

Articles

Patterns of Attachment and Maternal Discourse Effects on Children's Emotion Understanding From 3 to 5 Years of Age

Lenna L. Ontai and Ross A. Thompson, *University of Nebraska-Lincoln*

Abstract

Two studies examined the influence of maternal discourse style and security of attachment, and their interaction, on preschoolers' emotion understanding. The first, with 3-year-olds, unexpectedly found no significant prediction of emotion understanding from attachment and discourse, and the interaction of the predictors yielded theoretically unpredicted associations with emotion understanding. Consequently, measures of attachment and emotion understanding were obtained again on these children at age 5 in a second study. At this age, consistent with expectations, secure attachment predicted higher emotion understanding, especially in the context of maternal use of elaborative discourse from the earlier assessment. The findings suggest that during the period of significant representational advance between ages 3 and 5, the influence of maternal discourse and attachment security are developmentally transformed as children's conceptions of psychological states rapidly change. By age 5, however, maternal elaborative discourse in the context of attachment security fosters deeper emotion understanding in preschoolers.

Keywords: attachment; discourse; emotion understanding

A mature understanding of emotions is critical to children's social development because of the insight it provides into their own and others' behavior (Denham, 1986). The preschool years are a particularly important period for developing emotion understanding because of conceptual advances in theory of mind, self-understanding, event representation, and language capacities that enable children to engage in emotion-related discourse with others (Harris, 1994; Thompson, 1998, 2000). Although researchers have recently focused on the importance of parent-child conversations about emotion, and the influence of the security of the parent-child relationship, little research has sought to integrate these social influences on young children's emotion understanding in a developmental context. The goal of the research reported here was

Correspondence should be addressed to Lenna L. Ontai, Department of Human and Community Development, 1 Shields Avenue, Davis, CA 95616, USA. Email: lontairz@ucdavis.edu

to understand the influence of attachment, and the quality of parent–child discourse about emotion, on young children’s developing conceptions of emotion.

One of the signal advances of the early preschool years is the capacity to label and talk about emotions with others, especially parents, and thus to learn about the causes and consequences of emotion (Dunn, Bretherton, & Munn, 1987; Dunn, Brown, & Beardsall, 1991). Naturalistic observations have found that parents take advantage of these abilities and engage toddlers and preschool children in increasing amounts of emotion related conversation (Dunn *et al.*, 1987; Kuebli, Butler, & Fivush, 1995). In home observations, for example, Dunn and colleagues (Dunn *et al.*, 1987, 1991; Dunn, Brown, Slomkowski, Tesla, & Youngblade, 1991) found that the frequency of mothers’ talk about feeling states and their causes at 3 years of age was related to children’s use of feeling state terms and their emotion understanding at 40 months and later at 6 years. Furthermore, Brown and Dunn (1996) found that combined measures of mother and child talk about the causes of emotions at 3 years were correlated with children’s understanding of conflicting emotions at 6 years. Denham, Zoller, and Couchoud (1994) found similar results after asking mothers to talk to their children about photographs of infants showing emotion expressions. They found that mothers who used explanations of emotions during the tasks had children with higher scores on emotion comprehension. These results suggest that by engaging children in discourse regarding emotions, mothers significantly socialize their children’s emotion understanding.

In doing so, it is not just *what* they say but also *how* they say it that is influential. Cognitive researchers emphasize that a parent’s narrative style during parent–child conversations can significantly influence the quality of young children’s event representation from which emotion understanding is derived. Studies in this field have focused especially on differences between parents’ elaborative or pragmatic styles of discourse during conversations about past events (Fivush & Fromhoff, 1988; McCabe & Peterson, 1991; Reese & Fivush, 1993). Elaborative conversations are marked by rich descriptions of event details and questions that probe for information which embellish children’s memory. Pragmatic conversations, on the other hand, provide children with fewer details and are frequently replied to, or simply invite, a ‘yes’ or ‘no’ response. Researchers have found that children develop distinctive narrative styles of their own later in development that are consistent with the styles used by their parents when children were younger (Fivush, 1991; McCabe & Peterson, 1991; see also Fivush, 1993 for review). Such differences in children’s narrative styles point to differences in the representational structure of their memories. Therefore, through collaborative recounting of past events, parents actively guide the organization and structure of children’s representations. As such, parents who discuss their children’s experiences within an emotional framework may be guiding how children personally represent their own experiences and their developing sense of themselves as emotional agents (Fivush, 1993).

This conclusion is consistent with the views of attachment researchers, who argue that a more open, fluid style of parent–child discourse in secure relationships constructively guides children’s mental representations (Bowlby, 1982; Bretherton, 1990). Bowlby proposed that secure mother–child relationships allow for open communication regarding attachment issues, enabling children to understand emotional events more coherently, which in turn influences children’s internal working models of the relationship. Restricted communication in the context of attachment insecurity is theorized to hinder the construction of coherent internal working models, consequently

having a negative impact on children's social functioning. Central to open communication is a warm and sensitive parent-child relationship in which parents are responsive to children's emotional signals (see Thompson, 1998 for review). Responsive caregivers foster secure attachments that allow children to experience and discuss a range of emotional situations and react to them in a safe and supportive environment (Bretherton, 1990). Based on these views, it appears that the security of parent-child attachment provides a broader relational context in which the parent's narrative style either expands or limits the growth of emotional understanding during the preschool years.

Several studies support the view that communication within secure relationships tends to be more open and elaborative, involving a range of topics, contrasted with the restricted and impersonal discourse more characteristic of insecure relationships (Etzion-Carasso & Oppenheim, 2000; Oppenheim, Emde, & Wamboldt, 1996; see also Bretherton, Ridgeway, & Cassidy, 1990 for review). Also consistent with attachment theory are studies documenting the association between attachment security and emotion understanding. Laible and Thompson (1998) found that securely attached 2- to 6-year-olds were more advanced in understanding negative emotions than were insecurely attached children, implying that a secure attachment enables negative emotions to be shared more openly. Similarly, Steele, Steele, Croft, and Fonagy (1999) found that children's attachment security assessed at 1 year significantly predicted their understanding of mixed emotions at 6 years of age. Waters, Rodrigues, and Ridgeway (1998) found that children deemed securely attached at 25 months tended to have more coherent emotion-related narratives at 54 months of age. Other studies have also found relations between attachment security and children's general understanding of mental states as assessed by theory of mind tasks (Fonagy, Redfern, & Charman, 1997; Meins, Fernyhough, & Russell, 1998). Taken together, these results suggest that the open communication shared by securely attached parents with their offspring permits greater emotional sharing which, in turn, benefits preschoolers' developing conceptions of emotions and other mental states.

While there is empirical evidence supporting the bivariate associations between parent-child discourse, attachment security, and children's emotion understanding, there is little evidence concerning the interrelations between these variables in a developmental context. Harris (1999) has suggested that children's emotion understanding may be affected by both parent-child discourse and the attachment relationship concurrently during the preschool years. This study investigated the relations between parent-child communication about emotions within the attachment relationship and children's emotion understanding. Specifically of interest was whether the conversational style parents use to communicate about emotions and children's attachment security each predicted individual differences in children's emotion understanding, and whether there was an interaction between the two variables. We were also interested in the changing association between attachment and discourse measures with the child's age, since the preschool years is a period of significant representational advance.

Our hypotheses, consistent with prior research, was that secure attachments would be associated with a more elaborative parental narrative style (Etzion-Carasso & Oppenheim, 2000; Oppenheim *et al.*, 1996) and with more advanced emotion understanding in children (Fonagy *et al.*, 1997; Laible & Thompson, 1998; Meins *et al.*, 1998; Steele *et al.*, 1999). We also anticipated that a more elaborative parental narrative style would predict enhanced emotion understanding independently of attachment

security (see Laible & Thompson, 2000). However, we also expected an interaction between these predictors. Specifically, we expected that children would show greatest emotion understanding in the context of a secure attachment relationship with a parent who also uses an elaborative narrative style. Gender was expected to be a factor since several previous studies investigating mother–child conversations about emotions have found gender differences (Kuebli *et al.*, 1995; Cervantes & Callanan, 1998).

Finally, the developmental context of these social influences was of special interest in light of the theoretical expectation that parent–child discourse, especially within a secure relationship, would be particularly influential during the period of young children’s emerging representations of emotion in themselves and others. Consequently, our goal was to first study these influences in children who were assumed sufficiently young that their understanding of emotion was not yet fully consolidated. The first study reported below was with 3-year-olds. However, based on the findings of that investigation and the conclusion that emotion knowledge at that age was still very rudimentary, a second study was subsequently initiated with the same children at a later age, when individual differences in emotion understanding were more mature.

Study 1

Method

Participants. Participants were 52 3-year-olds (27 girls, 25 boys; *M* age = 41.2 months, *SD* = 3.0 months) and their mothers recruited from preschools in a medium-sized, Midwestern city in the United States. The majority of children were European-American (86%); the remaining children were African-American (6%), and Hispanic (6%). Most of the children lived in middle-class households (*M* income = \$50,000) with both biological parents (78%). Mean years of education for mothers was four years of college, with 16% having completed high school, 27% with two-year college experience, 33% with a Bachelor’s degree, and 23% with postgraduate education. Two dyads were dropped from the analyses due to non-completion of the second visit at this age, and technical problems.

Measures

Conversational style. Mothers read five, one-page stories and talked to their child about a recent past event in which the child displayed a negative emotion. The stories were taken from the storybook *Feelings* (Brandenburg, 1984) and were read in the following order: (a) a boy was happy about receiving an invitation to a birthday party, (b) a girl was sad over the death of her pet mouse, (c) a boy acted out a range of emotions and had a friend guess what they were, (d) a girl was scared about her first day in a new class, and (e) a girl explained to a friend why it hurts someone’s feelings to call them names. The stories were chosen because they had minimal narration, relying mainly on pictures to tell the story, thus promoting spontaneous mother–child conversation about the stories. Mothers were asked to ‘read them as you would normally read a story with your child’. Upon completion of the stories, mothers were asked to talk to their children about a recent past event that occurred within the last week during which the child displayed a negative emotion. They were asked to ‘recall the event as you normally would recall an event with your child’ to elicit the child’s memory for the event and how the child felt about it. Mothers were told they could take as long as necessary with both of these tasks.

Coding of transcripts. The conversations were transcribed verbatim from audiotapes and then coded for characteristics of maternal speech specifically related to emotional states. Criteria for inclusion as an emotional state followed previous research by Dunn and colleagues (Dunn *et al.*, 1991). As such, use of feeling state terms (e.g. happy, sad, mad), phrases that connoted a feeling state (e.g. 'threw a fit'), and explicatives (e.g. 'Yuck!') were included and nonspecific explicatives (e.g. 'Yeah!'), non-verbal expressions of affect, and other non-feeling internal state terms (e.g. thinking, wanting) were not included. A research assistant who was naive to the hypotheses performed the coding. These emotion-related utterances were then coded for characteristics derived from the previous literature on parent-child conversations about emotions and past events (Cervantes & Callanan, 1998; Dunn *et al.*, 1991; Fivush & Fromhoff, 1988). The total number of each of the following categories of maternal discourse was counted from her emotion-related utterances. Mothers' *requests* for emotion-related information were coded. In addition, references to *causes* (i.e. identification of the event(s) that were the source of the emotion) and *behavioral results* (i.e. the behavioral product of the emotion: 'He's so happy he's jumping up and down') and *directives* (i.e. giving direction as to the proper display or behavior in response to an emotion: 'You don't hit when you get mad') of emotions were coded when the mother made explicit associations between emotions and events (e.g. 'He's happy that he got invited to that party', 'He's so sad that he is crying tears'). Attempts to help children comprehend the emotion label or situation were coded when mothers *linked* emotions to an event in children's lives (e.g. 'He's angry like when you were angry at sissy for hitting you this morning'). Mothers' use of *repetition* (i.e. repeating child's utterance), *confirmation* (i.e. approving or validating the child's emotion-related utterance: 'Yes, that's right that he's happy!') and *negation* (i.e. refuting or correcting the child's emotion-related utterance: 'You weren't happy, you were crying, remember?') in response to children's emotion-related utterances were also coded. All codes were counted for the frequency of occurrence after correcting for mothers' repetitions of their own utterances without the child responding (e.g. child did not hear, was not paying attention). Reliability of coding was established between the research assistant and the first author on 48 (96%) of the transcripts ($\kappa = .72$). Percent agreement for each code was as follows: requests = 97%, causes = 60%, results = 72%, directives = 64%, linking = 72%, repetition = 86%, confirmation = 93%, and negation = 100%.

To reduce the number of discourse variables, a principal components factor analysis was implemented utilizing codes for mothers' discourse described above. Two factors emerged with satisfactory internal consistency (Nunnally, 1967) and factor scores were retained for further analyses. On the first factor (eigenvalue = 2.83, 35.4% of variance; $\alpha = .63$), labeled 'elaborative style', causes (.42), linking (.79), requests (.78) and behavioral results (.80) loaded positively. On the second factor (eigenvalue = 1.61, 20.1% of variance; $\alpha = .52$), labeled 'pragmatic style', confirmations (.71), directives (.58), negation (.81), and repetition (.67) were loaded positively. These two factors were used in subsequent analyses.

Emotion understanding. Children completed a puppet task developed by Denham (1986) which is designed to assess children's emotion understanding. This task has been used to assess emotion understanding in previous research with children of this age (e.g. Denham, 1986; Denham *et al.*, 1994; Dunn & Hughes, 1998; Laible & Thompson, 1998). Three puppets were used (one male child, one female child and one

mother), assigning the same gender puppet as the target character. Twenty vignettes were acted out by the researcher who asked the children after each, 'How does Johnny/Nancy feel?' Children responded by choosing from among four removable faces one for the target puppet, each face depicting a distinct emotion (i.e. happy, sad, mad, scared), and placing it on the puppet. Before the stories began, the children were required to identify the emotion displayed on each face, first by pointing in response to the labels, then by verbally identifying each. The children were corrected during this time for any mistakes and the researcher ensured that the child understood each face before beginning the stories.

Eight vignettes depicted common situations encountered by children in which one emotion would be stereotypically expected (e.g. being happy about receiving ice cream, being scared about a dream of a monster). The remaining 12 vignettes depicted situations in which children may display different emotions (e.g. going to preschool, seeing a dog, getting hit by a sibling). For these vignettes, mothers were asked earlier to complete a questionnaire identifying which emotion their child would most likely display in the situation. The researcher then acted out the alternative emotion for the child. Thus, if the mother reported that her child would be delighted by the approach of a big, but friendly dog, the experimenter acted out the puppet behaving in a frightened manner instead. This procedure was designed to require the child to infer another's emotions in a non-egocentric manner, and as such can be considered a more advanced form of emotion understanding (Denham, 1986).

Following Denham (1986), children's responses were scored as follows: 2 points for each correct response, 1 point for incorrect responses of the same valence as the target emotion, and 0 points for incorrect responses with a different valence from the target emotion. These scores were then summed across the 20 vignettes (eight stereotypical, 12 non-stereotypical) to create an overall emotion understanding score for each child (mean for this study was 24.00, $SD = 6.46$). In addition, since the valence of emotions understood by the child was of interest, proportion scores for positive valence and negative valence vignettes were calculated consistent with Laible and Thompson (1998). Proportion scores were necessary due to the different numbers of positive and negative vignettes each participant received as a result of mothers' answers to the non-stereotypical situation questionnaire. To calculate positive and negative emotion understanding scores, each child's scores for the positive vignettes and the negative vignettes were totaled separately, and then each was divided by the total possible points available for the number of positive and negative vignettes the child received. These created positive emotion understanding ($M = .86$, $SD = .18$) and negative emotion understanding ($M = .53$, $SD = .17$) proportion scores for each child.

Security of attachment. The security of attachment was assessed by having mothers complete the Attachment Q-sort Version 3.0 (AQS) (Waters & Deane, 1985). The AQS consists of 90 descriptive statements of young children's behavior during interactions with their primary caregivers, with a focus on behaviors reflecting exploratory ease, comfort during distress, and other forms of attachment-related behavior. These items are designed to provide a comprehensive description of children's 'secure base' behavior with caregivers. The AQS is completed by sorting the 90 statements into nine categories using a fixed distribution. The statements are sorted into nine piles based on how much each behavior is characteristic of the child in question. Items extremely characteristic of the child are placed high in the final sort (i.e. piles 7–9) while items

uncharacteristic of the child are placed low in the final sort (i.e. piles 1–3). Items that are neither characteristic nor uncharacteristic are placed in the middle piles. Research by Teti and McGourtny (1996) indicates that mothers are qualified to perform the sort given that they have the most opportunity to observe a representative sample of their child's behavior, and several researchers have found that Q-sorts from mothers yield valid, meaningful data (Cicchetti, Toth, & Rogosch, 1999; Laible & Thompson, 1998, 2000). To assure the validity of the mothers' sorts, however, mothers must be properly trained, kept naive to the construct being measured, given the AQS items to review in advance, and supervised during their sort in case questions arise. These criteria were met in the current study. Attachment security scores were calculated from the mothers' sorts by assigning each item a score corresponding to its placement in the sort (e.g. pile 9 = score of 9, pile 1 = score of 1). The scores for each card were then correlated with the scores each card received in the criterion sort for the hypothetical 'most secure' child, which was devised based on independent ratings by attachment experts (see Waters & Deane, 1985). As a correlation coefficient, the resulting security scores range from -1 to 1 , and higher security scores reflect more secure attachment relationships with the parent. The mean security score for this sample was $.43$ ($SD = .18$), which is consistent with mean scores for other studies with children of this age (Thompson, 1998).

Procedure. Each mother–child dyad was visited on two separate occasions within a two-week span. During the first visit, mothers were first asked to read the stories and talk about a past event with their children. To ensure that the conversations occurred in a natural manner, the dyads were left alone during this time to allow them to feel as comfortable as possible. The mothers were given an audio recorder to record these two events. After the conversations were complete, the puppet task was administered to the child while the mother filled out a brief demographic questionnaire.

During the second visit mothers completed the AQS under the guidance of the first author according to the guidelines set forth by Teti and McGourtny (1996). Mothers were given the AQS items approximately one to two weeks in advance of performing the sort and were told to read through the list and reflect on how the statements matched their child's behavior as they observed them in the following week. At the time of the sort, mothers were provided with a standard set of instructions consistent with Teti and McGourtny (1996) before completing the sort. The researcher was present during the sorts to answer any questions mothers had about the meaning of a statement or about an item placement. Sorting times ranged from about 45 minutes to an hour and a half.

Results

Bivariate Interrelations Between Discourse Factors, Emotion Understanding and Attachment Security. The interrelations between the variables appear in Table 1. Examination of the bivariate relations revealed gender differences in overall emotion understanding, with girls scoring higher than boys. Not surprisingly, measures of positive and negative valence emotions were significantly correlated with the emotion understanding measure, since they were derived from the latter. However, there were no significant bivariate relations between attachment or maternal discourse factors and the emotion understanding variables.

Table 1. Bivariate Interrelations Between Gender, Discourse Factors, Emotion Understanding, and Attachment Security

Variable	2	3	4	5	6	7
1. Gender	.19	.27	-.30**	-.17	-.26	.06
2. Elaborative style		.00	-.19	-.13	-.18	.02
3. Pragmatic style			.17	.06	.17	-.02
4. Emotion understanding				.54***	.96***	.12
5. Understanding of positive valence emotions					.36**	.16
6. Understanding of negative valence emotions						.10
7. Attachment security						—

Note: N = 50.

p < .01, *p < .001.

Females coded as 0, males coded as 1.

Predicting Emotion Understanding at Age 3. To test the relative contributions of attachment and parental discourse to children's understanding of emotion, three hierarchical multiple regressions were performed by entering age and gender (dummy coded dichotomously) on the first step, attachment on the second step and the elaborative and pragmatic discourse factors on the third step. In the first set of analyses, overall emotion understanding was entered as the outcome variable. Age and gender accounted for a marginally significant amount of variance, $F(2,47) = 2.52$, $p < .10$ (Multiple $R^2 = .10$). The addition of attachment on the second step did not add a significant amount of explained variance to the model, $F_{\text{change}}(1,46) = 1.03$, n.s. (Multiple $R^2 = .12$). The addition of the elaborative and pragmatic discourse factors on the third step added an additional 10% of explained variance to the model, $F_{\text{change}}(2,44) = 2.76$, $p < .07$ (Multiple $R^2 = .22$). The full model accounted for a significant amount of variance in children's overall emotion understanding, $F(5,44) = 2.43$, $p < .05$. In the full model, being a girl (standardized beta = $-.34$, $p < .05$) and maternal use of pragmatic discourse (standardized beta = $.30$, $p < .05$) were significantly related to children's overall emotion understanding. Girls and children with mothers who used a pragmatic style of discourse tended to have higher emotion understanding scores.

In the second set of analyses, children's understanding of positive emotion was the outcome variable. None of the steps added a significant amount of explained variance to the model and none of the models was significant. In the third set of analyses, children's understanding of negative emotions was the outcome. The addition of age and gender on the first step did not account for a significant amount of variance, $F(2,47) = 2.38$, n.s. (Multiple $R^2 = .09$). The addition of attachment on the second step did not add a significant amount of explained variance to the model, $F_{\text{change}}(1,46) = .84$, n.s. (Multiple $R^2 = .11$). On the third step, the addition of the elaborative and pragmatic discourse factors added a marginally significant amount of explained variance to the model, $F_{\text{change}}(2,44) = 2.59$, $p < .10$ (Multiple $R^2 = .20$). The full model reached mar-

ginal significance, $F(5,44) = 2.23, p < .07$. In the full model, being a girl (standardized beta = $-.30, p < .05$) and maternal use of pragmatic discourse (standardized beta = $.29, p < .05$) were related significantly to children's understanding of negative emotions. As with overall understanding, girls and children whose mothers used a pragmatic discourse style tended to have a better understanding of negative emotions.

Drawing from Bowlby's (1982) theoretical framework concerning the importance of a secure mother-child relationship for open communication of emotional topics, analyses were conducted to test whether the influence of attachment security was linked with the effect of maternal discourse style on children's emotion understanding. To explore this possibility, the interactions between maternal discourse style factors (elaborative and pragmatic) and children's attachment security were examined for overall emotion understanding, understanding of positive emotions and understanding of negative emotions. For each outcome measure, two sets of hierarchical regressions were performed, each entering age and gender on the first step. For the first set of regressions, age and gender were entered on the first step, and attachment and the elaborative style factor were entered on the second step, and the interaction term for attachment and elaborative style was entered on the third step. Only the interaction added a significant amount of explained variance for children's understanding of positive emotions, $F_{\text{change}}(1,44) = 4.21, p < .05$ (Multiple $R^2 = .15$; for the interaction term, standardized beta = $-.29, p < .05$). For the second set of regressions, age and gender were entered on the first step, attachment and the pragmatic style factor were entered on the second step, and their interaction term was entered on the third step. The interaction term for attachment security and pragmatic style did not add a significant amount of explained variance in any of the three models, none of which explained a significant amount of variance.

To examine further the interaction in the analyses for positive emotion understanding, the relationship between the elaborative style factor and understanding of positive emotions was graphed at one standard deviation above, one standard deviation below, and at the mean of attachment security, consistent with standard practices for elucidating the interaction term (see Figure 1). High levels of elaborative discourse were related to lower emotion understanding for more secure children (i.e. those one standard deviation above the mean of attachment security). Higher levels of elaborative discourse were related to higher understanding of positive emotion for less securely attached children (i.e. those one standard deviation below the mean of attachment security). For children within one standard deviation of the mean, mothers' use of an elaborative style of discourse appeared to have negligible influence on children's understanding of positive emotion.

Discussion

Contrary to our expectations, neither attachment security nor elaborative maternal discourse was related to children's understanding of emotion. Hierarchical regression analyses revealed that mothers' use of a pragmatic (not elaborative) discourse style was marginally related to children's emotion understanding, and this effect was also apparent for negative emotion understanding. Attachment was also not found to be a significant predictor of children's emotion understanding and was not related to discourse styles in the bivariate correlations. Investigation of the joint relation of discourse style and attachment to children's understanding of emotions revealed that for

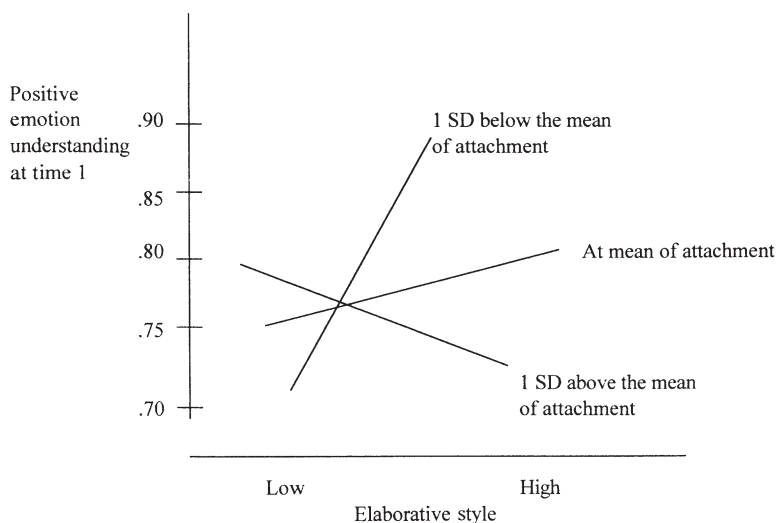


Figure 1. Interaction of maternal elaborative discourse style and attachment security in predicting children's positive emotion understanding at time 1.

securely attached children, the use of the elaborative style of discourse was related to lower—not higher—emotion understanding scores.

It was surprising that mothers' use of the pragmatic discourse style, marked by confirmations, negations, directives, and repetitions of their children's utterances, was associated with enhanced emotion understanding in 3-year-olds. This suggests that mothers who let their children take the lead in conversations about emotions and guided their understanding by confirming or negating their utterances may facilitate young children's understanding of emotions. In a sense, the pragmatic style capitalizes on the child's initiative and provides support for the child's emotion-related construals of events. Another interpretation of these findings, however, reverses the direction of effects: mothers are speaking more elaboratively to young children who show more limited emotional understanding as a means of enhancing their child's capabilities. Each of these interpretations suggests that maternal discourse may have somewhat different functions in fostering emotional understanding with the young preschoolers of this study, and merits further research.

However, these findings remain contrary to theoretical expectations derived from previous studies of the association between maternal discourse style and emotional understanding (Laible & Thompson, 2000) as well as research on the relation between attachment security and emotion understanding (Fonagy *et al.*, 1997; Laible & Thompson, 1998; Meins *et al.*, 1998; Steele *et al.*, 1999). In understanding why these findings are inconsistent with the others, it is important to recognize that previous studies have used samples of children who were older than the current sample (Fonagy *et al.* mean age = 57.96 months; Laible & Thompson 1998 mean age = 50.40 months; Laible & Thompson 2000 mean age = 47.8 months; Meins *et al.* mean age = 61.56 months; Steele *et al.* mean age = 72 months). Other research on maternal discourse and attachment has also found that the most reliable associations begin to appear at around 4 years of age (Fivush & Reese, 2001). Our study assessed the emotion under-

standing of children who were only 41.2 months, an age when basic concepts of emotion are just beginning to develop. It is possible that the children of this study were simply too young, and their conceptions of emotion too limited, for discourse and attachment to have yet had a substantial impact on emotion understanding at this age.

Narrative researchers have noted that children begin to be active participants in conversations about past events around 3 years of age, but that 3-year-olds are still very limited conversational partners (Haden, Haine, & Fivush, 1997). As young children become more conversationally competent, parent-child conversations may begin to assume a qualitatively different role in representational development. As a result, the associations between maternal discourse quality, attachment security, and children's emotional understanding may become developmentally altered by changes in children's capacities for shared conversation and by their representational capabilities. In our effort to assess children who were sufficiently young that their conceptions of emotion were just beginning to develop, we may have inadvertently assessed children who were too young for the interactive effects of maternal discourse and attachment security to have yet influenced their representations of emotion. In this respect, it would be reasonable to expect that the hypothesized relations between security of attachment, maternal discourse style, and children's emotion understanding would be revealed in children at a somewhat older age.

To explore this possibility, a follow-up study was conducted to determine whether discourse style at 3 years would be a stronger predictor of emotion understanding later in development, after the mother's narrative style (in tandem with attachment security) could have a stronger and more sustained influence on developing representations of emotion (individual differences in maternal discourse style tend to be stable over time and with different children; see Fivush & Reese, 2001). Participants were thus re-contacted nearly two years later when the children were 5 years of age. We hypothesized that (a) individual differences in maternal discourse style assessed earlier would predict children's emotion understanding at age 5, (b) the security of attachment at age 5 would also predict children's emotion understanding at that age, consistent with prior research, and (c) there would be consistency in individual differences in children's emotion understanding, and the security of attachment, from age 3 to age 5.

Study 2

Method

Participants from study 1 were re-contacted and asked to participate in a follow-up study. Ten families had relocated out of state, six participants could not be reached and five declined participation. A total of 29 mothers and their children (mean age = 60.84 months; $SD = .32$; 13 males, 16 females) agreed to participate in this study. Children completed the emotion understanding task used in study 1 while mothers completed the Attachment Q-sort again. Both measures were scored according to the criteria used in study 1.

Results

Children at age 5 were significantly stronger in their overall emotion understanding ($M = 28.90$, $SD = 4.30$), positive emotion understanding ($M = .95$, $SD = .12$) and

negative emotion understanding ($M = .66$, $SD = .14$). Their scores for attachment security ($M = .37$, $SD = .17$) were, however, comparable to those at age 3. To test whether significant change in children's emotion understanding and attachment status had occurred from time 1 to time 2, four paired-samples *t*-tests were performed between: (a) attachment status at time 1 and time 2, (b) overall emotion understanding at time 1 and time 2, (c) understanding of positive emotions at time 1 and time 2, and (d) understanding of negative emotions at time 1 and time 2. Results revealed no significant change in attachment status ($t = 1.22$, *n.s.*). However, significant increases were shown in children's overall emotion understanding ($t = -4.71$, $p < .001$), understanding of positive emotions ($t = -2.68$, $p < .05$), and understanding of negative emotions ($t = -4.44$, $p < .001$).

Interrelations between gender, emotion understanding at time 1 and 2, attachment status at time 1 and 2, and discourse codes from time 1 are presented in Table 2. Examination of the bivariate relations revealed significant positive relations between attachment at time 2 and each of the following: understanding of positive emotions at time 1, overall emotion understanding at time 2, and understanding of negative emotions at time 2. Measures of attachment security were significantly correlated at time 1 and time 2, consistent with expectations, but this was unexpectedly not true of the emotion understanding measures.

Predicting Emotion Understanding at Age 5. To test whether attachment status at time 2 and discourse style from time 1 predicted emotion understanding at time 2, a series of three hierarchical multiple regressions was conducted to predict overall emotion understanding, understanding of positive emotions, and understanding of negative emotions. In order to control for earlier security of attachment, attachment status at time 1 along with age at time 2 and gender were entered on the first step. Attachment status at time 2 was entered on the second step. To test whether discourse style predicted emotion understanding above and beyond attachment status, elaborative style and pragmatic style from time 1 were entered on the third step.

For overall emotion understanding, age at time 2, gender and attachment status at time 1 were not significant predictors, $F(3,25) = .28$, *n.s.* (Multiple $R^2 = .03$). The addition of attachment status at time 2 in the second step added approximately 31% of explained variance, $F_{\text{change}}(1,24) = 11.39$, $p < .01$ (Multiple $R^2 = .34$, $p < .05$). The addition of discourse variables on the third step did not add a significant amount of explained variance to the model, $F_{\text{change}}(2,22) = .40$, *n.s.* (Multiple $R^2 = .37$). In the final model, attachment status at time 2 was related positively to overall emotion understanding (standardized beta = $.74$, $p < .01$). Securely attached preschoolers had higher emotion understanding scores than did insecurely attached children.

For understanding of positive emotions, none of the steps accounted for a significant amount of explained variance. For understanding of negative emotions, the addition of age at time 2, gender and attachment status at time 1 were not significant predictors, $F(3,25) = .32$, *n.s.* (Multiple $R^2 = .04$). The addition of attachment status at time 2 added an additional 28% of explained variance on the second step, $F_{\text{change}}(1,24) = 9.79$, $p < .01$ (Multiple $R^2 = .32$, $p < .05$). The addition of discourse styles on the third step did not add a significant amount of explained variance to the model, $F_{\text{change}}(2,22) = .60$, *n.s.* (Multiple $R^2 = .35$). In the final model, attachment status at time 2 was positively related to understanding of negative emotions (standardized beta = $.70$, $p < .01$). Securely attached children showed stronger understanding of negative emotions.

Table 2. Interrelations Between Gender, Discourse at Time 1, Emotion Understanding at Time 1 and 2, and Attachment Security at Time 1 and 2

Variable	2	3	4	5	6	7	8	9	10	11
1. Gender	.19	.27	-.30*	-.17	-.26	.06	.07	-.04	.08	.10
2. Elaborative style		.00	-.19	-.13	-.18	.02	-.00	.04	-.09	.13
3. Pragmatic style			.17	.06	.17	-.02	.02	-.23	.05	.17
4. Emotion understanding t1				.54***	.96***	.12	.31	-.04	.32	.23
5. Understanding of positive valence emotions t1					.36*	.16	.35	.18	.35	.40*
6. Understanding of negative valence emotions t1						.10	.19	-.07	.22	.17
7. Attachment security t1							.15	-.07	.18	.58**
8. Emotion understanding t2								.17	.96***	.54**
9. Understanding of positive valence emotions t2									-.05	.07
10. Understanding of negative valence emotions t2										.54**
11. Attachment security t2										—

Note: N time 1 variables = 50; N time 2 variables = 29. Females coded as 0, males coded as 1.
*p < .05, **p < .01, ***p < .001.

To explore whether discourse in the context of secure relationship at 3 years influenced emotion understanding at 5 years, interactions between discourse style and attachment at time 1 were examined in two sets of hierarchical multiple regressions. For both sets of regressions, age at time 2 and gender were entered on the first step. For the first set of regressions, attachment at time 1 and the elaborative style factor were entered on the second step and the interaction term for attachment and elaborative style was entered on the third step. For the second set of regressions, attachment at time 1 and the pragmatic style factor were entered on the second step and their interaction term was entered on the third step. The addition of the interaction term for attachment at time 1 and elaborative style in the third step accounted for an additional 14% of explained variance in positive emotion understanding, $F_{\text{change}}(1,23) = 4.34$, $p < .05$ (Multiple $R^2 = .25$). In the full model, age at time 2 was related negatively (standardized beta = $-.51$, $p < .05$) and the interaction between attachment security and elaborative style related positively (standardized beta = $.45$, $p < .05$) to children's understanding of positive emotions. The interaction term did not add a significant amount of explained variance for either overall emotion understanding or negative emotion understanding. Moreover, the interaction between pragmatic style and attachment did not add a significant amount of explained variance for any of the three emotion understanding measures.

To examine further the significant interaction for positive emotion understanding, the relationship between the elaborative style factor and understanding of positive emotions was again graphed at one standard deviation above, one standard deviation below, and at the mean of attachment security (see Figure 2). For more secure children (those one standard deviation above the mean on attachment), high levels of the elaborative style of maternal discourse at 3 years was associated with higher positive emotion understanding scores at 5 years. For less securely attached children (those one standard deviation below the mean on attachment), high levels of the elaborative style of discourse were related to lower positive emotion understanding scores. For children at the mean of attachment, high levels of the elaborative style of discourse were negligibly related to positive emotion understanding scores.

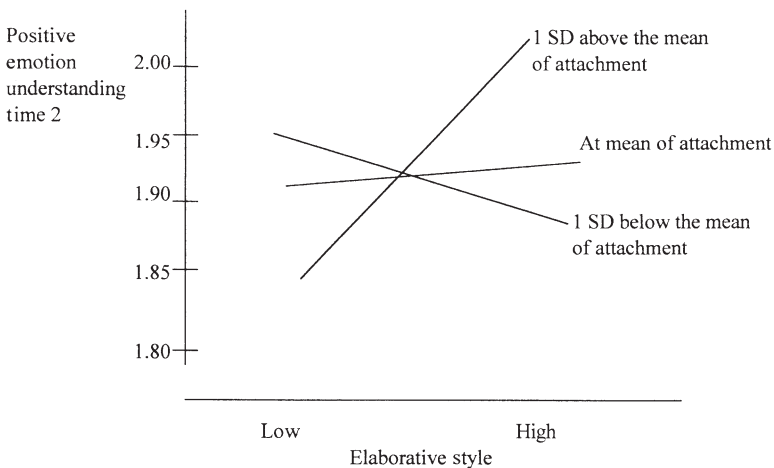


Figure 2. Interaction of maternal elaborative discourse style and attachment security in predicting children's positive emotion understanding at time 2.

General Discussion

The findings of these successive studies underscore that the preschool years are a crucial period for growth in emotion understanding, and suggest that the rapidly changing conceptions of emotion that occur during this time alter the developmental influence of maternal discourse style and attachment security, which are two important contributors to socioemotional understanding in early childhood.

Children improved significantly in their overall emotion understanding from age 3 to age 5, and exhibited comparable improvements in their comprehension of both positive and negative emotions. Together with other concurrent changes over the same period in theory of mind and other social-cognitive capabilities, language and conversational skill, and capacities for event representation, it is apparent that emotion understanding at age 3 means something very different than emotion understanding at age 5.

One indication of this is the changing relation between security of attachment and emotion understanding. As predicted, securely attached children obtained the highest scores on the assessment of emotion understanding, and were especially proficient in their understanding of negative emotions, consistent with the earlier findings of Laible and Thompson (1998). But this was true only at age 5. At age 3, attachment security had essentially no significant association with emotion understanding, suggesting that the benefits for socioemotional understanding of the more sensitive maternal responsiveness to emotional issues documented by attachment theorists await the greater comprehension of others' inner, psychological states that develops most significantly after age 3 (see Thompson, 2000).

The expected benefits of maternal use of an elaborative discourse style, which has been documented by studies of memory development, were not confirmed either at age 3 or age 5. This suggests that greater investigation of the features of maternal narrative style that foster early socioemotional understanding is warranted. It is possible, for example, that some of the nonverbal features of maternal discourse – vocal intonation, gesture, and facial expression – which were not tapped in this study (or in others in this literature), may be weakly, but positively correlated with differences in elaborative or pragmatic discourse, but are the more important contributors to young children's comprehension of emotion in themselves and others. These nonverbal features of maternal discourse deserve further research attention.

However, with respect to the interactive influences of maternal discourse and attachment security, the findings of this pair of studies again suggest significant developmental changes in how emotion understanding is socialized. At age 5, the expected interaction of attachment and discourse occurred. For positive emotion understanding (although not for negative emotions), high levels of maternal elaborative discourse in the context of a more secure attachment yielded the highest levels of emotion understanding. It was thus the benefits of a richly embellished maternal narrative style with prompts for further information, in the context of a secure, confident mother-child relationship, that fostered a young child's comprehension of emotion. This is the first time such an interactive influence has been predicted and confirmed, and reflects a valuable intersection of the thinking of cognitive researchers and attachment theorists concerning the growth of early social understanding (Thompson, 2000).

But this interaction was not obtained at age 3. Indeed, precisely the opposite results were found: the highest levels of emotion understanding occurred in the context of pragmatic maternal discourse and a less secure attachment relationship. Until this

unexpected finding is replicated, and especially in the context of very different patterns of prior empirical research and theoretical expectations, we tend to think that this association at age 3 is not a reliable one but instead reflects the uncertain influence of maternal discourse on early emotion understanding. However, it is possible that, as suggested earlier, maternal discourse has a very different influence on developing socioemotional understanding in very young children, perhaps as a support for nascent representations that are only dawning in the young child's comprehension of experience. This possibility, too, merits further investigation. Regardless, maternal discourse, in the context of attachment security, has a very different influence on the developing conceptions of emotion at age 3 and age 5. Interestingly, although the influence on positive emotion understanding was an interactive one, attachment security alone predicted individual differences in negative emotion understanding at age 5. This may reflect the significance of a secure attachment for providing a confident relational forum for discussions of uncomfortable negative emotions like fear, anger, and sadness for older preschoolers, while maternal discourse style is additionally important for elaborating a young child's comprehension of positive emotionality.

Taken together, these findings underscore that during periods of significant representational advance, social influences on developing understanding may themselves be altered. In this study, maternal discourse and attachment security had very different relations to emotional understanding at ages 3 and 5. Despite this, the findings at age 5 were theoretically expected and largely consistent with prior research. The conclusion that the influence of social processes on early socioemotional understanding is developmentally transformed in early childhood is consistent with the recent proposal by Thompson (2000) that researchers who seek to understand the outcomes of secure or insecure early attachment relationships must consider carefully developmental changes of the young child, especially those related to representations of self and other. The same may be true of the influence of maternal discourse. In this light, the fact that preschoolers are affected in developmentally variable ways by the people near them suggests how much the developing person is at the nexus of the social construction of early emotional understanding.

References

- Bowlby, J. (1982). *Attachment and loss*. Vol. 1. *Attachment* (Rev. edn). New York: Basic Books.
- Brandenburg, A. (1984). *Feelings*. New York: Greenwillow Books.
- Bretherton, I. (1990). Open communication and internal working models: Their role in the development of attachment relations. In R. A. Thompson (Ed.), *Socioemotional development. Nebraska Symposium on Motivation, vol. 36* (pp. 57–113). Lincoln, NE: University of Nebraska Press.
- Bretherton, I., Ridgeway, D., & Cassidy, J. (1990). Assessing internal working models of the attachment relationship. In M. T. Greenberg, D. Cicchetti, & E. M. Cummings (Eds.), *Attachment in the preschool years* (pp. 273–308). University of Chicago Press.
- Brown, J. R. & Dunn, J. (1996). Continuities in emotion understanding from three to six years. *Child Development, 67*, 789–802.
- Cervantes, C. A. & Callanan, M. A. (1998). Labels and explanations in mother–child emotion talk: Age and gender differentiation. *Developmental Psychology, 34*, 88–98.
- Cicchetti, D., Toth, S. L., & Rogosch, F. A. (1999). The efficacy of toddler–parent psychotherapy to increase attachment security in offspring of depressed mothers. *Attachment and Human Development, 1*, 34–36.
- Denham, S. A. (1986). Social cognition, pro-social behavior, and emotion in preschoolers: Contextual validation. *Child Development, 57*, 194–201.

- Denham, S. A., Zoller, D., & Couchoud, E. A. (1994). Socialization of preschoolers' emotion understanding. *Developmental Psychology, 30*, 928–936.
- Dunn, J. & Hughes, C. (1998). Young children's understanding of emotions within close relationships. *Cognition and Emotion, 12*, 171–190.
- Dunn, J., Bretherton, I., & Munn, P. (1987). Conversations about feeling states between mothers and their young children. *Developmental Psychology, 23*.
- Dunn, J., Brown, J., & Beardsall, L. (1991). Family talk about feeling states and children's later understanding of others' emotions. *Developmental Psychology, 27*, 448–455.
- Dunn, J., Brown, J., Slomkowski, C., Tesla, C., & Youngblade, L. (1991). Young children's understanding of other people's feelings and beliefs: Individual differences and their antecedents. *Child Development, 62*, 1352–1366.
- Etzion-Carasso, A. & Oppenheim, D. (2000). Open mother–preschooler communication: Relations with early secure attachment. *Attachment and Human Development, 2*, 347–370.
- Fivush, R. (1991). The social construction of personal narratives. *Merrill-Palmer Quarterly, 37*, 59–82.
- Fivush, R. (1993). Emotional content of parent–child conversations about the past. In C. A. Nelson (Ed.), *Memory and affect in development: Minnesota Symposia on Child Development, vol. 26* (pp. 39–77). Hillsdale, N.J.: Lawrence Erlbaum.
- Fivush, R. & Fromhoff, F. A. (1988). Two year olds talk about the past. *Cognitive Development, 2*, 393–410.
- Fivush, R. & Reese, E. (2001, April). *Reminiscing and relating: Developing relations between parent–child narratives and attachment*. In R. A. Thompson (Chair), *Attachment and early representation: Integrating perspectives from cognitive and attachment theory*. Invited symposium presented at the biennial meeting of the Society for Research in Child Development, Minneapolis.
- Fonagy, P., Redfern, S., & Charman, T. (1997). The relationship between belief-desire reasoning and a projective measure of attachment security. *British Journal of Developmental Psychology, 15*, 51–61.
- Haden, C. A., Haine, R. A., & Fivush, R. (1997). Developing narrative structure in parent–child reminiscing across the preschool years. *Developmental Psychology, 33*, 295–307.
- Harris, P. L. (1994). The child's understanding of emotion: Developmental change and the family environment. *Journal of Child Psychology and Psychiatry, 35*, 3–28.
- Harris, P. L. (1999). Individual differences in understanding emotion: The role of attachment status and psychological discourse. *Attachment and Human Development, 1*, 307–324.
- Kuebli, J., Butler, S., & Fivush, R. (1995). Mother–child talk about past emotions: Relations of maternal language and child gender over time. *Cognition and Emotion, 9*, 265–283.
- Laible, D. J. & Thompson, R. A. (1998). Attachment and emotional understanding in preschool children. *Developmental Psychology, 34*, 1038–1045.
- Laible, D. L. & Thompson, R. A. (2000). Mother–child discourse, attachment security, shared positive affect, and early conscience development. *Child Development, 1424–1440*.
- McCabe, A. & Peterson, C. (1991). Getting the story: A longitudinal study of parental styles in eliciting narratives and developing narrative skill. In A. McCabe & C. Peterson (Eds.), *Developing narrative structure* (pp. 217–253). Hillsdale, NJ: Lawrence Erlbaum.
- Meins, E., Fernyhough, C., & Russell, J. (1998). Security of attachment as a predictor of symbolic and mentalizing abilities: A longitudinal study. *Social Development, 7*, 1–24.
- Nunnally, J. C. (1967). *Psychometric theory*. New York: McGraw-Hill.
- Oppenheim, D., Emde, R. N., & Wamboldt, F. S. (1996). Associations between 3-year-olds' narrative co-construction with mothers and fathers and their story completions about affective themes. *Early Development and Parenting, 5*, 149–160.
- Reese, E. & Fivush, R. (1993). Parental styles for talking about the past. *Developmental Psychology, 29*, 596–606.
- Steele, H., Steele, M., Croft, C., & Fonagy, P. (1999). Infant–mother attachment at one year predicts children's understanding of mixed emotions at six years. *Social Development, 8*, 161–178.
- Teti, D. & McGourtny, S. (1996). Using mothers vs. trained observers in assessing children's secure base behavior: Theoretical and methodological considerations. *Child Development, 67*, 597–605.

- Thompson, R. A. (1998). Early sociopersonality development. In W. Damon (Series Ed.) & N. Eisenberg (Vol. Ed.), *Handbook of child psychology: Social and personality development* (Volume 3, pp. 25–104). New York: Wiley.
- Thompson, R. A. (2000). The legacy of early attachments. *Child Development*, 71, 145–152.
- Waters, E. & Deane, K. (1985). Defining and assessing individual differences in attachment relations: Q-methodology and the organization of behavior in infancy and early childhood. In I. Bretherton & E. Waters (Eds.), *Growing points of attachment theory and research. Monographs of the Society for Research in Child Development*, 50, 66–104 (nos 1–2, Serial n. 209).
- Waters, H. S., Rodrigues, L. M., & Ridgeway, D. (1998). Cognitive underpinnings of narrative attachment assessment. *Journal of Experimental Child Psychology*, 71, 211–234.

Acknowledgments

This research was supported by a minority graduate student fellowship to the first author from the National Science Foundation. The authors thank Nicole Carlson, Stacie Christiansen, and Gina Sakaris for their contributions to the project. Portions of this research were presented at the annual meeting of the American Psychological Society in June 1999, and at the biennial meeting of the Society for Research in Child Development in March 2001.