

Examining Maternal Responses to Children's Expression of Negative Emotion: Self-reported vs. Observed Responses, and the Impact of Maternal Depressive Symptoms

A Senior Thesis

Presented in Partial Fulfillment of the Requirements for Graduation with Honors (Research Distinction) in Human Development and Family Science in Education and Human Ecology at

The Ohio State University

By

Kelly Haller

The Ohio State University

Expected May 2017

Thesis Advisor: Xin Feng, Ph.D., Professor, Department of Human Sciences

Abstract

The relation between a mother's self-reported and exhibited response to a child's expression of a negative emotion was examined in the context of a pre-visit questionnaire completed by the mother and observation of a clean-up task performed during a mother/child lab visit. The study also examined connections between maternal depressive symptoms (assessed via the Beck Depression Inventory; Beck, Steer, & Brown, 1996), self-reported responses, and observed responses. Eighty-five mother-child pairs were included in the study. Results indicated that mothers may think they are responding in one manner, but they are observed behaving in a somewhat different manner, at least in a brief controlled environment. Another finding of note is that the children of mothers with severe depressive symptoms displayed greater negative emotion overall, and the mothers with severe depressive symptoms responded to such displays with largely critical responses. On the other hand, the children of mothers with minimal or no depressive symptoms displayed less negative emotion during the clean-up task, and when the children did display negative emotion, the mothers with minimal or no depressive symptoms responded in an overall supportive manner. The results suggest that mothers may not be aware of the responses they send to a child's expression of a negative emotion, and maternal depressive symptoms may play a role in a mother's response to a child's expression of negative emotion.

Examining Maternal Responses to Children's Expression of Negative Emotion: Self-reported vs. Observed Responses, and the Impact of Maternal Depressive Symptoms

The process by which children learn to understand, express, and manage their emotions is called emotional development (Zeman, Cassano, Perry-Parrish, & Stegall, 2006). Emotion socialization describes the process by which parental behavior affects children's understanding, experience and expression of emotion. This occurs both indirectly, through parental imitation, and directly, by way of parental directives such as comforting or ignoring the child when upset (Klimes-Dougan et al., 2007). Research indicates parental responses to a child's emotions impact the child's emotional development (Roberts & Strayer, 1987). Parents also influence their child's ability to regulate emotions. Emotion regulation is the initiation, upkeep, and alteration of emotional arousal that is necessary to support one's goals and effectively adapt to one's social environment (Thompson, 1994). This ability first appears in infancy and continues as a child ages, influenced by intrinsic and extrinsic factors found in early parent and peer relationships (Premo & Kiel, 2016). Thus, it is helpful for parents to understand and be aware of their responses to their children's expression of emotions.

Parental Role in Child's Emotional Development

There are two primary ways parents react to a child displaying emotions. Emotion-coaching parenting involves parents regulating their own emotions and emotional reactions to their child's affective experiences (Cassano & Zeman, 2010). These parents use a child's negative emotion experience as a teachable moment. This parenting practice helps children learn how to label feelings, and appropriately and constructively react to emotional events (Cassano & Zeman, 2010). Emotion-coaching parenting often results in children developing more adaptive emotion regulation abilities, especially since parental emotion-related practices are related to

children's social functioning and prosocial behavior (Zeman et al., 2006). The other type of reaction, emotion-dismissing parenting, involves the parents trying to prevent their children from expressing negative emotion by way of punishment or distraction. These parents tend to have difficulty managing their own emotional reactions and this type of parenting tends to lead to maladaptive developmental trajectories during socialization opportunities (Cassano & Zeman, 2010).

The mother of a child tends to play a key role in a child's emotion socialization process, especially through modeling appropriate expressions, displays, and reactions to emotions while with the child and direct emotional interactions between the mother and child (Hooper, Feng, Christian, & Slesnick, 2015). The mother's responses to her child's negative emotions also give an opportunity for the child to distinguish between acceptable and unacceptable emotions (Perry, Calkins, Nelson, Leerkes, & Marcovitch, 2012). If the mother responds to her child's negative emotion expression in a supportive manner, the child will learn how to constructively express and regulate emotion and how to properly respond to others in an emotional situation (Eisenberg & Fabes, 1994; Eisenberg et al., 1999).

Influence of Maternal Depressive Symptoms on Child's Emotional Development

If the mother of a young child is suffering from depression in any form, the child's life and development can be significantly affected in a negative manner. The child's emotional and social development could be less supported by the mother, as depression symptoms can negatively affect the quality, predictability, frequency and attractiveness of mother-child interactions (West & Newman, 2003). Research has shown that 20% of women encounter some type of depressive episode (Goodman & Gotlib, 2002), and between 17 and 32% experience depressive symptoms in their lifetimes (Wang, Wu, Anderson, & Florence, 2011). As the amount

or severity of a mother's depressive symptoms increases, the warmth shown in interactions with her child decreases (Van Doorn et al., 2016). In addition, the mother's ability to provide emotional support and a secure attachment to the child may be reduced due to her mood disturbance. This could thus affect the emotion regulation skills of the child negatively and isolate the child from social support (Premo & Kiel, 2016).

The children of a mother or father suffering from depression are four times more likely to develop depression themselves, and two to five times more likely to have an externalizing disorder than children who do not have a depressed parent (Beardslee, Versage, & Gladstone, 1998; Cummings, Davies, & Campbell, 2000). The child of a mother with multiple or severe depressive symptoms is more likely than his or her peers to experience emotional distress, depression, and anxiety, as well as have increased conduct problems (Gladstone & Kaslow, 1995; Luoma et al., 2001). Mothers with depression are less likely to respond to their child's distress and generally show more negative emotion and less positive emotion to their child than nondepressed mothers (Kam et al., 2011). This can result in fewer opportunities for children to observe, experience, and in turn understand the full range of emotions (Martin, Williamson, Kurtz-Nelson, & Boekamp, 2015). Due to all of these factors, the child of a depressed mother generally has less effective emotion expression and regulation than their counterparts (Silk, Shaw, Skuban, Oland, & Kovacs, 2006).

Influence of Depressive Symptoms on Mothers' Responses to Children's Expression of Negative Emotion

The degree of a mother's depressive symptoms can influence her response to a child's expression of negative emotion. Caughy, Huang, and Lima (2009) found that in observed interactions, depressed mothers and their children experienced higher rates of conflict during

problem-solving tasks. Mothers with higher levels of depressive symptoms tend to respond with more maladaptive responses to toddlers' displays of negative emotions because these mothers are more easily overwhelmed by distressing parent-child interactions as a result of the mothers' limited cognitive and emotional capacities (Keller, Spieker, & Gilchrist, 2005). Since depression tends to have an episodic nature, a mother's mood can be unpredictable, moreover impairing the child's emotion learning (Martin et al., 2015). Furthermore, more severely depressed mothers tend to evaluate abrasive responses to children's displays of negative emotion more positively than those with lower levels of depressive symptoms, and may be expected to engage in more punitive and minimization responses with their toddlers (Premo & Kiel, 2016).

Mother-Child Interactions and Response to Negative Emotions

The quality of early interactions between a mother and her child affect the child's future relationships, emotion regulation and understanding, adjustment, and conflict responses with peers and siblings (Herrera & Dunn, 1997; Ingoldsby, Shaw, & Garcia, 2001). Once a child reaches age two, conflict between the mother and child becomes regular as the child's linguistic and cognitive abilities improve, along with his or her heightened desire for independence (Dunn, 1993; Laible, 2000; Lamb, Ketterlinus, & Fracasso, 1992). These conflicts can occur up to every three to nine minutes at home, or normally between 3.5 and 15 times in an hour, and occur most often when the child is between the ages of two and three, beginning to decrease once the child turns four-years-old (Dunn, 1993; Laible, 2000; Lamb, Ketterlinus, & Fracasso, 1992; Dix, 1991; Huang & Brotman, 2007).

In order to help one's child appropriately express emotion, parents should provide comfort and discuss the child's negative emotions with them (Eisenberg, Fabes, & Murphy, 1996). If a mother responds in a supportive manner to her child's negative emotion expression,

the child will be more likely to process the parents' messages and control his or her emotion and behavior (Fabes, Leonard, Kupanoff, & Martin, 2001). Parental use of problem-focused and emotion-focused reactions, along with encouraging the child's emotion expression, leads to increased social skills and appropriate coping in the child (Denham, 1993; Laird, Pettit, Mize, Brown, & Lindsey, 1994). Maternal responsiveness resulting in shared, positive emotional states can help children regulate their own emotions, leading to optimal responsiveness to others in a child (Fabes, Eisenberg, Karbon, Bernsweig, & Speer, 1994). A child's emotion regulation is most successful when his or her parents promote an open discussion of emotions (Gottman, Katz, & Hooven, 1996).

When a mother provides explanations to a child regarding a child's negative emotion, she augments her child's ability to understand his or her emotional state and properly respond to a feeling (Spinrad, Stifter, Donelan-McCall, & Turner, 2004). On the other hand, if a mother criticizes her child's negative emotion expression, the child will eventually learn to minimize his or her emotion, though still experiencing heightened distress and not learning how to effectively handle negative emotions (Spinrad et al., 2004). Thus, the child's emotion regulation is affected by his or her mother's punitive emotions (more so than by the father's), which in turn also affects an array of social behaviors, including aggression, and adjustment (Chang, Schwartz, Dodge, & McBride-Chang, 2003). When a mother negatively responds to a child's negative emotion expression, the result will likely be dysregulated behavior in the child, intensifying and prolonging the child's arousal in stressful situations (Eisenberg, Fabes, & Murphy, 1996).

Mothers may also respond in a manner such as distraction. Distraction, whereby a mother attempts to take the child's attention away from the emotional aspect of the situation, can have varied effects on the child. Distraction is an effective technique in decreasing the child's distress

until arousal decreases and focus can be returned to the task at hand (Perry et al., 2012).

However, mothers' use of distraction can also lead to increased child distress when regulating a situation on his or her own (Spinrad et al., 2004). Overall, Spinrad and colleagues found that responding to a child's negative emotion expression with criticism or indulgence has the most negative impact on the child's future emotional development and regulation (2004).

Additional factors can also affect a mother's response to her child's expression of negative emotion. If a mother is overwhelmed by emotional distress, she may not be able to effectively support her child's emotional competence, instead behaving in ways that heightens the child's emotional insecurity and dysregulation (Kam et al., 2011). In other situations, a mother may adjust her response to her child's emotion expression based on how easily emotionally distressed the mother believes her child to be (Fabes et al., 1994). Eisenberg and colleagues found that maternal minimizing reactions, where the mother diminishes the child's expression of negative emotion, were connected with decreased social competence and avoidant coping (Eisenberg, Fabes, & Murphy, 1996). It was also found that mothers who perceived their children as high in negative emotionality tended to use high levels of minimizing reactions and low levels of problem-focused reactions when responding to their child's emotion expression (Eisenberg et al., 1999).

When parents respond in a non-supportive manner to their child's emotions, further emotional responses of the child will be influenced and the amount of emotional resources children can gather from later in their lives will be decreased (Denham, Mitchell-Copeland, Strandberg, Auerbach, & Blair, 1997; Denham, 1989). If parents ignore or neglect their child's negative emotion expression and let the crying or whining continue, the child may not be able to properly handle a stressful situation in the future without acting in the same manner. Mothers'

unsupportive responses to sadness are associated with their children's depressive symptoms (Sanders, Zeman, Poon, & Miller, 2015). When parents repeatedly respond to their child's emotions in an unsupportive way, they reinforce the notion that emotions are something undesirable that should be suppressed. Because of this, the child internalizes this idea about emotions and assumes maladaptive regulatory styles. Children who are unable to manage their emotions effectively and consistently show poor social functioning and signs of depression, depending on the type of emotion and the manner in which it is dysregulated (Sanders et al., 2015).

The different types of maternal responses to children's expression of negative emotion have been identified through various studies. However, it is unclear whether mothers are able to recognize and predict the response they will exhibit to their children's expressions of negative emotion accurately. In addition, research studies have examined the effects of depressive symptoms in mothers and the impact of maternal depressive symptoms on mothers' responses to children's expression of negative emotion. The question arises as to the relation between a mother's depressive symptoms and her ability to identify her response to a child's expression of negative emotion.

The Present Study

The goal of this study was to examine the relation between a mother's self-reported response to her child's expression of negative emotions and a mother's exhibited response to the child's expression of the negative emotions in order to understand the extent of congruence/discrepancy between mothers' self-reported and observed responses to children's emotions. The study also examined whether maternal depressive symptoms are associated with their self-reported and observed behavior. It was hypothesized that mothers' reported responses

would be positively associated with their observed responses to some extent and that they would be more likely to report support than negative behaviors. It was also hypothesized that mothers' self-reported responses would remain overall stable between the two visits. A third hypothesis was made that mothers with elevated depressive symptoms would be more likely to exhibit neglect or critical responses and less likely to display supportive responses during the laboratory visits. Lastly, it was hypothesized that mothers with more severe depressive symptoms would have children showing more negative emotions. This research will help reveal if mothers are consistent in their reported technique compared to the actual technique used to respond to child's negative emotions. In addition, this study will assist in understanding whether any trend exists between mothers suffering from depressive symptoms and how they respond to their child's negative emotions compared to how they reported they would respond.

Method

Participants

Data for this study were drawn from an ongoing longitudinal project concerning maternal depressive symptoms and child attention control and emotion regulation. The participants were recruited from Columbus-area families using advertisements in newspapers, parenting magazines, and flyers sent to childcare centers, community centers, and clinics. Participants included 127 children (62 male, 65 female) and their mothers. Mothers who responded to the advertisements were contacted by phone and then asked to complete a screening questionnaire with questions concerning mothers' depressive symptoms and children's developmental delays in order to confirm eligibility for the study. Mothers met the eligibility criteria if they were at least 21 years of age, had a history of depressive disorders (with or without comorbid anxiety disorders) or had no history of psychiatric disorders, were the biological mothers of their

children, and the children did not have any developmental disorders or delays. Of the 127 dyads, 85 pairs (43 male, 42 female) involved the child expressing negative emotions during the studied portion of the lab visit. The children in the sample began the study between the ages of 3 and 3.5 years old ($M = 3.24$, $SD = 0.19$). The mothers had a mean age of 31.21 years ($SD = 5.34$), ranging from 21 to 46 years old. The mothers had an average depressive symptoms on The Beck Depression Inventory of 14.88 ($SD = 12.89$). A majority of the mothers (66.3%) were Caucasian, 27.9% African-American, 5.8% Hispanic or Latino, and 4.7% American Indian or Alaskan Native. Over half (59.3%) of the mothers had attained at least an undergraduate degree, with 23.3% having graduate or professional degrees. Among the rest, 25.6% had received some college education sans degree, while only 14.0% had a high school education or less. The mean income to needs ratio of the mothers was 2.47 ($SD = 1.99$).

Procedure

The mother and child attended a laboratory visit on The Ohio State University's campus, which lasted for approximately 2 hours. The current study included one observational task from the laboratory visit, a 5-minute clean-up task. This involved the mother asking the child to clean-up the toys with which they had played together. The clean-up task is designed to elicit mild levels of distress in children and to observe the children's compliance with the request by the mother. The lab visits were videotaped and later coded. The mothers were also asked to complete selected questionnaires online concerning demographic information, their depressive symptoms, parenting stress, responses to child emotions, and child temperament. Two observation visits existed for each dyad, one when the child was three-years-old, and one when the child was four-years-old.

Measures

Child negative emotions. Child negative emotion was coded from the clean-up task. A coding system adapted from previous studies was used. Child negative emotion was coded second-by-second based on facial cues (e.g. frowning), vocal indicators (e.g. crying or yelling), statements (e.g. "I hate this!"), and behaviors (e.g. slumped shoulders, hanging head). Twenty percent of the observations were double-coded to assess inter-coder reliability ($\kappa = .76$).

Maternal observed responses. Additionally, the Clean-Up task was coded for a mother's response (or lack of response) to a child's expression of a negative emotion. A coding manual was developed for coding mothers' responses based on previous studies (Chaplin, Casey, Sinha, & Mayes, 2010; Spinrad et al., 2004). For the current study, the presence (or absence) of the mother's response to child negative emotion was coded. If the mother had multiple responses to a child's expression of negative emotion, multiple point codes were placed. Thus, the variable derived from the coding is the frequency of maternal responses to children's negative emotions. Mother's response was defined only in relation to child's expression of negative emotion. Anything directly in response to the child's expression of the negative emotion (no time limit) was coded. There was no distinction between which negative emotion is expressed by the child (sadness, anger/frustration, fear). Mother could have multiple responses to child's single expression of an emotion. Mother's response to child's positive expressions of emotion or no expression of emotion was not coded for. The full coding manual is included in Appendix 1.

Coding involved identifying the mother's response as a domain of socialization: *support, criticize, magnify, reframe, or neglect*. These responses could be either verbal or nonverbal. Maternal support is classified as comforting the child or encouraging the child to talk about his or her emotions and/or feelings. Criticism occurs when the mother negatively responds to her

child's expression of negative emotion. Examples of criticism include critical, mocking or disparaging, and punitive statements. Maternal magnification occurs when the mother responds to her child's negative emotion expression by getting upset, sad, or worried herself. Maternal neglect occurs when the mother dismisses, does not respond to, or ignores her child's negative emotion expression. Maternal neglect also occurs when the mother responds to a child's negative expression of emotion in an inappropriate manner, thus neglecting the child. Finally, maternal reframing, or distracting, is the mother changing the emotional tone of the situation. This includes distracting the child from his or her negative emotion or de-emphasizing the emotion. As the frequency of child negative emotion expressions during the clean-up task varied, mothers' observed responses were adjusted by the number of child negative expressions.

Maternal self-reported responses. Data were collected via the Responses to Child Emotions Questionnaire (RCE; Magai, 1996). The RCE questionnaire is a parent-report instrument that includes four factors: magnification, support, neglect and punishment of children's expression of negative emotions. Each subscale for each of the four factors includes nine items rated on a 5-point scale (1 = not at all typical, 3=somewhat typical, 5 = very typical), with higher scores indicating greater maternal support, dismissal, magnification, or punishment for child sadness, anger and fear. Example questions include "got angry with my child" and "helped my child deal with the problem" when the child was sad, angry, or scared. Mothers filled out the RCE before each laboratory visit. Overall scores for maternal support, neglect, punishment, and magnification were generated from these questions. The terms used on the RCE differ slightly from those used in the coding responses. The RCE uses punish where coding uses criticize. In addition, the RCE lacks a factor of 'reframe,' which was a coding option.

Maternal depressive symptoms. Mothers completed the Beck Depression Inventory (BDI-II; Beck, Steer, & Brown, 1996) for their depressive symptoms. This instrument was included as part of the online survey that the mothers completed. The measure contains 21 questions rated on a 4-point scale that assess symptoms associated with depression experienced over the past two weeks. An overall score of depressive symptoms was generated from these questions, ranging from 0 to 63. A raw score of 0 to 13 indicates minimal depression, 14 to 19 indicates mild depression, 20 to 28 indicates moderate depression, and 29 to 63 indicates severe depression (Beck, Steer, & Brown, 1996).

Data Analysis

Data were analyzed, comparing the questionnaire results with coding results for all dyads where child negative emotion was present. The data were studied in terms of longitudinal measures, including reviewing the results of each mother-child dyad at multiple ages when child negative emotion is expressed. Data were analyzed using correlation analysis.

Results

The associations of the mothers' observed responses and the mothers' reported responses were examined. Tables 1-6 provide descriptive statistics and correlations for mothers' observed responses, self-reported responses, and depressive symptoms. These tables are referenced throughout the next few sections and are found at the end of the paper following the Reference section.

Observed Maternal Responses to Child Negative Emotion

An important note is that the children displayed many more negative emotions during the laboratory visit at age three than during the laboratory visit at age four. Because of this, the

mothers had more chances to respond to their child's negative emotion during the first visit than during the second visit when the child was four-years-old.

For age three observations, the most common response mothers used was support/reframing, followed by criticism (Table 1). For age four observations, the most common response mothers used was again support/reframing, followed by neglect (Table 1). For the age three study visits, observed neglect had a marginally significant negative correlation with observed support/reframing, $r = -.257$, $p = .068$ (Table 4). Additionally, for age three, observed support/reframing and observed magnification were both found to have significant positive correlations with overall child negative affect ($r = .416$, $p = .002$; $r = .351$, $p = .012$) (Table 4). Observed neglect at age three had a marginally significant positive correlation with overall child negative affect, $r = .265$, $p = .060$ (Table 4). For age four study visits, observed magnification had a significant negative correlation with observed support/reframing, $r = -.289$, $p = .046$ (Table 5). There were no significant correlations found between any maternal observed responses at age four and overall child negative emotion at age four (Table 5).

Maternal Self-Reported Response to Child Negative Emotion

For age three reported responses, mothers said that they primarily respond to child's negative emotion with support overwhelmingly ($M = 39.98$, $SD = 5.05$), followed by magnification ($M = 15.04$, $SD = 4.63$), punishment ($M = 14.07$, $SD = 3.38$), and lastly neglect ($M = 5.94$, $SD = 2.00$) (Table 1). For age four reported responses, mothers communicated that they primarily responded to their child's negative emotion in a similar manner to age three. Support was most commonly reported ($M = 39.96$, $SD = 5.66$), followed by magnification ($M = 15.49$, $SD = 5.31$), neglect ($M = 15.33$, $SD = 4.40$), and finally punishment ($M = 14.34$, $SD = 4.35$) (Table 1).

Each RCE category at age three had a significant positive correlation with that same RCE category at age four, (support: $r = .480$, $p = .000$; magnify: $r = .493$, $p = .000$; neglect: $r = .613$, $p = .000$; punish: $r = .457$, $p = .000$) (Table 6). At age three, reported magnification was positively correlated with reported punishment, $r = .543$, $p = .000$ (Table 6). Reported support at age four was negatively correlated with reported neglect at both age three, $r = -.408$, $p = .000$, and age four, $r = -.385$, $p = .001$ (Table 6). At age four, reported magnification was correlated with reported neglect, $r = .487$, $p = .000$, and punishment, $r = .692$, $p = .000$. Reported punishment at age four was negatively correlated with reported support at age four, $r = -.249$, $p = .030$ (Table 6). In addition, reported neglect and reported punishment were positively correlated at age four, $r = .670$, $p = .000$. Additional significant correlations exist for maternal reported responses over time (Table 6).

Though the mother reframing the situation as a response to her child's negative emotion is not included in the RCE, it still occurs frequently. Since reframe is not a part of the RCE, reframe was analyzed with RCE support. Observed reframe was found to have no significant relation with reported support on the RCE (Tables 4 and 5).

Observed and Reported Responses

For age three reported responses, reported neglect had a significant positive correlation with observed neglect, $r = .532$, $p = .000$ (Table 4). For age four visits, reported magnification ($r = -.367$, $p = .010$), reported neglect ($r = -.256$, $p = .080$), and reported punishment ($r = -.328$, $p = .023$) were all found to be negatively correlated with observed support/reframing (Table 5).

Depressive symptoms

Results from the Beck Depression Inventory show that participating mothers ranged from minimal to severe depressive symptoms, with a mean score of 14.88 (indicating mild depressive symptoms), and a standard deviation of 12.89 (Table 1).

For children showing negative emotions during the observation, mothers having BDI scores signifying severe depressive symptoms (29-63) tended to respond with criticism most often, followed by reframing during the observation (Table 3). Mothers with minimal or no depressive symptoms (BDI scores below 13) used reframing and support as their most common responses during the observation (Table 2). The mothers with severe depressive symptoms had significantly more instances during the five-minute clean-up task at both ages where their child displayed negative emotion and the mother responded in some manner than the mothers with minimal or no depressive symptoms (Table 2 and Table 3).

For age three observation visits, there were no significant correlations between observed responses and maternal depressive symptoms (Table 4). However, for age four, observed support/reframing was negatively correlated with maternal depressive symptoms, $r = -.270$, $p = .063$ (Table 5). There was a statistically significant negative correlation between reported support and maternal depressive symptoms at both ages three, $r = -.278$, $p = .010$, and four, $r = -.274$, $p = .016$, (Table 4 and Table 5). Additionally, reported magnification and reported punishment were positively correlated with maternal depressive symptoms at both the three-year-old, (magnification: $r = .475$, $p = .000$; punishment: $r = .329$, $p = .002$,) and four-year-old visits (magnification: $r = .379$, $p = .001$; punishment: $r = .449$, $p = .000$,). Also, reported neglect had a positive correlation with maternal depressive symptoms at age four, $r = .293$, $p = .010$, (Table 4 and Table 5).

Discussion

Observed Responses

At both visits, mothers most often responded to their child's negative emotion expression by supporting their child or reframing the situation. This is reasonable, as most mothers do have intentions to help their child positively in response to a negative emotion expression. The next most common responses used were criticism when the children were three-years-old, and neglect when the children were four-years-old.

It is reasonable that observed neglect was negatively related to observed support/reframing for age three children, as these maternal responses are opposite in tone, with neglect being a negative response to use while support and reframing are generally positive and encouraged responses. Additionally, it is reasonable for observed magnification to be negatively related to observed support/reframing for age four children, for similar reasons. It makes sense that mothers who use mainly 'positive' responses would use less 'negative' responses, and vice versa.

For observations that occurred when the children were three-years-old, the majority of the observed responses were found to be positively correlated with the children's overall use of negative emotion. This is clearly reasonable, since the mothers are responding to the children's emotional outbursts in the first place. There were no significant correlations for age four children, but this may be due to the four-year-old children showing less negative emotion overall, and thus fewer occurrences of maternal responses.

Reported Responses

Reported data from the RCE was found to be generally consistent between the three-year-old and four-year-old visits, as age three reported responses were highly related to the

corresponding age four reported responses. This shows that the RCE is a rather reliable questionnaire to use when studying the mothers' responses to child negative emotion. Mothers felt they most often responded to their child's negative emotion in a supportive manner when the child was both three-years-old and four-years-old. Punishment was reported to be used nearly as often as magnification during both years as well, consistently. When their children were three-years-old, mothers reported themselves as using minimal neglect compared to the other responses. However, mothers saw themselves as neglecting their child significantly more when the child was four-years-old, with occurrences of neglect arising as often as magnification and punishment. More research is necessary to determine why mothers reported themselves as responding with significantly more neglect when their children were four-years-old as opposed to when their children were three-years-old. This could be due to mothers feeling their child is more emotionally developed and having more regulating skills at age four than age three. Perhaps mothers have higher expectations for their children to be able to regulate their own emotions as they grow older (Eisenberg, Cumberland, & Spinrad, 1998).

Reported negative response behaviors (magnification, neglect, and punishment) were positively correlated with each other. These results suggest that if mothers view themselves as responding to their children in a negative manner for one scenario, they also believe they respond with other negative behaviors for other scenarios.

In addition, mothers considered themselves to respond to their child in similar manners both when the child was three-years-old and when the child was four-years-old. This further supports the third hypothesis, showing consistency in how the mothers view themselves as responding to their child's negative emotion expression. Looking at reported behavior over time, reported support at age three was positively correlated with reported support at age four.

Additionally, reported magnification at age three was correlated with reported magnification at age four, reported neglect at age three was correlated with reported neglect at age four, and reported punishment at age three was correlated with reported punishment at age four. These results are reasonable as most mothers will not see themselves as having had any significant behavioral change over the period of the year.

Observed and Reported Responses

For age three observations, the most common response mothers used was support/reframing, followed by criticism. For age four observations, the most common response mothers used was again support/reframing, followed by neglect. On the RCE, mothers completing the questionnaire at both the three-year-old and four-year-old visits felt they primarily respond to child negative emotion with overwhelming support. The next highest response mothers felt they used was magnification. The RCE reported responses and the laboratory visit observed responses cannot be directly compared successfully, as the coding for observed responses contained the additional option of the maternal reframing response, which was combined with the support response for analysis. Since reframing was combined with support, the first hypothesis was supported as results from the RCE and observation were similar. However, the mothers rated themselves as responding to their child overwhelmingly with support as compared to the other factors, while in reality during the observations, support/reframing did not have such a skewed result, with many mothers using large amounts of neglect and criticism. Thus, mothers did tend to think of their responses to their child's negative emotion expression as more supportive and positive than were observed, as anticipated by the first hypothesis.

For age three reported responses, reported neglect had a statistically significant positive correlation with observed neglect. At age four, reported magnification, reported neglect, and reported punishment all had significant negative correlations with observed support/reframing. Magnification, neglect, and punishment all have negative connotations when used by a mother in response to her child's expression of negative emotions. Mothers tended to view themselves as using more positive responses, and enacting that while in the observation.

Maternal Depressive Symptoms

Maternal depressive symptoms were not significantly related to their observed responses when the child was three-years-old. This lack of significant correlations could have occurred because depression can appear in an episodic manner, resulting in a person having an unpredictable mood and behaviors, thus impacting the child's emotional development. The only significant correlation concerning depressive symptoms and observed responses was a negative correlation with observed support/reframing at age four. The single significant correlation is important to note, however. A statistically significant negative correlation between maternal depressive symptoms and maternal observed responses of support/reframing matters, as this could mean mothers with higher levels of depressive symptoms are less likely to respond in a positive manner when their child expresses negative emotion. This negative association between maternal depression and supportive response to children is a fairly robust finding from many studies (Cicchetti, 2002; Cummings, Keller, & Davies, 2005).

Reported behavior from the RCE questionnaire was found to be more correlated with depressive symptoms than observed behavior. Maternal depression tends to be associated with the mother's self-reported responses more so than their actual behavior (Lovejoy, Graczyk, O'Hare, & Neuman, 2000). It has also been found that depressed mothers tend to rate their

children more negatively than nondepressed mothers (Fergusson, Lynskey, & Horwood, 1993; Briggs-Gowan, Carter, & Schwab-Stone, 1995). The reason for this is unclear. This could possibly mean that mothers' responses are less related to the child's display of negative emotion and more related to what is going on with the mother.

Looking at mothers' reported responses on the RCE, positive correlations were found with the 'negative' reported responses (magnification, neglect, and punishment) and maternal depressive symptoms. On the other hand, a negative correlation was found with reported support and maternal depressive symptoms. These results occurred for both ages. Based on these results, a mother's depressive symptoms did influence her responses on the RCE. Previous research has shown that depressed individuals do tend to show bias when it comes to rating themselves and their children (Gartstein, Bridgett, Dishion, & Kaufman, 2009).

For children showing negative emotions during the observation, mothers having BDI scores signifying severe depressive symptoms (29-63) tended to respond with criticism most often, followed by support/reframing. This partially supports the third hypothesis, as criticism was used by these mothers most often, though reframing (which can be seen as an appropriate or inappropriate response to child negative emotion expression; Perry et al., 2012; Spinrad et al., 2004) was the next most common maternal response. Mothers with minimal or no depressive symptoms (BDI scores below 13) used support and reframing as their most common responses. This result agrees with the third hypothesis, as mothers with few or no depressive symptoms tended to respond to their children in supportive manners or utilized reframing. Another finding from collecting this data is that the mothers with severe depressive symptoms had significantly more instances during the five-minute clean-up task where their child displayed negative emotion and the mother responded in some manner. Thus, for children who showed negative

emotion during these observations, mothers with severe depressive symptoms had children who displayed more negative emotion overall than the children of the mothers with mild or no depressive symptoms during the clean-up task at the laboratory visit, supporting the fourth hypothesis. Though the sample size is small regarding these categories, these results suggest that the children of mothers with severe depressive symptoms may show more negative emotions than the children of mothers with minimal or no depressive symptoms.

Limitations

An important note is that the mothers' observed responses were dependent on the child displaying negative emotion during the laboratory session, which is an uncontrolled measure. Additionally, mothers agreed to be recorded during the observation and knew they were being observed in all manners.

A limitation of the study is that like most other related research studies, the children's negative emotion expressions were considered and analyzed as a monolithic, global construct, instead of each type of negative emotion--sadness, fear, and anger--being studied on their own. Some researchers have suggested that parents may respond differently to the child's expression of anger compared to other "softer," less provoking emotions such as sadness (O'Neal, & Magai, 2005). Magai's research has shown that certain maternal responses signify different things when used in response to different negative emotions expressed by the child (1996). For example, Magai stated that magnification is appropriate in response to child sadness or fear, but not child anger (1996).

An additional limitation is that other variables that may have influenced results were not considered. For example, the gender of the child or the role of the father could have an impact on the study. Future research would ideally look at additional variables.

Another limitation is with the maternal response of reframing the emotional situation after a child expresses negative emotion. The use of reframing as a response was not an option for the mothers to choose on the RCE when gauging how they often respond to their children when expressing negative emotion. Although the maternal response of reframing is not included in the RCE, it occurred frequently during the laboratory observations. Thus, a better way to study mothers' responses to children's negative emotion is necessary, especially as only limited options are addressed on the RCE. It would be ideal if the RCE could be edited or if a new questionnaire addressing how mothers see themselves responding to their child's expression of negative emotion could include additional responses, such as reframing the situation. Furthermore, it would be useful to further look into the effects of using reframing or distracting in response to child negative emotion.

Finally, inter-coder reliability was not assessed for coding mothers' responses, as there was only one coder for coding the mothers' responses to child negative emotion expression. Ideally, multiple coders would have assessed mothers' responses during each observation, to ensure consistency.

Future Research

Primarily, it would be useful to have a better method of standardizing child negative emotion. This study used a clean-up event as part of a laboratory observation visit with children and their mothers to observe and assess child negative emotion expressions and maternal responses. While there is no ethical or possible way to elicit negative emotions from children in a controlled manner, innovative methods or observation tasks may make studying child negative emotion and maternal responses to the expression of child negative emotion more easily studied and understood.

Additionally, it would be interesting to see if maternal behavior or self-reported behavior would be influenced by feedback given to the mothers about their observed behavior and its connection to what they reported. Similarly, having a larger sample in order to compare the mothers' observed responses over time would be ideal.

Lastly, parents may not judge their own reactions accurately. Using diaries or emotional event logs may complement the use of questionnaires in obtaining accurate responses from parents on reaction to children's emotion.

Conclusion

Mothers may have an idea of the kind of parent they want to be or what they want to do as a mother, but parenting style and mothers' responses end up being highly dependent on the child's behavior in a particular situation and at a particular time. The data presented in this study overall supports the first hypothesis, as mothers tended to report themselves responding notably most often with support, though support did not appear extensively as often during the observations. Generally, though, similar trends existed for most and least common responses between observed and self-reported responses. The mothers' responses on the RCE generally stayed the same between when the children were three-years-old and when they were four-years-old, as anticipated by the second hypothesis. The results also support the third hypothesis because mothers with severe depressive symptoms responded most often with criticism, while mothers with minimal or no depressive symptoms used mostly support as a response. Finally, maternal depressive symptoms were found to be related to child negative emotions at age three, though not age four, partially supporting the fourth hypothesis. These findings suggest it is helpful for parents to understand and be aware of the responses they send to a child's expression of a particular emotion.

The study supports the view that attention should be paid to how a mother reports her responses to a child's expression of negative emotion compared to how a mother actually responds to a child's expression of negative emotion so that mothers can better understand how their responses to a child's expression of negative emotions can affect the child's emotional development.

References

- Beardslee, W. R., Versage, E. M., & Gladstone, T. R. G. (1998). Children of affectively ill parents: A review of the past 10 years. *Journal of the American Academy of Child and Adolescent Psychiatry, 37*, 1134-1141.
- Beck, A. T., Steer, R. A., & Brown, G. K. (1996). Manual for the Beck depression inventory-II. San Antonio, TX: Psychological Corporation.
- Briggs-Gowan, M. J., Carter, A. S., & Schwab-Stone, M. (1995). Discrepancies among mother, child, and teacher reports: Examining the contributions of maternal depression and anxiety. *Journal of Abnormal Child Psychology, 24*(6), 749-765.
- Cassano, M., & Zeman, J. (2010). Parental socialization of sadness regulation in middle childhood: The role of expectations and gender. *Developmental Psychology, 46*(5), 1214-1226.
- Caughy, M. O., Huang, K. Y., & Lima, J. (2009). Patterns of conflict interaction in mother-toddler dyads: Differences between depressed and non-depressed mothers. *Journal of Child and Family Studies, 18*(1), 10-20. doi: 10.1007/s10826-008-9201-6.
- Chang, L., Schwartz, D., Dodge, K. A., & McBride-Chang, C. (2003). Harsh parenting in relation to child emotion regulation and aggression. *Journal of Family Psychology: JFP: Journal of the Division of Family Psychology of the American Psychological Association (Division 43), 17*(4), 598-606. doi: 10.1037/0893-3200.17.4.598.
- Chaplin, T. M., Casey, J., Sinha, R., & Mayes, L. C. (2010). Gender differences in caregiver emotion socialization of low-income toddlers. In A. Kennedy Root & S. Denham (Eds.), *The role of gender in the socialization of emotion: Key concepts and critical issues*. New

- Directions for Child and Adolescent Development*, 128, 11–27. San Francisco: Jossey-Bass.
- Cicchetti D. (2002). How a child builds a brain: Insights from normality and psychopathology. In: Hartup, W.W. & Weinberg, R.A., editors. *The Minnesota symposia on child psychology: Child psychology in retrospect and prospect*, 32. (pp. 23-71). New Jersey: Lawrence Erlbaum Associates.
- Cummings, E. M., Davies, P. T., & Campbell, S. B. (2000). Applications of developmental psychopathology: Parental depression, families, and children's development. In: E. M. Cummings, P. T. Davies, S. B. Campbell (Eds.) *Developmental psychopathology and family process: Theory, research, and clinical implications*. (pp. 299-340). New York: Guilford.
- Cummings, E. M., Keller, P. S., & Davies, P. T. (2005). Towards a family process model of maternal and paternal depressive symptoms: Exploring multiple relations with child and family functioning. *Journal of Child Psychology and Psychiatry*, 46, 479–489.
- Denham, S. (1989). Maternal affect and toddlers' social-emotional competence. *American Journal of Orthopsychiatry*, 59(3), 368–376.
- Denham, S. A., & Grout, L. (1993). Socialization of emotion: Pathway to preschoolers' emotional and social competence. *Journal of Nonverbal Behavior*, 17, 205-227.
- Denham, S., Mitchell-Copeland, J., Strandberg, K., Auerbach, S., & Blair, K. (1997). Parental contributions to preschoolers' emotional competence: Direct and indirect effects. *Motivation and Emotion*, 21(1), 65–86.
- Dix, T. H. (1991). The affective organization of parenting: Adaptive and maladaptive processes. *Psychological Bulletin*, 110, 3–25.

- Dunn, J. (1993). Social interaction, relationships, and the development of causal discourse and conflict management. *European Journal of Psychology of Education, 111*, 391–401.
- Eisenberg, N., Cumberland, A., & Spinrad, T. L. (1998). Parental Socialization of Emotion. *Psychological Inquiry, 9*(4), 241–273.
- Eisenberg, N., & Fabes, R. A. (1994). Mothers' reactions to children's negative emotions: Relations to children's temperament and anger behavior. *Merrill-Palmer Quarterly, 40*, 138-156.
- Eisenberg, N., Fabes, R. A., & Murphy, B. C. (1996). Parents' reactions to children's negative emotions: Relations to children's social competence and comforting behavior. *Child Development, 67*, 2227–2247.
- Eisenberg, N., Fabes, R. A., Shepard, S. A., Guthrie, I. K., Murphy, B. C., & Reiser, M. (1999). Parental reactions to children's negative emotions: Longitudinal relations to quality of children's social functioning. *Child Development, 70*(2). 513-534. doi: 10.1111/1467-8624.00037.
- Fabes, R. A., Eisenberg, N., Karbon, M., Bernsweig, J., Speer, A. L., & Carlo, G. (1994). Socialization of children's vicarious emotional responding and prosocial behavior: Relations with mothers' perceptions of children's emotional reactivity. *Developmental Psychology, 30*(1), 44-55. <http://digitalcommons.unl.edu/psychfacpub/141>.
- Fabes, R. A., Leonard, S. A., Kupanoff, K., & Martin, C. L. (2001). Parental coping with children's negative emotions: Relations with children's emotional and social responding. *Child Development, 72*(3), 907-920.

- Fergusson, D. M., Lynskey, M. T., & Horwood, L. J. (1993). The effect of maternal depression on maternal ratings of child behavior. *Journal of Abnormal Child Psychology*, *21*(3), 245-269.
- Gartstein, M. A., Bridgett, D. J., Dishion, T. J., & Kaufman, N. K. (2009). Depressed mood and maternal report of child behavior problems: Another look at the depression–distortion hypothesis. *Journal of Applied Developmental Psychology*, *30*(2), 149–160.
<http://doi.org/10.1016/j.appdev.2008.12.001>
- Gladstone, T. R., & Kaslow, N. J. (1995). Depression and attributions in children and adolescents: a meta-analytic review. *Journal of Abnormal Child Psychology*, *23*, 596–606.
- Goodman, S. H., & Gotlib, I. H. (2002). Transmission of risk to children of depressed parents: Integration and conclusions. In S. H. Goodman & I. H. Gotlib (Eds.), *Children of depressed parents: Mechanisms of risk and implications for treatment* (pp. 307–326). Washington, DC: American Psychological Association. <http://dx.doi.org/10.1037/10449-012>
- Gottman, J. M., Katz, L. F., & Hooven, C. (1996). Parental meta-emotion philosophy and the emotional life of families: Theoretical models and preliminary data. *Journal of Family Psychology*, *10*, 243–268.
- Herrera, C., & Dunn, J. (1997). Early experiences with family conflict: Implications for arguments with a close friend. *Developmental Psychology*, *33*, 869–881.
- Hooper, E., Feng, X., Christian, L., & Slesnick, N. (2015). Emotion expression, emotionality, depressive symptoms, and stress: Maternal profiles related to child outcomes. *Journal of Abnormal Child Psychology*, *43*(7), 1319–1331. doi: 10.1007/s10802-015-0019-6.

- Huang, K. Y., & Brotman, L. M. (April, 2007). Overweight and behavior adjustment: from preschool through early adolescence. Paper presented at the Biennial Meeting of the Society for Research in Child Development, Boston.
- Ingoldsby, E. M., Shaw, D. S., & Garcia, M. M. (2001). Intrafamily conflict in relation to boys' adjustment at school. *Development and Psychopathology, 13*, 35–52.
- Kam, C. M., Greenberg, M. T., Bierman, K. L., Coie, J. D., Dodge, K. A., Foster, M. E., ... Conduct Problems Prevention Research Group. (2011). Maternal depressive symptoms and child social preference during the early school years: Mediation by maternal warmth and child emotion regulation. *Journal of Abnormal Child Psychology, 39*(3), 365–377. doi: 10.1007/s10802-010-9468-0.
- Keller, T. E., Spieker, S. J., & Gilchrist, L. (2005). Patterns of risk and trajectories of preschool problem behaviors: A person-oriented analysis of attachment in context. *Development and Psychopathology, 17*, 349–384. <http://dx.doi.org/10.1017/S0954579405050170>
- Klimes-Dougan, B., Brand, A. E., Zahn-Waxler, C., Usher, B., Hastings, P. D., Kendziora, K., & Garside, R. B. (2007). Parental emotion socialization in adolescence: Differences in sex, age and problem status. *Social Development, 16*, 326–342. doi: 10.1111/j.1467-9507.2007.00387.x.
- Laible, D. J. (2000). Parent–child conflict in the toddler years: Lessons in emotion, morality, and relationships. University of Nebraska-Lincoln, Dissertation.
- Laird, R. D., Pettit, G. S., Mize, J., Brown, E. G., & Lindsey, E. (1994). Mother-child conversations about peers: Contributions to competence. *Family Relations, 43*, 425-432.

- Lamb, M., Ketterlinus, R., & Fracasso, M. (1992). Parent-child relationships. In M. Borenstein & M. Lamb (Eds.), *Developmental psychology: An advanced textbook* (3 ed., pp. 465–518). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Lovejoy, M. C., Graczyk, P. A., O'Hare, E., & Neuman, G. (2000). Maternal depression and parenting behavior: A meta-analytic review. *Clinical Psychology Review, 20*(5), 561-592. Doi: 10.1016/S0272-7358(98)00100-7.
- Luoma, I., Tamminen, T., Kaukonen, P., Laippala, P., Puura, K., Salmelin, R., et al. (2001). Longitudinal study of maternal depressive symptoms and child well-being. *Journal of the American Academy of Child and Adolescent Psychiatry, 40*, 1367–1374.
- Magai, C. M. (1996) Emotions as a Child Self-Rating Scale. Unpublished measure, Long Island University, New York.
- Martin, S. E., Williamson, L. R., Kurtz-Nelson, E. C., & Boekamp, J. R. (2015). Emotion understanding (and misunderstanding) in clinically referred preschoolers: The role of child language and maternal depressive symptoms. *Journal of Child and Family Studies, 24*(1): 24-37. doi: 10.1007/s10826-013-9810-6.
- O'Neal, C. R., & Magai, C. (2005). Do parents respond in different ways when children feel different emotions? The emotional context of parenting. *Development and Psychopathology, 17*(2), 467–487. doi: 10.1017/S0954579405050224.
- Perry, N. B., Calkins, S. D., Nelson, J. A., Leerkes, E. M., & Marcovitch, S. (2012). Mothers' responses to children's negative emotions and child emotion regulation: The moderating role of vagal suppression. *Developmental Psychobiology, 54*(5), 503–513. doi: 10.1002/dev.20608.

- Premo, J. E., & Kiel, E. J. (2016). Maternal depressive symptoms, toddler emotion regulation, and subsequent emotion socialization. *Journal of Family Psychology, 30*(2), 276-285.
<http://dx.doi.org/10.1037/fam0000165>.
- Roberts, W., & Strayer, J. (1987). Parents' responses to the emotional distress of their children: Relations with children's competence. *Developmental Psychology, 23*, 415—432.
- Sanders, W., Zeman, J., Poon, J., & Miller, R. (2015). Child regulation of negative emotions and depressive symptoms: The moderating role of parental emotion socialization. *Journal of Child & Family Studies, 24*(2), 402-415.
- Silk, J. S., Shaw, D. S., Skuban, E. M., Oland, A. A., & Kovacs, M. (2006). Emotion regulation strategies in offspring of childhood-onset depressed mothers. *Journal of Child Psychology and Psychiatry, 47*, 69 –78.
- Spinrad, T. L., Stifter, C. A., Donelan-McCall, N., & Turner, L. (2004). Mothers' regulation strategies in response to toddlers' affect: Links to later emotion self-regulation. *Social Development, 13*(1), 40-55.
- Thompson, R. A. (1994). Emotion regulation: A theme in search of definition. *Monographs of the Society for Research in Child Development, 59*, 25–52.
<http://dx.doi.org/10.2307/1166137>
- Van Doorn, M. M. E. M., Kuijpers, R. C. W. M., Lichtwarck-Aschoff, A., Bodden, D., Jansen, M., & Granic, I. (2016). Does mother–child interaction mediate the relation between maternal depressive symptoms and children's mental health problems? *Journal of Child and Family Studies, 25*, 1257–1268. doi: 10.1007/s10826-015-0309-1.

Wang, L., Wu, T., Anderson, J. L., & Florence, J. E. (2011). Prevalence and risk factors of maternal depression during the first three years of child rearing. *Journal of Women's Health, 20*, 711–718. <http://dx.doi.org/10.1089/jwh.2010.2232>.

West, A. E., & Newman, D. L. (2003). Worried and blue: Mild parental anxiety and depression in relation to the development of young children's temperament and behavior problems. *Parenting: Science and Practice, 3*, 133–154. http://dx.doi.org/10.1207/S15327922PAR0302_02.

Zeman, J., Cassano, M., Perry-Parrish, C., & Stegall, S. (2006). Emotion regulation in children and adolescents. *Journal of Development and Behavioral Pediatrics, 27*, 155–168.

Table 1: Descriptive Statistics for Mothers' Observed and Reported Responses

	<i>N</i>	<i>Minimum</i>	<i>Maximum</i>	<i>M</i>	<i>SD</i>
<u>Observed responses</u>					
Support/Reframe, age 3	51	.00	9.00	0.95	1.25
Magnify, age 3	51	.00	1.00	0.08	0.19
Neglect, age 3	51	.00	1.00	0.12	0.25
Criticize, age 3	51	.00	2.00	0.25	0.42
Support/Reframe, age 4	48	.00	2.00	0.83	0.44
Magnify, age 4	48	.00	1.00	0.09	0.20
Neglect, age 4	48	.00	1.00	0.16	0.24
Criticize, age 4	48	.00	1.00	0.08	0.18
<u>Self-reported responses</u>					
RCE: Support, age 3	84	23	45	39.98	5.05
RCE: Magnify, age 3	84	9	31	15.04	4.63
RCE: Neglect, age 3	84	5	20	5.94	2.00
RCE: Punish, age 3	84	9	25	14.07	3.38
RCE: Support, age 4	76	21	45	39.96	5.66
RCE: Magnify, age 4	76	9	33	15.49	5.31
RCE: Neglect, age 4	76	9	33	15.33	4.40
RCE: Punish, age 4	76	9	33	14.34	4.35
Mother BDI age 3	85	0	50	14.88	12.89
Mother BDI age 4	76	0	52	11.29	9.85

Note: BDI = Beck depression inventory-II

Note: RCE = Responses to Child Emotions Questionnaire

Table 2: Mothers with Minimal or No Depressive Symptoms: Observed Responses (Ages 3 and 4)

	<i>N</i>	<i>Minimum</i>	<i>Maximum</i>	<i>M</i>	<i>SD</i>
Support	44	0	3	0.57	1.75
Reframe	44	0	9	0.61	1.97
Magnify	44	0	3	0.18	0.79
Neglect	44	0	5	0.25	1.14
Criticize	44	0	7	0.45	1.74

Table 3: Mothers with Severe Depressive Symptoms: Observed Responses (Ages 3 and 4)

	<i>N</i>	<i>Minimum</i>	<i>Maximum</i>	<i>M</i>	<i>SD</i>
Support	14	0	10	1.64	3.03
Reframe	14	0	9	2.07	2.61
Magnify	14	0	7	1.00	2.33
Neglect	14	0	8	1.14	2.74
Criticize	14	0	13	2.36	4.49

Table 4: Correlations for Child Age 3: Observed and Reported Maternal Responses, Maternal Depressive Symptoms, and Child Negative Emotion

	Support/ Reframe, age 3	Magnify, age 3	Neglect, age 3	Criticize, age 3	RCE: Support, age 3	RCE: Magnify, age 3	RCE: Neglect, age 3	RCE: Punish, age 3	Mother BDI, age 3
Support/ Reframe, age 3									
Magnify, age 3	-.183								
Neglect, age 3	-.257*	.035							
Criticize, age 3	-.223	.202	-.034						
RCE: Support, age 3	-.002	-.183	-.090	-.120					
RCE: Magnify, age 3	-.147	.017	-.019	.131	-.144				
RCE: Neglect, age 3	-.187	-.041	.532***	-.036	-.194*	.144			
RCE: Punish, age 3	-.074	-.245*	.052	.194	.038	.543***	.027		
Mother BDI, age 3	-.126	-.109	-.084	.052	-.278**	.475***	.161	.329**	
Child Negative Emotion Expression, age 3	.416***	.351**	.124	.265*	-.176	.159	-.038	-.025	.199*

*p<.1, **p<.05, ***p<.01

Note: BDI = Beck depression inventory-II

Note: RCE = Responses to Child Emotions Questionnaire

Table 5: Correlations for Child Age 4: Observed and Reported Maternal Responses, Maternal Depressive Symptoms, and Child Negative Emotion

	Support/ Reframe, age 4	Magnify, age 4	Neglect, age 4	Criticize, age 4	RCE: Support, age 4	RCE: Magnify, age 4	RCE: Neglect, age 4	RCE: Punish, age 4	Mother BDI, age 4
Support/ Reframe, age 4									
Magnify, age 4	-.289**								
Neglect, age 4	-.163	-.039							
Criticize, age 4	.037	-.062	-.114						
RCE: Support, age 4	.031	.091	-.157	.201					
RCE: Magnify, age 4	-.367**	.058	-.183	-.115	-.144				
RCE: Neglect, age 4	-.256*	-.132	-.116	.039	-.385**	.487***			
RCE: Punish, age 4	-.328**	-.066	-.103	-.121	-.249**	.692***	.670***		
Mother BDI, age 4	-.270*	.150	.068	-.135	-.274**	.379***	.293**	.449***	
Child Negative Emotion Expression, age 4	.206	.011	.112	.182	-.068	-.004	-.066	-.036	-.096

*p<.1, **p<.05, ***p<.01

Note: BDI = Beck depression inventory-II

Note: RCE = Responses to Child Emotions Questionnaire

Table 6: Correlations for Mothers' Reported Responses at Ages 3 and 4

	1	2	3	4	5	6	7	8	9
1. RCE support, age 3									
2. RCE magnify, age 3	-.14								
3. RCE neglect, age 3	-.19	.14							
4. RCE punish, age 3	.04	.54**	.03						
5. RCE support, age 4	.48**	-.03	-.41**	-.08					
6. RCE magnify, age 4	-.12	.49**	.42**	.32**	-.14				
7. RCE neglect, age 4	-.19	.18	.61**	.17	-.38**	.49**			
8. RCE punish, age 4	-.19	.38**	.52**	.46**	-.25*	.69**	.67**		
9. Child Negative Emotion Expression, age 3	-.18	.16	-.04	-.03	-.06	.02	-.08	.01	
10. Child Negative Emotion Expression, age 4	-.12	-.08	-.06	.02	-.07	.00	-.07	-.04	

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

Note: RCE = Responses to Child Emotions Questionnaire

Appendix 1: Mother Behavior Coding Manual

Mother Behavior Coding

Clean-Up Task

Coding Mother's Response to Child's Negative Emotions

The Clean-Up task will be coded for a mother's response (or lack of response) to a child's expression of a negative emotion. A point code will be placed at the start of the occurrence of the mother's response. Since point coding will be used, the length of the mothers' responses and reactions (or lack thereof) do not need to be coded for. When coding, code for entire instance and not line-by-line. If the mother has multiple responses to a child's expression of negative emotion, multiple point codes can be placed.

Coding should be defined only in relation to child's expression of negative emotion. Code anything directly in response to the child's expression of the negative emotion (no time limit). There is no distinction between which negative emotion is expressed by the child (sadness, anger/frustration, fear). Mother could have multiple responses to child's negative emotion expression. Mother could have multiple responses to child's single expression of an emotion. Mother's response to child's positive expressions of emotion or no expression of emotion will not be coded for. The mother's responses will be coded according to the following categories: Support, Criticize, Magnify, Neglect, and Reframing. Tone of voice can affect coding. Pay attention to whether mothers use a harsh, calm, warm tone, etc. For example, "It's okay" could be support, reframing, or neglect.

Support

Maternal support is classified as comforting the child or encouraging the child to talk about his or her emotions and/or feelings. Support responses are positive and accepting. The mother is caring and offering her child assistance for dealing with the emotion.

Examples of support include the mother asking her child what made him or her sad or scared, comforting the child with words or actions, reassuring the child, and encouraging discussion about emotions.

- Examples of statements of support
 - It's okay
 - We can play again later
 - What's wrong
 - Do you feel sad/scared/angry
 - Why are you sad/scared/angry
 - Are you sad/scared/angry because you want to keep playing
 - Let me give you a hug to feel better
 - Let's try to finish this and see what is next
 - I know you can do this
 - Don't be sad/scared/angry
 - It's not so bad

- Cleaning up is hard, but you can do it
- Offers support
- Don't worry
- You don't need to be afraid
- Examples of nonverbal support
 - Embracing child
 - Patting child on back
 - Giving sympathetic look
 - Gives child space to work it out in supportive way
 - Holds child
 - Strokes child's hair

NOTE: Restraining child would not be an example of support.

NOTE: Support does not include a mother's positive affect response to a child's action unrelated to the negative emotion. For example, if a child is upset about not being able to play longer but finishes putting all the toys away while showing negative emotion, a mother's response of "Good job," etc., would not be coded as maternal support.

Criticize

Criticism occurs when the mother negatively responds to her child's expression of negative emotion. The mother is disapproving, rejecting, or minimizing the child's emotion. Criticize also includes punitive responses to the child's negative emotion expression. For example, if the mother tells the child to stop crying or he will not get a treat. Examples of criticism include critical, mocking or disparaging, and punitive statements. Nonverbal criticism by look, gesture or contact will also be coded.

- Examples of statements of criticism
 - Stop crying
 - Don't get angry
 - What is wrong with you
 - Why are you acting like that
 - You are being silly
 - You will be punished/given time out
 - You should be ashamed
 - Change your attitude
 - Grow up
 - Don't be a fraidy cat
 - Says child's full name...
 - You're overreacting
 - Stop being sad
 - Hurry up, you're fine
- Examples of nonverbal criticism

- Gives discouraging look
- Rolls eyes
- Throws up hands in mocking way
- Shows by gesture or facial expression does not like child being sad/scared/angry
- Strikes child
- Grabs child
- Holds child in restraint

NOTE: Coding for maternal criticism must be in response to the child's negative emotion. For example, if a child cleans up but places items in the wrong place, drops something, or similar, a mother's critical response would not be coded.

Magnify

Maternal magnification occurs when the mother responds to her child's negative emotion expression by getting upset, sad, or worried herself. The mother expresses distress. The mother feels the same emotion and reflects it back to the child. Magnification can be a verbal statement, or an action.

NOTE: Coding for magnification must be in response to the child's negative emotion. For example, if a mother starts crying on her own or has her own negative emotion without a child first expressing one, it would not be coded.

- Examples of statements of magnification
 - I am sad/scared/angry we have to clean-up too
 - I'm worried too
 - Oh no what's wrong
 - This is all my fault
 - Yells back at child
- Examples of nonverbal magnification
 - Gets angry
 - Cries
 - Gets tearful
 - Pounds table or floor
 - Sighs audibly in anger or sadness
 - Throws up arms in anger or sadness

Neglect

Maternal neglect occurs when the mother dismisses, does not respond to or ignores her child's negative emotion expression. The mother may not notice the child's negative emotion or she may not respond to the emotion expression. Maternal neglect also occurs when the mother responds to a child's negative expression of emotion in an inappropriate manner, thus neglecting

the child. Examples of neglect responses will be primarily nonverbal though some statements may be made.

- Examples of statements of neglect
 - I am not dealing with this

- Examples of nonverbal neglect
 - Does not notice child is was/angry
 - Gives child space in neglectful way/walks away
 - No response
 - Planned ignoring of child's emotions

NOTE: Coding for neglect must be in response to a child's expression of a negative emotion. For example, if a mother walks away or simply ignores the child, but not in response to the child's expression of a negative emotion, it would not be coded as neglect.

Reframing

Maternal reframing, or distracting, is the mother changing the emotional tone of the situation. She is reframing the emotional tone of the activity. This includes distracting the child from his or her negative emotion. This also includes de-emphasizing the emotion. Though this strategy is not included in the RCE, it occurs quite frequently.

- Examples of statements of reframing
 - Let's sing the clean-up song. Clean-up, clean-up...
 - I'll time you to see how fast you can clean-up!

- Examples of nonverbal reframing
 - Handing a toy to child to put away
 - Making a silly face
 - Tickling the child

DECISION RULE: Laughter

- If mother laughs at child's expression of negative emotion:
 - Code as criticism if laughter is ridiculing child's expression of emotion
 - Code as neglect if laughing in dismissal of child's expression of negative emotion
 - Code as reframing if laughing as way to distract child from expression of negative emotion or laughing in attempt to get child to stop crying.