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Mother-Child Affect and Emotion Socialization Processes Across the Late Preschool Period: Predictions of Emerging Behavior Problems

Abstract

The current study examined concurrent and longitudinal relations between maternal negative affective behavior and child negative emotional expression in preschool age children with ($n = 96$) or without ($n = 126$) an early developmental risk, as well as the predictions of later behavior problems. Maternal negative affective behavior, child externalizing emotional expression, and child internalizing emotional expression were observed during a number of lab tasks at child ages 4 and 5, and child externalizing and internalizing behavior problems were assessed via maternal questionnaire at age 6. Path analyses using structural equation modeling were utilized to test the relations among the variables at ages 4, 5, and 6. A parent-driven model of emotion socialization emerged, wherein stronger relations were found among maternal negative affect and child externalizing emotions and behaviors than among maternal negative affect and child internalizing emotions and behaviors. Early child risk did not appear to alter the overall emotion socialization process, although higher levels of maternal and child negativity were observed for the children with a developmental risk. Results underscore the complexity of emotion socialization processes throughout the preschool period.

Keywords

Emotion Socialization; Parenting; Behavior Problems; Child Development

The process of emotion socialization in young children has been of fundamental interest to developmental science, and the relation between parental emotional expression and child emotional expression is both multiply determined and transactional in nature. Children learn much about acceptable emotional expression and behavior through their parents (Denham & Kochanoff, 2002), while at the same time, they elicit emotional reactions from their parents (Cook, Kenny, & Goldstein, 1991). Parenting behavior and parents' expression of emotion are influenced by particular characteristics of their children, including children's emotional expressivity (Belsky, 1984; Dix, 1991). Further, children's emotional expression and emotion-related parenting behaviors have been linked to behavior problems in later years (Denham, Workman, Cole, Weissbrod, Kendziora, & Zahn-Waxler, 2000; Eisenberg, Losoya et al., 2001). Given the associations between dysregulated or inappropriate emotional expressions in early childhood and later behavior problems, understanding the reciprocal nature of emotion socialization processes is crucial.

The manner in which parents' socialization behaviors differ in relation to children's expressions of particular discrete emotions requires further examination, as do the ways in which the presence of developmental risk in the child may alter socialization processes. Thus, the current study explores reciprocal emotion socialization processes in early childhood by utilizing an observational framework to examine the complex longitudinal relations between maternal affective behavior and children's emotional expression.

The parent-child relationship is intrinsically emotional, and parenting as a process is awash with affective elements (Dix, 1991; Martin, Clements, & Crnic, 2002). Parents socialize

emotions in their children through a variety of parenting behaviors and mechanisms (Eisenberg, Cumberland, & Spinrad, 1998). Of interest for the current study, parents' own affective expression acts as a key mechanism by which children's emotions are socialized. Displays of positive and negative emotions in the presence of children provide a direct model of appropriate emotional expression by helping children see how to competently express emotions (Denham & Grout, 1992; Denham, 1997; Denham, Mitchell-Copeland, Strandberg, Auerbach, & Blair, 1997). Such parental emotional expressions may also be reflective of other parenting processes or features of the parent-child relationship (Eisenberg et al., 1998), as generally warm and responsive parents express more positive emotions, and this amalgamation of positivity influences children's expression of emotions. Certainly, parental expressions of emotions provide a rich opportunity to study emotion socialization.

Although the effects of parent-driven emotion socialization are reasonably well-documented, the reciprocal is somewhat less well-established. Specific child characteristics appear to influence parenting behaviors and parents' expression of emotions (Belsky, 1984; Dix, 1991), and thus, a unidirectional model of influence from parents to children is not sufficient to fully explain socialization processes. Parents may be able to socialize emotion through their reactions to children's own emotional displays. Supportive parental reactions, including parents' awareness of their children's emotions and emotion coaching that assists children in dealing with negative affect, likely help children successfully regulate their negative emotional expressions (Gottman, Katz, & Hooven, 1996). Conversely, children's negative emotions and dysregulation predict parents' punitive and negative emotional reactions (Cook et al., 1991; Eisenberg, Fabes, Shepard, Guthrie, Murphy, & Reiser, 1999). Further, mothers' minimizing or punitive reactions to their children have been associated with unconstructive coping behaviors and poor social functioning (Eisenberg, Fabes, & Murphy, 1996; Jones, Eisenberg, Fabes, & MacKinnon, 2002). Although socialization is, in many ways, a parent-driven process, the effects of particular child behaviors on parents' emotion-related practices are not fully understood.

Within the parent-child relationship, children's expressions of different emotions likely serve unique purposes that may differentially affect socialization processes, which in turn influence children's competencies. For example, sadness may serve the function of eliciting support and comfort from parents whereas anger may be expected to lead to negative consequences from parents (Shipman & Zeman, 2001; Zeman & Shipman, 1996). Parents, then, use distinct emotion socialization strategies in response to these different emotional displays. Such distinctions suggest that the socialization processes involved with particular emotional expressions may lead to divergent child outcomes, including internalizing and externalizing child behavior problems. Indeed, expressions of "soft" or intropunitive negative emotions, such as sadness and anxiety, may show different relations to psychopathology than might hostile or extrapunitive emotions, such as anger (Eisenberg et al., 1998; Zahn-Waxler, Klimes-Dougan, & Kendziora, 1998; Zeman, Shipman, & Suveg, 2002). Thus, expressions of anger and sadness appear to be separable and can differentially lead to adverse child outcomes, which suggests that greater understanding of the ways in which discrete emotions are expressed and socialized in children may be especially informative in identifying the factors that lead to the development of externalizing and internalizing behavior in children.

Some variation in emotional expression and in emotion socialization processes occurs in all families; however, families that are influenced by a particular vulnerability or risk condition may exhibit somewhat different emotion socialization processes as an adaptation to the risk. For example, the presence of early developmental delay in the child requires some adjustments to family processes and may, as a result, lead to distinctive emotion socialization processes. The presence of significant developmental risk produces

adjustments in the ways that families interact, with parents often expressing more directiveness (Costigan, Floyd, Harter, McClintock, 1997; Floyd, Harter, & Costigan, 2004) or more negativity (Beck, Daley, Hastings, & Stevenson, 2004). This increased negativity may be linked to the increased parenting stress and psychopathology that is experienced by parents of children with developmental delays (Baker, Blacher, Crnic, & Edelbrock, 2002; Baker, McIntyre, Blacher, Crnic, Edelbrock, & Low, 2003; Feldman, McDonald, Serbin, Stack, Secco, & Yu, 2007; Olsson & Hwang, 2001; White & Hastings, 2004). Further, these negative correlates of having a child with delays appear less directly related to children's cognitive risk than to the increased behavior problems exhibited by children with developmental delays (Baker et al., 2002; Baker et al., 2003; Feldman et al., 2007).

Children with undifferentiated developmental delay may act as a distinct risk group, as families may experience stress about the unknown cause and course of the diagnosis. In fact, children with undifferentiated delays experience higher levels of behavior problems and their mothers experience greater stress than either typically developing children or children with Down syndrome and their mothers (Eisenhower, Baker, & Blacher, 2005). Developmental processes involving emotional expression in parents and children with putative developmental risk are not only multifaceted, but are likely to provide important insight to the basic understanding of emotion socialization processes.

The Present Study

The full complexity of emotion socialization processes in early childhood is yet to be uncovered. To that end, the current study considers the interplay of multiple factors across time that affect socialization processes. We consider emotion socialization to be a dynamic process that captures the reciprocity of parent-child interactions over time. Although the principal behaviors involved in socialization seem predominantly parent-driven, child characteristics and specific expressions of emotion during interactions also play a key role. This study investigates concurrent and longitudinal relations between mothers' affective behavior and children's emotional expression at ages 4 and 5, and explores the way in which emotional behavior and expression in both mothers and children predicts behavior problems at age 6.

Two facets of child behavior and characteristics that likely contribute importantly to emotion socialization are of particular interest. First, the presence of developmental risk in the child is suggested to alter the emotion socialization processes. A wealth of research indicates that parents of children with early developmental delays are more stressed across a variety of contexts, and are at higher risk for the experience of distress (Crnic, Pedersen y Arbona, Baker, & Blacher, 2009), suggesting that these parents may present specific affective contexts for their children that differ from those in non-risk contexts. Further, parent behavioral interactions tend to be more directive and less focused on emotion processes for children with developmental disabilities (Baker & Crnic, 2009; Tingley, Gleason, & Hooshyar, 1994) as parents attempt to focus more on discrete cognitive and academic skills that form the core of the developmental risk. Given indications that children at high risk for behavior problems are most susceptible to more negative parenting processes (Belsky, Hsieh, & Crnic, 1998), we anticipate that associations between mother-child affective processes and later behavior problems will be strongest for children with early developmental delays.

Second, children's expressions of discrete emotions are expected to differentially influence parental socialization and, in turn, predict children's own later internalizing or externalizing problems. Specifically, children's internalizing and externalizing emotional displays appear to be separable and reflective of different functions. Both mothers' overall negative affect and children's expressions of sadness and anxiety are individually expected to lead to

internalizing behavior problems one year later, whereas maternal negativity and high child expressions of anger will each contribute to later externalizing behavior problems.

Method

Participants

The participants were 222 children seen at ages 48, 60, and 72 months and their mothers. Participants were drawn from a larger longitudinal investigation that prospectively explored family processes, emotion regulation, and the emergence of behavior problems in children with and without developmental delays across ages 3 to 9. With regard to the present study, 31 families were lost between 48 and 72 months, reflecting an attrition rate of 14% over 2 years. The only significant difference between families who remained in the study and families who attrited was a slightly higher family income of families who dropped out of the study than families who remained in the study. Children were classified as either typically developing (TD; $n=126$) or developmentally delayed (DD; $n=96$) based on scores on the Mental Developmental Index (MDI) subscale of the Bayley Scales of Infant Development II (BSID II; Bayley, 1993) administered at age 3. Developmental delay was indicated by scores by scores below 85 on the MDI. Mean MDI scores for the groups are reported in Table 1. Families were also excluded from the larger study if the child had severe neurological impairment, was non-ambulatory, or had a history of abuse, as assessed through parent-report or observation by study staff. In addition, any child with an identified syndrome or specific developmental diagnosis (e.g. autism) was excluded at initial recruitment, as children with undifferentiated early developmental delays were of focal interest. These families are at greatest risk for problematic sequelae because of the unknowns about etiology and prognosis.

Demographic characteristics of the sample by group status (DD vs. TD) are shown in Table 1. For children in the current study, 60.4% were Caucasian, 6.8% were African-American, 2.7% were Asian, 16.2% were Hispanic, and 14.0% were “other” (typically multiracial). Mothers were 63.5% Caucasian, 7.2% African-American, 5.4% Asian, 20.7% Hispanic, and 3.2% “other,” and fathers were 62.2% Caucasian, 6.3% African-American, 4.1% Asian, 15.3% Hispanic, and 6.3% “other.” Socioeconomic status differed significantly by group, and, consistent with prevalence rates of mental retardation, there were significantly more males with developmental disabilities (American Psychiatric Association, 2000). Consequently, maternal education was covaried in all analyses, and gender was also covaried in those analyses involving developmental status.

Procedures

In the larger study, participants were seen at 6-month intervals from child ages 3 to 5 years and were subsequently seen at yearly intervals from age 6 through 9. All study visits were conducted within two weeks of the child’s birthday. For the current investigation, all procedures were completed at child ages 48, 60, and 72 months, in addition to the child’s initial assessment at 36 months.

Initial assessment—During an initial home visit at 36 months, a trained graduate student administered the Bayley Mental Scale. Basic demographic information was also collected from the families at this time.

Lab observations—Children and mothers visited the lab when the child was 48 and 60 months old, and participants were led through similar protocols at each age.

First, the child and the mother were given a basket of age-appropriate toys, and the experimenter left them alone for 10 minutes, during which they could play with the toys in whatever manner they wished. Following this free play period, the experimenter asked the child to clean up the toys, and the child and the mother were left for 3 minutes to clean up. When the experimenter re-entered the room after the 3 minutes of clean up, the experimenter presented three joint-problem solving tasks. The first was an easy task, which the child should have been able to complete without any or with very little assistance from his or her mother. The second was a moderately challenging task, which the child should have been able to complete with effort and minimal assistance. The third task was difficult and was designed so that children would not be able to complete it, even with considerable adult help. The problem solving tasks were allotted 2, 3, and 5 minutes, respectively, and the experimenter left the room while the child completed the tasks. For each task, mothers were told to allow the child a chance to complete the task on their own but then give any assistance they felt was needed. Different joint-problem solving tasks were used at each age to accommodate developmental changes in the children; at the 48 month assessment, the joint-problem solving tasks all required the child to put foam pieces together to create a given picture, and at the 60 month assessment, children were asked to complete block design tests for the easy and difficult tasks and a maze for the moderately challenging task. Tasks were also differentially graded between the DD and TD groups at each age to reflect equivalent levels of challenge (e.g., a more challenging maze was given for the TD children than for the children with DD). The tasks chosen reflected age-specific abilities, checked against standardized tests and further verified for age-appropriateness by a preschool teacher.

After completion of the joint-problem solving tasks, a wait task was administered. This task was 5 minutes long at 48 months and 3 minutes long at 60 months. At 48 months, the child was given a wrapped present and told that it was for him or her as a reward for their efforts. The child was instructed not to open the present until the experimenter returned to the room, and the mother remained in the room during the wait, completing a questionnaire. In addition to the challenge presented to the child, this task involved competing demands for the mother: attending to the child and completing the questionnaire. Tasks involving competing demands have high ecological validity as they reflect the types of contexts often faced by parents in child rearing (Diener, Mangelsdorf, McHale, & Frosch, 2002). For the 60 month wait task, the child was shown an enticing toy covered by a blanket and placed within reach of the child. The experimenter told the child that he or she could play with it later but was not allowed to touch the toy or look under the blanket until the experimenter returned. The mother also left the room, leaving the child alone with the prohibited object. At 60 months, a cooperative task was added in between the problem solving tasks and the wait task, wherein the child and mother were instructed to work together for 5 minutes to follow a complicated path overlaid on an Etch-A-Sketch. Mothers worked one knob and children the other, requiring cooperation and coordination to accomplish the task.

Questionnaire data—At 72 months, mothers completed the Child Behavior Checklist (CBCL; Achenbach, 1991) for Ages 4–18 as part of a more comprehensive data collection visit for the parent study. Mothers completed the CBCL at home and returned the CBCL by mail following the home visit.

Measures

Developmental status—Developmental status of the child was assessed using the Mental Development Index (MDI) subscale of the Bayley Scales of Infant Development II (BSID-II; Bayley, 1993). As expected, the DD and TD groups differed significantly on their mean MDI scores (see Table 1).

Child emotional expression—To assess children's emotional expressions during each of the lab tasks, the Affective Expression Coding System (Zahn-Waxler, Cole, Richardson, Friedman, Michel, & Belouad, 1994) was used at ages 48 months and 60 months. This measure is designed to capture children's affective tone using four different scales: happiness/joy, sadness, anger, and tension/worry/anxiety. Only the sadness, anger, and tension/worry/anxiety codes were used for the current analyses. Trained coders applied the Affective Expression Coding System to code expression on a 0–6 scale based on the duration, intensity, and frequency of the emotion in each task; lower scores represent low levels of the particular emotion, and higher scores represent higher levels. A single score was given for each emotion during each task.

Maternal affective behavior—Mothers' negative affective behavior towards the child at child ages 48 and 60 months was assessed during each of the lab tasks using the Parent-Child Interaction Rating System (PCIRS; Belsky, Crnic, & Gable, 1995). Trained coders (separate from those used to code the child behavior) used the PCIRS to rate negative affect on a 1–5 scale across each of the individual lab tasks, with lower scores representing low levels of negative affect and higher scores representing high levels of negative affect. A single negative affect score was given for each task. Both mothers' content (explicit behavior and language) and tone (the quality or valence of the behavior or language) were considered, as well as the intensity and frequency of the expressions and behaviors. Negative affect focused on mothers' hostility and negativity expressed toward the child. As opposed to the Affective Expression Coding System used for the children, these measures are not direct assessments of individual or differentiated discrete emotions in the mothers. Instead, they reflect a more global negative affectivity rating. A global assessment of negativity was thought to best characterize mothers' emotional expression, given that the nature of discrete emotional expression changes and becomes not only more complex through development but more regulated, with potentially less opportunity for observed discrete emotions in certain situations (Izard & Ackerman, 2000). Therefore, our interest was in the ways in which the general affective tone of maternal behavior, rather than more nuanced emotional expression, affects young children's emotional experience.

Coding reliability—For both the Affective Expression Coding System and the PCIRS, coders were trained on videotaped lab sessions until they reached sufficient reliability with a criterion coder (70% exact agreement and 95% within one scale point). Coders were then paired to code the videotapes. Consensus was reached whenever coders disagreed, and consensus ratings of the pairs were compared with an experienced criterion coder on 15–20% of the video episodes to maintain inter-rater reliability. For the Affective Expression Coding System, intraclass correlations for sadness, anger, and tension/worry/anxiety at 48 months were .81, .94, and .66, respectively, and at 60 months, the intraclass correlations were .89, .86, and .75. For the PCIRS, kappas for inter-rater reliability at the 48 month and 60 month time points were .68 and .71, respectively.

Child behavior problems—The Child Behavior Checklist (CBCL; Achenbach, 1991) for Ages 4–18, a reliable, valid, commonly used assessment of child behavior problems, was administered to mothers at child age 72 months. The measure includes 113 items listed in alphabetical order of child problems, for which the respondent indicates if the item was (0) 'not true', (1) 'somewhat or sometimes true', or (2) 'very true or often true' within the past 6 months. The current study used the raw total scores for the externalizing and internalizing scales. Reliability was acceptable for the externalizing ($\alpha = .90$) and the internalizing ($\alpha = .85$) subscales.

Results

Data Reduction

Composite variables were created for child negative emotional expression, child externalizing emotional expression, and child internalizing emotional expression at 48 and 60 months. Ratings across the lab tasks were averaged to create a mean score for sadness, anger, and tension/worry/anxiety at each time point. The tasks were averaged so as to provide an overall representation of child emotional expressions across a range of situations. The composite scores on anger at 48 and 60 months represented the child externalizing emotional expression composite, and the sadness and tension/worry/anxiety scores were combined to create the child internalizing emotional expression scores at 48 and 60 months. Reliability analyses using Cronbach's alpha revealed that reliability was sufficient for all composited factors: child externalizing expression at 48 months ($\alpha = .78$), child externalizing expression at 60 months ($\alpha = .61$), child internalizing expression at 48 months ($\alpha = .66$), and child internalizing expression at 60 months ($\alpha = .61$).

Composite scores were also created for maternal negative affective behavior at 48 and 60 months by averaging the negative affect scores from the observational ratings across all of the lab tasks, so as to estimate average affective behavior over a range of situations. The composites for maternal affective behavior had good reliability at both 48 months ($\alpha = .82$) and 60 months ($\alpha = .83$).

Data Analytic Plan

Two path analysis models were tested using structural equation modeling (SEM) in Mplus 4.0 (Muthén & Muthén, 2006). The first model considered the relations between maternal negative affective behavior, child externalizing emotional expressiveness, and child externalizing behavior problems, and the second model examined maternal negative affective behavior, child internalizing emotional expressiveness, and child internalizing behavior problems. Maternal education at 36 months was controlled for all of the variables in the analyses. Overall fit was tested with χ^2 , root mean square error of approximation (RMSEA), standardized root mean square residual (SRMR), and comparative fit index (CFI). To handle missing data across time points, full information maximum likelihood (FIML) estimation was used in all analyses (Enders & Bandalos, 2001).

After testing the above models using the full sample, group differences in levels of emotional expressiveness and behavior problems were explored, so as to examine the potential differences in emotion socialization processes as a function of child risk. Stacked models in SEM were tested, providing overall fit statistics with the full sample and individual parameter estimates for the DD and TD groups. Gender, in addition to maternal education, was covaried in these models. To test for differences between the DD and TD groups for the particular relations in the model, equality constraints were specified for each path individually. Absent meaningful differences between the groups, models including the entire sample were maintained.

Relations among Mother and Child Emotional Expression and Contributions to Later Behavior Problems

Descriptive statistics and intercorrelations for the full sample are presented in Table 2. The first model, shown in Figure 1, tested the relations between maternal negative affective behavior, child externalizing emotional expressiveness, and child externalizing behavior problems. The model was a good fit to the data: $\chi^2 (2) = 0.18, p = .92, CFI = 1.00, RMSEA = .00, SRMR = .01$, and it accounted for 22.9% of the variance in child externalizing emotional expressiveness at 60 months, 34.5% of the variance in maternal affective behavior

at 60 months, and 12.1% of the variance in child behavior problems. Path coefficients indicate that many of the bidirectional relations between early mother and child emotional expression were significant, including the concurrent associations between mother and child expressiveness at 48 and 60 months. However, whereas maternal negative affective behavior at 48 months predicted child externalizing emotional expressiveness at 60 months, the reverse was not true; that is, child externalizing emotional expressiveness at 48 months was not significantly associated with maternal negative affective behavior at 60 months. Examining the contributions to later child behavior problems, child externalizing emotional expression at 60 months significantly predicted later externalizing problems, but maternal negative affective behavior did not. A significant mediated pathway emerged in which the influence of maternal negative affective behavior at 48 months on child externalizing behavior problems at 72 months operated through child externalizing emotional expression at 60 months. The standardized estimate of the indirect effect was .05, $p < .05$.

The second model examining internalizing emotions and behavior problems is shown in Figure 2. The fit indices reveal a good fit to the data: $\chi^2(2) = 1.00$, $p = .61$, CFI = 1.00, RMSEA = .00, SRMR = .01. This model accounted for less of the variance in the mother and child factors than the externalizing model: 8.2% of the variance in child internalizing emotional expression at 60 months, 34.2% of the variance in maternal affective behavior at 60 months, and 4.0% of the variance in child internalizing behavior problems. Among the paths of interest, the path coefficients testing stability in maternal negative affective behavior and child internalizing emotional expressiveness were significant. In addition, higher child internalizing emotional expression at 60 months, but not maternal negative affective behavior, was related to more child internalizing behavior problems at 72 months.

Influence of Risk on Emotional Expression and Socialization Processes

Descriptive statistics for all variables split by developmental status are presented in Table 3. Group contrasts indicated that children with DD exhibited more behavior problems (consistent with previous findings from the larger study; Baker et al., 2002; Baker et al., 2003) and children and mothers of children with DD expressed greater negativity. Specifically, children with DD exhibited significantly higher levels of externalizing emotional expression and externalizing behavior problems, while mothers of children with DD exhibited more negative affective behavior. In contrast, the DD and TD groups did not differ on internalizing emotional expression or internalizing behavior problems. Intercorrelations among the variables for the DD and TD groups are presented in Table 4.

The paths addressing maternal negative affect and child expressiveness across time in the prediction of externalizing and internalizing behavior were tested in a stacked model, and potential differences between the DD and the TD groups were explored using chi square difference tests. Both the externalizing ($\chi^2(4) = 1.56$, $p = .82$, CFI = 1.00, RMSEA = .00, SRMR = .02) and internalizing ($\chi^2(4) = 1.12$, $p = .89$, CFI = 1.00, RMSEA = .00, SRMR = .01) models provided good fit to the data. Results indicated that there were few significant differences between the groups. In the externalizing model, an equality constraint on the path from maternal negative affective behavior at 48 months to maternal negative affective behavior at 60 months caused significant deterioration in the fit of the model, $\Delta\chi^2(1) = 13.44$, $p < .001$, indicating that this path is moderated by DD status. In addition, an equality constraint on the path from child externalizing emotional expressiveness at 48 months to child externalizing emotional expressiveness at 60 months caused significant deterioration in fit, $\Delta\chi^2(1) = 15.48$, $p < .001$. In the internalizing model, an equality constraint on the path from maternal negative affective behavior at 48 months to maternal negative affective behavior at 60 months again caused significant deterioration in fit, $\Delta\chi^2(1) = 13.95$, $p < .001$. For all of these significant differences, the relations were stronger for children and mothers of children with DD than for TD children and their mothers, suggesting that there may be

more stability in negative emotional expressions in mothers and children at risk. Nevertheless, the nature of the reciprocal relations between the mother and child did not differ between the groups, as the paths between parent and child expressions were not significantly different, nor were there significant differences in the predictions of behavior problems. Given the equivalence of the bidirectional paths, separate figures for the DD and TD models are not presented.

Discussion

The current study explored the nature of emotion socialization processes in children and mothers across a 2 year period by attempting to disentangle the different processes of emotion socialization for internalizing and externalizing displays of emotion. Findings support a parent-driven model of emotion socialization with differential influences of parental negative affect on children's discrete emotion expression and on the development of later child behavior problems.

Despite some differences in levels of negative expressed emotions and behavior problems, few differences between the DD and TD groups were detected in socialization processes across time. The presence of developmental risk, however, appears to increase the stability of maternal negative affective behavior and child externalizing emotional expressions from child age 4 to 5. Given that children with DD develop more slowly and reach milestones later than TD children, there is likely more consistency from year to year due to the slower developmental pace of children with DD. Alternatively, parents of children with DD may focus more on the child's cognitive development than on the emotional needs for the child. This overemphasis on an individual's presenting concern and a decreased focus on problems perceived as less salient (e.g. emotions or behavior problems) is a phenomenon known as diagnostic overshadowing (Reiss, Levitan, & Szyszko, 1982; White, Nichols, Cook, Spengler, Walker, & Look, 1995). Thus, although modifications in socialization processes might be beneficial for children with delays, who likely require more assistance with emotional and social skills, parents may instead focus on teaching cognitive and academic skills over increasing emotional competence (Baker & Crnic, 2009; Kopp, Baker, & Brown, 1992).

The preponderance of research on emotional expression of children with cognitive risks focuses on children with specific diagnoses, particularly Down syndrome and autism. Social and emotional deficits may be disparate for particular diagnostic syndromes, and differences in expressivity may vary based on the severity of the delay (Field, 1996; Kasari & Bauminger, 1998). However, the present sample, which generally reflected broad, undifferentiated developmental risk, may not exhibit pronounced differences in emotion socialization processes that are seen with children with specific disorders. On the other hand, examining children only with undifferentiated delays may mask differences in emotion processes that could emerge when looking at specific etiologies individually. Still, our findings suggest that the maternal and child emotion-related behaviors underlying emotion socialization across the preschool period may operate in a comparable manner for families of typically developing children and families of children with an undifferentiated developmental delay.

For the full sample, a parent-driven model of socialization emerged, in which mothers' affective behavior during the preschool period influenced later externalizing emotional expression in children. Reciprocity was less apparent, however, as children's early emotional expression did not similarly influence later maternal affective behavior. This parent-driven process supports the abundance of research on the effects of maternal emotion-related behavior on children's emotional expressions (Halberstadt, Fox, & Jones,

1993). Despite previous suggestions that parents may display emotions in a somewhat different manner as a function of child temperamental characteristics (Eisenberg et al., 1999; Fabes, Eisenberg, Karbon, Bernzweig, Speer, & Carlo, 1994), we did not find child-driven effects of early child negative emotional expressiveness on later maternal negative affectivity. It is possible that modifications of parents' affective behavior in response to their children's characteristics have already occurred by age 4, and parents have developed a general style of emotion-related parenting. If so, mothers' affective behaviors might remain rather stable and be relatively unaffected by child emotional expression at these later ages.

Although many emotion socialization processes appear purely parent-driven, child externalizing and internalizing emotional expressions, but not maternal negative affectivity, appear to be linked to the later development of externalizing and internalizing behaviors, respectively. Children's dysregulated expressions of negative emotion predict problem behaviors (Eisenberg, Cumberland et al., 2001; Zeman et al., 2002), as we found as well. But rather than exhibiting direct links to the development of child behavior problems, maternal affective behavior indirectly influenced child behavior problems through a complex pathway of influence. Maternal negative affect contributed to later child negativity, which, in turn, may have helped to create behavior problems in children. This mediated path is consistent with indications that child emotion regulation at least partially mediates the relation between parental emotion-related behaviors and child behavior problems, but children's emotional expressiveness does not affect parenting behaviors in the same way nor drive the socialization process (Eisenberg, Gershoff et al., 2001; Eisenberg, Losoya et al., 2001). Thus, early child negativity may directly presage the development of later problem behaviors, whereas maternal negative affect is indirectly linked to child behavior problems through its effect on child emotional expression.

Externalizing emotions may drive the associations among emotional expressions and child behavior problems during the preschool period. As expected, externalizing emotional expressiveness was associated with later child externalizing behaviors, and internalizing emotional expressiveness was associated with later child internalizing behaviors, suggesting potential specificity in the relations between emotional expression and adverse outcomes. Additional cross-lagged, longitudinal investigations of the links between early internalizing expressions and later externalizing behavior problems, and vice versa, are required to fully corroborate this suggestion of specificity between discrete emotions and behavior problems. Nevertheless, the concurrent and longitudinal relations among the constructs of emotional expressiveness, affective behavior, and behavior problems appear stronger and more interconnected for the externalizing realm than for the internalizing realm. For instance, early maternal negative affectivity is linked to later child externalizing, but not internalizing, emotional expression, at least during the preschool period. These differences in emotion socialization processes could be attributable to the distinct functions of internalizing and externalizing emotions. Sadness expressed by young children may be seen as developmentally appropriate, as it is difficult to regulate and serves to elicit emotional support from parents (Zeman & Shipman, 1996). So, connections between children's sadness and mothers' negativity may not be easily apparent. Our focus on negative and hostile maternal expressions, rather than positive or supportive affective displays, may have masked the opportunity to demonstrate the link between parent behavior and child internalizing emotional expression. Conversely, anger expression is often viewed more negatively by parents, is reacted to punitively, and is related to a lack of social competence (Eisenberg, Fabes, Nyman, Bernzweig, & Pinuelas, 1994; Zeman & Shipman, 1996). Thus, the strong concurrent relations between maternal negative affectivity and child anger may reflect parents' aversive perception of child anger. But, emotional socialization remains a primarily parent-driven process, as there is little bidirectionality apparent in these relations across time. The different contexts presented by child internalizing and externalizing

emotional expressions likely contribute to critical discrepancies in emotion socialization of discrete emotions.

Study Limitations

Several limitations suggest some caution when interpreting the results. First, the measure used for mothers' emotion-related behavior was a more global rating of affect than that used for children, which captured more discrete emotions. As noted previously, adults regulate many of their expressions of emotions. Further, our interest was in the way in which young children may respond to parents' affective tone rather than to the nuanced expression of discrete emotions. Regardless, more precise relations among maternal emotional expressions and child emotional expressions could provide more detailed perspectives on early emotion socialization processes. Second, this study explored only linear effects, potentially masking more complex relations among the factors. Indeed, some evidence points towards a curvilinear relation between maternal or family negative expressiveness and children's competence, wherein moderate levels of expressed negativity may be most beneficial for children's developing emotion regulation (Halberstadt, Crisp, & Eaton, 1999). Third, some items on the CBCL describe expressive emotional content, which raises questions regarding the opportunity for measurement contamination (Weems & Pina, 2010). This concern was at least partially addressed through the use of both observational assessments and maternal reports in the current study, but the possibility of overlap between the constructs remains. Such overlap could partially account for the relations between early child emotional expression and later behavior problems. Fourth, only mothers were included in the present study. Evidence suggests that fathers may socialize emotion in children differently than mothers (Garner, Robertson, & Smith, 1997), and the potential to explicate such differences merits greater attention.

Summary

Learning to appropriately express emotions is a critical developmental task related to later emotional competence, social competence, and internalizing and externalizing behavior problems (Denham et al., 1997, 2000, 2003; Eisenberg, Cumberland et al., 2001). This emotion socialization primarily takes place within the home environment (Halberstadt, Cassidy, Stifter, Parke, & Fox, 1995; Halberstadt & Eaton, 2002), in part through parents' own expression of emotions. Our findings indicate that maternal negative affectivity and child emotional expressiveness are concurrently and longitudinally related across a 2 year period, with early maternal affective behavior predicting later child externalizing emotional expressiveness. Child externalizing emotional expressiveness is directly implicated in the development of later externalizing behavior problems, whereas maternal affective behavior may act as a more indirect influence in the development of child externalizing behaviors. These relations may be better accounted for by externalizing emotions and behaviors, which are likely viewed more negatively by parents and serve a less adaptive function than internalizing emotions in young children. Further, although child risk may promote more negativity in mother and child behaviors, the risk may not greatly alter the nature of the socialization processes in families of children with undifferentiated developmental delay. These results underscore both the complexity and the importance of dynamic emotion socialization processes within the mother-child relationship throughout the preschool period.

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Figure 1.

Path model with externalizing emotions and behavior problems.

Note: $†p < .07$, $*p < .05$, $**p < .001$. Numbers indicate standardized path coefficients. Solid lines indicate significant pathways, dashed lines indicate nonsignificant pathways.

Figure 2.

Path model with internalizing emotions and behavior problems.

Note: † $p < .07$, * $p < .05$, ** $p < .001$. Numbers indicate standardized path coefficients. Solid lines indicate significant pathways, dashed lines indicate nonsignificant pathways.

Table 1

Demographic Characteristics of Delayed and Non-Delayed Samples

Variable	DD (<i>n</i> =96)	TD (<i>n</i> =126)	<i>t</i> score	Chi square
<i>Child variables</i>				
Bayley scale: MDI mean score ^a	Mean=60.33 SD=13.00	Mean=104.33 SD=11.70	26.47 **	
Gender (% male)	66.7%	52.4%		4.58 *
Race (% Caucasian)	59.4%	61.1%		0.07
Siblings (% only children)	30.2%	28.6%		0.07
<i>Parent variables</i>				
Marital status at child age 3 (% married)	81.3%	88.9%		2.58
Mother's race (% Caucasian)	59.4%	66.7%		1.25
Mother's education (% college degree)	28.1%	61.9%		24.94 **
Father's race (% Caucasian)	63.2%	68.0%		0.53
Father's education (% college degree)	35.4%	57.6%		9.60 *
Biological father	93.0%	97.5%		2.45
Median family income	\$35,001–50,000	\$50,001–70,000	3.32 **	

^a Mental Development Index*
p<.05,**
p<.001

Table 2

Descriptive Statistics and Correlations of Key Variables for the Full Sample

Variable	1	2	3	4	5	6	7	8
1. Child externalizing emotion, 48 months	—	.44**	.35**	.43**	.21*	.23**	.20*	.02
2. Child internalizing emotion, 48 months		—	.13	.20*	.25**	.10	.15*	.07
3. Mom negative emotion, 48 months			—	.29**	.12	.57**	.19*	-.03
4. Child externalizing emotion, 60 months				—	.42**	.35**	.30**	.13
5. Child internalizing emotion, 60 months					—	.06	.12	.21*
6. Mom negative emotion, 60 months						—	.24**	.01
7. Child externalizing problems, 72 months							—	.54**
8. Child internalizing problems, 72 months								—
<i>M</i>	.74	1.29	1.37	.66	1.30	1.33	8.43	6.23
<i>SD</i>	.74	.44	.50	.55	.37	.51	7.23	5.56

* $p < .05$,

** $p < .001$

Table 3

Descriptive Statistics of Key Variables Split by Developmental Status

Variable	DD	TD	<i>t</i> score
Child externalizing emotion, 48 months			-3.12**
Mean	.92	.60	
SD	.81	.67	
N	93	122	
Child internalizing emotion, 48 months			-.36
Mean	1.30	1.28	
SD	.50	.40	
N	93	122	
Mom negative emotion, 48 months			-5.16**
Mean	1.58	1.22	
SD	.62	.32	
N	94	125	
Child externalizing emotion, 60 months			-2.83**
Mean	.80	.55	
SD	.70	.39	
N	81	114	
Child internalizing emotion, 60 months			-1.43
Mean	1.34	1.26	
SD	.41	.33	
N	81	114	
Mom negative emotion, 60 months			-4.20**
Mean	1.52	1.20	
SD	.67	.29	
N	89	120	
Child externalizing problems, 72 months			-2.05*
Mean	9.77	7.43	
SD	8.48	5.99	
N	75	101	
Child internalizing problems, 72 months			-1.03
Mean	6.73	5.86	
SD	5.88	5.31	
N	75	101	

*
 $p < .05$,**
 $p < .001$

Table 4

Correlation Table Split by Developmental Status

Variable	1	2	3	4	5	6	7	8
1. Child externalizing emotion, 48 months	—	.38**	.34**	.59**	.13	.19	.21	-.10
2. Child internalizing emotion, 48 months	.52**	—	.17	.23*	.38**	.11	.27*	.11
3. Mom negative emotion, 48 months	.26*	.08	—	.30*	.17	.59**	.13	-.13
4. Child externalizing emotion, 60 months	.16	.20*	.09	—	.37**	.34*	.33*	.01
5. Child internalizing emotion, 60 months	.27*	.13	-.04	.48**	—	.02	.14	.20
6. Mom negative emotion, 60 months	.18*	.10	.31**	.22*	.09	—	.20	-.05
7. Child externalizing problems, 72 months	.14	.02	.19	.22*	.07	.22*	—	.61**
8. Child internalizing problems, 72 months	.10	.03	.03	.29*	.20	.04	.46**	—

Note. Correlations above the diagonal represent the scores for children with developmental delays, scores below the diagonal represent the scores for typically developing children. Pairwise deletion was used; *n* ranged from 66 to 93 for the children with developmental delays and from 92 to 122 for the typically developing children.

* $p < .05$,

** $p < .001$