emotions on parents' emotional

experience and expression and children's recognition of their own parents' emotions. We turn to this next.

Parents' Beliefs about Children's Emotions

Parents' emotion-related beliefs and values are theorized to affect parents' choices of emotion socialization practices (Dix, 1991, 1992, 1993; Dunsmore & Halberstadt, 1997; Eisenberg, Spinrad, & Cumberland, 1998). Because emotion socialization behaviors may sometimes be infrequent yet also highly salient, idiosyncratic, and/or not easily articulated by parents or children, examining parents' beliefs about emotions may provide an important avenue for understanding the family socialization environment that influences children's developing emotion recognition skill.

Meta-emotion

Gottman and colleagues' (Gottman et al., 1996, 1997) influential work on meta-emotion provided a conceptual framework for our approach to investigating parents' beliefs about emotions. The meta-emotion construct addresses overarching philosophies parents hold about emotions that encompass beliefs and socialization behaviors. This work distinguishes between *emotion coaching*, characterized by positive attitudes about negative emotions and parents' active acknowledgement of and verbal coaching about children's negative emotions, and *emotion dismissing*, characterized by devaluing, minimization, and ignoring of children's negative emotions. No research on meta-emotion has addressed emotion knowledge or nonverbal accuracy per se. However, research with preschoolers, elementary school age children, and adolescents demonstrates positive effects of parents' emotion coaching on children's emotion regulation, social behavior, internalizing symptoms and behavior problems (Katz & Gottman, 1997; Katz & Hunter, 2007; Katz & Windecker-Nelson, 2004, 2006; Lagacé-Séguin & Coplan, 2005; Lagacé-Séguin & d'Entremont, 2006; Lunkenheimer, Shields, & Cortina, 2007; Shipman, Schneider, & Fitzgerald, 2007; Stocker, Richmond, Rhoades & Kiang, 2007).

Parents' beliefs about children's emotions are likely to be multifaceted (Dunsmore & Halberstadt, 1997). Recent empirical work suggests that the meta-emotion construct combines two dimensions: belief about acceptability of emotions, and belief about active emotion socialization (Hakim-Larson, Parker, Lee, Goodwin, & Voelker, 2006). When the belief about whether negative emotions are acceptable is disaggregated from active emotion coaching, each has differentiated influence on children's outcomes. With preschoolers, maternal awareness of her child's negative emotions was related to children's positive engagement with peers, whereas maternal emotion coaching was related to children's lower engagement in negative peer play (Katz & Windecker-Nelson, 2004). With adolescents, maternal acceptance of her own negative emotions was associated with adolescents' higher self-esteem and with both lower externalizing and lower internalizing problems, whereas maternal emotion coaching was associated only with adolescents' lower internalizing problems (Katz & Hunter, 2007). Furthermore, though emotion coaching and emotion dismissing may seem to be opposite parental emotional socialization styles, observational work with children in middle childhood suggests that these may be orthogonal constructs. Indeed, parents who engaged in both coaching and dismissal of children's negative emotions had children with the lowest emotional dysregulation (Lunkenheimer et al., 2007).

Therefore, from the meta-emotion construct, we drew two dimensions of parental beliefs that might be relevant to parents' emotional experience and expression and children's recognition of parents' emotions. The first was parents' belief about the lack of acceptability or potential danger of emotions. The second was parents' belief about the importance of their active guidance of their child's emotion socialization.

Parents' belief about the danger of emotions

Though there has been little research on the parental belief that emotions can be dangerous, one study has demonstrated an association between parents' belief that emotions can be dangerous and their children's use of avoidance and distraction as ways of coping with their emotions following a set of terrorist attacks (Halberstadt, Thompson, Parker, & Dunsmore, in press). We chose to examine parents' belief about the lack of acceptability or potential danger of children's emotions because we expected this belief to relate to parents' emotional experience. Parents who believe emotions are dangerous for children might find emotion-related stimuli and situations to be more stressful, and therefore experience greater emotional arousal compared with parents who believe emotions are not dangerous for children. Parents who believe emotions are dangerous for children might also attempt to mask their emotional expression more than parents who believe emotions are not dangerous for children.

Because parents' emotional experience may affect their expressive clarity, it is possible that parents' belief that emotions are dangerous might indirectly affect parents' expressive clarity through association with parents' emotional experience. However, the direction of such a relationship is unclear. Intraindividually, greater reaction to emotion-related stimulation is associated with more expression of emotion (Buck et al., 1974; Davidson, Prkachin, Mills, & Lefcourt, 1994; Gross & Levenson, 1993; Mauss et al., 2005, for happiness but not sadness; Soussignan, 2002; Zuckerman, Klorman, Larrance, & Spiegel, 1981). Across individuals, those who experience greater autonomic reactivity and tend to show less clear emotional expressions are called internalizers, whereas those who experience less autonomic reactivity and tend to show more clear emotional expressions are called externalizers (Buck, 1977; Buck et al., 1974; Demaree et al., 2006; Lanzetta & Kleck, 1970). Externalizers are more often women than men; internalizers are more often men than women (Buck et al., 1974; Kring & Gordon, 1998). Furthermore, those whose autonomic reactivity and expressivity are positively related are called generalizers, and sometimes further categorized as either high responders (high in both autonomic reactivity and expressivity) or low responders (low in both autonomic reactivity and expressivity; Buck et al., 1974; Cacioppo et al., 1992). Thus, although we expected that parents' belief that emotions can be dangerous would be positively related to their report of the intensity of their emotional experience and their attempt to mask their emotional experience, we did not predict associations between parents' belief about danger and parents' expressive clarity or children's emotion recognition accuracy. We expected that mothers would show greater expressive clarity compared with fathers; we did not predict differences according to parent sex in parents' belief that emotions can be dangerous nor in parents' intensity of emotional experience.

Parents' belief about active socialization of emotions

Research with preschool-age children has demonstrated that parents who value teaching children about emotions have children with greater emotion knowledge (Denham & Kochanoff, 2002). More specifically, parents' belief about guiding their children's emotions have been linked to preschool children's emotion talk, emotion understanding, and peer relations (Cervantes & Seo, 2005; Dunsmore & Karn, 2001, 2004), suggesting a linkage to children's emotion recognition skill. Parents who believe it is important to actively guide their children's emotion socialization may take more care to be clear in their expression of emotion, therefore showing greater expressive clarity. They may also engage in a variety of socialization practices that teach their child to attend to emotion, thereby resulting in their child's greater emotion recognition skill. Therefore, we expected parents' belief that it is important to actively guide their children's emotion socialization to be positively related to parents' expressive clarity and to children's accurate recognition of parents' emotions. However, we do note that previous research has tended to focus on younger childhood, and it is possible that parents' active socialization could interfere with children's emotion recognition skill, especially

because children have already mastered basic emotion recognition skills by middle childhood (Pons, Harris, & deRosnay, 2004). We turn to the importance of this developmental period next.

Middle Childhood

Our focus on middle childhood helps to fill an important gap in the literature. First, despite fruitful research on the influence of parental socialization on emotional development from infancy through early childhood, the field has only recently begun to focus on parental emotion socialization with older children and adolescents (Klimes-Dougan & Zeman, 2007). Yet, changes from early to middle childhood in children's understanding of their own characteristics and in their ability to make social comparisons may make parent-child nonverbal communication as salient or even more salient to children as a form of social feedback in middle childhood compared with early childhood (Harter, 1990, 1996, 1999).

Second, both children's nonverbal accuracy (Feldman, Coats, & Spielman, 1996; Nowicki & Duke, 1992, 1994; Philippot & Feldman, 1990) and the complexity of their understanding of emotions (e.g., DePaulo & Rosenthal, 1979; Pons et al., 2004) increase from early to middle childhood. Specifically, most children master understanding of masking emotions in middle childhood (Pons et al., 2004). This understanding of masked emotions coupled with their long familiarity with their parent may give children an advantage in recognizing their parents' emotions. On the other hand, masked emotions may be more difficult to decode within close relationships, such as the parent-child relationship, compared with less close relationships (Sternglanz & DePaulo, 2004).

Third, in middle childhood, parents' beliefs may be especially important indices of emotion socialization, compared with earlier childhood. Because children in middle childhood have mastered basic emotion knowledge such as labeling facial expressions and recognizing prototypical causes and consequences of emotions (Pons et al., 2004), parents expect greater self-sufficiency in children's use of emotional skills in middle childhood compared with earlier childhood (Cassano, Perry-Parish, & Zeman, 2007). Furthermore, because children in middle childhood may have internalized parental expectations about emotional skills, parents may be able to rely on less direct emotion socialization routes in middle childhood compared with earlier childhood (Klimes-Dougan & Zeman, 2007). For all these reasons middle childhood is an important and interesting time in which to study how parents' beliefs about emotions may influence nonverbal communication within parent-child relationships.

The Present Study

Parents self-reported their beliefs about the danger of emotions and their role in guiding their child's emotion socialization while children completed a standard emotion recognition task. We then asked parents to view standard emotion-eliciting film clips while their children viewed them through a closed-circuit monitor and tried to guess what emotion their parents were feeling. Parents viewed film clips intended to elicit anger, fear, sadness, and happiness. Parents rated their emotional experience and provided an open-ended descriptor of their emotional experience following each film clip. Parents also rated the extent to which they masked their emotions following each film clip. Children provided an open-ended description of parents' emotions following each film clip. Later, undergraduate student observers viewed videotapes of parents' faces and categorized parents' emotional expression for each film clip. The inclusion of the standard emotion recognition task for children and the use of undergraduate observers allowed us to statistically address the confounds of parents' expressive clarity and children's general emotion recognition skill when examining the influence of parents' beliefs about emotions on children's recognition of their parents' emotions.

Hypotheses

Hypothesis 1

We expected positive links between parents' belief that emotions are dangerous and parents' self-reported (a) intensity of emotional experience and (b) masking of their emotional expression.

Hypothesis 2

We hypothesized that parents' belief that it is important to actively guide their children's emotion socialization would be positively related to parents' expressive clarity.

Hypothesis 3

Even after controlling for parents' expressive clarity and children's general emotion recognition skill, we hypothesized that parents' belief that it is important to actively guide their children's emotion socialization would be positively related to children's emotion recognition accuracy with their parent.

Method

Participants

Forty 9- to 10-year-old children (50% female) and a parent (70% female; *M* age = 40.38 years, *SD* = 10.72 years) participated. Parents reported children's ethnicity; one child was African-American, 36 were European-American, and three were identified as "other." Most parents were married (70%), and most were well-educated (82.5% had completed 4-year college degrees; 38% had completed graduate or professional degrees). Parents were paid \$20 and children were given a t-shirt and a certificate of appreciation for their participation.

Procedure

Parent-child dyads visited the Social Development Lab to participate in a single session lasting approximately two hours. Parents first completed the questionnaires. In a separate room, children completed a standard emotion recognition task (described below) and completed an interview regarding their self-description for a separate study. Children were offered a snack after the completion of their interview.

After parents had completed their questionnaires, they were seated before a Dell Latitude D600 desktop computer to view the emotion-eliciting film clips. The computer used MediaLab software to randomize clip presentation and record parents' responses (Empirisoft Corporation, New York, NY). Parents were instructed to view the film clips and respond as they would when viewing with their child at home. The research assistant started the MediaLab program and then left the room. Parents were given a card to hold up to request assistance in case of equipment failure, or if they wished to halt participation; none did so.

Five clips, validated in previous research for eliciting fear (2 clips)¹, happiness, sadness, and anger (1 clip each), were presented in random order (Fredrickson & Levenson, 1998; Gross & Levenson, 1995). Each film clip lasted approximately 1 ½ to 3 minutes. A final beach scene was presented to return parents to a mild positive state (contentment). Prior to each film clip, a one minute rest period occurred. Following each film clip, parents (a) wrote a label for the

¹We pilot-tested all clips with undergraduate and graduate students who were not parents. For fear, one clip (from *The Shining*) was less effective with the pilot-testers than the other (from *Cliffhanger*). However, because the clip from *The Shining* involved a child in peril we thought it might be more effective with our parent participants than our non-parent pilot-testers. To ensure that at least one fear clip worked for our parents, we included both. Based on parents' ratings, both worked equally well, and so both were retained in analyses.

emotion they experienced the most and (b) rated the intensity of their emotional experience on a Likert-type scale from 1 (*not very much*) to 5 (*the most I have ever felt*). Finally, parents indicated how much they masked their emotion on a Likert-type scale ranging from 1 (*not at all*) to 5 (*very much*).

Children were seated in an adjacent room, viewing a video monitor. Each child saw his or her own parent's face and shoulders. Sound was turned off and was not audible through the walls, so children relied solely on parental facial expressions and perhaps upper body movement when rating parents' emotions. At the end of each film clip, children provided an open-ended response indicating what emotion their parents had felt the most during the film clip.

Parents and children then played a game together for another study.

Materials

Parents' Beliefs about Children's Emotions Questionnaire (PBACE; Halberstadt et al., 2008)—In the PBACE questionnaire, parents indicate their agreement or disagreement with statements about children's emotions on a 6-point Likert-type scale ranging from 1 (*strongly disagree*) to 6 (*strongly agree*). The PBACE includes 11 subscales: (a) positive emotions are valuable, (b) negative emotions are valuable, (c) emotions are dangerous, (d) emotions just are, (e) emotions are controllable, (f) parents' guidance is important, (g) children can learn about emotions on their own, (h) parental contempt is okay, (i) children use emotions to manipulate, (j) children have a right to emotional privacy, and (k) children's emotions change over time. The two subscales relevant to our hypotheses were: (a) emotions are dangerous (15 items, $\alpha = .89$, sample item: "When children get angry, it can only lead to problems."), and (b) parents' guidance is important (24 items, $\alpha = .86$, sample item: "It is a parent's job to teach their children how to handle their emotions."). Factor analyses with 1,108 parents of children aged 4 to 10 years old indicate good convergent validity for the scale with parents' self-reported reactions to children's negative and positive emotions, and good discriminant validity with parents' self-reported anxiety and depression (Halberstadt et al., 2008).

Diagnostic Analysis of Nonverbal Accuracy 2 (DANVA2; Nowicki & Duke, 1994)—The adult facial expressions subscale of the DANVA2 consists of 24 photographs depicting women and men showing facial expressions of happiness, sadness, anger, and fear. For all emotions, half of the photographs show low intensity and half show high intensity expressions. Children were shown each photograph for two seconds and asked to identify each facial expression. Accurate recognition of facial expressions on the DANVA has been linked to girls' lower externalizing problems (Lancelot & Nowicki, 1997) and, with same-ethnicity stimuli, to girls' and boys' greater social competence (Glanville & Nowicki, 2002). The DANVA served as our measure of children's general recognition skill.

Coding and Data Reduction

Videotapes of parents viewing the film clips were randomized across participants and across film clip to reduce the possibility of observers guessing which film clip was being viewed in any particular segment. Ten undergraduate students then viewed each video clip and categorized parents' expressions as showing fear, anger, sadness, happiness, neutrality (just okay), or as indiscernible (Matsumoto et al., 2002). These codes were then compared to parents' open-ended response regarding their emotional experience during the film clip. Correspondence between students' categorization and parents' open-ended responses was scored on a 3-point scale: 0 = *no match*, 1 = *same valence, but not same type*, and 2 = *same valence and same type*. This type of scale is commonly used in studies of children's emotion understanding (e.g., Denham, McKinley, Couchoud, & Holt, 1990; Garner, Jones, & Miner, 1994), and served as our measure of parents' expressive clarity. Correspondence of children's

open-ended responses with their parents' open-ended responses were scored on the same 3-point scale, and served as our measure of children's recognition of parents' emotional expressions.

To reduce the number of variables, for each of these measures of correspondence, and for parents' ratings of their emotional intensity and of how much they masked their emotions, we formed one composite variable by averaging across the five emotion-eliciting film clips. Internal consistency for these composites was variable, ranging from a low of .34 for correspondence between parent and child open-ended responses to a high of .85 for parents' ratings of their masking (average Cronbach's alpha = .59). Nonetheless, forming these composites allowed greater power and produced meaningful results.

Results

Preliminary Analyses

Descriptive statistics are presented in Table 1. We first tested for differences by parent and child sex. *T*-tests showed no relation between parent sex and parents' beliefs about children's emotions. As Table 1 shows, there were no significant differences in fathers' and mothers' ratings of their emotional experience, but there were consistent parent sex differences in regard to emotional expression. Fathers reported masking their emotions more than mothers. Match of both observer and child responses with fathers' report of their emotional experience was lower than match with mothers' report of their emotional experience. Overall, these results suggest a pattern of greater clarity in mothers' versus fathers' expressiveness. Because of this pattern of findings, we controlled for parent sex in subsequent analyses when predicting masking and match of observer and child responses with parents' report of their emotional experience.

There was one significant difference according to child sex. Parents of sons rated greater emotional intensity in response to the film clips compared with parents of daughters, $t(38) = 3.42, p < .01, M = 3.69, SD = .69$ and $M = 2.89, SD = .67$, respectively. To explore this finding further we composited film clips that focused on male children (scene from *The Shining* of boy in danger – fear; scene from *Cry Freedom* of schoolchildren running from police, boy being shot – anger; scene from *The Champ* of boy crying as father dies – sadness) for comparison with film clips that did not focus on male children (puppy playing with flower – happiness; scene from *Cliffhanger* of woman falling to her death – fear). For both composites, parents of sons ($M_s = 3.6$ and $3.7, SD_s = .73$ and $.87$ for clips focused on male children and clips not focused on male children, respectively) rated greater emotional intensity compared with parents of daughters, ($M_s = 2.98$ and $2.75, SD_s = .79$ and $.82$ for clips focused on male children and clips not focused on male children, respectively; $t_s(38) > 2.40, p_s < .05$). Because of this finding we controlled for child sex in subsequent analyses when predicting parents' emotional intensity rating. We note that child sex differences were absent for children's general emotion recognition skill and for children's match with their parents' report of their emotional experience, $p_s > .50$.

We next examined correlations among study variables within parent sex (see Table 2). Though our sample of fathers is small, fathers are underrepresented in the developmental literature, and so we wanted to take advantage of the opportunity to explore similarities and differences in patterns of relations between beliefs about emotions and nonverbal communication for fathers and mothers. We found significant parent sex differences in two correlations. First, fathers who believed emotions are dangerous believed their guidance was less important, whereas mothers' belief that emotions are dangerous was unrelated to their belief that their guidance was more important, $z = 2.00, p < .05$. Second, when fathers had greater expressive clarity (as measured by observers' match with fathers' report of their emotional experience),

their children were more skilled in general emotion recognition, whereas mothers' expressive clarity was unrelated to their children's general emotion recognition skill, $z = 2.26, p < .05$. We also note one trend for parent sex differences in the pattern of correlations. Mothers who reported experiencing greater emotional intensity also reported more masking, whereas for fathers, there was no relation between the two ratings, $z = 1.64, p < .10$.

Strategy for Testing Hypotheses

To test our hypotheses we conducted hierarchical regressions in order to examine the influence of both types of parental beliefs simultaneously. We controlled for child sex when predicting parents' intensity of emotional experience. We controlled for parent sex when predicting parents' masking and expressive clarity. We controlled for parent sex, parents' expressive clarity, and children's general emotion recognition skill when predicting children's emotion recognition accuracy with their parents.

Hypothesis 1: Parents' belief that emotions are dangerous will be positively related to their self-reported intensity of emotional experience and masking of emotional expression

Parents' intensity of emotional experience: The first step of the equation predicting parents' intensity of emotional experience, which included child gender, was significant, $F(1, 38) = 11.68, p < .01, R^2 = .24$. When parents' beliefs about danger and guidance were added on the second step, the model was again significant, $F(3, 36) = 5.09, p < .01$, and accounted for an additional 6% of the variance. Examination of beta coefficients showed that parents' belief that children's emotions are dangerous was marginally and positively related to parents' report of their emotional intensity, whereas parents' belief that their guidance is important was unrelated to parents' report of their emotional intensity. Please see Table 3.

Parents' masking: The first step of the equation predicting parents' masking, which included parent sex, was significant, $F(1, 38) = 5.97, p < .05, R^2 = .14$. Adding parents' beliefs about danger and guidance on the second step accounted for an additional 14% of the variance and again resulted in a significant model, $F(3, 36) = 4.71, p < .01$. Examination of beta coefficients showed that parents' belief that children's emotions are dangerous was significantly positively related to parents' report of their masking, whereas parents' belief that their guidance is important was unrelated to masking. Please see Table 4.²

Hypothesis 2: Parents' belief that it is important to guide their children's emotion socialization will be positively associated with parents' expressive clarity—Step One of this regression equation included parent sex and was significant, $F(1, 38) = 5.46, p < .05, R^2 = .13$. Including parents' beliefs about danger and guidance on Step Two accounted for less than 1% additional variance and resulted in a non-significant model, $F(3, 36) = 1.86, p > .10, R^2 = .13, \beta = -.01$ for danger and .09 for guidance.

Hypothesis 3: After controlling for parents' expressive clarity and children's general emotion recognition skill, parents' belief that it is important to actively guide their children's emotion socialization will be positively related to children's emotion recognition accuracy with their parent—The first step of the equation predicting children's recognition of their parents' emotions included parent sex and was significant, $F(1, 38) = 14.68, p < .001, R^2 = .28$. Parents' expressive clarity, measured by observers' match with parents' open-ended response, and children's general emotion

²When parents' emotional intensity was also controlled on Step One, the model again remained significant on Step Two with the inclusion of parents' beliefs about danger and guidance, and parents' belief that emotions are dangerous remained a significant positive predictor of parents' report of masking.

recognition skill were included on Step Two. This accounted for an additional 4% of the variance and again resulted in a significant model, $F(3, 36) = 5.68, p < .01$, though neither beta coefficient was significant. Adding parents' beliefs about danger and guidance on Step Three accounted for an additional 11% of the variance and again resulted in a significant model, $F(5, 34) = 5.23, p < .01$. Examination of the beta coefficients showed that parents' belief that emotions are dangerous was unrelated to children's recognition of their parents' emotions, whereas parents' belief that their guidance is important was significantly negatively associated with children's recognition of their parents' emotions. Please see Table 5.

Discussion

Our goal was to investigate how parents' beliefs about children's emotions might be linked to parents' own emotional experience and expression, and to children's recognition of parents' facial expressions in middle childhood. We first address the parent and child sex differences in our results. We then address each of our hypotheses in turn. We conclude by noting the strengths and limitations of our study and suggesting future research directions.

Sex differences

Fathers rated their emotional experiences similarly to mothers, yet reported greater masking relative to mothers. In addition, fathers provided less clear emotional expressions compared to mothers, as judged by their children and objective observers. These findings are consistent with the widely noted gender differences in expressiveness (e.g., Brody & Hall, 2008; Hall, 1984) and in expressive clarity (Buck, Miller, & Caul, 1974; Hall, 1984; Knapp, 1978; Noller, 2001). These findings provide further evidence that these gender differences are not a function of women experiencing greater emotionality, but may be at least partially due to men choosing to mask their emotions more than women (Averill, 1982; Kring & Gordon, 1998).

The patterns of correlations for mothers and fathers are also consistent with extant research showing gendered patterns of parental emotion socialization. For mothers, there was no relation between beliefs about danger and guidance. For fathers, however, there was a trend for the belief that emotions are dangerous to be negatively related to the belief that parental guidance is important. This fits well with findings that fathers use avoidant and distraction strategies more than mothers to cope with children's negative emotions (McElwain, Halberstadt, & Volling, 2007). Differences in parents' approach or avoidance of emotion-related situations could have implications for gendered socialization of emotion schemas as well as coping strategies.

Parents may also be more likely to believe it is the mothers' role to teach children about emotions rather than the fathers'. Undergraduates recall mothers being more active than fathers in responding to their emotions when they were children, both in supporting and discouraging emotional expression (Garside & Klimes-Dougan, 2002). Mothers may be more likely than fathers to perceive a need to actively guide their children's emotions even when they find emotions to be dangerous because they may perceive emotion socialization as part of their parenting "territory." Fathers who believe that emotions are dangerous, however, may feel that they can leave emotion socialization to their child's mother. Future research examining joint socialization of mothers and fathers will be important to address these possibilities.

We also found that mothers' expressive clarity was not related to their children's general emotion recognition skill, but fathers' expressive clarity was. Combined with the lower expressive clarity of fathers compared with mothers, these results are consistent with the developmental progression found between parents' expressivity and children's general emotion recognition skill (Halberstadt & Eaton, 2003). In earlier childhood, greater parental expressiveness predicts children's emotion recognition skill, but at approximately the age of

the children in our study, lower expressiveness begins to become a better predictor of children's emotion recognition skill. Our results suggest that the developmental progression noted in the literature may also depend on the expressive clarity in children's families. With a parent whose emotions are more difficult to recognize, children may continue to accrue advantages in general emotion recognition skill through later ages by learning to attend to subtler and more ambiguous cues.

These results may also suggest that mothers' and fathers' expressive clarity may play different roles at different times in children's development. In other words, whereas mothers' expressive clarity may be initially a good predictor of children's emotion recognition skill, fathers' relative lack of expressive clarity may become a better predictor of emotion recognition skill as children get older, because children are now ready for more subtle and ambiguous cues. Fathers may also be less predictable in their expressiveness compared with mothers (Parke & McDowell, 1998). This again may lead to fathers' expressiveness being more influential at developmentally later time points compared with mothers' expressiveness because children may need greater cognitive maturation to perceive fathers' relatively less predictable patterns of expressive cues.

We are struck by how large the parent sex differences are considering the self-selected nature of our sample. Not only was the sample fairly homogenous in regard to high education levels, but also parents volunteered to spend two hours of their time with their child in a study involving experiencing, expressing, and discussing emotions. If anything, we expected that fathers who agreed to participate in our study would be more similar to mothers in their emotional expressivity and patterns of beliefs compared with fathers in general.

We also note the lack of sex differences in children's emotion recognition skill. Extant literature has been somewhat mixed in this regard, with some researchers noting an advantage for girls in emotion recognition skill compared to boys (Hall, 1984, 2001; Knapp, 1978), and others finding little to no evidence for sex differences in children's emotion recognition skill, especially of facial expressions (Eisenberg & Lennon, 1983; Nowicki & Duke, 1994). McClure's (2000) meta-analysis indicates small but significant child sex differences favoring girls for recognition of facial expressions of emotions. Furthermore, this advantage for girls is consistent across a variety of assessment tools, including the DANVA. We were concerned that our small sample size and limited power may have precluded replicating this effect. In our sample, however, the effect size for child sex differences in general emotion recognition skill measured through the DANVA was very small ($d = .018$). On the other hand, the effect size for child sex differences in recognition of parents' emotions ($d = .22$) was similar to that reported in McClure's meta-analysis – but in the opposite direction, with boys showing a small and non-significant advantage in recognizing their parents' emotions compared with girls. The two other studies on children's recognition of parents' emotions also do not support child sex differences in children's emotion recognition skill with parents (Daly et al., 1980; Dunsmore & Smallen, 2001).

The one child sex difference we did find was in regard to *parents'* intensity of emotional experience, with parents of sons reporting greater emotional intensity compared with parents of daughters. In retrospect, the film clips we used, though chosen because they have been validated for effectively and specifically evoking discrete emotions (Gross & Levenson, 1995), may have been more evocative for parents of sons compared with parents of daughters, because three of the five clips focused on male children in situations of threat or loss, and no clips focused on daughters.

Our choice of film clips may not completely account for our finding, however, because parents' report of emotional intensity was significantly higher for parents of sons compared with parents

of daughters even for the film clips that did not focus on male children. Given differential patterns of parental emotional expressions with children, reactions to children's emotions, and emphases on emotional control with sons compared with daughters, Eisenberg and colleagues (1998) propose that parents may feel that their sons are more at risk for difficulties with negative emotionality compared with their daughters. Thus, even when not directly interacting with their child, knowing that a son is watching them may enhance parents' intensity of emotional experience more so than knowing that a daughter is watching them.

Hypothesis 1: Parents' belief that emotions are dangerous will be positively linked to parents' self-reported intensity of emotional experience and masking of emotional expression—We found some support for our hypothesis that parents who believe emotions are dangerous would report greater emotional intensity. After accounting for children's sex, parents' belief that emotions are dangerous was marginally significant as a predictor of parents' emotional intensity. It may be that the relation between parents' belief that emotions are dangerous and parents' emotional intensity does not exist. However, the effect for child sex was large, and as we note above, our selection of film clips may have inadvertently maximized the effect of child sex, so we believe this hypothesis is worthy of future study. Believing emotions to be potentially dangerous may heighten parents' sensitivity to emotion-eliciting stimuli, thereby increasing the intensity of their response. Alternatively, one source of parents' belief that emotions can be dangerous may be their experience of intense emotional responses. Future work including both self-report and physiological indices of emotional arousal may be useful in examining whether there is a causal relation between parents' belief that emotions are dangerous and their intensity of emotional experience.

We found stronger support for our hypothesis that parents' belief that emotions are dangerous would relate to their masking of their emotional expression. Even after controlling for the parent sex difference in masking, parents' belief that emotions are dangerous was significantly positively related to their masking. Despite the controlled nature of our procedures, it makes intuitive sense that when parents believe emotions are dangerous, they would want to protect their children from seeing too much emotion on parents' faces. In so doing, they may be shielding their children from the opportunity to engage with emotions and explore them. Alternatively, they may also be protecting their children from unnecessary and problematic emotionality. If children model their parents' expressive style (Halberstadt & Eaton, 2003), these results also suggest that children of parents who believe emotions are dangerous may be likely to engage in greater attempts to mask their own emotions over time.

Hypotheses 2 and 3: Parents' belief that it is important to actively guide their children's emotion socialization will be positively related to their expressive clarity and to their children's recognition of parents' emotions—These hypotheses were not supported. Parents' expressive clarity was predicted only by parent sex. Perhaps parents' active socialization efforts are focused more on verbalizations about emotions rather than nonverbal expression of emotions. This may be especially likely by middle childhood, when children have moved on to more nuanced emotional skills and parents are no longer focused on teaching basic emotional expressions. Alternatively, parents' emotional intensity may overwhelm their ability to focus on effectively socializing their children in situations in which they too are feeling powerful emotions, especially in middle childhood, when parents may view their children as less vulnerable to parents' emotional expressions compared with earlier childhood.

For children's recognition of parents' emotions, the opposite relation to that hypothesized was found. When parents believed they should play an active role in emotion socialization, their children were less accurate in recognizing parents' emotions. Importantly, this finding held after controlling for parents' expressive clarity and children's general emotion recognition skill

as well as parent sex. Thus, this negative association between parents' belief that their guidance of their child's emotion socialization is important and children's relationship-specific recognition of parents' emotions is not confounded by parents' expressive clarity nor by children's general emotion recognition skill.

One source of parents' belief that their guidance is important could be parents' awareness that their child is having difficulty recognizing parents' emotions. Alternatively, parents' active guidance may not always be beneficial for 9- and 10-year-old children. For example, if parents' verbalizations about emotions contradict their nonverbal expression of emotions, or if their posed emotional expression is forced rather than natural, children may become confused. Genuineness in emotional expression is a key aspect of emotional competence (Saarni, 1990). A sense of independence in learning about emotions within the family may resonate for children with the increasing autonomy in close personal relationships outside the family that is characteristic of middle childhood. Conversely, a sense that parents are controlling learning about emotions may communicate lack of confidence in the child's emotional skill to the child in middle childhood. We note again that this finding is specific to children's recognition of parents' emotions, as parents' belief that their guidance is important is unrelated to children's general emotion recognition skill. Rather, this belief seems to be associated with a specific deficit in parent-child nonverbal communication that is not accounted for by parents' general expressive clarity nor by children's general emotion recognition skill. For this reason, we side with the interpretation that too much parental guidance at this age may interfere with children's recognition of parental emotions, rather than the interpretation that deficits in children's emotion recognition skill may lead to parents' emphasis on guiding their child's emotion socialization. Parents' active guidance in middle childhood may need to be subtler and more child-driven than in early childhood.

Strengths, Limitations, and Conclusions

One strength of our study was the multifaceted assessment of parent-child nonverbal communication which allowed us to disentangle parents' expressive clarity, children's general emotion recognition skill, and children's relationship-specific emotion recognition. Our inclusion of fathers as well as mothers allowed us to parse effects of parent sex from effects of parental beliefs and parent expressive clarity and to explore different patterns of mothers' and fathers' beliefs and expressive clarity and their children's emotion recognition. Finally, we relied on standard emotion-eliciting film clips, a standard emotion recognition task, and a standard technique for assessing expressive clarity.

We did not anticipate that parents of boys would experience greater emotional intensity compared to parents of girls, and we now recognize the importance of developing an emotion-eliciting task that is equally evocative for parents of daughters and sons. With a standardized set of film clips focusing on both female and male children, future research could address the important question of whether parents of boys experience greater emotion themselves in emotion-eliciting events compared to parents of girls. A second question would then be whether such an effect was partially a result of parents trying to suppress their own emotionality in order to reduce their sons' emotionality in accordance with societal rules for boys' and girls' expressiveness. This sort of study might be able to capture some of the *processes* of parental socialization.

We note three other limitations of the present study. First, we had a small sample size. Nonetheless, our study yielded a rich array of theoretically consistent findings. A larger sample might have allowed other effects to emerge. Second, we do not know the extent to which parents' beliefs are related to their emotion socialization strategies in their everyday lives. As we noted earlier, it may be that parental beliefs are linked to heterogeneous emotion socialization strategies. Examining associations between parents' emotion-related beliefs and

socialization strategies may provide a fruitful avenue for uncovering trajectories of continuity and change in parent and child emotion-related goals and nonverbal dialogue. Third, our sample was comprised of predominantly middle-class, European-American families. It is possible that culture and class differences exist, not only in parents' emotion-related beliefs, but perhaps also in the interrelations among parental beliefs, emotional experience, emotional expression, and children's emotion recognition. For example, concern about emotion as dangerous may differ between families from historically oppressed groups and families from historically dominant groups (Beale & Halberstadt, 2007). Thus, in future work, we recommend examining linkages between parents' beliefs about children's emotions and children's emotion-related outcomes with families that vary in terms of ethnicity and social class.

Finally, comparing parent-child nonverbal communication of negative with positive emotions will be important for future research. Recently Fredrickson and colleagues (Fredrickson, Tugade, Waugh, & Larkin, 2003; Tugade & Fredrickson, 2004) found that positive emotions can buffer individuals from negative emotions and negative life events. Therefore, addressing how parental beliefs may influence expression and recognition of both positive and negative emotions is important for a more nuanced understanding of nonverbal communication within family relationships.

In conclusion, we found rich and intriguing associations among parents' emotion-related beliefs, experience, and expression, and their children's recognition of parents' emotions. Overall, our results suggest that in middle childhood, when parents believe that emotions can be dangerous, they may report more intense emotional experiences and they report greater attempts to mask their emotions. When parents believe it is important for them to guide their child's emotion socialization, their children show less accurate recognition of parents' emotions. Increasing effort has been focused in early childhood and elementary education to improve children's socio-emotional competence (e.g., Domitrovich, Cortes, & Greenberg, 2007; Greenberg, Kusché, Cook, & Quamma, 1995; Webster-Stratton & Reid, 2004). The home, however, continues to be an important context for children's emotion socialization. Understanding both parent-driven and child-driven pathways linking parents' beliefs and parent-child nonverbal communication will be important for future research to identify pathways leading to children's socio-emotional competence within developmental contexts. Our research provides an important beginning for understanding the influences of parental beliefs about emotions on parents' and children's emotion-related experiences and skills.

References

- Beale, KS.; Halberstadt, AG.; Garrett-Peters, P, Chair. Ethnicity, SES, and education as predictors of parents' beliefs about children's emotions. Emotion socialization: Predictors and outcomes; Symposium presented at the meeting of the Society for Research in Child Development; Boston, MA. 2007 Mar.
- Brody, LR.; Hall, JA. Gender and emotion in context. In: Lewis, M.; Haviland-Jones, JM.; Barrett, LF., editors. Handbook of emotions. 3rd ed. New York: Guilford Press; 2008. p. 395-408.
- Buck R. Nonverbal communication of affect in preschool children: Relationships with personality and skin conductance. *Journal of Personality and Social Psychology* 1977;35:225-236. [PubMed: 864589]
- Buck R, Miller RE, Caul WF. Sex, personality, and physiological variables in the communication of affect via facial expression. *Journal of Personality and Social Psychology* 1974;30:587-596. [PubMed: 4455775]
- Cacioppo JT, Uchino BN, Crites SL, Snyder-Smith MA, Smith G, Berntson GG, Lang PJ. Relationship between facial expressiveness and sympathetic activation in emotion: A critical review, with emphasis on modeling underlying mechanisms and individual differences. *Journal of Personality and Social Psychology* 1992;62:110-128. [PubMed: 1538310]
- Cassano M, Perry-Parish C, Zeman J. Influence of gender on parental socialization of children's sadness regulation. *Social Development* 2007;16:210-231.

- Cervantes, CA.; Seo, M.; Dunsmore, JC, Chair. Korean mothers' beliefs about children's emotions: An examination of parenting in a multicultural context. Multicultural examination of parent's beliefs about children: Meanings, mechanisms, and methods; Symposium conducted at the biennial meeting of the Society for Research in Child Development; Atlanta, GA. 2005.
- Custrini RJ, Feldman RS. Children's social competence and nonverbal encoding and decoding of emotions. *Child Psychology* 1989;18:336–342.
- Daly EM, Abramovitch R, Pliner P. The relationship between mothers' encoding and their children's decoding of facial expressions of emotion. *Merrill-Palmer Quarterly* 1980;26:25–33.
- Davidson KW, Prkachin KM, Mills DE, Lefcourt HM. Comparison of three theories relating facial expressiveness to blood pressure in male and female undergraduates. *Health Psychology* 1994;13:404–411. [PubMed: 7805635]
- Demaree HA, Schmeichel BJ, Robinson JL, Pu J, Everhart ED, Berntson GG. Up and down regulating facial disgust: Affective, vagal, sympathetic, and respiratory consequences. *Biological Psychology* 2006;71:90–99. [PubMed: 15970372]
- Denham SA. Social cognition, prosocial behavior, and emotion in preschoolers: Contextual validation. *Child Development* 1986;57:194–201.
- Denham SA, Auerbach S. Mother-child dialogue about emotions and preschoolers' emotional competence. *Genetic, Social, & General Psychology Monographs* 1995;21:313–337.
- Denham SA, Bouril B, Belouad F. Preschoolers' affect and cognition about challenging peer situations. *Child Study Journal* 1994;24:1–21.
- Denham S, Kochanoff AT. Parental contributions to preschoolers' understanding of emotion. *Marriage & Family Review* 2002;34:311–343.
- Denham SA, McKinley M, Couchoud EA, Holt R. Emotional and behavioral predictors of preschool peer ratings. *Child Development* 1990;61:1145–1152. [PubMed: 2209184]
- DePaulo BM, Rosenthal R. Age changes in nonverbal decoding skills: Evidence for increasing differentiation. *Merrill-Palmer Quarterly* 1979;25:145–150.
- Dix T. The affective organization of parenting: Adaptive and maladaptive processes. *Psychological Bulletin* 1991;110:3–25. [PubMed: 1891517]
- Dix, T. Parenting on behalf of the child: Empathic goals in the regulation of responsive parenting. In: Sigel, IE.; McGillicuddy-DeLisi, AV.; Goodnow, JJ., editors. *Parental belief systems: The psychological consequences for children*. 2nd ed.. Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.; 1992. p. 319-346.
- Dix T. Attributing dispositions to children: An interactional analysis of attribution in socialization. *Personality and Social Psychology Bulletin* 1993;19:633–643.
- Domitrovich CE, Cortes RC, Greenberg MT. Improving young children's social and emotional competence: A randomized trial of the preschool "PATHS" curriculum. *Journal of Primary Prevention* 2007;28:67–91. [PubMed: 17265130]
- Dunsmore, JC.; Halberstadt, AG. How does family emotional expressiveness affect children's schemas?. In: Barrett, KC., editor. *The communication of emotion: Current research from diverse perspectives*. San Francisco: Jossey-Bass; 1997. p. 45-68.
- Dunsmore JC, Karn MA. Mothers' beliefs about feelings and children's emotional understanding. *Early Education and Development* 2001;12:117–138.
- Dunsmore JC, Karn MA. The influence of peer relationships and maternal socialization on kindergartners' developing emotion knowledge. *Early Education and Development* 2004;15:39–56.
- Dunsmore JC, Smallen LS. Parents' expressiveness and young children's emotion decoding with parents and unknown adults. *Journal of Genetic Psychology* 2001;162:478–494. [PubMed: 11831355]
- Eisenberg N, Cumberland A, Spinrad TL. Parental socialization of emotion. *Psychological Inquiry* 1998;9:241–273. [PubMed: 16865170]
- Eisenberg N, Lennon R. Sex differences in empathy and related capacities. *Psychological Bulletin* 1983;94:100–131.
- Eisenberg N, Spinrad TL, Cumberland A. The socialization of emotion: Reply to commentaries. *Psychological Inquiry* 1998;9:317–333.

- Feldman RS, Coats EJ, Spielman DA. Television exposure and children's decoding of nonverbal behavior. *Journal of Applied Social Psychology* 1996;26:1718–1733.
- Fredrickson BL, Levenson RW. Positive emotions speed recovery from the cardiovascular sequelae of negative emotions. *Cognition & Emotion* 1998;12:191–220.
- Fredrickson BL, Tugade MM, Waugh CE, Larkin GR. What good are positive emotions in crisis? A prospective study of resilience and emotions following the terrorist attacks on the United States on September 11th, 2001. *Journal of Personality and Social Psychology* 2003;84:365–376. [PubMed: 12585810]
- Garner PW, Jones DC, Miner JL. Social competence among low-income preschoolers: Emotion socialization practices and social cognitive correlates. *Child Development* 1994;65:622–637. [PubMed: 8013243]
- Garside RB, Klimes-Dougan B. Socialization of discrete negative emotions: Gender differences and links with psychological distress. *Sex Roles* 2002;47:115–128.
- Glanville DN, Nowicki S. Facial expression recognition and social competence among African American elementary school children: An examination of ethnic differences. *Journal of Black Psychology* 2002;28:318–329.
- Gottman JM, Katz LF, Hooven C. Parental meta-emotion philosophy and the emotional life of families: Theoretical models and preliminary data. *Journal of Family Psychology* 1996;10:243–268.
- Gottman, JM.; Katz, LF.; Hooven, C. *Meta-emotion: How families communicate emotionally*. Hillsdale, NJ: Lawrence Erlbaum; 1997.
- Greenberg MT, Kusché CA, Cook ET, Quamma JP. Promoting emotional competence in school-aged children: The effects of the PATHS curriculum. *Development and Psychopathology* 1995;7:117–136.
- Gross JJ, Levenson RW. Emotional suppression: Physiology, self-report, and expressive behavior. *Journal of Personality and Social Psychology* 1993;64:970–986. [PubMed: 8326473]
- Gross JJ, Levenson RW. Emotion elicitation using films. *Cognition & Emotion* 1995;9:87–108.
- Hakim-Larson J, Parker A, Lee C, Goodwin J, Voelker S. Measuring parental meta-emotion: Psychometric properties of the emotion-related parenting styles self-test. *Early Education and Development* 2006;17:229–251.
- Halberstadt AG, Denham SA, Dunsmore JC. Affective social competence. *Social Development* 2001;10:79–119.
- Halberstadt AG, Dunsmore JC, Parker AE, Beale KS, Thompson JA, Bryant A Jr. 2008 Unpublished questionnaire.
- Halberstadt AG, Eaton KL. A meta-analysis of family expressiveness and children's emotion expressiveness and understanding. *Marriage & Family Review* 2003;34:35–62.
- Halberstadt AG, Thompson JA, Parker AE, Dunsmore JC. Parents' emotion-related beliefs and behaviors predict children's reactions to the September 11, 2001 terrorist attacks. *Infant and Child Development*. (in press).
- Hall, JA. *Nonverbal sex differences: Communication accuracy and expressive style*. Baltimore: Johns Hopkins University Press; 1984.
- Hall, JA. The PONS Test and the psychometric approach to measuring interpersonal sensitivity. In: Hall, JA.; Bernieri, FJ., editors. *Interpersonal sensitivity: Theory and measurement*. Mahwah, NJ: Lawrence Erlbaum Associates Publishers; 2001. p. 143-160.
- Hall JA, Rosip JC, Smith LeBeau L, Horgan TG, Carter JD. Attributing the sources of accuracy in unequal-power dyadic communication: Who is better and why? *Journal of Experimental Social Psychology* 2006;42:18–27.
- Harter, S. Processes underlying adolescent self-concept formation. In: Montemayor, R.; Adams, GR.; Gullotta, TP., editors. *From childhood to adolescence: A transitional period?*. Thousand Oaks, CA: Sage Publications, Inc.; 1990. p. 205-239.
- Harter, S. Developmental changes in self-understanding across the 5 to 7 shift. In: Sameroff, AJ.; Haith, MM., editors. *Handbook of self-concept: Developmental, social, and clinical considerations*. Chicago, IL: University of Chicago Press; 1996. p. 207-236.
- Harter, S. *The construction of the self: A developmental perspective*. New York: Guilford Press; 1999.

- Katz LF, Gottman JM. Buffering children from marital conflict and dissolution. *Journal of Clinical Child Psychology* 1997;26:157–171. [PubMed: 9169376]
- Katz LF, Hunter EC. Maternal meta-emotion philosophy and adolescent depressive symptomatology. *Social Development* 2007;16:343–360.
- Katz, LF.; Wilson, B.; Gottman, JM. Meta-emotion philosophy and family adjustment: Making an emotional connection. In: Cox, MJ.; Brooks-Gunn, J., editors. *Conflict and cohesion in families: Causes and consequences*. Mahwah, NJ: Lawrence Erlbaum Associates Publishers; 1999. p. 131–165.
- Katz LF, Windecker-Nelson B. Parental meta-emotion philosophy in families with conduct-problem children: Links with peer relations. *Journal of Abnormal Child Psychology* 2004;32:385–398. [PubMed: 15305544]
- Katz LF, Windecker-Nelson B. Domestic violence, emotion coaching, and child adjustment. *Journal of Family Psychology* 2006;20:56–67. [PubMed: 16569090]
- Kenny DA, Albright L. Accuracy in interpersonal perception: A social relations analysis. *Psychological Bulletin* 1987;102:390–402. [PubMed: 3317468]
- Klimes-Dougan B, Zeman J. Introduction to the special issue of social development: Emotion socialization in childhood and adolescence. *Social Development* 2007;16:203–209.
- Knapp, ML. *Nonverbal communication in human interaction*. 2nd ed. New York: Holt, Rinehart, & Winston; 1978.
- Kring AM, Gordon AH. Sex differences in emotion: Expression, experience, and physiology. *Journal of Personality and Social Psychology* 1998;74:686–703. [PubMed: 9523412]
- Lagacé-Séguin DG, Coplan RJ. Maternal emotional styles and child social adjustment: Assessment, correlates, outcomes and goodness of fit in early childhood. *Social Development* 2005;14:613–636.
- Lagacé-Séguin DG, d'Entremont ML. The role of child negative affect in relations between parenting styles and play. *Early Child Development and Care* 2006;176:461–477.
- Lancelot C, Nowicki S Jr. The association between receptive nonverbal processing abilities and internalizing/externalizing problems in girls and boys. *Journal of Genetic Psychology* 1997;158:297–302. [PubMed: 9255957]
- Lanzetta JT, Kleck RE. Encoding and decoding of nonverbal affect in humans. *Journal of Personality and Social Psychology* 1970;16:12–19. [PubMed: 5485938]
- Lunkenheimer ES, Shields AM, Cortina KS. Parental emotion coaching and dismissing in family interaction. *Social Development* 2007;16:232–248.
- Matsumoto D, Consolacion T, Yamada H. American-Japanese cultural differences in judgments of emotional expressions of different intensities. *Cognition & Emotion* 2002;16:721–747.
- Mauss IB, Levenson RW, McCarter L, Wilhelm FH, Gross JJ. The tie that binds? Coherence among emotion experience, behavior, and physiology. *Emotion* 2005;5:175–190. [PubMed: 15982083]
- McClure EB. A meta-analytic review of sex differences in facial expression processing and their development in infants, children, and adolescents. *Psychological Bulletin* 2000;126:424–453. [PubMed: 10825784]
- McElwain NL, Halberstadt AG, Volling BL. Mother- and father-reported reactions to children's negative emotions: Relations to young children's emotional understanding and friendship quality. *Child Development* 2007;78:1407–1425. [PubMed: 17883439]
- Noller P. Attachment insecurity as a filter in the decoding and encoding of nonverbal behavior in close relationships. *Journal of Nonverbal Behavior* 2001;29:171–176.
- Nowicki S, Duke MP. The association of children's nonverbal decoding abilities with their popularity, locus of control, and academic achievement. *Journal of Genetic Psychology* 1992;153:385–393.
- Nowicki S, Duke MP. Individual differences in the nonverbal communication of affect: The Diagnostic Analysis of Nonverbal Accuracy Scale. *Journal of Nonverbal Behavior* 1994;18:9–35.
- Parke RD, McDowell DJ. Toward an expanded model of emotion socialization: New people, new pathways. *Psychological Inquiry* 1998;9:303–307.
- Philippot P, Feldman RS. Age and social competence in preschoolers' decoding of facial expression. *Journal of Social Psychology* 1990;29:43–54.
- Pons F, Harris PL, deRosnay M. Emotion comprehension between 3 and 11 years: Developmental periods and hierarchical organization. *European Journal of Developmental Psychology* 2004;1:127–152.

- Saarni, C. Emotional competence: How emotions and relationships become integrated. In: Thompson, RA., editor. Nebraska symposium on motivation, 1988: Socioemotional development Current theory and research in motivation; Lincoln, NE: University of Nebraska Press; 1990. p. 115-182.
- Shipman KL, Schneider R, Fitzgerald MM. Maternal emotion socialization in maltreating and non-maltreating families: Implications for children's emotion regulation. *Social Development* 2007;16:268–285.
- Snodgrass SE, Hecht MA, Ploutz-Snyder R. Interpersonal sensitivity: Expressivity or perceptivity. *Journal of Personality and Social Psychology* 1998;74:238–249. [PubMed: 9457785]
- Soussignan R. Duchenne smile, emotional experience, and autonomic reactivity: A test of the facial feedback hypothesis. *Emotion* 2002;2:52–74. [PubMed: 12899366]
- Sternglanz RW, DePaulo BM. Reading nonverbal cues to emotions: The advantages and liabilities of relationship closeness. *Journal of Nonverbal Behavior* 2004;28:245–266.
- Stocker CM, Richmond MK, Rhoades GK, Kiang L. Family emotional processes and adolescents' adjustment. *Social Development* 2007;16:310–325.
- Tugade MM, Fredrickson BL. Resilient individuals' use of positive emotions to bounce back from negative emotional experiences. *Journal of Personality and Social Psychology* 2004;86:320–333. [PubMed: 14769087]
- Webster-Stratton C, Reid MJ. Strengthening social and emotional competence in young children — the foundation for early school readiness and success: Incredible Years classroom social skills and problem-solving curriculum. *Infants and Young Children* 2004;17:96–113.
- Zuckerman M, Klorman R, Larrance DT, Spiegel NH. Facial, autonomic, and subjective components of emotion: The facial feedback hypothesis versus the externalizer-internalizer distinction. *Journal of Personality and Social Psychology* 1981;41:929–944. [PubMed: 7299631]

Acknowledgments

Funding was provided by R03 53572 from NICHD and by an AdvanceVT Seed Grant. We express appreciation to Israel Christie, Amy Gravley, Holland Omar, Ryoichi Noguchi, Chad Stephens, and Bradford Wiles for assistance with programming, data collection, and coding. We are grateful to the families who participated in this research. Portions of this manuscript were presented at the 2006 Emotion Preconference at the meeting of the Society for Personality and Social Psychology, Palm Springs, CA and at the 2006 meeting of the International Society for Research on Emotions, Atlanta, GA.

Table 1

Descriptive Statistics for Variables by Parent Sex

Variable	All Parents <i>M (SD)</i>	Mothers <i>M (SD)</i>	Fathers <i>M (SD)</i>	Independent <i>t</i> -test for parent sex differences
Parent belief that emotions are dangerous	2.59 (.85)	2.52 (.84)	2.77 (.88)	-.84
Parent belief that parental guidance is important	4.77 (.48)	4.77 (.47)	4.78 (.51)	-.09
Parent rating of emotional intensity	3.19 (.81)	3.14 (.78)	3.47 (.77)	1.17
Parent rating of masking	1.81 (.76)	1.62 (.72)	2.25 (.69)	-2.46*
Observers' match with parent (parent expressive clarity)	.63 (.44)	.73 (.42)	.38 (.38)	2.35*
Child DANVA2 accuracy score (general emotion recognition skill)	18.24 (2.67)	18.46 (2.63)	17.71 (2.81)	.82
Child match with parent (relationship-specific emotion recognition)	.54 (.36)	.66 (.32)	.18 (.21)	4.22***

* *Note.* $p < .05$

 $p < .001$

Table 2

Correlations among Study Variables within Parent Sex

	1	2	3	4	5	6	7
1. Parent belief that emotions are dangerous	--	.19	.35 [†]	.46*	.03	-.02	-.05
2. Parent belief that parental guidance is important	-.53 [†]	--	-.02	.11	.05	.03	-.38*
3. Parent rating of emotional intensity	.22	-.29	--	.56**	-.18	.00	.11
4. Parent rating of masking	.30	-.35	-.01	--	-.31	.02	.10
5. Observers' match with parent (parent expressive clarity)	-.13	.21	-.19	-.05	--	-.27	.19
6. Child DANVA2 (general emotion recognition)	.01	-.19	-.05	.18	.54 [†]	--	-.26
7. Child match with parent (relationship-specific emotion recognition)	.37	-.35	.57 [†]	-.22	-.03	-.05	--

Note. Mothers above the diagonal, fathers below the diagonal.

[†] $p < .10$

* $p < .05$

** $p < .01$

Table 3

Standardized Coefficients and Standard Errors for Predictors of Parents' Emotional Intensity

Step and Variable	β^a	SE	R ²
Step One			.24 ^{**}
Child sex	-.48 ^{**}	.27	
Step Two			.30 ^{**}
Parents' belief that emotions are dangerous	.25 [†]	.14	
Parents' belief that guidance is important	-.20	.14	

[†]Note. $p < .10$

^{**} $p < .01$

^aStandardized regression coefficients.

Table 4

Standardized Coefficients and Standard Errors for Predictors of Parents' Masking.

Step and Variable	β^a	SE	R ²
Step One			.14*
Parent sex	-.37*	.31	
Step Two			.28**
Parents' belief that emotions are dangerous	.39*	.14	
Parents' belief that guidance is important	-.01	.14	

* Note. $p < .05$ ** $p < .01$ ^aStandardized regression coefficients.

Table 5

Standardized Coefficients and Standard Errors for Predictors of Children's Recognition of Parents' Emotions.

Step and Variable	β^a	SE	R ²
Step One			.28***
Parent sex	.53***	.28	
Step Two			.32**
Parent expressive clarity	.12	.14	
Child general emotion recognition skill	-.17	.13	
Step Three			.43**
Parents' belief that emotions are dangerous	.03	.12	
Parents' belief that guidance is important	-.34*	.12	

* *Note.* $p < .05$ ** $p < .01$ *** $p < .001$ ^a Standardized regression coefficients.