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The relations between family emotional expressiveness and children's emotion knowledge were examined. Participants were 258 3.5-year-old children whose emotional knowledge was assessed; mothers reported on their emotion socialization practices and mothers and children were observed during an emotion-eliciting book-reading task. It was hypothesized that positive family expressiveness would be positively related to children's emotion knowledge, whereas negative family expressiveness would have a curvilinear association which would be moderated by additional forms of emotion socialization (parental responses to children's negative emotions and parental explanations about emotions) and child gender. Results showed a curvilinear relation for positive expressiveness and emotion knowledge and no association for negative expressiveness. An interaction between positive expressiveness and negative expressiveness was significant for boys, suggesting that boys have higher emotion knowledge when positive expressiveness is high but only in homes where negative expressiveness is low. Parental responses to negative emotions and explanations of emotions were directly related to emotion knowledge, but the moderation hypotheses were not supported. Results are discussed in terms of implications for how parents can be most effective in teaching their children about emotions.

MATERNAL SOCIALIZATION OF CHILDREN'S EMOTION KNOWLEDGE

by

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CHAPTER I

INTRODUCTION

Emotion knowledge is a crucial part of emotional development in childhood and is the foundation of successful social interactions. An early understanding of emotions enables young children to interpret the experiences of others and to display their own emotions in a culturally-appropriate way. Emotion knowledge can assist children as they process social information during interactions with peers because interpersonal exchanges require a degree of negotiation and expression. Although children's emotion knowledge will increase with age, there are developmental consequences for those that continue to have poor emotion knowledge throughout the preschool years.

Previous research has found that children who have difficulties with emotion knowledge have lower social competence with peers and lower academic competence, presumably due to an inability to regulate emotions (Cassidy, Parke, Butkovsky, & Braungart, 1992; Miller et al., 2005; Trentacosta & Izard, 2007). Cassidy et al. (1992) found that children's emotion understanding was positively related to peer ratings of their social acceptance. Without the ability to consciously label emotions, children are unable to recognize and regulate their own negative feelings, to identify and solve problems in social interactions, and to empathize with others (Denham & Burton, 1996). These children are also more likely to have externalizing behavior problems prior to and during

kindergarten (Denham, Caverly, Schmidt, Blair, DeMulder, Caal, Hamada, & Mason, 2002). Researchers in a longitudinal study found that a lack of emotion knowledge in the preschool years was related to behavior problems preceding and entering into kindergarten (Denham et al., 2002). Emotion-related behavior problems, such as anger, aggression, or a lack of positive affect, often predict continuing behavior problems (Denham & Burton, 1996). To prevent such long-term problems, it is valuable to understand the factors that influence emotion knowledge.

There are four goals of this section. The first is to review the implicit theoretical perspectives often included in research on emotion socialization. The next goal is to examine the literature regarding one specific method of emotion socialization, family expressiveness, and how it is related to children's emotion knowledge. In order to further explain this association, three possible moderating factors will be proposed: parent responses to their children's negative emotions, parent explanations about emotions, and children's gender. Finally, research questions and hypotheses will be proposed to further examine the relation between parental socialization and children's early emotional development.

Theoretical Perspectives

There are two implicit theoretical perspectives often included in research on emotion socialization: social learning theory and family systems theory. Both theories provide justification for examining parents as the primary socializers of children's emotional development.

Social learning theory. Social learning theory, developed by Albert Bandura, emphasizes that behaviors are learned and changed through social processes during interactions with others (Goldhaber, 2000). The theory has evolved over the past four decades, allowing Bandura to expand on what was once an environmental focus. A more updated version of the theory, social cognitive theory, does not abandon the importance of social processes in the environment, but rather extends the theory to include a more complete discussion of internal processes within the individual. A foundation of social learning theory, Bandura's triadic model of reciprocal causation, examines bidirectional influences of behavior, the external environment, and the person in order to explain human functioning (Bandura, 1989). Modeling, a focus of Bandura's earlier work on environmental influences, is a popular concept of social learning theory that has received much attention in empirical research on children. When a child observes an experience or scenario, she must symbolically represent the information learned if it is to be internalized and used to guide future behavior (Bandura, 1986). There are four subprocesses involved in observational learning: modeling the activity, retaining the information, producing the information in physical action, and motivation to perform the learned action.

Learning through trial and error can be very costly, especially in real world situations. Additionally, Bandura (1989) states, "If knowledge and skills could be acquired only by direct experience, the process of cognitive and social development would be greatly retarded, not to mention exceedingly tedious and hazardous" (p. 14). Fortunately, humans have the capability for vicarious learning, enabling children to learn

through observation. People gain information about the consequences of various courses of action by watching other people's experiences. In terms of the consequences of these models, "modeling influences can serve as instructors, motivators, inhibitors, disinhibitors, social facilitators, and emotion arousers" (Bandura, 1989, p. 17). Thus, parents can serve a number of functions in their role of modeling for their children, all contributing to the child's increasing knowledge of emotions.

Family systems theory. A holistic view of the family is another valuable way to understand how emotion socialization occurs. According to family systems theory, the system as a whole is greater than the sum of individual parts (White & Klein, 2002); thus, nothing in the system acts alone without the influence of the other members and relationships. Therefore, no single part, such as the individual child, can be understood separately from the family system, or parental influence in this case (Steinglass, 1987). One example of an interconnected family process is family communication patterns which occur within a system of relationships and transactions (Saarni & Buckley, 2002). The functioning of the system and the behavior of its members are affected by these patterns and rules. The process by which parents and family members convey information about the appropriateness of emotions will influence the child, especially if these messages are clear. When communication patterns contain clear messages about emotions, they can have a particularly strong impact on the child (Saarni & Buckley, 2002). From family systems theory, one can deduce that the child's understanding of emotions is embedded within the family system, an organized collection of relationships and behavioral products (White & Klein, 2002).

Family Emotional Expressiveness

The most naturally-occurring way parents can teach children about emotional displays, situations, and reactions is through their own expressive behaviors in the home. Family emotional expressiveness refers to the predominant and persistent style of exhibiting verbal and nonverbal emotional expressions among family members (Halberstadt, Cassidy, Stifter, Parke, & Fox, 1995). Although family members do not always share the same style of expressiveness, researchers often consider family expressiveness a family-level variable because it is understood within the social context of the family (Halberstadt, Crisp, & Eaton, 1999). Expressiveness can be assessed as a global measure of the frequency and intensity of emotion displayed or can be measured in terms of positive or negative valence. Previous research has provided theoretical justification for considering positive and negative expressiveness as two distinct dimensions. Originally, the distinction between positive and negative dimensions of emotionality was conceptualized in personality trait research with Watson and Clark's (1984) development of the term negative affectivity. Although emotionality and expressiveness are different in that feeling an emotion and showing those feelings to others are not always coupled, researchers in the area of expressiveness have adopted the same theoretical justification by examining positive and negative expressiveness as separate dimensions (Halberstadt, 1986; Halberstadt et al., 1995).

Research on the association between family emotional expressiveness and children's emotion knowledge has produced inconsistent findings. A positive relation between total family expressiveness and emotion knowledge has been reported (Denham,

Mitchell-Copeland, Strandberg, Auerbach, & Blair, 1997). However, a non-significant relation between total family expressiveness and children's emotion knowledge has also been reported (Cassidy et al., 1992). Cassidy et al. (1992) found no significant relation, but did find that emotion understanding moderated the significant link found between family expressiveness and children's peer acceptance.

When emotional expressiveness is separated by valence, findings on the association between expressiveness and emotion knowledge become even more complex. Support has been found for a positive relation between positive expressiveness and emotion knowledge, but not for negative expressiveness (Halberstadt et al., 1999; Camras, Ribordy, Hill, Martino, Sachs, Spaccarelli, & Stefani, 1990). In a narrative review of variables related to family expressiveness, Halberstadt et al. (1999) found substantial support for a positive relation between positive family expressiveness and emotion understanding. However, they did find evidence that this relation may not be generalizable to all ethnic or racial groups, such as Japanese American families. Other researchers have found support for a negative relation between negative expressiveness and emotion knowledge but no relation with positive expressiveness (Denham, 1997). Halberstadt and Eaton (2002) conducted a meta-analysis of family expressiveness and children's expressiveness and understanding. The authors found a small negative relation between negative expressiveness and emotion understanding. A limitation of this meta-analysis is the inclusion of studies with samples that ranged in age from infancy through early adulthood. Due to the broad range of ages covered, the authors included limited numbers of studies for each age group. For example, only eight published studies with

preschool samples were included in the meta-analysis. Because the impact of family expressive patterns may change as children get older and have more experiences outside the home along with more affective knowledge to draw on, more research is warranted on samples of specific ages.

Moderating Variables

Prior research has examined only direct links between family expressiveness and emotion knowledge. It seems likely that the relation between family expressiveness and children's emotion knowledge may, however, vary by ways parents interact with and respond to their children in emotional situations. Moderating variables might help explain some of the inconsistent findings regarding the relation between family emotional expressiveness and children's emotion knowledge. Moderators describe the conditions under which relations may be present or absent. This approach is appropriate for the study of the relation between expressiveness and emotion knowledge because previous research has provided inconsistent support for this relation and the direction of the relation has varied. The three moderators examined in this study are parents' responses to children's emotions, parents' explanations about emotions, and children's gender. These moderating variables were chosen in part because of their importance in the heuristic model of the socialization of emotion proposed by Eisenberg, Cumberland, and Spinrad (1998). This model identifies three important ways parents can socialize their children's emotional development, referred to as parents' emotion-related socializing behaviors (ERSBs); in addition to parent expression of emotion, these are parent reactions to children's negative emotions and parent explanations of emotions (Eisenberg et al.,

1998). Additionally, gender differences have frequently been found in studies of emotion socialization (e.g. Fivush, Berlin, Sales, Mennuti-Washburn, & Cassidy, 2003; Fivush, Brotman, Buckner, & Goodman, 2000); thus, it is important to examine potential variation in emotion socialization processes for boys and girls.

Parents' responses to children's negative emotions. The first possible moderating influence on the relation between family expressiveness and children's emotion knowledge is the way parents respond to their children's negative emotions. Parent responses to negative emotions have received much more attention in the literature than responses to positive emotions because the task of coping with negative affect is considered more difficult developmentally for children (Ramsden & Hubbard, 2002). Negative affect includes feelings that young children will likely require assistance from parents to navigate, such as anger, sadness, and fear. Parental responses to children's negative emotions can range from suppression to encouragement. When parents encourage children to express their negative emotions, they are providing a supportive environment for the child to explore emotional experiences and displays, and to understand how negative emotional situations are resolved. On the other hand, when parents commonly suppress or are unsupportive of children's everyday negative emotions, the child can internalize stored negative affect and display disorganized behavior patterns in future emotion-provoking situations (Roberts & Strayer, 1987). Roberts and Strayer found that parents who discouraged or suppressed their child's expression of negative affect, either by disregarding the emotions or punishing the child for the display, had children with lower social competence as rated by teachers.

Additionally, Denham et al. (1997) found that parents' responses to their children's negative emotions were related to children's emotional competence. These studies clearly demonstrate the link between responses to negative emotions and children's emotion knowledge. The moderating process is proposed to occur through a lessening of the negative effects of high negative expressiveness in the home for children whose parents provide supportive responses to their children's negative emotions. Thus, parental response to the child's negative emotions serves as a direct form of emotion socialization that continues to support the child's emotion understanding, supported by Eisenberg et al.'s (1998) heuristic model of the socialization of emotion.

Parents' explanations about emotions. Parents can help explain emotions to their children by providing information about the causes and consequences of emotions and ways in which emotional situations can be resolved. Explanations may provide children with emotion situation knowledge and increase perspective-taking ability, two important components of early emotion understanding. Maternal explanations about emotions have been shown in previous research to be related to emotion knowledge in children, presumably by giving children information about emotional displays (Denham & Grout, 1992; Denham, Zoller, & Couchoud, 1994; Garner, Jones, Gaddy, & Rennie, 1997).

Parents' explanations about emotions have been operationalized in a variety of ways. Explanations have been measured through mother-child emotion-eliciting storybook reading tasks, mother-child laboratory play sessions, artificial hostile interactions between the mother and a researcher in the child's presence, and natural home interactions. Garner et al. (1997) examined maternal explanations in a sample of

preschoolers at risk for low emotion knowledge. Mothers' talk about the causes and consequences of emotions was positively related to the child's emotion role-taking ability (Garner et al., 1997). One limitation is that the direction of these results cannot be interpreted. Therefore, it is possible that mothers talk more about emotions when their children have a better understanding of emotions (Garner et al., 1997). In another study, Denham et al. (1994) found that mothers who explained emotions had preschool children who were better able to understand emotions during labeling, situation knowledge, and perspective-taking tasks, even after partialing age and cognitive-language ability. However, the limitation of directionality exists in this study as well since parents may interact with children differently depending on the child's level of emotion understanding (Denham et al., 1994).

In an attempt to better understand how parent explanations are incorporated into everyday home interactions, researchers have asked mothers to keep detailed diaries of their emotional displays in front of their young children, assessed the reliability of the mothers' reports, and interviewed mothers for further reflection about their emotionality and how emotions influence situations in their home (Denham & Grout, 1992). Findings suggest that there are more positive effects on children's social competence when mothers explain their own negative emotions to a greater extent. Additionally, research has found that mothers who make an effort to resolve their child's anger have children who experience fewer negative impacts from parental conflict in the home (Cummings, Pellegrini, Notarius, & Cummings, 1989). These findings emphasize the importance of emotion information from parents in promoting children's positive development in

environments with high amounts of negative emotional expression. It is possible that the negative effects of high negative expressiveness on children's emotion knowledge are no longer evident when parents utilize another emotion socialization practice by providing their children with information about emotions.

Children's gender. The final moderating variable proposed is the gender of the child. Previous research has not supported child gender differences in emotion knowledge or family expressiveness. However, gender differences have been found in narrative research studies on parents' explanations of emotions and their support of children's negative emotions (Fivush et al., 2003; Fivush et al., 2000). Fivush et al. (2003) observed how mothers discussed past negative events with their preschool children and found that mothers of girls were more elaborative and evaluative than mothers of boys when reflecting on emotionally negative events experienced by the child. In another narrative study, Fivush et al. (2000) asked both mothers and fathers to discuss four past events where the child felt happy, sad, angry, and scared. Both mothers and fathers of girls made more references to emotions when discussing a past event where the child felt sad than mothers and fathers of boys. Given the salience of gender in emotion socialization, it is likely that the proposed moderating effects will differ depending on the gender of the child.

Research Questions and Hypotheses

Considering the links found between parents' responses to children's negative emotions and parents' explanations of emotions with children's emotion knowledge, as well as the implications of these previous research studies, it is appropriate to conclude

that under certain conditions, the relation between family emotional expressiveness and children's emotion knowledge may vary. Research questions and hypotheses to explain this relation including the influence of the aforementioned variables are as follows:

1) What is the relation between positive expressiveness and children's emotion knowledge and negative expressiveness and emotion knowledge?

   Hypothesis: Positive expressiveness will be positively related to children's emotion knowledge. Negative expressiveness will have a curvilinear relation with emotion knowledge, such that high and low amounts of negative expressiveness will be negatively related to emotion knowledge.

2) Do positive and negative expressiveness interact to predict emotion knowledge?

   Hypothesis: Positive expressiveness will be positively associated with children's emotion knowledge when negative expressiveness is low to moderate, but not when it is high.

3) What are the direct and moderating effects of parent responses to children's negative emotions and parent explanations about emotions on children's emotion knowledge?

   Hypothesis: Both variables will be directly related to emotion knowledge. The curvilinear relationship between negative expressiveness and emotion knowledge will be moderated by parents' reactions to their children's negative emotions and by parents' explanations about emotions. Thus, high amounts of negative expressiveness in families will not be detrimental to children's emotion knowledge as long as their parents explain emotions, such as causes,

consequences, and resolutions, and cope with their children's negative emotions in a supportive versus nonsupportive manner. The implications of this moderating relationship are that there are ways parents can continue to support their children's emotional development even when negative emotions are frequent in the home environment, a situation that is inevitable for many families experiencing the stressors of poverty, marital conflict, family structure transitions, or given certain personality traits of the parents.

Given prior findings of differences between the ways parents socialize the emotional displays of boys and girls, child gender effects will also be examined for all associations. It is anticipated that the moderating effects will be stronger for girls than boys; previous research (Fivush et al., 2003; Fivush et al., 2000) has suggested that parents are more likely to provide girls with emotional information than sons during the emotion socialization practices included in the current study.

Summary

Competence in emotion knowledge is an important part of children's early emotional development. Emotion knowledge lays a foundation for successful social interactions. Children with higher emotion knowledge are more competent with peers during the preschool years and are less likely to display aggressive externalizing behaviors beyond the preschool years into middle childhood. Emotion socialization is an important way in which children learn about emotions to gain this emotion knowledge. Social learning theory and family systems theory are two implicit theoretical perspectives used in emotion socialization research to justify the focus on parents as the primary

socializers of children's emotions. Family emotional expressiveness is one naturally-occurring way parents can teach their children about emotions. The precise nature of the relation between family expressiveness and children's emotion knowledge is unclear due to mixed results in previous research. In this section, three moderating variables have been proposed that may help explain these mixed results. The conditions under which family expressiveness is related to children's emotion knowledge may vary depending on parents' reactions to children's negative emotions, parents' explanations of emotions, and the gender of the child. Hypotheses predicting a positive relationship between positive expressiveness and emotion knowledge, and a curvilinear relationship between negative expressiveness and emotion knowledge moderated by parent explanations and parent reactions to negative emotions have been proposed with the implication that there are ways parents can continue to encourage their children's emotional development even during times when negative emotions are frequent in the home, though these practices may have different functions depending on the gender of the child. A research project exploring these complex relationships is warranted in order to provide a more compete understanding of the intricate process that is emotion socialization.

CHAPTER II

METHOD

Participants

The participants in this project are taking part in a larger longitudinal study designed to investigate the trajectories of emotion and cognitive control and understanding as they relate to early social and academic functioning. The larger study includes assessments at three time points: ages 3.5, 4.5, and 5.5. Children were recruited from local child care centers, most of which serve families from a diverse range of incomes. Children from the first wave of data collection (3.5 years) and their mothers are included in the current sample. Two custodial grandmothers are included as mothers in the present study. Of the 264 children participating in the overall study, 6 were excluded from the present analyses due to incomplete task data for the five emotion knowledge tasks. The final sample for the current project included 258 families. Demographic characteristics are shown in Table 1. Fifty-three percent of the children were female and the average age of mothers was 33 years. Families were diverse in terms of race, income, and family structure. Thirty-eight percent of mothers were non-white; 36% of families had income-to-needs ratios less than 2.0, indicating low income, 54% had ratios of 2.0 to 5.0, and 10% had ratios greater than 5.0. Three-quarters (73%) of parents were married and living together.

TABLE 1. Descriptive Information of Demographic Variables

	%	*M* (*SD*)
Child Sex (Female)	53	
Maternal Race (Non-white)	38	
Maternal Age		33.1 (5.91)
Marital Status		
Married, living together	73	
Married, separated	4	
Not married, living with partner	6	
Not married, not living with partner	17	
Income to Needs Ratio		2.87 (1.77)
<2	36	
2-5	54	
>5	10	

Measures

     Demographics. Mothers completed a demographic questionnaire including child gender, maternal race and age, parents' marital status, and family income-to-needs ratio (total family income divided by the poverty line for a particular family size).

     Family emotional expressiveness. Family emotional expressiveness was assessed using a self-report measure of the mother's emotional experience and expressive patterns. The short form of the Self-Expressiveness in the Family Questionnaire (SEFQ;

Halberstadt et al., 1995) includes 24 items rated on a 9-point scale (1 = *not at all*

frequently; 9 = *very frequently*) indicating the frequency of positive and negative displays

of emotion in the home environment. The current study used a two-scale format

recommended by the authors representing positive (e.g., "*Praising someone for good*

work") and negative (e.g., "*Showing contempt for another's actions*") dimensions

(Halberstadt et al., 1995). The SEFQ demonstrates adequate test-retest reliability and

convergent, discriminant, and construct validity (Halberstadt et al., 1995). Internal

reliabilities (Cronbach's alphas) in the current sample for the positive and negative

dimensions were .86 and .81, respectively.

   Responses to child's negative emotions. The Coping with Children's Negative

Emotions Scale (CCNES; Fabes, Eisenberg, & Bernzweig, 1990) is a self-report of

parents' responses to children's negative emotions. Mothers rated the likelihood of their

responses to 12 situations. An example of a situation presented to the parent is: *"If my*

child loses some prized possession and reacts with tears, I would …". Parents are asked

to indicate the likelihood of each possible response to the situation ranging from 1 (*very*

unlikely) to 7 (*very likely*) yielding 6 subscales: problem-focused reactions, emotion-

focused reactions, expressive encouragement, distress reactions, minimization reactions,

and punitive reactions. Example responses to the previously reported situation are as

follows: *"help my child think of places he/she hasn't looked yet"* (problem-focused

reaction), *"distract my child by talking about happy things"* (emotion-focused reaction)*,*

"tell him/her it's OK to cry when you feel unhappy" (expressive encouragement

reaction), *"get upset with him/her for being so careless and then crying about it"*

(distress reaction), *"tell my child that he/she is over-reacting"* (minimizing reaction), and *"tell him/her that's what happens when you're not careful"* (punitive reaction). Similar to previous research, two aggregates, supportive and nonsupportive, were calculated (Fabes, Poulin, Eisenberg, Madden-Derdich, 2002). Supportive responses include the problem-focused, emotion-focused, and expressive encouragement subscales; nonsupportive responses include the distress, minimizing, and punitive subscales. The CCNES has demonstrated adequate test-retest reliability and construct and predictive validity (Fabes, Poulin, Eisenberg, & Madden-Derdich, 2002). Internal reliabilities (Cronbach's alphas) in the current sample for the supportive and nonsupportive aggregates were .93 and .81, respectively.

   Explanations of emotions. Mothers were asked to "read" the child two age-appropriate emotion-eliciting picture books containing minimal words. The two books were *Things That Make You Feel Good/Things That Make You Feel Bad* and *The Feelings Book,* both by Todd Parr. The task was videotaped and later coded by a trained coder for the frequency and quality of emotion talk. Mothers were assigned a rating ranging from 1 (*low*) to 5 (*high*) for the extent to which they provided explanations about emotions, made references to the child's experiences, demonstrated emotional responsiveness, matched their emotional expressions to the storybook, and provided cognitive information. The scores for explanations about emotions and references to the child's experiences were summed to define the maternal explanations variable. The Pearson correlation between the two scores was .44 ($p < .01$). Approximately 25% of the videotapes (N = 64) were coded independently by two coders. Inter-observer agreement

was tested with Pearson correlations; $r = .72$ ($p < .01$) for explanations about emotions and $r = .86$ ($p < .01$) for references to the child's experiences.

Emotion knowledge. Three tasks were used to assess children's knowledge of emotions. Using puppet vignettes developed by Denham (1986), children were presented with four felt faces depicting happy, sad, angry, and scared expressions in an emotion labeling task. They are asked to name each emotion in the first half of the task and to point to a requested emotion in the second. During coding, participants receive two points for a correct answer and one point for an answer of the correct valence (e.g., sad, mad, and scared all have a negative valence). Labeling of emotions is computed as the sum of the 8 receptive and expressive questions. The Pearson correlation between the receptive and expressive scores in the labeling of emotions task was .62 ($p < .01$). The possible range of scores is from 0 to 16 with higher scores indicating more accurate labeling of emotional expressions. The observed scores ranged from 0 to 16, and Cronbach's alpha was .77.

In the affective perspective taking tasks, children hear a story using puppets and are then asked to pick the appropriate face for the emotion expressed in that situation (happy, sad, angry, or scared). The first four stories are nonequivocal or unambiguous, meaning that the appropriate emotion for each story tends to be typical for all individuals. The next six stories are equivocal or ambiguous; each story could elicit one of two emotions. These six stories are presented to the child with the protagonist experiencing an emotion different from the emotion the child's mother reported would be typical for the child. For example, mothers are asked to indicate whether their child would feel happy or

scared if a large but friendly dog approached. If mothers indicated that their child would feel happy, a story is presented where the puppet experiences fear. The child's typical emotional responses were reported by the mother at the beginning of the visit. During coding, participants receive two points for a correct answer and one point for an answer of the correct valence. For the nonequivocal stories, the possible range of scores is from 0 to 8 with higher scores indicating stronger affective perspective taking skills in nonequivocal situations. For the equivocal stories, the possible range of scores is from 0 to 12 with higher scores indicating stronger affective perspective taking skills in equivocal situations, i.e., emotional responses of another that are not in correspondence with how the children themselves would react. For both nonequivocal and equivocal stories, the possible range was observed in the current sample, and the Pearson correlation between the two was .54 ($p < .01$). The nonequivocal and equivocal total scores were combined to create an affective perspective taking aggregate with an alpha of .68.

In the emotion causes task, children are asked why a puppet character experiences an emotion (happy, sad, angry, and scared) and are prompted to produce four responses. Responses are coded for the number of accurate, independent causes given and then totaled across the four emotions. A response was not considered valid if it was a description of the emotion, an action that would be taken as a result of the feeling, or if the response simply did not make sense. Repetitive answers or answers from the same category (e.g. monsters and dragons are both considered big, scary creatures) were coded as one cause. An emotion causes total score was computed as the number of valid

explanations across all four emotions. The possible range of scores is from 0 to 16. The observed scores ranged from 0 to 12. Approximately 25% of the videotapes (N=64) were coded independently by two coders; $r = .93$ ($p < .01$).

Similar to Denham and Kochanoff (2002), scores for each task (emotion labeling, affective perspective taking, and emotion causes) were standardized then summed to create an emotion knowledge aggregate. The Pearson correlations between the three tasks ranged from .45 to .51 (all $p < .01$), (affective perspective taking with emotion causes and labeling emotion expressions was .45 and .51, respectively, and labeling emotion expressions with emotion causes was .48). The tasks used to create this aggregate had internal reliability (Cronbach's alpha) of .78.

CHAPTER III

RESULTS

Missing Data

There were 13 cases missing some portion of the data. Eleven participants were missing data on their income-to-needs ratios; nine had missing data on maternal age; and eight had missing data on maternal race and marital status. Measures for family expressiveness, parent responses to negative emotions, and explanations about emotions were missing from one participant. Even though a small percentage (1.69 %) of data was missing overall, data were missing systematically (missing at random according to a significant value for Little's MCAR chi-square test). Thus, single imputation of multivariate continuous data under a normal model was conducted using the NORM software package (Schafer, 1997).

Analyses

Preliminary analyses included examining the frequencies and distributions of all study variables. The means, standard deviations, and ranges of the study variables can be seen in Table 2; the descriptive data for the three tasks included in the emotion knowledge composite are in Table 3. Most of the study variables were correlated with one another, as can be seen in Table 4, although explanations about emotions was the only variable significantly correlated with emotion knowledge. Squared terms for

positive and negative expressiveness were included in the correlation table because of the hypothesis that negative expressiveness would have a curvilinear relation with emotion knowledge. Table 5 shows the correlations between demographic factors and study variables. Emotion knowledge was higher for girls ($M = .33$, $SD = 2.48$) than boys ($M = -.37$, $SD = 2.32$), $t(256) = 2.35$, $p = .02$, for children of white mothers ($M = .35$, $SD = 2.44$) than non-white mothers ($M = -.56$, $SD = 2.31$), $t(256) = -2.97$, $p < .01$, and for children living in two-parent ($M = .18$, $SD = 2.41$) than one-parent families ($M = -.71$, $SD = 2.39$), $t(256) = 2.40$, $p = .02$. Maternal race, maternal age, and family income-to-needs ratio were all correlated with at least one predictor or moderating variable as well as with emotion knowledge. Therefore, these three demographics were used as control variables for all analyses.

TABLE 2. Descriptive Information of Study Variables

	M	SD	Range
Positive Expressiveness	53.12	6.15	32 - 60
Negative Expressiveness	26.93	6.63	12 - 50
Supportive Reactions	17.82	2.16	8.36 - 21
Nonsupportive Reactions	6.71	1.61	4.09 - 14.82
Explanations	5.59	1.87	2 - 10
Emotion Knowledge Composite	0	2.43	-7.04 - 5.56

TABLE 3. Emotion Knowledge Variables

	M	SD	Range
Labeling Emotion Expressions	11.93	3.27	0 - 16
Affective Perspective Taking	12.14	4.44	0 - 20
Emotion Causes	3.46	2.72	0 - 12

TABLE 4. Pearson Correlations among Study Variables

|	2	3	4	5	6	7	8
1. Positive Expressiveness	.99**	-.12	-.09	.41**	-.32**	.14*	.07
2. Positive Expressiveness ²		-.12*	-.09	.41**	-.31**	.14*	.05
3. Negative Expressiveness			.99**	.15*	.40**	.01	.00
4. Negative Expressiveness ²				-.13*	.37**	.01	-.01
5. Supportive Responses					-.23**	.12	.09
6. Nonsupportive Responses						-.14*	.02
7. Explanations							.19**
8. Emotion Knowledge							

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

TABLE 5. Pearson Correlations between Demographic and Study Variables

	Child Gender (0=female)	Maternal race (0=nonwhite)	Maternal Age	Marital Status (0=2-parent family)	Income to Needs Ratio
Positive Expressiveness	.02	.05	.19**	-.02	.15*
Negative Expressiveness	-.00	.15*	-.11	-.06	-.12
Supportive Responses	.02	.20**	.08	-.04	.05
Nonsupportive Responses	.03	.01	-.17**	.07	-.22**
Explanations	.10	.04	.09	-.10	.14*
Emotion knowledge	-.15*	.18**	.14*	-.15*	.23**

* *p* < .05. ** *p* < .01.

The relation of positive and negative expressiveness with emotion knowledge was examined through a series of linear regression analyses and plots. It was predicted that positive expressiveness would have a linear relation to emotion knowledge, whereas negative expressiveness would have a curvilinear relation to emotion knowledge. To test the association with positive expressiveness, the variable was entered as a single predictor of emotion knowledge in a linear regression analysis. The predictor was non-significant. Another regression analysis was then computed, this time including positive expressiveness as a linear term and positive expressiveness squared as a curvilinear term. The squared term was a significant predictor of emotion knowledge (β = -.24, p = .004). The shape of the curvilinear relation was examined further with a scatterplot, which can be seen in Figure 1. The association forms an inverted-U shape that decreases slightly at the highest levels of positive expressiveness. The same procedure was followed with negative expressiveness, but neither the linear nor the curvilinear term was significant.

FIGURE 1. Scatterplot of Relation between Positive Expressiveness and Emotion Knowledge
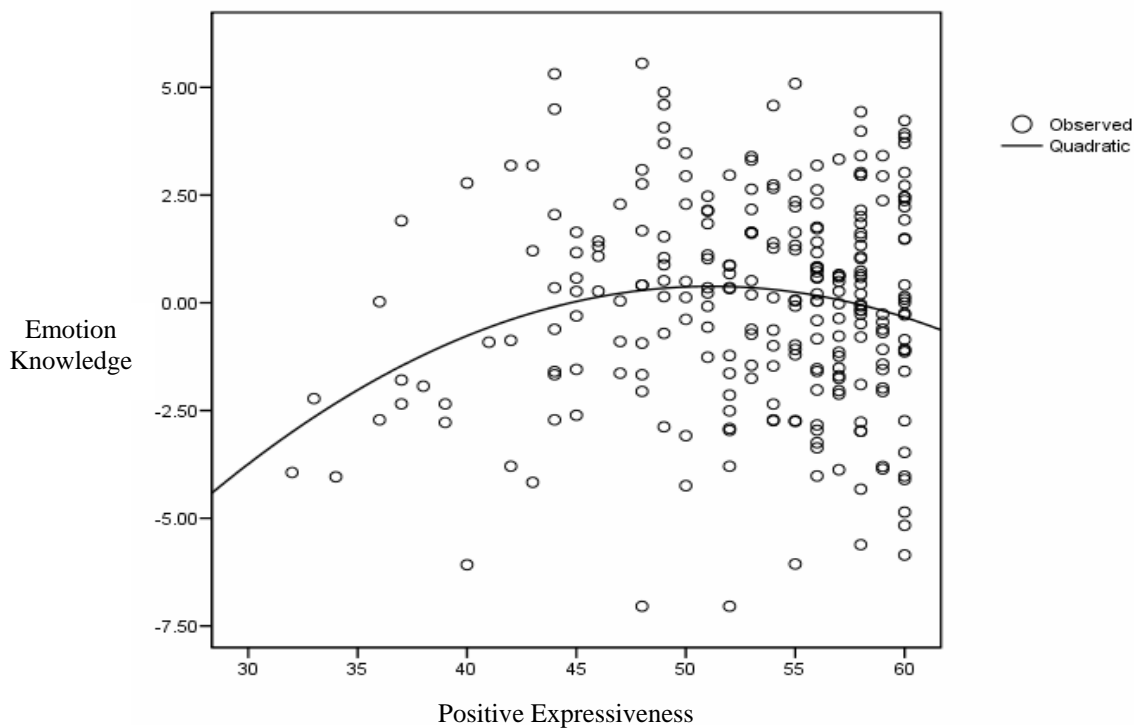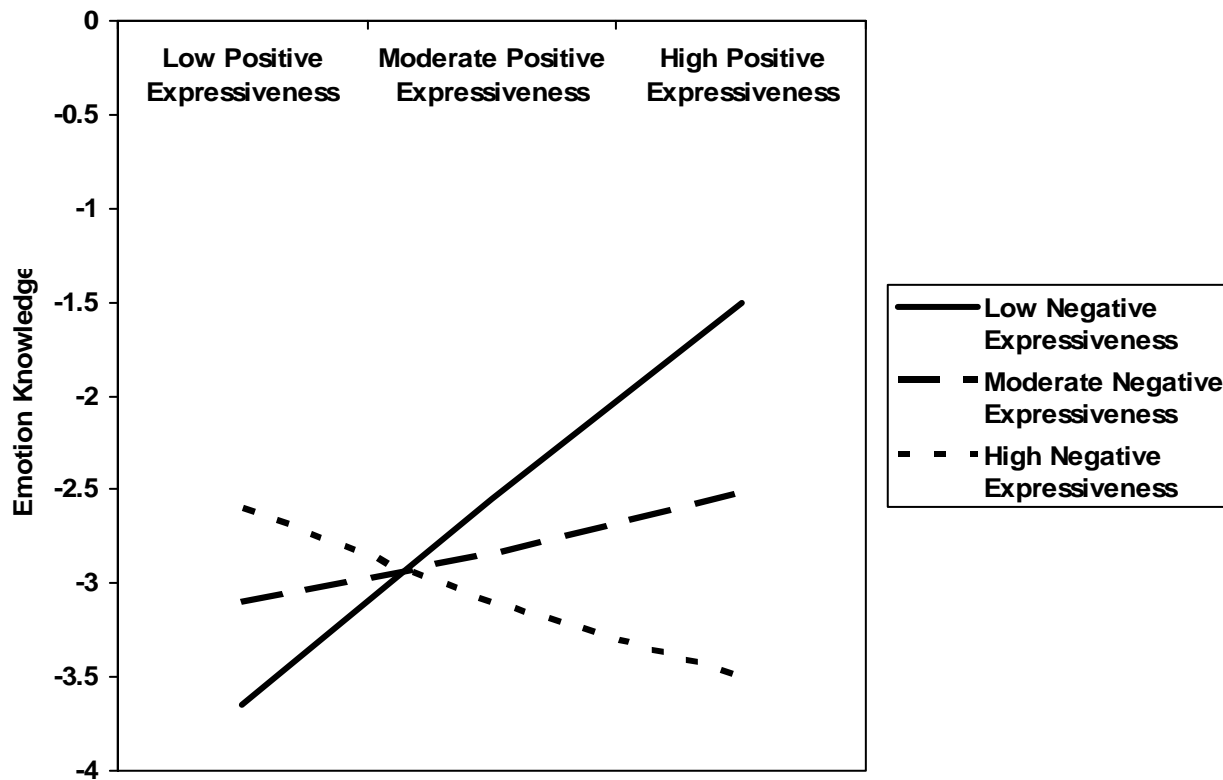

A hierarchical regression analysis was conducted to further test the relations between expressiveness and child emotion knowledge and to examine differences by child gender. The regression analysis is displayed in Table 6. Control variables (child gender, maternal race, maternal age, and income-to-needs ratio) were entered in the first block, positive expressiveness squared and negative expressiveness in the second block, the interactions between positive expressiveness squared, negative expressiveness, and child gender in the third block, and the three-way interaction in the final block. The study variables were centered prior to creating interaction terms. Positive expressiveness squared was significant at the trend level at the point of entry into the model (β = -.12, p = .06). The three-way interaction of positive expressiveness squared by negative

expressiveness by child gender was significant (β = -.29, *p* = .01) and also produced a significant change in R^2 for the final block *F* Δ(1,247) = 7.28, *p* = .01. The sample was split on child gender and the interaction between positive expressiveness squared and negative expressiveness was tested for boys and girls separately. The interaction was significant only for boys (β = -.28, *p* = .03) and produced a significant change in R^2 for the final block *F* Δ(1,114) = 5.08, *p* = .03. The interaction among boys is shown in Figure 2. A test of the simple slopes revealed the low negative expressiveness slope was marginally significantly different from zero (β = .41, *p* = .08). When negative family expressiveness was low, high positive expressiveness was associated with more emotion knowledge among boys.

TABLE 6. Multiple Regression Predicting Emotion Knowledge from Maternal Expressiveness and Child Gender

Variable	Model 1			Model 2			Model 3			Model 4		
	B	*SE B*	*β*	*B*	*SE B*	*β*	*B*	*SE B*	*β*	*B*	*SE B*	*β*
Child Gender	-.72	.29	-.15*	-.69	.29	-.14*	-.69	.30	-.14*	-.65	.30	-.13*
Maternal Race	.69	.31	.14*	.63	.31	.13*	.58	.32	.12†	.61	.31	.12†
Maternal Age	.02	.03	.05	.02	.03	.04	.02	.03	.06	.02	.03	.05
Income to Needs Ratio	.26	.09	.19**	.24	.09	.17*	.23	.09	.17*	.23	.09	.17*
Positive Expressiveness[a]				-.00	.00	-.12†	-.00	.00	-.11	-.00	.00	-.03
Negative Expressiveness				.00	.02	.01	.03	.03	.09	.04	.03	.11
Pos Exp x Neg Exp							-.00	.00	-.00	.00	.00	.16†
Pos Exp x Child Gender							.00	.01	.02	.01	.01	.09
Neg Exp x Child Gender							-.07	.05	-.12	-.08	.05	-.14†
Pos Exp x Neg Exp x Gender										-.00	.00	-.29**
ΔR^2		.10			.01			.01			.03	
F for change in R^2		6.86**			1.81			.80			7.25**	

Note. Pos Exp = Positive Expressiveness. Neg Exp = Negative Expressiveness. [a]Centered and squared.

FIGURE 2. Interaction of Positive and Negative Expressiveness for Boys

To test whether parental responses to children's negative emotions and explanations about emotions moderated the relations between family expressiveness and emotion knowledge, a second hierarchical regression analysis was conducted. The regression analysis is displayed in Table 7. Control variables were entered in the first block, positive expressiveness squared and negative expressiveness in the second block, the moderator variables in the third block, the two-way interactions between expressiveness and the moderator variables in the fourth block, and the three-way interactions between expressiveness, the moderator variables, and child gender in the final block. Two of the moderators, nonsupportive responses ($\beta = .16$, $p = .03$) and explanations ($\beta = .18$, $p = .004$), were significantly related to emotion knowledge; none of the interactions was significant. Thus, the relation between expressiveness and child emotion knowledge was not moderated by either responses to negative emotions or explanations about emotions.

TABLE 7. Predicting Emotion Knowledge from Expressiveness Moderated by Responses, Explanations, and Gender

Block	Variable	Model 5				
		B	*SE(B)*	*β*	*Δ R²*	*F for Δ R²*
1. Controls	Child Gender	-.87	.32	-.18**	.10	6.86**
	Maternal Race	.63	.32	.13†		
	Maternal Age	.03	.03	.07		
	Income to Needs Ratio	.20	.10	.14*		
2. Expressiveness	Positive Expressiveness[a]	-.01	.00	-.14	.01	1.81
	Negative Expressiveness	-.02	.03	-.04		
3. Moderators	Supportive Reactions	.07	.08	.07	.04	4.19**
	Nonsupportive Reactions	.26	.12	.17*		
	Explanations	.22	.08	.17**		
4. Interactions	Pos Exp x Supportive	.00	.00	-.04	.01	.37
	Pos Exp x Nonsupportive	.00	.00	.09		

	Pos Exp x Explanations	.00	.00	.07		
	Neg Exp x Supportive	-.01	.01	-.04		
	Neg Exp x Nonsupportive	-.02	.02	-.09		
	Neg Exp x Explanations	-.03	.02	-.14†		
5. 3-way	Pos Exp x Supportive x Gender	-.00	.00	-.10	.02	1.01
	Pos Exp x Nonsupportive x Gender	-.00	.00	-.25		
	Pos Exp x Explanations x Gender	-.00	.00	-.14		
	Neg Exp by Supportive by Gender	.02	.02	.09		
	Neg Exp by Nonsupportive by Gender	.04	.03	.12		
	Neg Exp by Explanations by Gender	.03	.03	.08		
Total *Adj R²*		.11				
***F*(21, 257)**		2.51**				

Note. Table from final model. *F* values reported at point of entry. Pos Exp = Positive Expressiveness. Supportive = Supportive Responses. Nonsupportive = Nonsupportive Responses. Neg Exp = Negative Expressiveness.

[a]Centered and squared.

† $p < .10$. * $p < .05$. ** $p < .01$.

CHAPTER IV

DISCUSSION

The present study aimed to address questions concerning the relation between parental patterns of expressiveness in the home environment and preschool children's understanding of emotions, an important component of early emotional development. Moderation hypotheses involving additional practices of emotion socialization and the gender of the child were proposed to further examine the relation between family expressiveness and children's emotion knowledge. The current findings have extended information on mothers' expressive patterns and the complex association with child gender.

The first unexpected finding in the current study involved the relations of family positive and negative expressiveness with children's emotion knowledge. It was predicted that positive expressiveness would exhibit a linear relation with emotion knowledge, whereas negative expressiveness would exhibit a curvilinear relation. Contrary to expectations, positive expressiveness demonstrated a curvilinear relation with children's emotion knowledge, while no relation was found for negative expressiveness. Previous research has produced mixed results. Other researchers have also reported no association between negative expressiveness and emotion knowledge (Camras et al., 1990; Halberstadt et al., 1999). However, when examining positive expressiveness,

researchers have either found a linear relation (Halberstadt et al., 1999) or no relation (Denham, 1997); a curvilinear association has not been previously reported.

The unique curvilinear association needs replication in other samples, but it does provide a potentially valuable insight and suggests the need to question what has consistently been considered an optimal socialization practice. It is logical that low amounts of positive expressiveness in the home could hinder children's understanding of emotions due to limited exposure to emotional displays. Low parental positive expressiveness may also be related to low affection or warmth (Dix, 1991) and therefore to less supportive parental responses in general. It is less logical, however, to see how high amounts of positive expressiveness could be detrimental to children's emotion knowledge. Although this interesting finding requires much more attention in future research, it could be explained by a recent finding with another emotion socialization practice. McElwain, Halberstadt, and Volling (2007) found support for a divergence model of joint emotion socialization by mothers and fathers while examining parental responses to children's negative emotions. That is, what has been considered the most optimal form of emotion socialization did not relate to the most optimal child outcomes when both parents displayed this pattern. Rather, children appeared to benefit from experiencing socialization practices of both high and low quality. It is possible that there is a threshold beyond which there is nothing more for a child to gain from positive family expressiveness and that a variety of expressive patterns might be more effective at enhancing children's knowledge of emotions.

With regard to the findings for negative expressiveness, it is possible that children of this age do not learn about negative emotions simply from seeing others display them. They may require a more direct form of information considering that negative emotions are more developmentally difficult for young children to understand (Ramsden & Hubbard, 2002). More direct forms of emotion socialization, such as parent explanations and responses to children's own negative emotions, may provide young children with more clear and usable information about negative emotions and affectively negative situations. In the present study, these more direct socialization practices were both related to children's emotion knowledge.

Another interesting and unexpected finding that occurred in this study is the significant three-way interaction between positive expressiveness, negative expressiveness, and child gender. Positive and negative expressiveness in the home environment appear to operate differently for boys than girls. After separating the sample by gender, it was clear that this association was only significant for boys, suggesting that family expressive patterns interact in unique ways to create home environments where male children are particularly likely to learn about emotions. Among boys in this sample, emotion knowledge increased as positive expressiveness increased, but only among families low on negative expressiveness. This is fairly consistent with previous research that has found support for a positive relation between positive expressiveness and emotion knowledge (Camras et al., 1990; Halberstadt et al., 1999) and with research that has found a negative association between negative expressiveness and emotion knowledge (Denham, 1997). The current study emphasizes the need to examine the

interaction between positive and negative expressive patterns to more fully understand the expressive climate in the home.

It is unclear why family expressiveness patterns were not associated with girls' emotion knowledge. It could be that most children of this age, including girls as well as boys in families where negative emotions are expressed with some frequency, are better able to learn about emotions from more direct forms of emotion socialization. An increase in positive expressiveness while remaining low in negative expressiveness may create a particularly supportive home environment for boys to learn from more indirect forms of emotion socialization since indirect socialization practices may require more interpretation from the child. In terms of family expressive patterns, a better understanding of emotional context and affective perspective taking may be important in order to take away accurate information about emotions. We cannot assess causality from the current study, so a high positive, low negative expressive climate in homes could foster higher emotion knowledge in boys, or it could be that boys who have high emotion knowledge elicit an emotionally supportive home environment from parents.

But if a high positive, low negative expressive climate is beneficial to preschool-aged children, the question remains as to why we did not find a similar pattern among girls. Previous research has shown that boys generally receive less emotional information from parents than girls (Fivush et al., 2003; Fivush et al., 2000); therefore, it may be particularly important that the information boys do receive be in a positive, supportive environment. Further examination of the link between expressive patterns and both boys' and girls' emotional development is needed.

In contrast to predictions, neither responses to children's negative emotions nor explanations about emotions moderated the relation between negative family expressiveness and children's emotion knowledge. The additional practices of emotion socialization did not create conditions under which negative expressiveness in the home was more or less important for children's emotional understanding; the association remained non-significant even in the presence of supportive parental practices. It is important to note that nonsupportive responses and explanations were directly related to children's emotion knowledge. These more direct forms of emotion socialization may be more important than subtle forms to preschool-aged children, who are still early in their emotional development. It is also important to think of the child outcome that was measured. High amounts of negative emotions in the home may be accompanied by other negative parenting practices, such as harsh and inconsistent parenting (Dix, 1991). These parenting practices are more commonly associated with decreased emotional and behavioral control in children, such as emotion regulation problems and noncompliance (Dix, 1991). Although low emotion knowledge is typically associated with these control problems (Stegge & Terwogt, 2007; Wranik, Barrett, & Salovey, 2007), it may be more plausible to expect supportive parenting practices to moderate the relation between negative family expressiveness and child regulation. This may offer an explanation for previously inconsistent findings regarding expressiveness and emotion knowledge considering that the degree to which emotion knowledge and regulation are linked may differ depending on the age and skill of the child, such as if the child possesses the ability to reason about emotion causes and strategic responding (Stegge & Terwogt, 2007). For

young preschool children, knowledge and control may operate as separate domains, not integrating until the early school years (Leerkes, Paradise, O'Brien, Calkins, & Lange, in press). Prior research finding a relation between negative expressiveness and emotion knowledge (Denham, 1997) included children with a higher mean age than the current sample (4 and 5-year-olds).

The current project contributes to our knowledge of early emotional development and parental emotion socialization. Although the goal was to better understand how multiple emotion socialization practices work together in families, the result offers an insight into how one particular socialization practice, patterns of expressiveness in the home, relates to children's development of emotion knowledge. The advantages of this study include a large and diverse sample and a focus on children of a specific age (all were within 3 months of 3.5 years). And although moderation effects with additional methods of emotion socialization were non-significant, the current study tested associations that have not been examined in previous research, thus advancing the understanding of emotion socialization in families.

Despite its contributions, the current study was not without limitations. Reports on two of the variables of interest came solely from mother-report questionnaires, which could introduce biases of social desirability or extraneous characteristics not included in these analyses. Potential biases can exist whenever a construct is not defined by multiple reporters. And although the other variables of interest consisted of observational and task measures, the constructs were still mono-method, another possible source of bias. In addition, all measures were collected in a laboratory setting. Though this context

establishes uniformity across families, the variables of interest in the current project referred to more natural everyday interactions between family members which may have been captured more effectively with home observations. For example, the artificial constraints of the laboratory setting may have limited the amount of explanations about emotions mothers felt comfortable providing, or the book reading task itself may not reflect how mothers would typically explain emotions to their children during more actively affective interactions. Also, the data are correlational in nature, drawn from only one time point. It is not possible to make causal inferences about the direction of effects; thus, characteristics of the child, particularly understanding of emotions, could be driving parental socialization practices. And finally, information from fathers or other relatives in the home was not available. This limits the conclusions we can draw about the home environment in general beyond mother-child interactions.

There are a number of implications that can be drawn from the present study, as well as important directions for future research. The curvilinear association between positive expressiveness in the home and children's emotion knowledge is an interesting finding that can help to put parents at ease and leads clearly toward empirical next steps. It appears that expressing very high amounts of positive emotions in the home is not necessary. These findings can help relieve some of the tensions parents may experience as the pressures of everyday life get in the way of what researchers consider "optimal" parenting practices. A more-is-better framework does not always apply to all methods of parental socialization. It is important for researchers to examine this phenomenon further and to learn more about the complexity of socialization messages that children receive.

Additionally, the current findings can inform families and practitioners about how emotional expression in the home operates differently for boys and girls. Parents should be sensitive to the fact that high positive expression can be beneficial to boys, but only when negative emotions are infrequent. Regardless of expressive patterns, parents can teach their children about emotions through direct methods, such as through their own responses to their children's emotions or by providing explanations about emotions.

Future research should examine why gender differences in the association between family expressiveness and emotion knowledge exist and if they exist for all types of negative emotions, such as anger versus sadness, and for all emotion targets, such as if the emotion is directed at the child versus a spouse. With the current measure of family expressiveness, it cannot be determined whether emotional displays are directed at the child or not. Future research should also utilize in-home observations of families to better understand any limitations that may be present when examining expressive patterns and other emotion socialization practices using questionnaires. Additionally, researchers should strive to collect data from all family members in the home to better understand emotion socialization, especially considering the possibility of divergent models of joint socialization (McElwain et al., 2007). Emotions are a central component to parenting (Dix, 1991), thus understanding how parents express and explain these emotions to their children is essential, both as an indicator of the home environment and as a direct influence on children's emotional development.

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