MEDIATING EFFECT OF MOTHER INVALIDATION ON THE RELATION BETWEEN MOTHER DEPRESSION AND CHILD INTERNALIZING PROBLEMS

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CHAPTER I

INTRODUCTION

Child Internalizing Problems

Although between 4 (Chrisman, Egger, Compton, Curry, & Goldston, 2006) and 12% (Craske, 1997) of children are estimated to experience internalizing problems including "social withdrawal, anxiety, depression, and psychosomatic reactions" (Eisenberg et al., 2001, p.1112), children with internalizing problems are much less likely to be targeted for prevention or intervention treatment programs than are children with externalizing problems such as hitting or yelling, partially because internalizing problems are underidentified (Craske) and the problems do not create as much family stress (Bussing, Zima, Gary, & Garvan, 2003). Consequences of child internalizing problems include less positive perceptions of self and competence (Rubin, Wojslawowicz, Rose-Krasnor, Booth-LaForce, & Burgess, 2006), increased likelihood of experiencing a mental health problem in adulthood (Craske; Wagner, 2003), and poor peer relationships (Roberts & Strayer, 1987; Rubin et al.). Additionally, communication patterns (Jacob & Johnson, 2001), emotion regulation (Eisenberg et al.), and comprehension of emotions (Raikes & Thompson, 2006) are unfavorably impacted by internalizing problems.

Because of the negative consequences of childhood internalizing symptoms and the frequency with which children experience these problems, understanding the factors influencing the development of children's internalizing symptoms is of particular importance. An improved understanding of these factors is important in supplying prevention and treatment providers with necessary information to assist parents in protecting children against internalizing problems. A number of factors have been shown to influence the development of child internalizing problems including parent marital problems (Katz & Gottman, 1993), child stress (Gaylord, Kitzmann, & Lockwood, 2003), parent expression of emotion (Valiente & Eisenberg, 2006), and parent-child interactions (Broth, Goodman, Hall, & Raynor, 2004).

Relation between Parent Depressive Symptoms and Child Internalizing Problems

Parent mood and affect, particularly parent depression, are shown to be particularly important in predicting child internalizing problems (Leinonen, Solantaus, & Punamaki, 2003). Parents demonstrating depressive symptoms are more likely to have children with depression (Duggal, Carlson, Sroufe, & Egeland, 2001; Jacob & Johnson, 2001; O'Neal & Magai, 2005), poor emotion regulation (Raikes & Thompson, 2006), and various internalizing problems (Billings & Moos, 1986; Leinonen et al., 2003; Solantaus-Stimula et al., 2002). Parents displaying more positive than negative affect interact with their children in a way resulting in better child outcomes than do parents with opposite ratios during interactions (Valiente & Eisenberg, 2006). Depressed parents exhibit more pessimism and quicker attempts to end stressful situations (Krech & Johnston, 1992; Myin-Germeys et al., 2003), which influence parents to react to children in a more controlling and less empathic manner (Downey & Coyne, 1990). Parental depression also

lessens children's ability to understand and label emotions (Raikes & Thompson, 2006), decreases the availability of the parents (Hoeksma, Oosterlaan, & Schipper, 2004), and leads to harsher parenting practices (Leinonen et al.).

Relation between Parent Invalidating Responses to Child Emotion and Child Internalizing Problems

Another influence of parent depression on child internalizing problems may be parents' responses to children's emotions. The ways parents respond to children's displays of emotion have a strong influence on the development of children's internalizing problems (Duggal et al., 2001; Eisenberg & Fabes, 1994; Fabes, Leonard, Kupanoff, & Martin, 2001). Receiving helpful parental responses while experiencing negative emotions fosters the development of children's coping mechanisms, emotion regulation, and positive relationships with others (Eisenberg & Fabes; Fabes et al., 2001; Gottman, Katz, & Hooven, 1996). Even in very young children, the ways that parents respond to children when children express emotions influence the emotionality, social development, coping strategies, and empathy of children (Berlin & Cassidy, 2003; Fabes, et al., 2001; Fabes, Poulin, Eisenberg, & Madden-Derdich, 2002; Roberts & Strayer, 1987). Parents who attempt to avoid or quickly extinguish children's negative emotions have children that exhibit greater emotional distress (Fabes et al., 2001; Fabes, et al., 2002). Just as parent response to child emotion predicts child internalizing problems, parent depression predicts parent response to child emotion.

Relation between Parent Depressive Symptoms and Parent Invalidating Responses to Child Emotion

Parents' moods influence their interpretations of their children's displays of negative emotion and the parent-child interactions during those expressions of emotions (Gottman et al., 1996; Krech & Johnston, 1992). Depression influences parents' capability of helping to serve as regulators of their children's emotions (Krech & Johnston; Fabes et al., 2001; Lahey, Conger, Atkeson, & Treiber, 1984; Myin-Germeys et al., 2003; Rottenberg, Gross, & Gotlib, 2005) and influences parents to respond to their children in ways that quickly change the child's behavior while requiring the least amount of effort by the parent (Downey & Coyne, 1990). Depressed mothers feel significantly more affectively aroused and interpret their children's behaviors more negatively than do nondepressed mothers when their children express negative emotion (Krech & Johnston).

Proposed Model

Researchers have found a strong association between parent depression and child internalizing symptoms. Similarly, parent invalidation of child emotion has been shown to be linked to child internalizing problems. An association has also been found between parent depression and parent invalidation. However, research has not been conducted on the mediating effect of parent invalidation in the relation between parent depression and child internalizing problems. Therefore, the current study examines mothers' invalidating responses to children's displays of negative emotion as a mediator of the relation between mothers' depressive symptoms and children's internalizing symptoms (see Figure 1).

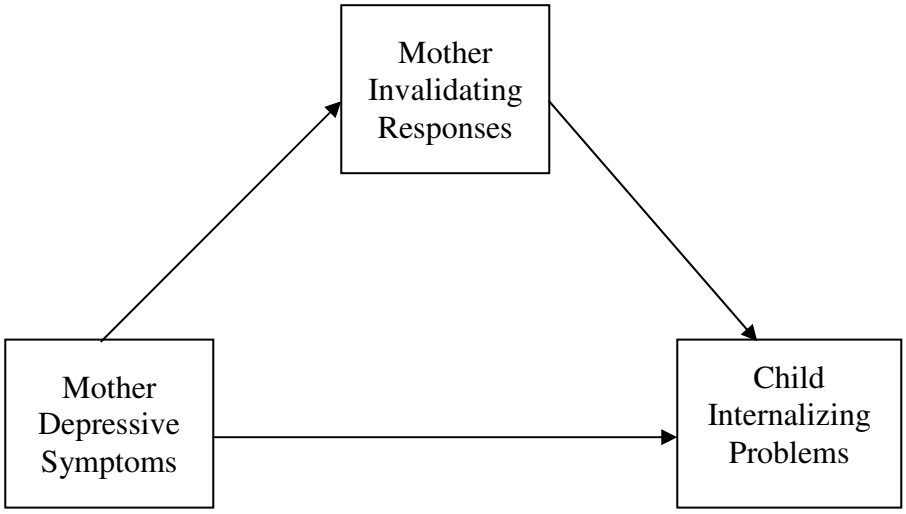

Figure 1. Association between mother depressive symptoms and child internalizing symptoms, as partially mediated by mothers' invalidating responses to children's displays of emotions.

Partial, rather than full, mediation (which indicates that the effect of the predictor variable on the outcome variable decreases by an amount that is nontrivial but greater than zero after controlling for the mediator; Preacher & Hayes, 2004) is suspected because researchers have demonstrated several mechanisms, aside from parental responses to child emotion, that influence the association between parent depression and child internalizing symptoms. For example, Bolton et al. (2005) discovered a significant genetic factor on childhood anxiety disorders. Solantaus-Stimula et al. (2002) discovered that paternal punitive parenting (in general, as opposed to in response to child emotional expression) mediated the correlation between parent depression and child internalizing symptoms. Jacob and Johnson (2001) reported that parent modeling and communication patterns are affected by depression, which then affect child behavior. Thus, various

environmental and genetic factors have been associated with the relation between parent depression and child internalizing problems, but the mediating effect of parental response to child emotion remains to be researched.

CHAPTER II

REVIEW OF THE LITERATURE

Theoretical Background

General Systems Theory

Overview. General Systems Theory (GST) provides a framework for examining the ways that parts of individual components of a system fit together. Therefore, this theory can be applied to the influences on parent-child relationships. GST is a worldview which describes the interrelationships of parts included in any type of system, which has been defined by Von Bertalanffy (as cited in Whitchurch & Constantine, 1993) as a "set of elements standing in interrelation among themselves and with the environment" (p.332). Members of the social sciences fields often apply GST to complex adaptive systems, examining the interpersonal relationships among people. Gregory Bateson asserted that systemic thinking was pertinent when examining families (Whitchurch & Constantine).

Central to GST is the belief that systems must be considered as a whole, instead of attempting to understand the individual parts in separation. The concept of non-summativity asserts that the whole is greater than the sum of its parts, which, when applied to a family, would indicate that the individual characteristics and behaviors of each family member interact together, creating a unique system that is more than the

mere aggregate of the individual's characteristics (Montgomery & Fewer, 1988).

Because the components of systems are interdependent, the behaviors of each influence the behaviors of all other parts (Whitchurch & Constantine, 1993). This interdependence is the result of circular causality, which explains reciprocated exchanges of causes (Montgomery & Fewer, 1988). Adherents of GST focus on the fact that behaviors can complement and influence each other (Dell, 1982).

Systemic thinkers focus on the processes of interactions within a system, thus asserting that behaviors are maintained and reinforced within interactional sequences (Sluzki, 1981). Looking for process is especially helpful when trying to understand exchanges within a family. Adhering to the nonlinear framework purporting that individual behaviors are included in patterns of interactions among all family members helps to understand the system more fully (although a complex adaptive system can never fully be understood; Dell, 1982) and helps to decrease blame on any one family member (Whitchurch & Constantine, 1993).

Because complex adaptive systems are dynamic, they must process information and change accordingly. The information systems receive is called feedback, and the responses to the information are referred to as feedback loops (Whitchurch & Constantine, 1993). When members of a system experience a change and alterations result that lead the system back to status quo (thus maintaining homeostasis), the members of the system are said to have used a negative feedback loop. Conversely, when members of a system respond to a change by altering the structure of the system (thus creating morphogenesis), a positive feedback loop has occurred (Montgomery & Fewer, 1988; Whitchurch & Constantine, 1993). In order to help delineate the two types of

feedback loops, consider the following example. Suppose a mother notices her child is sad, so she distracts the child in order to lessen the sadness. If the child forgets his worries and returns back to his usual emotional state, a negative feedback loop occurred within the system. However, if instead the child becomes angry that his mother tried to distract him instead of comfort him, then a positive feedback loop took place within the system.

General Systems Theory as an Explanatory Tool for Parent-Child Emotional Interactions. Following the postulation that all behaviors of the parts of a system interconnect in a nonlinear manner, GST can be applied to studies examining parent-child emotional interactions. Empirical studies substantiate this logical postulation as studies have confirmed a nonlinear fit between parent and child emotional behaviors. Although when developing and testing models, researchers must arbitrarily pick a starting point, bidirectional influence is suggestive of a reciprocal relation among variable. In their study of parents' reactions to infants, Kochanska and Aksan (2004) concluded that, although driven by parents, parents' and children's emotional responses to each other are reciprocally influenced. Valiente and Eisenberg (2006) asserted that most people would agree that parent and child attributes affect each other in a mutually influential way.

Individuals as Systems. In addition to parents and children comprising a system, individuals are also systems within themselves, as feelings, cognitions, and behaviors within an individual all fit together and influence each other. Feelings of distress experienced by parents influence their behavioral responses during interactions with their children (Hoeksma et al., 2004; Roberts & Strayer, 1987). The literature supports systemic ideas as related to the depressive symptoms in parents influencing their

responses to their children. Depressed parents are more likely to feel upset by and interpret their children's displays of emotions in a more negative manner than are nondepressed parents (Beck, as cited in Rottenberg et al., 2005; Krech & Johnston, 1992). When parents experience distress during interactions with their children, the parents are apt to use the feedback they are receiving from their feelings to choose behaviors that will create negative feedback loops so as to quickly end the emotional expression of their children (Downey & Coyne, 1990).

Children in Suprasystems. There is certainly no paucity of research delineating the broad effects of parent-child interactions on children extending beyond the parent-child subsystem and into suprasystems, or sets of meaningful subsystems (Campbell, 1970). Fabes et al. (2001) found that children who experienced high amounts of distress in the parent-child relationship displayed less social competence in other settings. Children who experience mostly positive interactions with their parents are likely to feel secure within the parent-child subsystem and also to feel more secure in relationships outside of that subsystem (Roberts, 1999; Rubin & Mills, 1991). The security felt in these social contexts, in turn, influences the children to interact with peers more frequently, with more confidence, with a greater amount of empathy, and with a better ability to resolve conflicts (Rubin & Mills). This greater sense of empathy and confidence felt by children in their suprasystems also influences their parents to interact with them in more positive, more tolerant, and less distressed ways (Roberts). Thus, consistent with GST, research demonstrates the dynamic and interactive nature of emotional experience and family and peer interaction.

Child Internalizing Problems

Prevalence of Child Internalizing Problems

Disordered mood and emotion resulting from suppressing feelings are labeled as internalizing problems and include depression, loneliness, social withdrawal, anxiety, and psychosomatic reactions (Bucy, 1994; Eisenberg et al., 2001; Kovacs & Devlin, 1998). Anxiety-related disorders are the most commonly occurring mental health disorders in youth. "Among preadolescent children, [prevalence of anxiety disorders] range from 0.7% to 12.9% for separation anxiety, 2.7% to 12.4% for overanxious disorder, 2.4% to 9.2% for simple phobia, 0.9% to 1.1% for social phobia, and 0.3% for obsessive-compulsive disorder" (Craske, 1997, p. A5). Depression prevalence includes 2.1% in preschoolers (Chrisman et al., 2006), 4.6% in six- to eight-year-olds (Wagner, 2003), 2% in preadolescent children, and 4-8% in adolescents (Chrisman et al.). Bucy, in reporting findings from several studies on prevalence rates of social withdrawal, stated that "nearly 1 child in 13 is identified by teachers as socially withdrawn in Grades 2-5" and "approximately one in three socially withdrawn children in Grades 4 and above will continue to demonstrate extremely withdrawn behavior three years later" (p.222).

Consequences of Child Internalizing Problems

Researchers have examined the effects of children's internalizing symptoms, broken down by type of internalizing symptom. Socially withdrawn children tend to view themselves negatively, doubt their social competence, feel lonely, and demonstrate maladaptive patterns of relationships (Rubin et al., 2006). Harrist, Zaia, Bates, Dodge, and Pettit (1997) found socially withdrawn children to be more isolated, timid, sad or

depressed, anxious, immature, angry or defiant, and lacking in self-restraint than were children who were not socially withdrawn. Children with an anxiety disorder are more likely, than are children without such disorders, to have a secondary anxiety disorder and are more likely to have a related disorder in adolescence or adulthood (Craske, 1997; Kovacs & Devlin, 1998). Furthermore, studies have documented deleterious effects of anxiety on children's school performance (e.g., Wood, 2006), sleep (e.g., Alfano, Ginsburg, & Kingery, 2007) and likelihood of experiencing depression (e.g., Kovacs & Devlin).

Children experiencing depression are more likely to attempt suicide and are more likely to experience other mental health problems including Attention Deficit Hyperactivity Disorder (ADHD), eating disorders, and conduct disorders when compared to children without depressive symptoms (Wagner, 2003). School achievement also suffers in children with depression (Grimm, 2007). Childhood depression has further been associated with risky behaviors (e.g., Bailey, Zauszniewski, Heinzer, & Hemstrom-Krainess, 2007), unhealthy weight (e.g., Janicke et al., 2007), and lower quality of life (e.g., Janicke et al.). Unfortunately, "children with internalizing disorders suffer for the most part in silence and are not easily identified as problematic" (Craske, p. A20); thus attempts to more fully understand the influences on these disorders is well-advised.

Parenting Influences on the Development of Child Internalizing Problems

A large body of research has been conducted to examine the relation between parenting practices and child internalizing symptoms, indicating that select parenting practices are associated with internalizing symptoms which often continue long term (e.g., Bayer, Sanson, & Hemphill, 2006). For example, Bayer and colleagues found over-

involved parenting practices to predict two- and four-year-old children's internalizing problems, accounting for 6% and 22% (respectively) of the variance in reported internalizing problems. Controlling mothers tend to have socially withdrawn children (Mills & Rubin, 1998).

Emotional expression from parents also influences child internalizing difficulties. Bayer et al. (2006) found that the internalizing problems in four-year-olds were predicted by low parental expressions of warmth when the children were two years old, even after accounting for internalizing problems in the two-year-olds. Additionally, Valiente and Eisenberg (2006) found a near-significant inverse correlation between parental expression of positive emotions and child internalizing problems. Emotionally well-regulated mothers who employ helpful coping strategies tend to have children with fewer internalizing problems (Bynum & Brody, 2005).

There is a large amount of literature demonstrating the association between parent internalizing problems with the development of internalizing problems in children. For instance, Spence (2001) reported that children of anxious parents were at greater risk for developing anxiety disorders, and Kovacs and Devlin (1998) found children of anxious parents to more frequently have anxiety disorders or withdrawal symptoms compared with children of parents not typified by anxiety. Research has likewise consistently identified a link between parental depression and child affective disorders (e.g., Broth et al., 2004; Downey & Coyne, 1990; Leinonen et al., 2003).

Relation between Parent Depressive Symptoms and Child Internalizing Problems

Parent depression is one of the most consistently documented predictors of child internalizing problems (e.g., Duggal et al., 2001; Leinonen et al., 2003; Solantaus-Stimula et al., 2002). Parents with depressive symptoms are more likely than are nondepressed parents to have children who experience sadness, guilt, and depression (Downey & Coyne, 1990; Hops, Sherman, & Biglan, 1990; Solantaus-Stimula et al.). Suicidal ideations are also more frequent among children with depressed parents (Hops et al., 1987).

Billings and Moos (1986) completed a longitudinal study with 133 depressed parents and their children under the age of 18-years-old. At a 12-month follow up, the participants were placed into one of three groups: parents that met the criteria for depression at the initial assessment and at the follow up assessment (nonremitted), parents that met the criteria for depression at the initial assessment but that no longer met the criteria for depression at the follow up (remitted), and a group of 135 control parents that were similar to the remitted and nonremitted parents in terms of community, gender, and marital status. All parents reported on their children's psychological distress, including depression, anxiety, and emotional problems. Results revealed significant differences between the three groups for all of the questions related to children's psychological distress. Planned *t*-test contrasts confirmed the authors' hypothesis that the differences were between each experimental group and the control group. Thus, the children of parents with depressive symptoms, whether in remission or not, displayed

more internalizing symptoms than did the children of parents without depressive symptoms.

Leinonen et al. (2003) conducted a more recent investigation of the effects that parental depression have on child internalizing symptoms using a sample of 521 parents and their 12-year-old children. Parent mental health symptoms as well as child symptoms (taken from child and parent report) were assessed. Parent mental health was assessed using the anxiety, depression, and social dysfunction subscales of the General Health Questionnaire-28. The parent symptoms were reported using Likert-type scales, and the values of these were then computed into summed scales for each symptom to be used in analyses. Child symptoms were assessed by having the parents and children fill out the Child Behavior Check List (CBCL). Results indicated that parent depression correlated with child internalizing symptoms (with a level of significance of $p < .05$ for sons and $p < .001$ for daughters).

Jacob and Johnson (2001) used a data set from a larger study examining the effects of alcoholism and depression in families on children between the ages of 10 and 18 in intact families. In Jacob and Johnson's study, they examined the children in families with depression but not alcoholism. The researchers used interviews, interaction tasks, questionnaires (including the CBCL and the Beck Depression Inventory; BDI), and home observations in order to examine the effects that parental depression (measured categorically) have on children. Results indicated that mother depression predicted child depression and behavioral problems. Although tested, the study did not reveal a moderating effect of parent-child communication (Jacob & Johnson).

Although much of the research on the relationship between parents and children uses samples with broad age ranges (i.e., children under 18 or children 10-18), some studies have used narrower age ranges and found a similar association between parent depression and child depression (e.g., Bayer, Sanson, & Hemphill, 2006 for children ages 2 and 4 and Tan & Rey, 2005 for children age 9). With the consistency of research delineating the association between parent depression and child internalizing problems, continuing to develop an understanding of the mechanism by which this association occurs is valuable.

Effects of Depressive Symptoms on Parenting Practices

Bayer and colleagues (2006) reported research delineating an 8% prevalence rate of mother depression and a 12% prevalence rate of postpartum depression. By definition, parents with depression feel a great deal of sadness or anhedonia and also experience many other symptoms including lacking motivation, feeling lethargic, having difficulties sleeping, a change in appetite or weight, and suicidal thoughts (American Psychiatric Association, 2000). People experiencing depressive symptoms perceive themselves and their surroundings in a more negative manner than do those without depressive symptoms (Beck, as cited in Rottenberg et al., 2005). Stressful situations also affect depressed people differently than they do nondepressed people as depressed individuals experience more negative emotion when confronted with a stressful situation than do their nondepressed counterparts (Krech & Johnston, 1992; Myin-Germeys et al., 2003). Depressed parents often view their children's behaviors more pessimistically (Krech & Johnston) and are more likely than are nondepressed parents to use quick attempts at

control and methods of control that require the least amount of thought and effort rather than negotiation when interacting with children (Downey & Coyne, 1990).

Solantaus-Stimulus and colleagues (2002) concluded that, because they did not discover uniform effects of depression on all children of depressed parents, there is something beyond merely the depressive symptoms in parents that influence child internalizing problems. When examining the existing literature, Jacob and Johnson (2001) found that the link between parent and child depression had a genetic influence, but genetics did not fully account for the relation. Other researchers have contended the parenting characteristics of depressed parents account for some of the variance in the development of child internalizing problems (Broth et al., 2004; Hops et al., 1987; Solantaus-Stimulus et al.). Indeed, a number of parenting characteristics have been shown to mediate the relation between parent depression and child internalizing problems.

Mechanism of Influence

Lack of Awareness and Availability

Parents' ability to help their children cope with negative emotions is dependent on the parents' awareness of their children's emotional experiences (Hoeksma et al., 2004). Depressed parents are less able than are nondepressed parents to correctly identify their children's emotions, and these parents are also less likely to use awareness of their children's emotions to influence subsequent interactions with their children (Broth et al., 2004). Thus, parents with depressed symptoms tend to be unaware of their children's emotions and tend to be less able to focus on their children's experiences. Mothers experiencing distress are less available to attend to their children's emotional needs

because of a preoccupying focus on their own symptoms, thus influencing the goals of parent-child interactions to be more parent-centered than child-centered (Bayer et al., 2006; Fabes, Eisenberg, & Miller, 1990). Depressive feelings in mothers are associated with less attention given to children's developmental needs, early care and support, and willingness to take advantage of parenting support services (Duggal et al., 2001).

Harsh or Ineffective Parenting

In addition to a lack of awareness, depressed parents affect their children by means of poor parenting practices (Beardslee, Versage, & Gladstone, 1998). Leinonen et al. (2003) found a mediating effect of punitive parenting on the relation between paternal depression and child internalizing symptoms. In a study examining the effects of various levels of stressors on depressed mothers, Krech and Johnston (1992) asked mothers to rate how likely they would be to respond to their children in various manners outlined in 12 case vignettes. The results of their study indicated that mother depression influenced the intensity of the behavioral responses of parents. Behavioral responses were categorized as low intensity (i.e., ignoring the behavior and reasoning with the child) or high intensity (i.e., removing privileges from the child, reprimanding the child, and yelling at or spanking the child). Results indicated (with near significance, $p < .06$) that depressed mothers were more likely to use high intensity responses than they were to use low intensity responses (Krech & Johnston), thus supporting the idea that the parenting practices of depressed parents tend to be harsher than those of nondepressed parents.

Modeling of Emotions

Parents' modeling of emotions affects the emotions emulated by their children. Eisenberg, Cumberland, and Spinrad (1998) reported that depressed parents are less likely than are nondepressed mothers to display positive affect and respond to and gaze at infants. Children model the emotions of their parents; therefore, infants of mothers that exhibited joy themselves exhibited more joy (Eisenberg et al.). Likewise, infants of depressed mothers were more likely to express sadness and anger and were more likely to avoid looking at their mothers than were infants of nondepressed mothers. Due to these findings, the authors noted the influence that mothers' emotional expressions has on the emotional responses of their infants (Eisenberg et al.).

Parent Response to Child Displays of Negative Emotion

Although not yet established through research, there is reason to assume that parent response to child display of negative emotion might be a mechanism of influence between parent depression and child internalizing. The perceptions and experiences of depressed individuals influence a more negative processing of emotional stimuli (Beck, as cited in Rottenberg et al., 2005). Lahey et al. (1984) suggest that emotional problems within parents will lead to the parents having a lower tolerance for children's unfavorable behavior. Depressed parents tend to choose methods of control that require the least amount of thought and effort. In comparison to nondepressed parents, depressed parents are more likely to use quick attempts at control rather than negotiation when interacting with children (Downey & Coyne, 1990). Parents are also more apt to employ invalidating responses when they are feeling upset because these invalidating responses are perceived

as a quick solution to their children's negative emotions (Lahey et al.). This is problematic because parents who have little tolerance for the children's negative emotions and act to avoid or quickly extinguish children's negative emotions have children that exhibit greater emotional distress (Fabes et al., 2001; Fabes et al., 2002).

Relation between Parent Invalidating Response to Child Emotion and Child Internalizing Problems

Children's social and emotional development is benefited by parents' positive and supportive responses to their expressions of emotion (Fabes et al., 2002). Children demonstrate more effective coping mechanisms, better emotion regulation, and healthier relationships with others if their parents respond positively rather than negatively to their negative emotions (Fabes et al., 2001; Gottman et al., 1996). On the other hand, when parents invalidate their children's emotional expression children may experience emotional overarousal (Eisenberg & Fabes, 1994).

Nonsupportive parental responses to children's emotions, specifically punitive and minimizing responses, can be collectively referred to as invalidating responses. Minimizing responses refer to "the degree to which parents discount the seriousness of their children's emotional reactions or devalue their problem or distressed responses," and punitive responses refer to "the degree to which parents use verbal or physical punishment to control children's negative emotional display" (Fabes et al., 2002, p.289).

Invalidating responses influence children to conceal their emotions. This constraint results in emotional distress, such as anxiety, poor emotion regulation, and negative emotional arousal (Buck, as cited in Fabes et al., 2001; Eisenberg & Fabes, 1994). Parents' negative control responses, such as punitive and minimizing responses, to

children's negative emotions have often been related to children's lack of social competence and empathy (Fabes et al., 2001; Roberts & Strayer, 1987). Parental invalidating responses to child emotion also influence children to use avoidant coping when experiencing upsetting emotions (Berlin & Cassidy, 2003).

Berlin and Cassidy (2003) conducted a study with a sample of 76 white preschoolers and their mothers. The authors assessed parents' attitudes toward their children's displays of emotions and observationally coded children's displays of emotions. Results indicated that mothers that controlled their children's emotional expression had children that were more apt to suppress feelings of sadness and anger. The internalizing act of suppressing emotions leads to feeling of depression and anxiety (Krause, Mendelson, & Lynch, 2003).

Eisenberg and Fabes (1994) also discovered a link between parent invalidating responses to child emotion and child internalizing symptoms. Using a sample of 79 four- to six-year-old children, Eisenberg and Fabes collected self-report information from the children's mothers about ways they respond to their children's displays of negative emotions. The authors also collected information from the children's mothers, teachers, and teachers' aids about the children's negative affect and emotion regulation. Observational measures coded during the social interactions were used to identify the children's methods of coping with negative emotions. Results revealed that mothers' punitive or minimizing responses were significantly correlated with children having less ability to self-regulate and displaying more negative affect (Eisenberg & Fabes).

Eisenberg, Fabes, and Murphy (1996) conducted a study to examine the effects of parents' responses to children's displays of negative emotions. The authors gathered data

from mothers, fathers, and teachers of third to sixth grade children. Mother minimizing responses were positively correlated with mother perceptions of their children's avoidant coping and negative emotionality and with teachers' perceptions of children's avoidant coping. Results were similar, albeit less substantive, for mother punitive responses (Eisenberg et al.).

O'Neal and Magai (2005) interviewed and administered assessments to 161 inner-city 11- to 14-year-old children and their teachers. The children filled out the Emotions as a Child Scales (EAC; Children's Version), which assessed the children's perceived likelihood of their parents responding to their emotional displays in various manners. Results revealed that children's perceptions of parental punitive responses to displays of negative emotions were significantly correlated with the children's report of internalizing symptoms (when displays of child sadness, anger, and shame were punished) and teachers' reports of child internalizing symptoms (when child displays of fear and shame were punished; O'Neal & Magai). The direct relation between parent invalidating responses and child internalizing problems has clearly been thoroughly investigated.

Relation between Parent Depression and Parent Invalidating Responses to Child Emotion

Although research has been used to establish a link between parent response and child internalizing problems, little is known about the factors influencing the behaviors chosen by parents in response to children's emotional expressions. However, studies have demonstrated that parent depression negatively influences the interpretations parents have of situations and of children's emotional expressions, the parents' attempts to resolve stressful situations, and the parents' availability to help serve as regulators for their

children (Fabes et al., 2001; Krech & Johnston, 1992; Lahey et al., 1984; Myin-Germeys et al., 2003; Rottenberg et al., 2005). These studies substantiate the logical assumption that parental depressive symptoms influence their responses to their children's negative emotional expression. Beyond the logical postulation, empirical studies have demonstrated an influence of parental depression on parents' responses to children's emotions.

Parents' perceptions of their children's emotional experiences influence the responses parents choose, and parents with depressive symptoms are more likely to unfavorably view their children's expressions of negative emotions. Just as depressed parents' perceptions of their environments are negative, the parents also tend to think and respond more negatively when confronted with emotional situations. In Krech and Johnston's (1992) previously described study, a significant main effect was discovered for mood group (depressed or nondepressed) on mothers' reports of how upset they would get in response to children's displays of negative emotions, with depressed mothers reporting feeling significantly more upset than did nondepressed mothers. Shaw, Schonberg, and Sherrill (2006) noted that mothers with childhood onset depression responded less often to their children's displays of upset emotions than did mothers without depression. Parents with depressive symptoms are less likely to respond in helpful ways to their children, and this is especially true when the children are displaying negative emotions.

Parent Invalidating Response to Child Emotion as a Possible Mediator

Although parents' response to child negative emotion has not been empirically examined as a mediator in the relation between parent depression and child internalizing

problems, research has shown a relation between parent depression and parent response to child emotion (e.g., Leinonen et al., 2003) as well as between parent response to child emotion and child internalizing symptoms (e.g., Eisenberg & Fabes, 1994). This research supports the suggestion that parent' responses to child negative emotion may be an important mediator of the relation between parent depression and child internalizing.

Summary

The prevalence and seriousness of child internalizing problems point to a need for more research attention to be devoted to improving our understanding of the predictors of child internalizing problems. Parent internalizing problems, most notably depression, have consistently been associated with child internalizing problems (e.g., Billings & Moos, 1986). This association is so substantiated that it begs more specific investigation into the mechanisms by which this strong association occurs.

Parenting practices leave a noticeable mark on children, and the parenting of depressed parents significantly differs from that of nondepressed parents (Beardslee et al., 1998). Parents with depressive symptoms are more likely than are nondepressed parents to negatively interpret stressful situations and opt to quickly end children's displays of negative emotions (Krech & Johnston, 1992). Invalidating responses, specifically minimizing and punitive responses, exert high amounts of control on children and serve to quickly end the emotional displays, and these invalidating responses are in turn associated with an increased frequency of child internalizing problems (Eisenberg & Fabes, 1994). Whereas research has substantiated the relations between parent depression and child internalizing problems, between parent depression and parent invalidation, and between parent invalidation and child internalizing, research has not investigated the

potential mediating effect of parent invalidating response to child emotion on the association between parent depressive symptoms and child internalizing problems. The present study aims to investigate this potential mediating effect.

Hypotheses

The first hypothesis of the current study is that there will be a positive correlation between mothers' depressive symptoms and children's internalizing problems. The second hypothesis is that mothers' invalidating responses to their children's negative emotional expressions will be significantly related to children's internalizing problems. The third hypothesis is there will be a positive correlation between mothers' depressive symptoms and their invalidating responses to children's displays of negative emotions. The fourth hypothesis is that the association between mothers' depressive symptoms and children's internalizing problems will be partially mediated by mothers' invalidating responses to children's emotional expression. Additional exploratory analyses of relations between mother symptoms, mother responses, and child symptoms will also be conducted.

CHAPTER III

METHOD

Sample

The participants in this study were part of a larger study (Families and Schools for Health; FiSH; Harrist, Kennedy, Topham, Hubbs-Tait, & Page, 2005; see procedure) funded by the United States Department of Agriculture. Parents were recruited through letters sent to their child's school and through contact from FiSH staff at school events. Participating parents consented to include their children in a project investigating potential influencing factors on first grade children and their families' lifestyle choices. Six hundred nine families consented to participate in the first cohort of the larger study. In total 251 parents returned questionnaires, and the sample for the current study included only mothers who completed the questionnaires. Consequently, 14 fathers, 7 "other" family members (e.g., grandmother, foster parent), and 8 mothers with incomplete questionnaires were omitted from the current study. The resulting sample size for the study was 222 parents of first grade children (125 boys and 97 girls with an age range of 6.00- to 7.80-years-old and a mean age of 6.69).

Demographic information was available for 191 mothers (see Table 1). The ethnicity distribution of mothers was: 66.8% Caucasian, 15.3% Native American, 4.0% Multiethnic,and 1.1% Hispanic. The age range was 24 to 59, with a mean age of 34.45.

Of the participating mothers 59.4% were married for the first time, 21.8% remarried, 11.7% divorced, 4.1% never married, and 3.0% separated. The distribution of monthly household income for mothers was as follows: 23.4% of participants reported $0-999, 31.9% reported $1000-2499, 20.7% reported $2500-3999, and 23.9% reported earning $4000 or more per month. Five point three percent of mothers completed some high school, 11.1% completed high school, 32.1% completed some college, and 50.5% were college graduates.

Instruments

The Coping with Children's Negative Emotions Scale (CCNES)

Parents' punitive reactions and minimizing reactions in response to their children's negative emotions were measured using the Coping with Children's Negative Emotions Scale (CCNES; Fabes, Eisenberg, & Bernzweig, 1990). The CCNES is a 12-item, self-report instrument measuring six subscales of parent's responses to children's negative emotions. Each of the twelve items provides a statement of a hypothetical situation in which the parent's child becomes upset or angry (Fabes et al., 2002). The parent responds to each item by indicating how likely, using a five point Likert-type scale ranging from "very unlikely" (1) to "very likely" (5), he or she would be to respond in each of six ways.

The six response options for each hypothetical situation correspond to the six subscales of the CCNES. The six subscales "reflect theoretically different aspects of

Table 1

Descriptive Statistics for Demographic Variables

Variable	Mean (SD),	Percent	*n*
Child age in years	6.69 (.36)		222
Mother age in years	34.45 (6.94)		192
Mother income per month	$2332 (1508)		187
Mother Ethnicity			
Caucasian		66.8	149
Native American		15.3	29
Multiethnic		4.0	9
Hispanic		1.1	2
Mother marital status			
Married, first time		59.4	117
Remarried		21.8	43
Divorced		11.7	23
Never married		4.1	8
Separated		3.0	6
Mother education			
Some high school		5.3	12
High school graduate		11.1	21
Some college		32.1	61
College graduate		50.4	96

parental coping with children's negative emotions" (Fabes et al., 2002). The minimizing subscale assesses the likelihood that parents would respond to their child's negative emotion by devaluing the emotional experiences of their child. The punitive reaction subscale measures the likelihood that parents would use punitive means (i.e., physical or verbal punishment) in order to stop their children's negative emotions. The distress reaction subscale measures parents' emotional experiences in response to their children's negative emotions. The expressive encouragement subscale measures the likelihood that parents would encourage their children to express emotions or the likelihood that parents would validate their children's emotions. The emotion-focused subscale measures how likely parents would be to attempt to help their child feel better. Finally, the problem-solving scale assesses the likelihood that parents would assist their children in resolving their distress (Fabes, Eisenberg, & Bernzweig, 1990). The minimizing and punitive responses were combined in the current study to form an invalidating subscale.

An example item is "If my child is going over to spend the afternoon at a friend's house and becomes nervous and upset because I can't stay there with him/her, I would…" Response options include "tell my child to quit over-reacting and being a baby" (minimizing response), "tell my child if he/she doesn't stop that he/she won't be allowed to go out anymore" (punitive response), "feel upset and uncomfortable because of my child's reactions" (distress response), "distract my child by talking about all the fun he/she will have with his/her friend " (emotion-focused response), "help my child think of things that he/she could do so that being at the friend's house without me wasn't scary" (problem-solving response), and "encourage my child to talk about his/her nervous

feelings" (expressive encouragement; Fabes, Eisenberg, & Bernzweig, 1990; see Appendix A). In original analyses of the present study, only the data from the punitive and minimizing subscales were used, and the remaining subscales were used in exploratory analyses. For the purpose of this study, the punitive and minimizing scales will be combined into an invalidating subscale, based on findings by Fabes et al. (2002) which indicated that the subscales were highly correlated.

Fabes et al. (2002) reported several studies (e.g., Eisenberg & Fabes, 1994; Eisenberg, Fabes, Carlo, & Karbon, 1992a; Eisenberg et al., 1999; Smith & Walden, 1996) that concluded that the CCNES was a good measure of parents' responses to children's negative emotions and that the internal reliability of the subscales was sufficient. Fabes et al. conducted a study to further measure the usefulness of the CCNES. The results confirmed the adequate internal reliability of the subscales (α of .69 for punitive and .78 for minimizing) and found the internal reliability of the subscales to be comparable to other established measures of parents' responses to their children's emotions such as the scales of the Parent Affect Test-Anger (PATa), the Social Desirability, and the PACES (reliability estimates of .94, .83, and .60, respectively).

In Fabes et al.'s (2002) examination of the psychometric properties of the CCNES, 35 participants took the CCNES two times, four months apart. Their responses across the two times were significantly correlated ($rs(33) = .83$ and .77 for punitive reactions and minimizing reactions, respectively), thus revealing good test-retest consistency. Tests of mean differences did reveal a significant difference in participants' punitive responses from Time 1 to Time 2, in that scores were lower when reported for Time 2. In the current study, internal consistency among the CCNES items was .83.

Internal consistencies for the subscales of the CCNES were as follows: α = .74 for the minimizing subscale, α = .66 for the punitive subscale, α = .67 for the distress reaction subscale, α = .81 for the emotion-focused subscale, α = .88 for the expressive encouragement subscale, α = .77 for the problem-solving subscale, and α = .84 for the invalidating subscale. Construct validity has been tested through calculating correlations between the CCNES and other established measures of parents' responses to children's emotions, including PATa and PACES, and was found to be adequate (Fabes et al.).

Center for Epidemiologic Studies Depression Scale (CES-D)

The Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977) was used to measure the depressive symptoms experienced by participants during the previous week. The CES-D is a 20-item parent-report measure using a Likert-type scale ranging from "rarely or none of the time (< 1 day)" (0), "a little or some of the time (1-2 days)" (1), "occasionally or a moderate amount of the time (3-4 days)" (2), and "most or all of the time (5-7 days)" (3; Cheung, Liu, Phil, & Yip, 2007). Total scores can range from 0 to 60, and a cut off score of greater than 15 is typically used to indicate a likelihood of clinical depression. Factor analyses have revealed four subscales within the CES-D. The four subscales are: depressed affect (characterized by having the blues, being depressed, feeling lonely, and crying), positive affect (which is reverse-coded and is characterized by feeling good, hopeful, happy, and joyful), somatization (characterized by feeling bothered, as well as changes in appetite, effort, sleeping, and getting going), and negative interpersonal interpretations (characterized by thinking people were unfriendly or showed dislike; Radloff). Sample questions include: "I felt that I could not shake off the blues even with help from my family or friends" (depressed affect), "I felt

that I was just as good as other people" (positive affect), "I did not feel like eating; my appetite was poor" (somatization), and "people were unfriendly" (negative interpersonal interpretations; Radloff; see Appendix B for measure).

The CES-D has been established as a reliable measure when normed on both general and clinical populations. Internal consistency was measured using coefficient alpha and the Spearman-Brown, split-halves methods, and results indicated high consistency in both the general (α of around .85) and clinical (α of around .90) populations. Possibly due partially to the changing, cyclical nature of depression, Radloff (1977) found only moderate test-retest correlations (r = .57). Internal consistency for the current study's use of the CES-D was Cronbach's α = .90. The internal consistency alphas for the subscales of the CES-D in the current study were .90 for the depressed affect subscale, .92 for the positive affect subscale, .70 for the somatic subscale, and .55 for the negative interpersonal interpretations subscale.

The CES-D discriminates between psychiatric inpatient and general populations, as measured by the fact that 70% of the inpatient participants and 21% of the general population participants scored above 15 (Radloff, 1977). The CES-D also discriminates symptom severity, as measured by a correlation of .56 between CES-D scores and nurse-clinician rating of severity. Discriminate validity is also supported by items being more similarly correlated with instruments measuring depressive symptoms than with measures measuring general pathology (Radloff).

Behavior Assessment System for Children, Second Edition (BASC-2)

Child internalizing problems were measured using the Teacher Rating Scale (TRS) of the Behavior Assessment System for Children, Second Edition (BASC-2). The

BASC-2 was designed to assess people's (ages 2-25) maladaptive and adaptive behaviors and perceptions (Reynolds & Kamphaus, 2004; Tan, 2007). The BASC-2 includes five versions to measure child behavior: (1) Teacher Rating Scale (TRS), (2) Parent Rating Scale (PRS), (3) Self-Report of Personality (SRP), (4) Structured Developmental History (SDH), and (5) Student Observation System (SOS; Tan, p. 121). Responses to questions are recorded using a Likert-type scale, including "never" (1), "sometimes" (2), "often" (3), and "almost always" (4). The BASC-2 TRS measures broad domains of externalizing problems, internalizing problems, adaptive skills, and school problems, but for the purposes of this study, only data from the questions included in the internalizing subscale were used in original analyses, and externalizing problems were included in post-hoc analyses. The internalizing subscale assesses the domains of depression (e.g., "Seems lonely"), anxiety (e.g., "Worries about things that cannot be changed"), and somatization (e.g., "Has stomach problems"). The externalizing problems examined in post-hoc analyses included aggression (e.g., "Argues when denied own way") and conduct problems (e.g., "Disobeys"; see Appendix C for a list of the questions for each domain of the internalizing subscale).

The BASC-2 TRS was normed using a normative sample of 4,650 children (1,000 in the 6-11 age range, which includes the ages of present study's sample). The BASC-2 TRS was also evaluated on a clinical sample consisting of 1,779 children ages 4-18 identified by their parents as having a diagnosable emotional, behavioral, or physical problem (Tan, 2007). Internal consistency reliability coefficients for the internalizing subscale in the TRS ranged from .85 to .89 for both groups. Inter-rater reliability for the TRS is less strong, with the median coefficient for the child group being .69. Internal

consistencies for the current study's use of the BASC-2 were α = .91 for the internalizing subscale, α = .79 for the anxiety subscale, α = .83 for the depression subscale, α = .88 for the somatization subscale, α = .94 for the aggression subscale, α = .90 for the conduct problems subscale.

The BASC-2 has moderate to high content validity, as demonstrated by factor analyses of the three versions and correlations among the scales within the BASC-2. Criterion-related validity was found to be high after comparing the criterion of the BASC-2 with similar scales included in the original BASC TRS, the Achenbach System of Empirically Based Assessment, and the Connors' Teacher Rating Scale-Revised. To ensure validity, the TRS includes a "faking bad" scale which measures consistently negative biases (Tan, 2007).

Procedure

Data were collected during the spring of 2006. Questionnaires were sent to parents through the mail, sent home with their child from school, or were hand delivered to parents by project staff. After parents completed the questionnaires, they returned them via the mail or directly to FiSH staff. Parents who did not return questionnaires were called by FiSH staff up to three times to remind the parents to return the questionnaires. Project staff delivered teacher questionnaires (BASC-2 TRS) directly to teachers and picked them up from the schools after teachers had completed them. Each parent was paid $15 and each teacher was paid $6.50 per packet upon returning the completed questionnaire packets. Parent packets included 10 different measures, of which only the CCNES and CES-D were used in the current study. The BASC-2 TRS, completed by the teachers, was also included in the current study.

Data Analysis

Pearson Product Moment Correlations were conducted in order to create correlation matrices for hypotheses 1 through 3. Pearson Product Moment Correlations were also used during post-hoc analyses examining the associations between mother symptoms, mother response to child emotion, and child symptoms. To examine mother depressive symptoms as a categorical variable in post-hoc analyses (as opposed to the continuous variable that was used in original analyses), a clinical cut-off score of greater than 15 was used to categorize mothers as feeling depressed or not feeling depressed.

Exploratory mediational analyses were conducted using the Sobel test. The Sobel test compares the strength of the indirect effect of the predictor variable on the outcome variable (which is measured as the product of the coefficients of the predictor to mediator and the mediator to the outcome variable) to the null hypothesis that the product equals zero (Preacher & Hayes, 2004). Benefits of using the Sobel test include low likelihood for Type I and II error, the test offers precision in that it directly tests the direct and indirect effects of the variables, and the test provides good statistical power (Preacher & Hayes).

To test mediation using the Sobel test, an online calculator provided by Preacher and Hayes (2004) was used. The following describes the steps taken in order to calculate the data that are entered into the calculator. A series of regression analyses were performed to determine the differences between the indirect and direct relations among variables. For each mediational analysis, the independent variable was placed in a multiple regression analysis as a predictor of the mediator. Next, both the independent variable and the mediator were placed in a multiple regression analysis as predictors of

the outcome variable. Finally, the unstandardized regression coefficient and the standard error of the relation among the independent variable and the mediator as well as the unstandardized regression coefficient and the standard error of the relation among the mediator and the outcome (while controlling for the influence of the independent variable) were used to test for mediation.

CHAPTER IV

RESULTS

Overview

In the current study, mothers' invalidating responses to children's negative emotions were hypothesized to mediate the relation between mother depression and child internalizing problems (hypothesis 4). In addition, and as a prerequisite for testing mediation, hypothesis 1 proposed a significant positive relation between mother depressive symptoms and child internalizing problems, hypothesis 2 predicted a significant positive relation between mothers' invalidating responses to their children's negative emotional expressions and children's internalizing problems, and hypothesis 3 proposed a significant positive relation between mothers' depressive symptoms and their invalidating responses to children's displays of negative emotions.

Correlational Analyses

Correlational analyses were used to test hypotheses 1 through 3 (see Table 2). Correlational analyses revealed a significant association between mothers' depressive symptoms and child internalizing problems (r = .197, p = .007). Analyses, however, failed to provide support for hypotheses 2 and 3. Neither the relation between mothers' invalidating responses to child negative emotion and child internalizing problems (r = -.028, p = .679) nor between mothers' depressive symptoms and their invalidating

responses to children's displays of negative emotions (r = .059, p = .422) were found to be significant. Hypothesis 4 was not tested due to two of the three required correlational analyses being insignificant.

Table 2

Intercorrelations between Mother Depressive Symptoms, Mother Invalidation, and Child Internalizing

Variables	1	2	3
1. Mother depressive symptoms	--		
2. Mother invalidating responses	.059	--	
3. Child internalizing problems	.197*	-.028	--

*p < .01

Post-Hoc Analyses

Post-hoc analyses were computed to improve understanding of the complex relations between mother depressive symptoms, mother response to negative child emotion, and child symptoms. In these exploratory analyses, mother depressive symptoms were examined more specifically by looking at all four subscales of the CES-D (depressed affect, reverse-coded positive affect, negative interpersonal interpretations, and somatization), mother responses to child negative emotion were examined more broadly by examining the subscales for all six responses measured by the CCNES (minimizing, punitive, distress reactions, emotion-focused, expressive encouragement,

problem-solving, and the invalidating subscale), and child symptoms were more broadly assessed by including externalizing problems (conduct problems and aggression) and each internalizing problem (depression, anxiety, and somatization) along with the internalizing subscale (the combination of depression, anxiety, and somatization) in correlational matrices.

First, in order to further explore the relation between mother depressive symptoms and child symptoms, a correlation matrix was created including the four subscales of the CES-D (positive affect, depressed affect, negative interpersonal interpretations, and somatization) and five subscales of the BASC-2 TRS including three internalizing (depression, anxiety, and somatization) and two externalizing (conduct and aggression) symptoms as well as the internalizing subscale (see Table 3). Mother reported depressed affect was positively correlated with child depressive symptoms ($r = .174$, $p = .010$). Mother reported somatization was correlated with child depressive symptoms ($r = .171$, $p = .011$) and child internalizing symptoms ($r = .139$, $p = .038$); the relation was nearly significant with child somatization ($r = .129$, $p = .055$). The CES-D subscale of negative interpersonal interpretations also predicted several child symptoms. Mother report of negative interpersonal interpretations was positively correlated with child aggression ($r = .206$, $p = .002$), child conduct problems ($r = .135$, p = .047), child depressive symptoms ($r = .184$, $p = .006$), child somatization ($r = .146$, $p = .030$), and child internalizing problems ($r = .173$, $p = .010$).

Next, in order to advance understanding about the relation of mother response to child negative emotion and child symptoms, a correlation matrix was created including the six subscales of the CCNES (minimizing, punitive, distress reactions, emotion-

focused, expressive encouragement, and problem-solving) as well as the invalidating subscale and the five symptoms measured in the BASC-2 (depression, anxiety, somatization, conduct problems, aggression) and the internalizing BASC-2 subscale (see Table 4). Mothers' minimizing responses to children's displays of negative emotion were associated with children displaying more conduct problems (r = .169, p = .011) and aggression (r =.137, p =.042). Mothers' invalidating responses to children's emotion were likewise related to children displaying more conduct problems (r =.138, p = .041) and aggression (r =.135, p =.046).

Third, exploratory analyses were used to examine relations between mother symptoms and mother response to child display of negative emotion. Specifically, a correlation matrix was formed to examine the relations between the four subscales of the CES-D (positive affect, depressed affect, negative interpersonal interpretations, and somatization) and the six subscales of the CCNES (minimizing, punitive, distress reactions, emotion-focused, expressive encouragement, problem-solving, and the invalidating subscale; see Table 5). Results indicated that mother report of positive affect (which, again, was reverse-coded) was associated with distress reactions during children's displays of negative emotion (r = .205, p = .014). Mothers' depressed affect was positively correlated with emotion-focused responses to children's expression of negative emotion (r = .148, p = .028). Somatic symptoms experienced by mothers were positively correlated with mothers' distress reactions in response to children's displays of negative emotions (r = .183, p = .006). Once again, post-hoc analyses revealed multiple effects of mothers' negative interpersonal interpretations. These negative interpersonal interpretations were associated with distress reactions (r = .138, p = .042) and

Table 3

Intercorrelations between Mother Symptoms and Child Symptoms (n = 143)

Variables	1	2	3	4	5	6	7	8	9	10
1. M positive affect	--									
2. M interpersonal interp.	.438**	--								
3. M somatization	.478**	.417**	--							
4. M depressed affect	.667**	.454**	.650**	--						
5. C depression	.145	.184**	.171*	.174**	--					
6. C anxiety	.038	.098	.049	.002	.569**	--				
7. C somatization	.022	.146*	.129	.103	.411**	.483**	--			
8. C conduct problems	.025	.134*	.125	.079	.396**	-.004	.092	--		
9. C aggression	.038	.206**	.125	.108	.427**	-.007	.054	.849**	--	
10. C internalizing	.081	.173*	.139*	.108	.780**	.846**	.804**	.179*	.171*	--

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

invalidating responses (r = .134, p = .047) to children's expression of negative emotion. The association between mothers' negative interpersonal interpretations and minimizing responses reached near-significance (r = .126, p = .064).

Additionally, post-hoc analyses were used to examine mother depressive symptoms as a categorical variable (using a clinical cut off score of greater than 15 as suggested by Radloff, 1977) in relation to mothers' responses to children's displays of negative emotions and to child symptoms. Results revealed a significant relation between mothers' depressive symptoms and mothers' distress reactions during children's displays of negative emotions (r = .157, p = .023). There were no other significant associations when mother depressive symptoms were measured categorically.

Although the originally hypothesized mediational model could not be tested, significant correlations in exploratory analyses provided reason to test other models of mediation. Due to significant correlations between mother negative interpersonal interpretations and mother invalidating responses to child negative emotion (r = .134, p = .047), between mother invalidating responses to child and child aggression (r = .137, p = .002), and between mother invalidating response to child emotion and child conduct problems (r = .169, p = .047), two mediational models were tested. First, the mediating effect of mother invalidating response to child displays of negative emotion on the association between mother negative interpersonal interpretations and child aggression was tested. Second, the mediating effect of mother invalidating response to child negative emotion was tested for the relation between mother negative interpersonal interpretations and child conduct problems. Sobel tests failed to confirm mediation in either relation (p = .204 and p = .134, respectively). MacKinnon, Lockwood, Hoffman, West, and Sheets

(2002), however, suggest the Sobel test is overly conservative and is, therefore, unlikely to identify mediating effects where they exist. They recommend combating this problem of low statistical power by using cut off *z*-score of .97 as opposed to 1.96. With a *z*-score of .97, the post-hoc mediation analyses were significant.

Table 4

Intercorrelations between Mother Response to Child Emotion and Child (C) Symptoms

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Minimizing	--												
2. Punitive	.721**	--											
3. Distress	-.378**	.550**	--										
4. Emotion-focused	-.061	-.181**	-.225**	--									
5. Encouragement	-.244**	-.290**	-.302**	.601**	--								
6. Problem-solving	-.149*	-.254**	-.202**	.719**	.638**	--							
7. Invalidating	.935**	.919**	.496**	-.127	-.287**	-.214**	--						
8. C depressive symptoms	.021	.067	.039	-.001	.046	.014	.033	--					
9. C anxiety symptoms	-.010	.038	.014	-.075	-.069	-.076	-.005	.569**	--				
10. C somatization	-.001	-.090	-.011	.044	-.002	.023	-.083	.411**	.438**	--			
11. C conduct problems	.138*	.109	-.051	-.058	.023	-.019	.169*	.396**	-.004	.092	--		
12. C aggression	.135*	.075	-.066	-.036	.004	-.010	.137*	.427**	-.007	.054	.849**	--	
13. C internalizing	.003	-.001	.014	-.012	-.014	-.017	-.028	.780**	.846**	.804**	.179**	.171*	--

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

Table 5

Intercorrelations between Mother Responses to Child Emotion and Mother Symptoms

Variables	1	2	3	4	5	6	7	8	9	10	11
1. Minimizing	--										
2. Punitive	.721**	--									
3. Distress	.378**	.550**	--								
4. Emotion-focused	-.061	-.181**	-.225**	--							
5. Expressive encouragement	-.244**	-.290**	-.302**	.601**	--						
6. Problem-solving	-.149*	-.254**	-.202**	.719**	.638**	--					
7. Invalidating	.935**	.919**	.496**	-.127	-.287**	-.214**	--				
8. Positive affect	.079	.128	.205*	-.025	-.053	-.126	.111	--			
9. Depressed affect	-.021	.017	.107	.148*	.068	.054	.033	.667**	--		
10. Interpersonal interpretation	.126	.082	.138*	.026	-.114	-.057	.134*	.438**	.454**	--	
11. Somatization	.016	.070	.183*	.112	.026	.044	.051	.478**	.650**	.417**	--

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

CHAPTER V

DISCUSSION

Summary of Results

The purpose of the current study was to examine the hypothesized mediating effect of mothers' invalidating responses to children's displays of negative emotions on the relation between mother depressive symptoms and child internalizing problems. Hypotheses were also formed predicting significant positive correlations between mother depressive symptoms and child internalizing problems, mother depressive symptoms and mother invalidating responses to child emotion, as well as between mother invalidating responses to child emotion and child internalizing problems. The current study provided support for the predicted association between mothers' depressive symptoms and children's internalizing problems. Pearson's correlations, however, failed to provide support for the remaining hypotheses.

In order to gain a better understanding of the relations between mother symptoms, mother responses to child emotion, and child symptoms, post-hoc analyses were conducted. In the hypotheses-driven of the current study, mother depressive symptoms were measured by a single subscale combining all of the CES-D items, mother responses were measured by examining the invalidating subscale of the CCNES (the combination of the minimizing and punitive subscales), and child symptoms were assessed using the internalizing subscale of the BASC-2 (the combination of depression, anxiety, and somatization). During post-hoc analyses, the four subscales of the CES-D, all six subscales of the CCNES, and all three of the subscales of the internalizing subscale were

examined separately, as well as including two child externalizing symptoms (conduct problems and aggression) assessed with the BASC-2 TRS. Additionally, mother depressive symptoms were examined as a categorical variable using a clinical cut off score (as is consistent methodologically with much of the previous research).

In examining the relations between mother depressive symptoms and child symptoms, nine of the twenty-four (37.50%) correlations were significant or reached near significance (see Figure 2). Specifically, mother report of depressed affect was positively associated with child depressive symptoms. Mothers' negative interpersonal interpretations were positively correlated with child depression, somatization, conduct problems, aggression, and internalizing problems. Somatic symptoms experienced by mothers were positively associated with child depression and the internalizing subscale, and the association reached near significance for child somatic symptoms ($p = .055$).

Exploratory analyses also revealed significant relations among mother responses to child displays of negative emotion and child symptoms. Four of forty-two (9.52%) correlations were significant (see Figure 3). Mothers' minimizing response to children's displays of negative emotions was positively correlated with children's conduct problems and aggression. When minimizing and punitive responses were combined into the invalidating subscale, the invalidating responses were positively correlated with child conduct problems and aggression. Thus, there is evidence that mothers' responses to children's expressions of emotion have an influence on children's externalizing problems.

Finally, post-hoc analyses revealed mother symptoms influenced mother response to child expression of negative emotion, in that six of twenty-eight (21.43%) correlations

were significant or reached near significance (see Figure 4). Specifically, mothers' reports of depressed affect predicted their emotion-focused responses to children's displays of negative emotion. The positive affect subscale (reverse coded) was positively

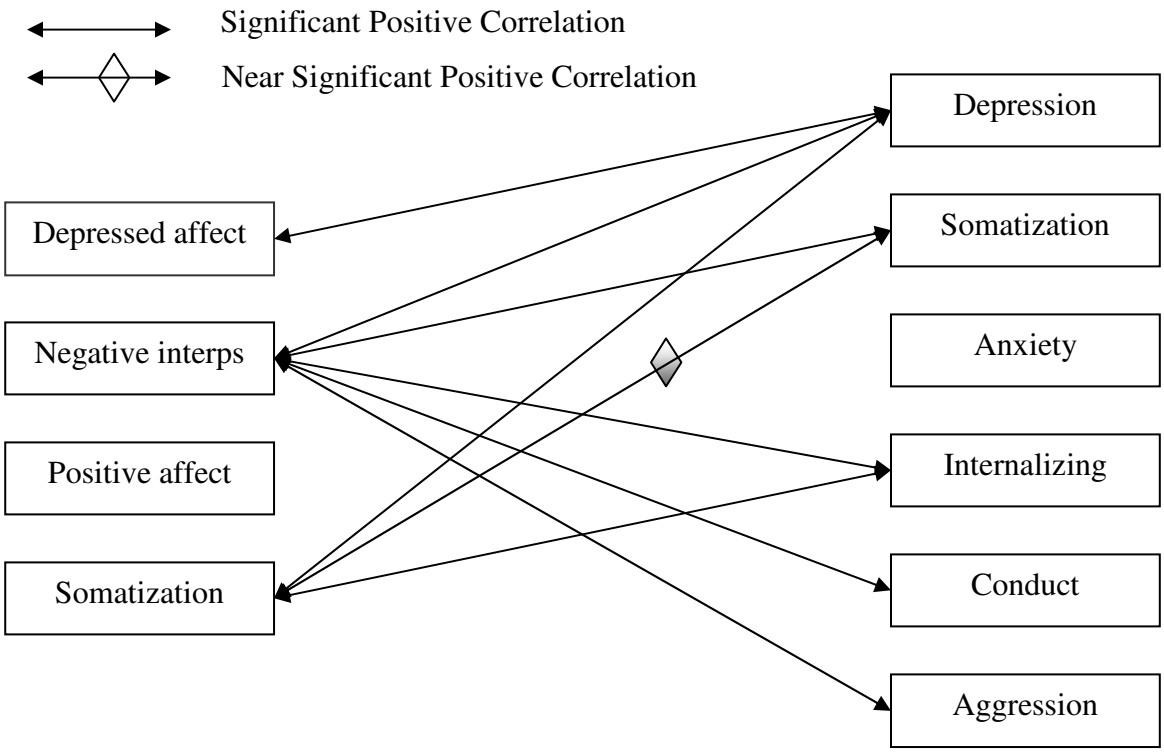

Figure 2. Correlations between mother depressive symptoms and child symptoms

correlated with mothers' distress reactions. Mothers' reports of negative interpersonal interpretations were positively correlated with distress reactions, invalidating responses, and minimizing responses (with near significance). Somatic symptoms experienced by mothers predicted mothers' distress reactions to their children's negative emotions.

Mother Depressive Symptoms and Mother Response to Child Emotion

Because previous research supported the assumptions that mothers' depressive symptoms would predict their responses to their children's emotions (e.g., Downey &

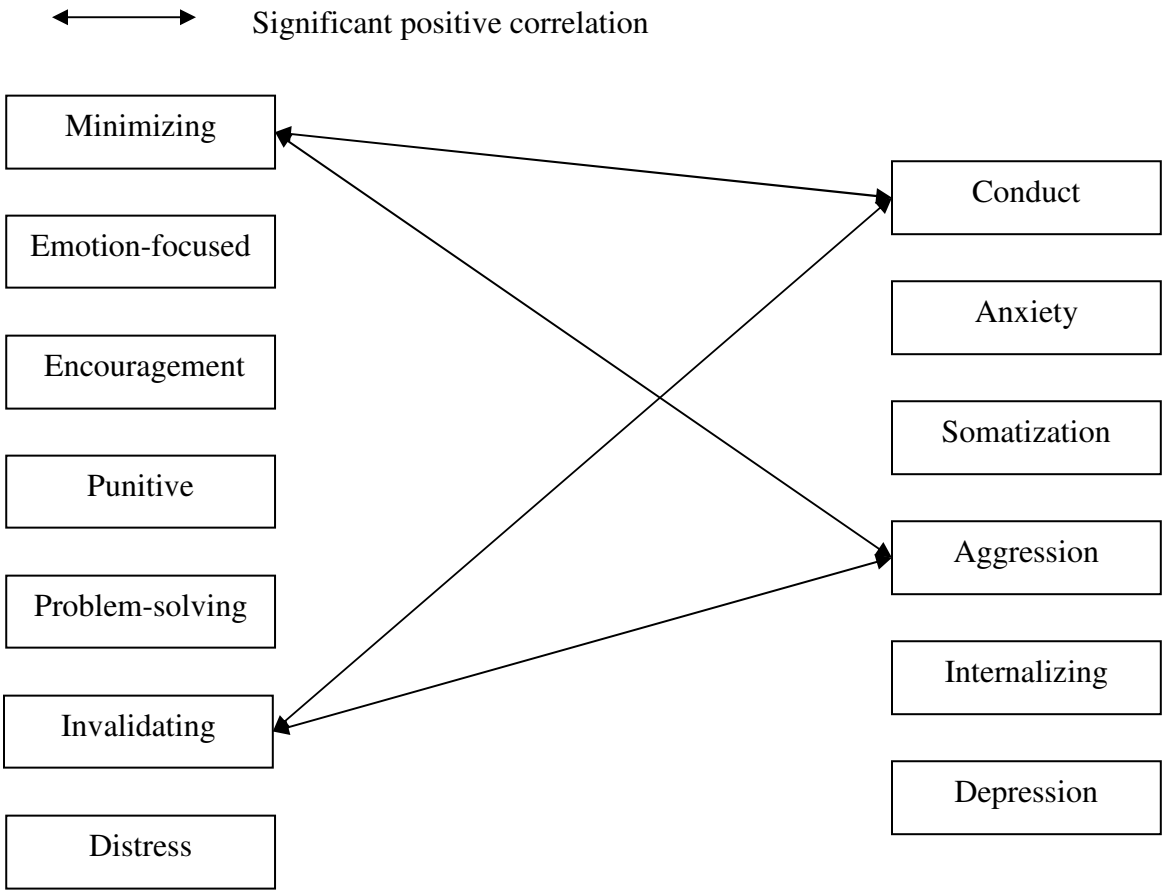

Figure 3. Significant positive correlations between mother response to child emotion and child symptoms

Coyne, 1990; Lahey et al., 1984) the lack of significance found in analysis of hypothesis 2 was unexpected. However, much of the literature regarding the relation between parent

depression and response to child emotion examined narrower aspects of depression, most notably the parents' interpretations of and affect in response to children's displays of negative emotion (e.g., Krech & Johnston, 1992). Results from exploratory analyses in

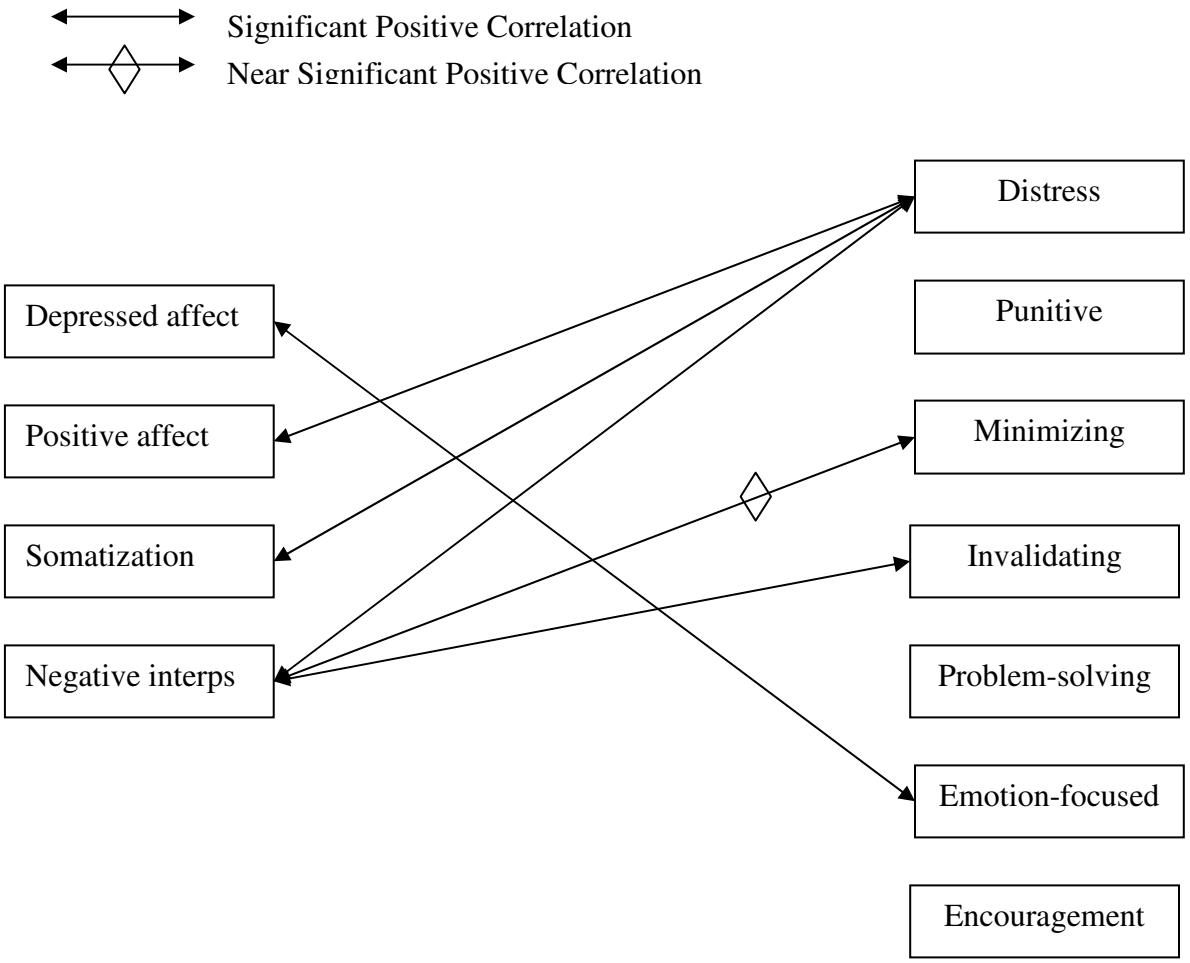

Figure 4. Significant positive correlations between mother depressive symptoms and mother response to child emotion

the current study were consistent with this prior research in delineating the importance of mothers' negative interpersonal interpretations in predicting mothers' responses to child

emotion. In fact, in the current study, the negative interpersonal interpretations subscale proved to have more influence than did the other subscales of the CES-D on mother response to child display of negative emotion. Negative interpersonal interpretations predicted mothers' distress reactions, use of minimizing responses, and use of invalidating responses when their children displayed upsetting emotions.

The fact that negative interpersonal interpretations influenced mothers to respond in less helpful ways to their children during their children's expressions of negative emotions fits with Downey and Coyne's (1990) conclusion that depressed parents use highly controlled efforts to quickly end their children's expression of negative emotion. Although both the current research and Downey and Coyne's research indicate that depressive symptoms influence mothers to respond to child negative emotion with invalidation, Downey and Coyne did not provide detail into the specific depressive symptoms that might be influencing the parents' decisions to choose highly controlled responses. The results of the current study, therefore, add depth to Downey and Coyne's findings by suggesting that parents' interpersonal interpretations are influential in the parents' desires to quickly end children's displays of negative emotions. There are multiple possibilities for why mothers' negative interpersonal interpretations might have a unique influence on mothers' responses to children's negative emotions.

The negative interpersonal interpretations subscale consists of two items: "People were unfriendly," and "I felt that people disliked me." Perhaps parents who are more apt to think that people in general have malevolent intentions are more likely to believe that their children are acting out of ill will toward the parents. Believing that their children do not like them is typically difficult for parents, which possibly influences them to choose

to quickly end the display of the negative emotion which they are interpreting as personally offensive. Research supports the assertion that parents who interpret their children's behavior as a personal affront respond to children in different ways than do parents that do not negatively interpret their children's behaviors. For example, Helfer, McKinney, and Kempe (as cited in Rosenberg & Reppucci, 1983) found that abusive parents were more likely than were non-abusive parents to interpret their children's crying as critical toward or accusatory of the parents.

GST also asserts that, because each person is a system, the attributions a parent makes in a situation will influence the responses of that parent. Parents may incorporate their children's displays of negative emotion as feedback that the child is acting with malevolent intentions. As the parents attribute negative intentions to their children's actions, the parents may react negatively toward their children. The children, then, might react to this new feedback in the system and act out against their parents. This acting out against the parents could in turn reinforce the parents' negative interpersonal interpretations, thereby creating a positive feedback loop as information in the system is used to influence a change in interactions within the system. Thus, theory about feedback loops, as well as previous research, indicates that parents' interpretations of children's behaviors influence parents' responses, and the current study seems to offer additional and more specific knowledge that the ways parents interpret their children's behaviors during expressions of negative emotions predict parents' responses to their children's displays of negative emotions.

An additional reason the negative interpersonal interpretations subscale might have more strongly predicted mothers' unhelpful responses to children's displays of

negative emotion, when compared to the other subscales of the CCNES, is the negative interpersonal interpretations subscale seems more closely tied to interactions than do the other subscales. The other subscales of the CES-D measure intrapersonal constructs, rather than the interpersonal construct measured by the negative interpersonal interpretations subscale. Because parents' responses to children's negative emotions are carried out during interactions with their children, interpersonal effects of depression might have a stronger influence on chosen responses than would intrapersonal effects of depression.

The finding that mothers' depressed affect was positively correlated with their use of emotion-focused responses to children's displays of negative emotion was unexpected. Gottman (1997) described emotion-focused responses as requiring a concerted effort and patience by parents. The positive association between depressed affect and emotion-focused responses seems to contradict Downey and Coyne's (1990) assertion that depressed parents seek quick solutions to alter their children's behaviors. An examination of the questions in the emotion-focused subscale of the CCNES helps explain this counterintuitive finding. Questions such as "distract my child by talking about all the fun he/she will have with his/her friend" and "comfort my child and try to get him/her to forget about the accident" (comprising the emotion-focused subscale) seem to, although focused on emotion, indicate that the parents using these responses are in fact attempting to end the negative emotion by guiding children very quickly to focus on and express positive emotions. Although these responses are focused on emotion as Gottman recommends, they seem to be theoretically similar to the invalidating responses in that they aim to end the display of the child's negative emotion by switching the

child's focus from upset to positive emotions. Thus, mothers feeling consumed by depressive affect might be drawn to these responses that help end children's negative expression by replacing the negative displays with positive expressions of emotion.

Mother Depressive Symptoms and Child Symptoms

The current study provided support for the hypothesized relation between mother depressive symptoms and child internalizing problems. Because this relation was supported by previous research (e.g., Duggal et al., 2001; Leinonen et al., 2003; Solantaus-Stimula et al., 2002), the current study's support of the hypothesis provides confidence in the data. Additional significant associations were found between mother's depressive symptoms and children's symptoms when the variables were further explored in post-hoc analyses, providing further support for the relation between mother's depressive symptoms and children's symptoms.

Again, mother's negative interpersonal interpretations had the strongest influence in that the subscale predicted more child symptoms than did the other subscales of mother's depressive symptoms. This is likely due to the effects that these negative interpersonal interpretations have on the ways mothers interact with their children and other people. A modeling effect might be occurring, in that mothers' behaviors could be unique when interacting with people to whom they are attributing malevolent intentions. Children may then notice their mother's distrusting nature during interactions with others and may also adopt negative views about people's interactions with them. As children believe that people are interacting with them in a negative, personally affrontive manner, they may adopt more negative self-perceptions and become more symptomatic.

Harsher parenting practices may also be more likely for mothers with negative interpersonal interpretations than for mothers mostly experiencing the other subscales of depressive symptoms. The other subscales of the CES-D, such as depressed affect and somatization, might be more predictive of mothers distancing from their children and becoming more self-consumed as their depressed mood or anxious feelings flood them, but negative interpersonal interpretations might be more likely to influence mothers to become upset at their children and interact more harshly.

Mother Response to Child Emotion and Child Symptoms

Although both minimizing and punitive responses (combined into the invalidating subscale) were hypothesized to affect children's symptoms, only mother's minimizing and invalidating responses predicted children's symptoms. Mother's minimizing and invalidating responses to children's displays of negative emotion each predicted children's conduct problems and aggression. Discounting children's emotional experiences affects children, apparently even more so than does punishing children for their emotional expressions.

Although these data suggest that minimizing responses affect children more so than do punitive responses, punitive responses may adversely affect children even though the current data did not reveal such findings. Possibly, mothers in the study reported less use of the punitive responses than occur in actuality. The questions within the punitive subscale of the CCNES might appear so harsh to the mothers that they were hesitant to admit to such response choices. Questions such as "tell the child that if he/she doesn't stop that he/she won't be allowed to go out anymore" and "scold my child for being insensitive to the friend's feelings" might have been interpreted as socially undesirable

responses to the mothers in this study. Additionally, parents may have read the severe language (such as "scold" and not be able to go out "anymore") and thought those responses were more severe than and not reflexive of the punitive responses they use in actuality. Thus, in reading the punitive statements in the CCNES, mothers may not have recognized the responses they use with their children as punitive because their responses were interpreted as less severe than the punitive choices provided in the vignettes. Possibly, then, mothers in the current study use punishment in response to their children's negative emotion more often than they reported doing so.

A comparison of the means of each CCNES subscales (punitive responses M = 1.915, distress reactions M = 2.163, expressive encouragement M = 3.804, emotion-focused M = 4.116, problem-solving M = 4.194, minimizing M = 2.144) revealed that punitive responses were not chosen much less often than were minimizing responses. However, what may be occurring is not so much that mothers reported punitive responses less than they did minimizing responses, but that they reported using punitive responses less than they actually use punitive responses. In Berlin and Cassidy's (2003) study, which indicated that mother's responses to children's emotions leads to internalizing problems, an observational assessment of mothers' responses was included so as to better ensure that the responses to child emotion most often used by mothers were identified. Thus, a discrepancy in actual versus self-reported use of punitive responses could have altered the results of the current study.

Mothers' minimizing and invalidating responses to children's displays of negative emotion predicted only children's externalizing problems rather than also predicting internalizing problems. Possibly feeling discounted by their parents at a time when they

are being emotionally vulnerable is so offensive to children that they act out using hostile behaviors. Children, perhaps, become very angry, even more than sad or anxious, when they feel invalidated by their parents, thus may externalize as opposed to internalize the emotion. Eisenberg and Fabes (1994) concluded that children who are invalidated during displays of emotional expression are likely to experience emotional overarousal and avoidant coping. This overarousal or avoidance of addressing the emotion may manifest in acting out behaviors rather than internalizing.

One difference between the current study and many previous studies (e.g., Eisenberg & Fabes, 1994; Eisenberg et al., 1996) is the use of mother-report measures of child internalizing problems, which was used in these previous studies. In research using mother-report of child symptoms, the information about children's symptoms and mothers' reactions to children's emotions both came from the same source (i.e., shared method variance). Having the same person who is affected by the child's display of emotion report about the child's symptoms may lead to different results than having one source report about child symptoms and a different source report about reactions to child behaviors. Perhaps mothers that are apt to use minimizing or invalidating responses are also likely to negatively interpret their children's displays of negative emotion. Therefore, it is possible that when using mother-report of children's internalizing symptoms, results are more likely to indicate a positive correlation between mothers' invalidating responses to children and children's internalizing symptoms as these mothers may interpret more behaviors as indicative of internalizing problems than would an outside source.

Parent Response to Child Emotion as a Mediator

After finding significant correlations between mothers' negative interpersonal interpretations and mothers' invalidating responses to children's negative emotions and between mothers' invalidating responses and children's conduct problems (and the same correlations with children's aggression as the outcome variable), further exploratory analyses were conducted to test if mothers' invalidating responses to children's emotions would mediate the relation between mother's interpersonal interpretations and children's conduct problems (and aggression). The analyses failed to support mediation.

The lack of mediational effects may be because parent negative interpersonal interpretations, although related to parent response to child emotion, may have much broader effects on parenting. These interpretations may predispose a parent to be harsher in all domains of the parent-child relationship rather than just or primarily in response to child emotion. Therefore, general parenting styles, more so than responses to emotion, affected by these negative interpretations may be influencing the relation between mother symptoms and child symptoms. As previously considered, mother's who have negative interpersonal interpretations of others may also hold more negative interpretations of their children's intentions and behaviors. Therefore, mothers who interpret behaviors as an interpersonal affront may be upset specifically at their children (as opposed to merely being upset by the negative emotions) and, as a result, may use harsher discipline practices with their children. Solantaus-Stimula et al. (2002) found general paternal punitive parenting practices to mediate the relation between parent depressive symptoms and child internalizing problems. Additionally, Snyder, Cramer, Afrank, and Patterson (2005) found that the relation between parents' irritable discipline and children's conduct

problems was moderated by parent's hostile attributions of children's behaviors. Thus, while mothers' invalidating responses to children's emotional expression predicted children's conduct problems and aggression, it may be that the mediator of the relation between mothers' negative interpersonal interpretations and child externalizing behaviors is reactive discipline practices or more general punitive parenting practices.

Clinical Applications

Although much of the analyses in this study were exploratory and the results should be viewed with caution, there are several potential implications for the findings related to the influence of mothers' depressive symptoms as well as their responses to children's emotion on children's symptoms. Results of the current study indicating that mothers' responses to children's emotions predict children's symptoms support the need for intervention into interpersonal dynamics between subsystems, and results of the current study indicating that mothers' depressive symptoms predict their responses to children's emotions support the need for clinical attention to focus on intrapersonal dynamics within individuals in a system. Thus, when children or families present for therapy, even if family members contend the problem lies solely within a child, clinicians would be wise to assess for and treat the parent-child relationship system as well as the intrapersonal subsystems.

In treating various subsystems, intervening at both the interpersonal and intrapersonal levels seems especially important when assessing for and intervening on the effects of mothers' negative interpersonal interpretations. Researchers have found people's internal feelings (such as sadness; Niedenthal, Halberstadt, & Setterlund, 1997; and anxiety; Blanchette & Richards, 2003) to affect their interpretations of ambiguous

situations, thereby showing the importance of intervening at the intrapersonal level so as to affect the interplay between interpretations and feelings. Garratt, Ingram, Rand, and Sawalani (2007) conducted a literature review and reported that changing cognitive processes (through, in their research, Cognitive Behavioral Therapy) is important in altering depressive symptoms. Therefore, treatment into the cognitive processes and attributions of parents can be beneficial in treating the parents' depressive symptoms.

Just as these intrapersonal processes within mothers are important areas of clinical attention, the interactional processes between mothers and children during times when the children are displaying negative emotions should also be assessed and subsequently treated if assessments confirm a need. This is because mother variables predicted child variables in the current study. Parent-child interactions can be improved through working with the parents during parenting groups. Havinghurst, Harley, and Prior (2004) designed interventions and implemented a parenting group for parents of four- and five-year-old children. Pre- and post-test assessments using the CCNES indicated that the parenting group resulted in significantly greater use of emotion-focused, expressive encouragement, and problem-solving responses to children's displays of negative emotions. The pre- and post-tests also indicated that the use of minimizing and punitive responses as well as distress reactions decreased at the end of the parenting program. Thus, parents' positive responses to children's displays of negative emotions can be a learned behavior. Working to alter unhelpful interactions during children's displays of negative emotions is beneficial because, as also demonstrated through pre- and post-tests during Havinghurst et al.'s parenting groups, changes in parents' responses to their children's expression of negative emotion resulted in changes in children's

symptoms, including fewer conduct problems, ADHD symptoms, and oppositional defiant behaviors. Consequently, outcome studies provide reason to devote clinical attention to altering parents' responses to and interpretations of children's emotional expression.

Parent-child joint therapy can also be an effective means of altering interactional processes and improving symptoms. Diamond and Siqueland (1995) reported on studies that have examined the efficacy of family therapy (most notably Behavioral Family Therapy) in the treatment of both parent depression and child depression. According to their report, studies have established the usefulness of interpersonal, family therapy approaches for child externalizing problems as well as for alleviation of parent and child depressive symptoms. Tompson et al. (2007) conducted a study to examine the effectiveness of family therapy for abating child depressive symptoms. Family therapy was conducted (12-16 sessions) with families that had a child between the ages of 8- and 12-years-old. The treatment approach was a combination of family systems and cognitive behavioral perspectives, and treatment was aimed at altering unhelpful patterns of interaction between family members. Clinicians explained to family members that interpersonal processes were related to emotional expression. The concept of emotional spirals was explained to families, which is a systemic notion demonstrating the mutual influence that parents and children have on each other. An example of an emotional spiral is when a mother's upset mood influences her to snap at her child, which influences the child to express upset, which influences the mother to feel bad and yell at the child, which influences the child to cry, which then influences the mother to experience guilt. In addition to being taught about such systemic influences on interactions, family members

had opportunities to practice improved ways of interacting. Results indicated that, at the end of treatment, 66% of the children no longer had depression, and 77% of the children no longer met the criteria for depression at a 9-month follow up from treatment. These studies support the belief that joint parent-child therapy can be beneficial for improving both parent and child symptoms.

Just as each mother is a system within herself as well as a member of subsystems, so too is each child. Therefore, clinical attention to help with child symptoms may also be focused on child intrapersonal in addition to the aforementioned interpersonal processes. Several researchers have concluded that mothers' responses to their children's displays of negative emotion predict the children's avoidant coping, emotional overarousal, and lack of effective emotion-regulation (e.g., Berlin & Cassidy, 2003; Eisenberg & Fabes, 1994; Eisenberg et al. 1996). As children become internally overaroused, they may act out or develop internalizing problems (Krause et al., 2003).These findings can partially direct the focus of intrapersonal work with children. Clinical attention can be spent on helping children better regulate and cope with their emotions. Children can learn in therapy how to effectively express and manage their feelings when they are feeling emotionally overaroused. Kovacs et al. (2006) reported that therapy with depressed children aimed at enhancing emotion regulation and expression is a successful means of helping children. Clinicians seem to be well-advised, therefore, to focus some clinical attention on the development and enhancement of children's emotion-regulation, both as an internal skill and an interpersonally influenced reaction, as this ability to regulate oneself seems to affect child symptoms. This clinical attention could benefit children due to the positive effects of enhancing emotion-regulation as well as benefit parents and parent-child

relationships because children's regulation has been found to influence parents' perceptions of and feelings about children's behaviors (Roberts & Strayer, 1987).

Future Research Suggestions and Limitations of the Current Study

Many of the current study's findings were drawn from post-hoc analyses, thereby supplying reason to examine ways to make future hypotheses-driven studies stronger. Because research supported the chosen hypotheses for the current study, there is reason to assume that future research would find significance where the current study did not. Therefore, future researchers should aim to continue similar investigations into the relations between mothers' symptoms, mothers' responses to children's displays of negative emotions, and children's symptoms. Specifically, future researchers could examine, through hypotheses-driven research as opposed to exploratory analyses, the mediating effects of mothers' invalidating responses to children's negative emotion on the relations between mothers' negative interpersonal interpretations and children's conduct problems and between mothers' negative interpersonal interpretations and children's aggression. In doing so, future research might consider using a *z*- score of .97 rather than 1.96 to indicate significance, as Mackinnon et al. (2002) suggest the *z*- score of 1.96 is overly conservative.

The leg of the proposed model with the least amount of empirical support is the link between mother depressive symptoms and mother response to displays of negative emotion. As a result, it would be important for future research to focus on furthering knowledge about the relation between these two variables. This research could be strengthened by using additional measures of mother response to child emotion beyond the CCNES because of the already considered possibility that the emotion-focused

responses are, in effect, measuring parent behaviors that are similar to the invalidating responses and because of the possibility that parents report less use of punitive responses than they actually use.

An observational measure should be included in future research. An observational measure would be especially beneficial in assessing for mothers' responses to children's displays of negative emotions. Participants in the current study reported a greater likelihood to use the positive responses to children's negative emotions (e.g., expressive encouragement and problem-solving responses) than they did the negative responses (e.g., minimizing, punitive, and distress reactions). It might be possible that mothers are not attuned to the responses they use during the height of a negative emotional expression from their children. This might be especially true for mothers experiencing depressive symptoms. Parents with depression have been found, through previous research, to be unaware of their children's needs (e.g., Broth et al., 2004). If parents are unaware of what their children need, the parents may be less likely to recognize that their responses are unhelpful for their children. Additionally, as a result of their depressive symptoms, parents may also lack awareness into their own behaviors. Aside from lack of awareness, mothers in the current study might have underreported the use of the invalidating responses to children's displays of negative emotion as part of a desire to provide socially acceptable answers. Social desirability could be affecting the current study's results; to strengthen future research, an observational measure should be included or, at minimum, a scale measuring social desirability.

Researchers have discovered that a very low percentage of people with depressive symptoms seek treatment. For example, Preston (2003) reported that a mere 25% of

people with major depression seek treatment for the disorder. Because the current study and previous research (e.g., Lebow, 2004) have indicated that parent depressive symptoms predict child problems and because of research indicating that treatment helps alleviate depressive symptoms, future research should examine ways to increase help-seeking behaviors for parents experiencing depressive symptoms.

The mediating effect of mothers' invalidating responses to children's negative emotional expressions on the association between mothers' depressive symptoms and children's internalizing symptoms remains unsupported. As future research examines the mediational effects of parent response to child displays of negative emotion, more complex models might need to be considered. For instance, studies could examine a larger variety of child externalizing and internalizing problems. Measuring child symptoms from multiple sources could also aid future studies. Additionally, variables could be tested for moderating effects on the relation between parent depressive symptoms and child symptoms. McLeod, Weisz, and Wood (2007) conducted a meta-analysis examining the relation between parent depression and child depression and discovered many moderators. Parents' rejection and control moderated the relation between parent depression and child depression. Methodological factors were also found to moderate the relation between parent depression and child depression. Such methodological factors included the rater of the child symptoms, the assessment used to measure depression, the assessment timeframe, and the method of measurement of depression (i.e., observational, interview, or self-report; McLeod et al.). Future research could look for similar moderating factors while extending the outcome variable from simply child depression to child internalizing and/or externalizing symptoms.

Several factors indicate that the sample in the current study may not be fully representative of parents of first grade children in the general population. Participants of this study consented to be in a program addressing physical health, weight, and healthy lifestyle decisions, so participants may have unique qualities influencing their to desire to be a part of the larger FiSH study. Some of the mothers in the current study also were involved in parent-education groups through the FiSH project. The current study used only pre-intervention data, so the actual intervention would not have affected the data. However, because many of the mothers that were a part of the parent-education group returned their questionnaires to FiSH staff who were facilitating the parent-education groups, the mothers may have been more influenced by social desirability than they would have been had they not had a relationship with the people to whom they returned their questionnaires. Partially as an attempt to decrease this possibility, no identifying information was included on the parent questionnaires; however, the very fact of knowing their questionnaires were being handed to their own group leaders may have influenced mothers to adhere more strictly to socially desirable ideals while providing their responses. Future research should gather mother self-report information independent of any intervention groups or group leaders.

The ethnic distribution of the current study's sample was not representative of the general population of mothers of first grade children. The ethnicity distribution of mothers in this sample was: 66.8% Caucasian, 15.3% Native American, 4.0% Multiethnic, and 1.1% Hispanic. Ethnicities other than Caucasian and Native American were underrpreresented in the current study, thus decreasing generalizability of results. Mothers of minority ethnicities encounter unique stressors and might respond to their

children in different ways than do mothers that are not faced with these distinctive stressors. Especially because research has established that depressed parents interpret and cope with stressors in a unique way (Krech & Johnston, 1992), future research should investigate similar variables with a more representative sample.

Conclusion

Previous empirical studies guided hypotheses of the current study which included significant positive correlations between mothers' depressive symptoms and children's internalizing problems, between mothers' depressive symptoms and mothers' invalidating responses to displays of negative emotions by their children, and between mothers' invalidating responses to children's displays of negative emotions and children's internalizing problems. Additionally, a mediating effect of mothers' invalidating responses to children's negative emotions was hypothesized for the relation between mothers' depressive symptoms and children's internalizing problems. Results supported the hypothesis of the significant positive correlation between mothers' depressive symptoms and children's internalizing problems, but results failed to support the remaining hypotheses.

Post-hoc analyses, on the other hand, did provide support for many associations between mothers' depressive symptoms, mothers' responses to children's displays of negative emotions, and children's symptoms. The current study's results suggest areas of unique contributions to the research on parent-child relations, most notably that mothers' negative interpersonal interpretations seem to largely influence mothers' responses to children's displays of negative emotions and children's symptoms. This distinctive finding can guide future research studies, as more information can be gleaned about the

influence of parents' negative interpretations. As more information about this subset of depressive symptoms is established as related to the effects on child symptoms, future research could investigate the mediating influences on established relations. The current study confirmed and strengthened understanding about the important influence mothers have on their young children.

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APPENDIX A

CCNES

ID: _____ Date: _____

Instructions: In the following items, please indicate on a scale from very unlikely to very likely the likelihood that you would respond in the ways listed for each item. Please read each item and respond as honestly and sincerely as you can. For each response, check the box that corresponds with the best answer.

1. If my child becomes angry because he/she is sick or hurt and can't go to his/her friend's birthday party, I would…

	Very Unlikely	**Unlikely**	**Medium**	**Likely**	**Very Likely**
a. send my child to his/her room to cool off.					
b. get angry at my child.					
c. help my child think about ways that he/she can still be with friends (e.g., invite some friends over after the party).					
d. tell my child not to make a big deal out of missing the party.					
e. encourage my child to express his/her feelings of anger and frustration.					
f. soothe my child and do something fun with him/her to make him/her feel better about missing the party.					

2. If my child falls off his/her bike and breaks it, and then gets upset and cries, I would…

	Very Unlikely	**Unlikely**	**Medium**	**Likely**	**Very Likely**
a. remain calm and not let myself get anxious.					
b. comfort my child and try to get him/her to forget about the accident.					
c. tell my child that he/she is over-reacting.					
d. help my child figure out how to get the bike fixed.					
e. tell my child it's OK to cry.					
f. tell my child to stop crying or he/she won't be allowed to ride his/her bike anytime soon.					

3. If my child loses some prized possession and reacts with tears, I would…

	Very Unlikely	Unlikely	Medium	Likely	Very Likely
a. get upset with him/her for being so careless and then crying about it.					
b. tell my child that he/she is over-reacting.					
c. help my child think of places he/she hasn't looked yet.					
d. distract my child by talking about happy things.					
e. tell him/her it's OK to cry when you feel unhappy.					
f. tell him/her that's what happens when you're not careful.					

4. If my child is afraid of injections and becomes quite shaky and teary while waiting for his/her turn to get a shot, I would…

	Very Unlikely	Unlikely	Medium	Likely	Very Likely
a. tell him/her to shape up or he/she won't be allowed to do something he/she likes to do (e.g., watch TV).					
b. encourage my child to talk about his/her fears.					
c. tell my child not to make a big deal of the shot.					
d. tell him/her not to embarrass us by crying.					
e. comfort him/her before and after the shot.					
f. talk to my child about ways to make it hurt less (such as relaxing so it won't hurt or taking deep breaths).					

5. If my child is going over to spend the afternoon at a friend's house and becomes nervous and upset because I can't stay there with him/her, I would…

	Very Unlikely	Unlikely	Medium	Likely	Very Likely
a. distract my child by talking about all the fun he/she will have with his/her friend.					
b. help my child think of things that he/she could do so that being at the friend's house without me wasn't scary.					
c. tell my child to quit over-reacting and being a baby.					
d. tell the child that if he/she doesn't stop that he/she won't be allowed to go out anymore.					
e. feel upset and uncomfortable because of my child's reactions.					
f. encourage my child to talk about his/her nervous feelings.					

6. If my child is participating in some group activity with his/her friends and proceeds to make a mistake and then looks embarrassed and on the verge of tears, I would…

	Very Unlikely	Unlikely	Medium	Likely	Very Likely
a. comfort my child and try to make him/her feel better.					
b. tell my child that he/she is over-reacting.					
c. feel uncomfortable and embarrassed myself.					
d. tell my child to straighten up or we'll go home right away.					
e. encourage my child to talk about his/her feelings of embarrassment.					
f. tell my child that I'll help him/her practice so that he/she can do better next time.					

7. If my child is about to appear in a recital or sports activity and becomes visibly nervous about people watching him/her, I would…

	Very Unlikely	Unlikely	Medium	Likely	Very Likely
a. help my child think of things that he/she could do to get ready for his/her turn (e.g., to do some warm-ups and not to look at the audience.).					
b. suggest that my child think about something relaxing so that his/her nervousness will go away.					
c. remain calm and not get nervous myself.					
d. tell my child that he/she is being a baby about it.					
e. tell my child that if he/she doesn't calm down, we'll have to leave and go home right away.					
f. encourage my child to talk about his/her nervous feelings.					

8. If my child receives an undesirable birthday gift from a friend and looks obviously disappointed, even annoyed, after opening it in the presence of the friend, I would…

	Very Unlikely	Unlikely	Medium	Likely	Very Likely
a. encourage my child to express his/her disappointed feelings.					
b. tell my child that the present can be exchanged for something the child wants.					
c. NOT be annoyed with my child for being rude.					
d. tell my child that he/she is over-reacting.					
e. scold my child for being insensitive to the friend's feelings.					
f. try to get my child to feel better by doing something else.					

9. If my child is panicky and can't go to sleep after watching a scary TV show, I would…

	Very Unlikely	Unlikely	Medium	Likely	Very Likely
a. encourage my child to talk about what scared him/her.					
b. get upset with him/her for being silly.					
c. tell my child that he/she is over-reacting.					
d. help my child think of something to do so that he/she can get to sleep.					
e. tell him/her to go to bed or he/she won't be allowed to watch any more TV.					
f. do something fun with my child to help him/her forget about what scared him/her.					

10. If my child is at a park and appears on the verge of tears because the other children are mean to him/her and won't let him/her play with them, I would…

	Very Unlikely	Unlikely	Medium	Likely	Very Likely
a. NOT get upset myself.					
b. tell my child that if he/she starts crying then we'll have to go home right away.					
c. tell my child it's OK to cry when he/she feels bad.					
d. comfort my child and try to get him/her to think about something happy.					
e. help my child think of something else to do.					
f. tell my child that he/she will feel better soon.					

11. If my child is playing with other children and one of them calls him/her names, and my child then begins to tremble and become fearful, I would…

	Very Unlikely	Unlikely	Medium	Likely	Very Likely
a. tell my child not to make a big deal out of it.					
b. feel upset myself.					
c. tell my child to behave or we'll have to go home right away.					
d. help my child think of constructive things to do when other children tease him/her (e.g., find other things to do).					
e. comfort him/her and play a game to take his/her mind off the upsetting event.					
f. encourage him/her to talk about how it hurts to be teased.					

12. If my child is shy and scared around strangers and consistently becomes teary and wants to stay in his/her bedroom whenever family friends come to visit, I would…

	Very Unlikely	Unlikely	Medium	Likely	Very Likely
a. help my child think of things to do that would make meeting my friends less scary (e.g., to take a favorite toy with him/her when meeting my friends).					
b. tell my child that it is OK to feel nervous.					
c. try to make my child happy by talking about the fun things we can do with our friends.					
d. feel upset and uncomfortable because of my child's reactions.					
e. tell my child that he/she must stay in the living room and visit with our friends.					
f. tell my child that he/she is being a baby.					

APPENDIX B

CES-D

ID: _____ Date: _____

Instructions: Below is a list of the ways you might have felt or behaved. Please tell me how often you have felt this way **during the past week**.

	Rarely or none of the time (< 1 day)	**A little or some of the time (1-2 days)**	**Occasionally or a moderate amount of time (3-4 days)**	**Most or all of the time (5-7 days)**
1. I was bothered by things that usually don't bother me.				
2. I did not feel like eating; my appetite was poor.				
3. I felt that I could not shake off the blues even with help from my family or friends.				
4. I felt that I was just as good as other people.				
5. I had trouble keeping my mind on what I was doing.				
6. I felt depressed.				
7. I felt that everything I did was an effort.				
8. I felt hopeful about the future.				
9. I thought my life had been a failure.				
10. I felt fearful.				
11. My sleep was restless.				
12. I was happy.				
13. I talked less than usual.				
14. I felt lonely.				
15. People were unfriendly.				
16. I enjoyed life.				
17. I had crying spells.				
18. I felt sad.				
19. I felt that people disliked me.				
20. I could not get "going."				

APPENDIX C

The Internalizing Problems Questions of the BASC-2

Instructions: Listed below are phrases that describe how children may act. Please read each phrase, and mark the response that describes how this child has behaved recently (in the last several months).

Subscale	Item	Never (1)	Sometimes (2)	Often (3)	Almost Always (4)
Anxiety	Worries about things that cannot be changed.				
	Says, "I get nervous during tests or "Tests make me nervous."				
	Is nervous				
	Says, "I'm afraid I will make a mistake."				
	Worries about other children think.				
	Is fearful.				
	Worries.				
Depression	Says, "I hate myself"				
	Seems lonely				
	Says, "I want to die" or "I wish I were dead."				
	Says, "Nobody likes me."				
	Is easily upset.				
	Is sad.				
	Is negative about things.				
	Cries easily.				
	Is pessimistic.				
	Complains about being teased.				
	Says, "I don't have friends."				
Somatic	Complains about health.				
	Has headaches.				
	Visits the school nurse.				

	Has stomach problems.				
	Has fevers.				
	Complains of shortness of breath.				
	Complains of pain.				
	Is afraid of getting sick.				
	Gets sick.				
Aggression	Argues when denied own way				
	Threatens to hurt others				
	Loses temper too easily				
	Defies teachers				
	Bullies others				
	Seeks revenge on others				
	Calls other children names				
	Annoys others on purpose				
	Hits other children				
	Teases others				
Conduct	Breaks the rules				
	Disobeys				
	Sneaks around				
	Steals at school				
	Cheats in school				
	Uses others' things without permission				
	Deceives others				
	Lies				
	Gets into trouble				

VITA

Cynthia Michelle McConnell

Candidate for the Degree of

Master of Science

Thesis: MEDIATING EFFECT OF MOTHER INVALIDATION ON THE RELATION BETWEEN MOTHER DEPRESSION AND CHILD INTERNALIZING PROBLEMS

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Scope and Method of Study: Through the current study, it was hypothesized that mothers' invalidating responses to child negative emotion would mediate the relation between mother's depressive symptoms and children's internalizing problems (hypothesis 4). Significant relations were hypothesized between mothers' depressive symptoms and children's internalizing problems (hypothesis 1), mothers' invalidating responses to child negative emotion and children's internalizing problems (hypothesis 2), and mothers' depressive symptoms and mothers' invalidating responses to child negative emotion (hypothesis 3). Mothers' depressive symptoms and responses to child negative emotion were measured using self-report assessments. Teacher-report data was gathered to measure children's symptoms. Pearson product moment correlations were conducted, and the Sobel test was used to assess for mediation.

Findings and Conclusions: Of the hypothesized relations, only the association between mothers' depressive symptoms and children's internalizing problems was supported. Exploratory analyses were conducted, with several significant correlations resulting. For example, mothers' negative interpersonal interpretations (a subscale of depressive symptoms) predicted children's depressive symptoms, somatic symptoms, internalizing problems, conduct problems, and aggression. Mothers' negative interpersonal interpretations also predicted mothers' distress reactions as well as minimizing and invalidating responses to child negative emotion. Mothers' minimizing and invalidating responses to child emotion predicted child conduct problems and aggression. Mothers' reports of depressive affect were positively correlated with their emotion-focused responses to child negative emotion. Mothers' negative interpersonal interpretations had the strongest influence, when compared with the other subscales of mothers' depressive symptoms, on mothers' responses to child negative emotion and on children's symptoms. Clinical applications are discussed, including the need for both intrapersonal and interpersonal interventions. Future research is also discussed.

ADVISER'S APPROVAL: Glade L. Topham, Ph.D.