CHILD EMOTION REGULATION AS A MEDIATOR OF THE ASSOCIATION BETWEEN MATERNAL NEGATIVE RESPONSE TO EMOTION AND CHILD PROBLEM BEHAVIORS

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Abstract: Previous research supports a link between negative parent responses to emotion expression and poor emotion regulation in children. Additionally, previous research has demonstrated a link between child internalizing and externalizing behaviors and parent negative responses to child emotion as well as poor child emotion regulation. The purpose of the present study was to investigate whether child emotion regulation mediates the relation between mothers' negative response to child emotion expression and child internalizing and externalizing behaviors, a relation not yet examined in prior studies. Two hundred and eight 1st graders (53% female) were followed longitudinally through 2nd grade. During children's first grade year mothers (81.6% Caucasian, 14% Native American, and 4.4% Other) completed the Coping with Child Negative Emotion Scale (CCNES). During children's 2nd grade year they were interviewed at their school using the Child Emotion Management Scale (CEMS) – Anger and Worry, their mothers completed the CEMS and Child Behavior Questionnaire (CBQ), and teachers and mothers completed the Behavior Assessment System for Children, Second Edition (BASC-II). As hypothesized child emotion regulation (parent but not child report) was found to mediate the relation between mothers' negative response to their children's emotions and both child internalizing and externalizing behaviors (mother but not teacher report). Specifically, poor child anger coping and worry coping were found to mediate the relation between maternal punishing of emotions and child internalizing and externalizing behaviors. Child anger dysregulation and effortful control mediated the relation between maternal punishing and child externalizing. Child worry dysregulation and poor anger coping mediated the relation between parent distress response to child emotions and child internalizing. Based on these findings, promoting positive parent response to child emotions and fostering child emotion regulation abilities in prevention and intervention programs may be important in reducing likelihood of child internalizing and externalizing behavior problems.

Keywords: emotion regulation, internalizing, externalizing, maternal negative response

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CHAPTER I

INTRODUCTION

Child internalizing and externalizing behaviors have received a great deal attention in the research literature because of their demonstrated influence on a host of future child outcomes (See Kovacs & Delvin, 1998; van de Looij-Jansen, Jansen, Jan de Wilde, Donker, & Verhulst, 2011). *Internalizing* behaviors can be identified as problematic inward experiences of emotion such as anxiety or depression, often portrayed as an overcontrol in affect and behavior or somatic complaints (Eisenberg et al., 2001a; Eisenberg et al., 2009; Kovacs & Delvin, 1998). Conversely, *externalizing* behaviors are outward expressions of dysregulation such as aggression and defiance, and are displayed more clearly through undercontrolled negative affect and behavior (Eisenberg et al., 2001a; Eisenberg et al., 2009; Kovacs & Delvin, 1998).

Researchers have begun identifying the longitudinal effects of internalizing and externalizing behaviors. Behavior problems present during early and middle childhood often become a stable feature of later child functioning (Denham et al., 2000; Keiley, Bates, Dodge, & Pettit, 2000). Researchers suggest that children expressing internalizing and externalizing behaviors tend to struggle with a number of problems including delays in critical areas of functioning (e.g. emotion regulation; Kovacs & Delvin, 1998), and are

rejected by peers more often than other children (Eisenberg et al., 2001a; Keiley et al., 2000). In fact, Keiley et al. (2000) found that such peer rejection predicted stable or increasing levels of internalizing and externalizing behaviors over time. These problem behaviors place children at higher risk for subsequent developmental struggles as they are unable to adequately accomplish critical developmental tasks such as establishing competence in peer relationships, developing cognitive strategies for self-regulation, and improving self-control (Davies, 2011). Research also suggests that severe or lasting internalizing or externalizing behaviors, or one clinically significant episode, may lead to clinical diagnoses including a range of anxiety, mood, and conduct disorders later in childhood or in adulthood (Cole Zahn-Waxler, Fox, Usher, & Welsh, 1996; Kovacs & Delvin, 1998). In order for prevention or treatment efforts to be effective, the influences that lead to internalizing and externalizing behaviors must be better understood.

Researchers have identified many contributors to internalizing and externalizing behaviors including hostile family environment (Leve, Kim, & Pears, 2005), negative family expressiveness (Ramsden & Hubbard, 2002), ineffective, hostile, or coercive parenting (Denham et al., 2000; Gartstein & Fagot, 2003), discord in the marital relationship (Gartstein & Fagot, 2003), parental depression (Gartstein & Fagot, 2003), and child temperament (Leve, Kim, & Pears, 2005). Several researchers contend that these relations are due to the mediating role of emotion regulation (see Ramsden & Hubbard, 2002; Valiente et al., 2007). Emotion regulation has often been discussed by researchers as having a direct link to internalizing and externalizing behaviors (Eisenberg et al., 2009; Eisenberg et al., 2001a; Morris et al., 2002). Thompson (1994) explains that

emotions may serve either as a risk or protective factor depending on one's emotion regulation capacity. Poor emotion regulation during early childhood predicts behavior problems during middle childhood (Cole et al., 1996). In fact, difficulty managing emotions is used as a criterion for many mental and behavioral disorders such as the inability to defend against aggressive impulses in *intermittent-explosive disorder*, and the difficulty controlling excessive anxiety and worry in *generalized anxiety disorder* (American Psychiatric Association [*DSM-IV-TR*], 2000). Clearly, the ability to self-regulate emotions protects against the development of internalizing and externalizing problem behaviors and related disorders (Gartstein & Fagot, 2003). For this reason, it is critical for children to gain adaptive and functional emotion regulation skills at an early age.

Emotion regulation skills continue to be transformed and adapted throughout childhood. While temperament has been shown to contribute to innate emotion regulation capacities, interactions between parents and children influence further advances in emotion regulation (Calkins, 1994). Current research examining parent response to child emotion expression clearly indicates the socialization of emotion; that is, caregivers are directly involved in their children's development of emotional understanding, expression, and regulation. In a review, Eisenberg, Spinrad, and Eggum (2010) state that caregiver responsiveness during the early years of a child's life directly impacts the child's ability to emotionally self-regulate in later years. In fact, much research suggests that inappropriate or absent parenting is correlated with children's poor emotion-related self-regulation and internalizing and externalizing behaviors that impact a child's social relationships (Belsky, Pasco, & Bell, 2007; Eisenberg et al., 2005).

Middle childhood is a particularly vulnerable developmental period as children experience numerous transitions and immense growth in all domains of development. In a discussion about self-regulation during this developmental period, Davies (2011) explains that appropriate self-regulation, particularly effortful control, during these years is critical for several advances to be accomplished such as the development of a sense of self-worth and competency in peer relationships, an increase in goal-directed activities, and confidence that skills can be acquired with practice. These competencies and confidences in social relationships promote a child's ability to make friends, which supports his or her ability to self-regulate and make easier transitions (Ladd, 1999). However, children who lack appropriate self-regulation are likely to experience further hardships in social relationships, causing additional struggles with regulation; thus, a defeating cycle is created for those who are poorly regulated (Kokko, Tremblay, Lacourse, Nagin, & Vitaro, 2006). Clearly, inadequate self-regulation not only affects a child's development, but also may lead to destructive internalizing and externalizing behaviors.

CHAPTER II

REVIEW OF LITERATURE

Functionalist Perspective of Emotion

Researchers have developed the functional perspective of emotion to explain emotional experiences and why differences in emotion regulation exist. From this perspective, Campos, Mumme, Kermoian, and Campos (1994) explain emotions as meaningful, goal-directed interactions with others, rather than just an intrapsychic state. In this way, emotions serve a communicative function in which expressions serve as social signals that provide information about internal experiences. Emotional expressions are consciously adapted to various environments and responses depending on the success or failure of one's goal achievement when using certain methods of emotional communication. Specifically, if a situation or relationship has proven to not lend itself to certain methods of emotion expression, goal achievement may be inhibited, increasing the chances that maladaptive methods will be utilized to achieve those goals.

From the functionalist perspective, emotions cannot fully be understood without considering the context in which they occur (Campos et al., 1994). Emotion regulation occurs as a deliberate attempt by individuals to manage their emotional experience in the context of the environment and achieve their goals (e.g., attention, comfort, validation).

According to Campos et al. (1994) such emotion regulation occurs as a conscious effort to adapt to automatic intrapsychic states, and occurs at three levels: sensory receptors, information processing and modification, and response selection. At each level, one can alter their emotional experience to best fit with their goals. For instance, at the level of sensory receptors, one's choice of environment can limit or enhance the amount of unwanted or pleasant emotions experienced. At the information processing and modification level, one can use their skills (e.g., cognitive reappraisal) or defense mechanisms to deliberately enhance their ability to achieve their goals. Individuals may also deliberately select emotional responses that increase the likelihood for goal attainment.

Early interactions with caregivers facilitate this learning about emotions and how such goals can be achieved, leading to the formation of emotion regulation strategies (Thompson, 1994). These strategies are modified throughout childhood as children learn what response to expect from their caregivers when expressing emotions. In this way, it would be expected that parental responses to emotion expression inadvertently teach children how to manage their emotions, positively or negatively, in order to achieve their goals. For instance, children may learn that their expression of hurt brings desired comfort from parents. However, lack of adequate parental assistance, response and guidance for managing emotions may lead to ineffective and harmful or disruptive means of regulation. Specifically, when parents respond to children's expressions of emotion with distress or by punishing or dismissing, children are unable to achieve their goals, leading them to utilize other potentially ineffective maladaptive regulatory means to do

so. Children who lack positive emotion regulation skills are more likely to engage in internalizing and externalizing behaviors as attempts to reach their goals. .

Internalizing and externalizing behaviors may become a functional pattern by which children achieve their goals, but with damaging results. Children may internalize in order to restrict their emotional display in fear of parental rejection or criticism. Alternatively, externalizing behaviors may serve to accomplish their goals, but in a socially inacceptable way. In this way, from the functional perspective of emotion, children adapt their emotion regulation techniques to the context of their environment and relationships in order to achieve a goal (Campos et al., 1994). The functionalist perspective is an important view to consider as the development of internalizing and externalizing behaviors are associated with poor emotion regulation, which has important implications for children's future development.

Emotion Regulation

Due to the extensive and complicated nature of emotional functioning, and the many processes it includes, researchers have provided a variety of definitions to describe emotion regulation. In general, emotion regulation refers to "the extrinsic and intrinsic processes responsible for monitoring, evaluating, and modifying emotional reactions, especially their intensive and temporal features" (Thompson, 1994, pp. 27-28). This definition includes several key components involved in emotion regulation. First, it encompasses the internal processes that maintain, enhance, and inhibit emotional responses. Additionally, it conveys the role of external influences in which others affect one's emotion regulation. Many researchers emphasize the use of these internal processes (Dennis, Brotman, Huang, & Gouley, 2007; Eisenberg et al., 1996b; Eisenberg et al.

2009) while others focus on the external influences that assist children in regulating emotions (Denham et al., 2000; Gartstein & Fagot, 2003; Lunkenheimer, Shields, & Cortina, 2007; Ramsden & Hubbard, 2002).

Internal Control Processes

Internal control processes of emotion include effortful control (e.g., attention shifting and focusing), inhibitory control (e.g., actively suppressing emotions), emotional cognitions (e.g., cognitive distracting and restructuring), and managing physiological responses (e.g., control and modulation of internal feelings and expressions; Derryberry & Rothbart, 1988; Kochanska, Murray, & Harlan, 2000; Thompson, 1994). Attention shifting is an emotion regulation technique of effortful control in which one alters attention in the face of an emotionally arousing event in order to disengage from the evoking stimulus (Derryberry & Rothbart, 1988; Kochanska et al., 2000). This is accomplished in early years through gaze aversion; however, with further emotion regulatory capabilities, more complex processes may be used such as redirecting attention by thinking pleasant thoughts or focusing on positive aspects of situations—attention focusing (Derryberry & Rothbart, 1988; Kochanska et al., 2000). Inhibitory control is another effortful control technique discussed by Derryberry and Rothbart (1988) which involves actively suppressing emotions. These internal control processes facilitate individuals' ability to regulate their emotions in a variety of situations in which they may be unable to escape or avoid (Thompson, 1994). Additionally, Thompson (1994) explains that emotions also can be regulated through cognitive distracting and restructuring; that is, using emotional cognitions to modify one's interpretation or understanding of the stimulus event in order to reduce negative emotions that are elicited.

Furthermore, regulating the physiological responses of emotional experiences serves as another means of intervention in emotion regulation. Such regulation of internal states may involve attributing emotional arousal to the typical response to the situation rather than to oneself (Thompson, 1994). During childhood, as emotion regulation continues to be learned, caregivers facilitate the acquisition of such regulation techniques.

External Control Processes

External control processes include caregiver assistance (i.e., direct caregiver intervention, providing security, and emotion coaching) and caregiver displays of emotional regulation (i.e., modeling; Lunkenheimer et al., 2007; Ramsden & Hubbard, 2002; Thompson, 1994). During the first three months of infancy, children are unable to regulate their own emotions; thus, their caregivers must directly assist them in easing their distress through physical comfort or distraction (Thompson, 1994). Additionally, acting as a source of security is ideal for children to develop appropriate emotion regulation skills as parents act as a "secure base" from which they can explore, but rely on the availability of parental comfort during distress (Ainsworth & Bell, 1970, pg. 64). Furthermore, infants engage in *social referencing* in which they look for emotional cues in their caregivers to help determine how to act in a particular situation (Santrock, 2008). Although infants begin to learn basic emotion regulation skills such as gaze aversion, caregivers maintain an important role in the socialization of emotion through emotion coaching. Emotion coaching has received broad attention by researchers and has yielded positive results in emotion regulation (Lunkenheimer et al., 2007; Ramsden & Hubbard, 2002). According to Ramsden and Hubbard (2002), parents engage in emotion coaching by monitoring their child's emotions and using their negative emotion expression as

opportunities to teach their children about emotions through labeling and teaching appropriate ways to manage their emotions effectively. Caregivers also serve as a source of intervention by modeling emotion regulation (Thompson, 1994). Bandura's (1969) social learning theory explains how children learn certain behaviors through observation of others, particularly their caregivers. This theory emphasizes the means by which children indirectly learn how to manage their emotions through the observed patterns of their caregivers and others around them.

Additionally, the way parents respond to children's expression of emotion implicitly teaches them what responses are acceptable and appropriate. The methods parents use to respond to children's emotion expression depend on several different factors including family home environment (Valiente et al., 2007), parenting style, (Calkins, Smith, Gill, & Johnson, 1998; Garstein & Fagot, 2003), and perceptions of their child's negative emotionality (Eisenberg Fabes, & Murphy, 1996a). Researchers suggest that parents from homes with little chaos tend to respond to their children in ways that support their social and emotional development, whereas those from chaotic homes are less likely to respond supportively (Valiente, Lemery-Chalfant, & Reiser, 2007). Additionally, parents who are hostile, controlling, insensitive, and punitive are likely to respond poorly to their child's expression of negative emotion (i.e., anger, sadness, or fear; Calkins et al., 1998; Garstein & Fagot, 2003). Further, parents who perceive their child as being highly emotional are more likely to respond negatively to their child's emotion expression (Eisenberg et al., 1996a). Parents may negatively respond to these emotions with distress or by dismissing, minimizing, or punishing the expressions of emotion (Eisenberg, Fabes, Carlo, & Karbon, 1992; Eisenberg et al., 1996a; Snyder,

Stoolmiller, Wilson, & Yamamoto, 2003). These negative parent responses have been shown to directly relate to negative child outcomes (see Eisenberg et al., 2009; Snyder et al., 2003). The majority of work in this area has focused on parenting variables such as emotion expressivity and warmth. Thus, to expand the literature, this study examines the role of parents' direct response to children's negative affect expression.

As children develop, they tend to become increasingly aware of their environment and what is identified to be appropriate behavior. In this way, parents who provide positive and direct assistance to their children are likely to support their regulatory development and, therefore, have more functional and adaptive behavior. However, parents who maintain negative views and responses, or maintain chaotic homes, are more likely to have children with emotion regulation problems. This speaks to the functionalist perspective of emotions, which explains emotions as context specific; that is, regulatory processes are adapted to achieving goals in the given environment.

Learning adaptive and socially appropriate ways of regulating emotions is essential to development (Campos et al., 1994). Clearly, parents play an important role in children's emotion regulation abilities. Their verbal and nonverbal directions provide messages about what are socially appropriate ways for children to achieve their goals through emotion regulation. As children age, peers become a more integral part of emotion regulation as children's social interactions with peers become more frequent and complex (Davies, 2011). During middle childhood, relationships with peers allow for additional means of emotion socialization and modeling in which children learn new ways of managing emotions, and become increasingly aware of their own and others' emotions and social expectations for emotion expression (Davies, 2011). These new

interactions not only allow for modifications in current emotion regulation abilities, but foster the development of new skills in additional contexts. Little research has been conducted regarding the influence of peers on emotion regulation during middle childhood; however, the role of peers in emotion regulation is beyond the scope of this study. While interactions with others have a significant role in learning to manage emotions, several intrapersonal characteristics alter the impact of such interactions.

Intrapersonal Influences

Researchers have found several intrapersonal characteristics related to a child's emotion regulation capacities including temperament (Eisenberg et al., 2009), and level of development (Davies, 2011; Kopp, 1989; Thompson 1994). First, child temperament is defined as, "constitutionally based individual differences in reactivity and self-regulation, in the domains of affect, activity, and attention" (Rothbart & Bates, 2006, p. 100). In this way, temperament consists of biological components that impact one's behavioral and emotional reactivity on dimensions such as positive affect and activity level, general negative emotionality, effortful control/task persistence, and agreeableness/adaptability (Rothbart & Bates, 2006). Several researchers have examined the role of temperament in emotion regulation. For instance, high levels of negative emotional reactivity have been associated with low attentional control and high impulsivity (Eisenberg et al., 1996b; Eisenberg et al., 2009). Blair and Diamond (2008) suggest that children with extremely low levels of negative emotional reactivity may experience emotion regulation problems through the overcontrol of negative affect. These temperamental vulnerabilities (i.e., overcontrol or undercontrol of affect) place children at higher risk for behavior and

adjustment problems (Eisenberg et al., 2009; Morris et al., 2002; Oldehinkel, Hartman, deWinter, Veenstra, & Ormel, 2004).

Furthermore, as development progresses, children gain the cognitive skills that allow them to better understand emotions, express their emotions verbally, consider the sources and consequences of various expressions of emotion, evaluate their context for appropriateness of expression, and develop empathy (Thompson, 1994). These developmental accomplishments foster a new understanding of adaptive and appropriate means of emotion regulation in various contexts.

Contextual Influences

Several contextual factors further impact a child's emotion regulation including parenting style, emotional climate of the family, parent-child attachment, and family emotion expression (Denham et al., 2000; Morris, Silk, Steinberg, Myers, & Robinson, 2007). For instance, in negative, hostile, and emotionally withdrawn home environments, children may learn to protect themselves through internalizing behaviors. These early external influences on children's emotion coping (e.g., parent emotion socialization) continue to contribute to emotion regulation abilities later in childhood (Eisenberg et al., 1996a; Lunkenheimer et al.,2007; Morris et al., 2007; Ramsden & Hubbard, 2002). The functionalist perspective would suggest this to be the result of maladaptive patterns of regulation that are likely to form when children are unable to achieve their goals in certain contexts, and persist as long as they maintain their functionality. In order to address the unique role of emotion regulation as a mediating variable in explaining the relation between parent negative response and negative child outcomes, the bivariate relations must first be addressed.

Parent Negative Response and Child Problem Behaviors

Research emphasizes that negative parent responses to child distress expressions often leads to internalizing behaviors such as anxiety, depression, withdrawal, or bodily complaints (Eisenberg, Guthrie, Fabes, & Reiser, 2000; Eisenberg et al., 2001a). Additionally, researchers propose a similar relation between negative parent responses to child emotion expression and externalizing behaviors such as aggression, defiance, and delinquency (Eisenberg et al., 2000; Eisenberg, et al., 2001a). Eisenberg et al. (1999) report numerous significant positive correlations between parental negative responses and child internalizing and externalizing behaviors. Specifically, parental punitive reactions during early childhood strongly predicted child externalizing behaviors during middle to late childhood, while parental dismissing behaviors were show to have a weaker relation to child externalizing behaviors. Additionally, parental distress responses to child negative emotion expression were linked to child internalizing behaviors, although child temperament appeared to be a confounding variable in this relation. However, Fabes, Leonard, Kupanoff, and Martin (2001) report that parental distress moderates the use of harsh parenting in response to child negative emotion expression. At low levels, such harsh parenting was linked to fewer child expressions of negative emotion (i.e., internalization), and at high levels, to increasing expressions of negative emotions (i.e., externalizing). In this way, children are taught that their feelings are wrong, and do not gain appropriate assistance in managing their responses, therefore, impeding on their children's abilities to behavior in socially acceptable ways. These unsupportive and intolerant parenting practices likely produce insecurity in children as they become unsure of themselves and their abilities, thus directly promoting problematic internalizing and

externalizing behaviors. Furthermore, the functionalist perspective on emotion would explain this relation to be the result of maladaptive regulation patterns that enable children to achieve their desired goals. For instance, when parents respond by punishing or dismissing their children's emotions, children may adapt through internalizing or externalizing behaviors that enable them to attain goals such as parental attention, validation, or acceptance.

Parent Negative Response and Child Emotion Regulation

Unhelpful parent responses to children's negative emotion expression have been shown to adversely affect their emotion regulation abilities by teaching them (via punishment and reinforcement mechanisms) to avoid and suppress their emotions, causing children to be less likely to learn healthy and effective regulation techniques (Eisenberg, Cumberland, & Spinrad, 1998; Eisenberg et al., 1992; Eisenberg et al., 1996a; Shipman et al., 2007; Snyder et al., 2003). In this way, when parents respond negatively to their children's distress by punishing or minimizing their feelings, they are rejecting and invalidating them; thus, causing disorganization in their children's socioemotional development (Denham et al., 2000). Additionally, parental distress responses may increase the emotional arousal of their children, further hindering their ability to learn appropriate emotion regulation strategies (Eisenberg et al., 1998). In fact, researchers have found that children who receive negative responses from parents show both a greater reliance on parental emotion regulation assistance during toddlerhood (Calkins et al., 1998) and lower levels of attentional control during middle childhood (Belsky et al., 2007). The functionalist perspective on emotion would attribute these maladaptive emotion regulation patterns to unsupportive responses from parents that

promote children to use alternative means to achieve their goals, leading to later child problem behaviors as these techniques continue to be used.

Child Emotion Regulation and Child Problem Behaviors

Much research has examined the internalizing and externalizing effects of emotion regulation. Generally, children who exhibit problem behaviors are likely to express high levels of negative emotionality, emotional intensity and reactivity (Eisenberg et al., 2009). Several studies demonstrate the link between emotion regulation problems and internalizing behaviors (see Cole et al. 1996; Eisenberg et al., 2009; Zeman, Shipman, & Suveg, 2002); however, findings have been somewhat inconsistent across age groups.

Children with internalizing behaviors often appear overcontrolled in their affect expression and inflexible in their coping mechanisms (Eisenberg et al., 2009). Some researchers suggest these internalizing effects are the result of lacking attentional and inhibitory control of negative emotions, leading to rumination and persisting negative emotional experiencing (Eisenberg et al., 2002; Garnefski, Kraaij, & van Etten, 2005). Additionally, these deficiencies in internal control processes often prevent children from utilizing external input and regulatory assistance; thus, perpetuating the experience of negative emotion (Cole et al., 1996) and impairing social competency as a result (Dennis et al., 2007). Dennis et al. (2007) report a moderating effect of age on the relation between emotion regulation and internalizing behaviors; specifically, that effortful control, a critical aspect of emotion regulation, improves with age during childhood. Such increases in effortful control abilities are associated with greater social competence which

serves as a protective factor against further behavior problems and pathology as children have greater capacity for coping and cognitive abilities (Dennis et al., 2007).

Understanding the contribution emotion regulation has in the development and maintenance of problem behaviors is necessary due to the suggested long-term effects of poor emotion regulation. Empirical studies have shown a clear direct link between emotion regulation and externalizing behaviors; specifically, when children have poor emotion regulation, they demonstrate externalizing behavior problems at an elevated rate (Eisenberg et al., 2009; Garstein & Fagot, 2003). This may be attributed to the lack of necessary skills (i.e., inhibitory effortful control) children have to control and regulate their emotional responses, resulting in children acting impulsively on their emotions (Belsky et al., 2007; Gartstein & Fagot, 2003; Eisenberg et al., 2001a; Eisenberg et al., 2009; Frick & Morris, 2004; Lenuga, 2008). Additionally, high levels of anger have been shown to be associated with externalizing behaviors (Eisenberg et al., 2009).

Furthermore, children with poor emotion regulation may also exhibit co-occurring internalizing and externalizing problems. Eisenberg et al. (2009) explain that children exhibiting simultaneous internalizing and externalizing symptoms often appear less impulsive than solely externalizing due to the inherent overcontrol associated with internalizing. In this way, the inhibition associated with internalizing may buffer the behavior problems associated with externalizing. Additionally, Eisenberg et al. (2009) report that deficits in effortful control, specifically attentional and inhibitory control, but not impulsivity, are more often associated with co-occuring internalizing and externalizing problems than pure internalizing or externalizing. This suggests that voluntary rather than involuntary inhibition is evidenced in co-occuring internalizing and

externalizing. Additional contributors to the development of co-occuring internalizing and externalizing behaviors include family and demographic risk factors, as well as temperamental characteristics associated with effortful control and negative emotionality. Such deficits associated with co-occurring internalizing and externalizing have great potential impact on the stability and change of emotion regulation and behavior problems (Eisenberg et al., 2009).

The functionalist perspective would suggest that problem behaviors occur as the result of perpetuated maladaptive emotion regulation strategies (Campos et al., 1994). As previously discussed, such maladaptive skills serve as means of goal attainment such as parental attention or approval, or avoidance of a negative response. However, as these strategies are perpetuated and utilized across contexts, children may become progressively more reliant on them, therefore increasing their internalizing and externalizing behaviors, preventing the development of positive emotion coping strategies.

The Mediating Role of Emotion Regulation

Throughout childhood, parents' responses to children's emotion expression continue to influence how children understand, express, and manage emotions. Researchers have found evidence supporting a clear and positive relation between parenting characteristics (e.g., warmth, sensitivity, and emotion expression) and child self-regulation abilities during the early years and have extended the findings on this relation into middle childhood (Belsky et al., 2007; Denham et al., 2000; Eisenberg et al., 1999). Eisenberg et al. (2003) found evidence of child emotion regulation mediating the relation between positive maternal emotional expressivity and externalizing behaviors,

but only marginally for internalizing behaviors. Additionally, Eisenberg (2001b) obtained similar results identifying parental expressivity, warmth, and emotion discussion and externalizing behaviors to be partially indirectly related through emotion regulation; however, mediation was not examined. Further, Belsky et al. (2007) identified emotion regulation as a partial mediator of the relation between maternal sensitivity and externalizing behaviors. While overall parent sensitivity and warmth are important factors to consider, more research is needed to better understand the mechanisms by which parent response to child negative emotion expression affect child problem behaviors.

A number of studies have examined relations between various parent characteristics and child problem behaviors; however, few studies have examined the processes through which parent response to child emotion expression influences child internalizing and externalizing behaviors. This gap persists although several studies have identified direct links between negative parent response and child emotion regulation (see Eisenberg et al., 1996a; Eisenberg, et al. 1998; Shipman et al., 2007; Snyder et al. 2003) and child emotion regulation to child internalizing and externalizing behaviors (see Eisenberg et al., 2009; Garstein & Fagot, 2003; Zeman et al., 2002). It is important for researchers to more closely study the effects of direct negative interactions between parents and children and the possible mediating mechanisms of child emotion regulation. Negative parent responses such as minimizing and punishing could inhibit children's regulatory abilities as these responses fail to provide children with necessary assistance in learning to regulate their emotions. As positive parenting and assistance responses such as *emotion coaching* (see Gottman, Katz, & Hooven, 1996) have received extensive

support, it is necessary to gain a better understanding of negative responses in order to advance the literature.

Although several studies have examined child emotion regulation as a mediating variable, none were found to examine such mediating relation between parents' negative response to emotion expression and child problem behaviors. However, one study was identified to investigate a similar relation through a multi-mediational model (see Valiente et al., 2007). In this study, Valiente et al. (2007) sought to explain the relations between parent effortful control, family environment (i.e., family chaos), and *emotion related socializing behaviors* (e.g. response to children's emotion expression) and children's effortful control and externalizing behaviors through a heuristic model that combined all variables into one muti-meditation model (with parent positive or negative reactions and child effortful control as mediators). A sample of 188 elementary school children ages 7 to 12 and one of their parents participated in the study. Researchers used a battery of measures, assessing parents' effortful control using self-report on the Adult Temperament Questionnaire (ATQ), family chaos using parent-report on the Confusion, Hubbub, and Order Scale (CHAOS), parents' reactions to children's negative emotions using self-report on the Coping with Children's Negative Emotions Scale (CCNES), children's effortful control using parent- and child-reports on the Early Adolescent Temperament Questionnaire (EATQ), children's problem behaviors using child- report on the Youth Self-Report (YSR) and parent-report on the Child Behavior Checklist (CBCL). By parsing the model, Valiente et al. (2007) identified a number of relations. Of particular interest, high levels of positive and low levels of negative parent reactions predicted higher levels of child effortful control. Additionally, children with higher

levels of effortful control were less likely to exhibit externalizing problems. Using a bootstrap method, Valiente et al. tested the mediation effects, which provided evidence for the mediating role of negative parent response and child effortful control in the relation between parent effortful control and child externalizing behaviors. Further, positive, but not negative, expressivity and children's effortful control were identified to mediate family chaos and externalizing problems in children. In this way, by parsing their multi-mediational model, Valiente et al. (2007) revealed several bivariate relations that highlight significant associations between child effortful control, parent response and children's problem behaviors; however, the relations examined in their presented model failed to include the mediating relation of the variables tested in the present study.

The present study differs from that of Valiente et al. (2007) in several ways. First, the relations in their study were found using mainly parent-report assessments and few child report assessments, therefore increasing the possibility for error in identified strength of relation between constructs. In the present study, using an additional reporter (i.e., teachers) provided additional support for the relation as the triangulation of reporters promoted greater validity of the results. Specifically, parents reported on their response to their children's emotion expression, children and parents reported on child emotion regulation, and both parents and teachers reported on child internalizing and externalizing behaviors. Using three different reporters enhanced the study's reliability and validity by providing a more accurate assessment and decreasing the effects of over- and under-reporting of behaviors. Additionally, researchers gained an opportunity to examine differences based on reporters, providing a more complex view of the phenomenon of interest. Second, the present study used alternative measurement methods to assess the

broader construct of child emotion regulation including inhibition, dysregulation, coping and effortful control. This multi-method assessment of emotion regulation highlighted other self-regulation strategies used by children, providing a more comprehensive understanding of parents' contribution to child problem behaviors, therefore strengthening the mediating relation. Finally, the present study used a simple mediational model that will provide clear results indicating the strength of each bivariate relation and strength of the mediating variable.

Summary

Children begin learning emotion regulation skills during infancy and continue to modify and adapt these skills throughout life. During the first months of life, infants rely almost completely on others to assist them in their emotion regulation; however, with appropriate assistance from parents, they begin to develop greater self-regulation capacities and decreasing emotional lability (Eisenberg & Morris, 2002). With age and successful achievement of primary self-regulation competencies, toddlers and young children increasingly convey their emotions through language rather than simple emotion expression. As they learn to label and comment on their own feelings, others can actively assist and provide verbal feedback to enhance their emotion regulation abilities. As children gain greater effortful (attentional and inhibitory) control, coping skills, and memory, they are better able to understand the means-end transaction of emotion regulation. Further, as parents continue to increase their expectations for their children's independent emotion regulation, they continue to gain additional skills.

Middle childhood is a time of immense growth and change, creating greater susceptibility to risks and opportunities for further development of emotion regulation

(Eisenberg & Morris, 2002). Understanding the interrelatedness of cognitive, emotional, psychosocial, and neurological developmental domains highlights the importance of effective regulation strategies. With adequate assistance during earlier emotional development, older children are better able to consider socially appropriate and constructive means for managing their emotions and are better able to differentiate what is and is not under their control (Eisenberg & Morris, 2002). In this way, older children may adapt when things cannot be controlled, therefore reducing distress. However, when parents dismiss or punish their child's expression of emotion, children do not receive the necessary assistance to understand and manage their emotions, and therefore experience difficulty in adapting appropriately to their environment.

Although a considerable amount of literature has contributed to the understanding of parenting characteristics and child emotion regulation processes, the examination of child emotion regulation as a mediating variable is a unique and critical aspect to consider when interpreting the relation between negative parental influences and child problem outcomes. Throughout childhood, parents' responsiveness to children's emotion expression continues to influence how children understand, express, and manage emotions. Researchers have supported a clear and positive relation between parenting variables such as responsiveness and warmth and child self-regulation abilities during the early years and have found these effects extend into middle childhood. As previously mentioned, only one study was found to consider a similar, yet more complex, mediating relation of effortful control between parent negative response to child emotion expression and child problem behaviors (see Valiente et al., 2007). As Valiente et al. (2007) found, high levels of positive and low levels of negative parent responses were linked to greater

effortful control in children, and child effortful control related to greater externalizing problems. However, the specific mediation of effortful control was not tested in this study, nor was any other study identified to do so; thus, more research is needed to test these potential relations. Additional research in this area can contribute to the small amount of literature, and be utilized to design effective interventions to assist parents and children toward better self-regulation, positive relationships, and socioemotional development.

The current study tests several hypotheses. The first hypothesis is that children whose mothers respond with higher negativity to their expression of negative emotion will display more internalizing and externalizing behaviors. The second hypothesis is that children whose mothers respond with higher negativity to their expression of negative emotion will exhibit poorer emotion regulation than other children. The third hypothesis is that children who demonstrate poor emotion regulation will present more internalizing and externalizing behaviors than children with better emotion regulation. Finally, the last hypothesis is that the relation between mothers' negative response to their children's emotions and child internalizing and externalizing behaviors will be partially mediated by child emotion regulation.

CHAPTER III

METHODOLOGY

Participants and Procedures

Participants and data from this study were drawn from a larger study (Families and Schools for Health; FiSH; Harrist, Kennedy, Topham, Hubbs-Tait, & Paige, 2005) examining predictors and correlates of childhood obesity.

Families were recruited for participation through direct contact with the project staff at recruitment events at the children's schools and letters sent home with the children through the children's schools. Two cohorts totaling 1171 children from 29 schools in the central Oklahoma region participated in the study. Consent was obtained by parents to participate in a study investigating healthy lifestyle habits of first graders and their families.

Children participated in one-on-one hour-long interviews at school during the fall (2005 for Cohort I and 2006 for Cohort II; Wave 1) and spring (Wave 2) of their 1st grade year. Children were then interviewed each spring during their 2nd (Wave 3), 3rd (Wave 4), and 4th (Wave 5) grade years. For the purposes of this study data were used from Waves 1 and 3. A total of 1171 children participated in child interviews for Wave 1 and 946 children participated for Wave 3. In addition, questionnaire packets were sent to the

parents of the participating children at each wave of the study. Questionnaire packets were fairly extensive and required around 30 to 45 minutes for parents to complete. Parents were given 15 dollars for completing and returning the questionnaires. For the current study data from the parent questionnaire packets were used from Wave 1 and Wave 3. Of the parents who were sent questionnaire packets for Wave 1, 42% (n = 494) returned completed packets. At Wave 3, 47% (n = 230) of those parents returned completed packets. Due to the limited number of response and involvement from fathers, the data were restricted to include only maternal responses. For each Wave of data collection, teachers were also given questionnaire packets for each participating child in their classrooms. Teacher data from Wave 3 were utilized in the present study with teacher data available for 872 children. Teacher questionnaire packets included: Behavior Assessment System for Children, Second Edition (BASC-II) and a sociometric status inventory. Teachers were given 6.50 dollars per child for completing questionnaires. Because the sample with parent data represented a subsample of the data set, only those cases that included Wave 3 parent data (n = 217) were included in the sample for the current study.

Self-reported demographic information was available for the 217 mothers. The ethnicity distribution for mothers was: 81.6% Caucasian, 14.0% Native American, .6% African American, 1.1% Hispanic, and 2.8% Multiethnic. Age of mothers ranged from 25 to 65 with a mean age of 35.9 years. Most mothers (65%) were married for the first time, 18.4% were remarried, 11.7% were divorced, 2.8% were single, and 1.1% were separated. Monthly income varied widely for mothers, with 20.6% of participants earning $0-999, 33.7% earning $1000-2499, 21.7% earning $2500-3999, and 24.0%

earning $4000 or more per month. One point eight percent of mothers completed some high school, 10.6% were high school graduates, 32.4% completed some college, and 55.3% were college graduates. Of the 208 children included in the sample (9 children did not have complete data and so were not included), 102 (47.0%) were male and 106 were female, and their ages ranged from 7.42 to 9.45 years with a mean age of 8.28 years (SD = .41).

Measures

Parent Negative Response

The Coping with Children's Negative Emotions Scale (CCNES; Fabes, Poulin, Eisenberg, & Madden-Derdich, 2002; See Appendix A for complete assessment) was used to measure parents' minimizing, punitive, and distress responses to their children's negative emotion expression. Parents reported their likelihood on a five-point scale (1 = *very unlikely* to 5 = *very likely*) of responding in various ways to their child's negative emotion expression. Twelve hypothetical scenarios representing commonly distressing situations for children were presented to parents with six different parent response choices presented per scenario. Parents rated their likelihood of using each of the six responses for each scenario. Proposed responses for each scenario are associated with the six subscales of parent response: distress reactions, punitive reactions, expressive encouragement, emotion-focused reactions, problem-focused reactions, and minimization reactions.

For the current study, three subscales, minimizing response, punitive response, and distress response were used to determine the parents' negative reactive tendencies. Minimizing responses refer to parents' discounting or devaluing of their children's

distress (e.g., “I tell my child he/she is over-reacting”). Punitive responses include verbal or physical punishment exhibited in attempt to control or reduce the display of distressing emotion (e.g., “I tell him/her to shape up or he/she won’t be able to do something he/she likes to do”). Distress responses involve the degree to which parents experience distress when their children express negative emotions (e.g., “I feel upset or uncomfortable because of my child’s reactions”). Several items in the distress response subscale were reverse coded so that higher scores indicate greater distress reaction, similar to other CCNES items and subscales. The mean response for minimizing, punitive, and distress tendencies were calculated separately for each subscale using each of the 12 items within the corresponding subscale, revealing each parent’s tendency for negatively responding to his/her child’s negative emotion expression. Scores range from 1 (very unlikely to respond negatively) to 5 (very likely to respond negatively).

Fabes et al, (2002) examined the reliability and validity of the CCNES. Results indicated an acceptable level of internal reliability on the CCNES subscales, with alphas of .78 for minimizing response, .69 for punitive response, and .70 for distress response. In the present study, internal reliability was .77 for minimizing response, .71 for punitive response, and .65 for distress response. Fabes et al. (2002) also conducted a test-retest analysis with results indicating significant correlation between participants’ responses over time for the distress (r = .62), punitive (r = .83), and minimizing (r = .55) subscales; thus, providing further reliability support for the measurement scale. Furthermore, general construct validity was evident as the subscales of the CCNES were shown to be highly correlated to other similar measurement scales.

Child Emotion Regulation

The Children's Emotion Management Scales—Anger and Worry (CEMS; Zeman, Shipman, Penza-Clyve, 2001; See Appendices B through E for complete assessments) were used to measure children's emotion regulation. Parents and children each reported on 11 items for anger and 10 items for worry to identify children's methods of regulation associated with each emotion. These items were based on three subscales, inhibition (4 items for both anger and worry), dysregulation (3 items for both anger and worry), and coping (4 items for anger and 3 items for worry). Inhibition refers to the suppression of feelings (e.g. "My child hides his/her worry/anger," "I hold my worried/angry feelings in"), dysregulation refers to exaggerated or inappropriate outward expression of emotion (e.g. "My child does things like slam doors when he/she is mad," "I keep whining about how worried I am"), and coping refers to the attempted management of emotional experiences (e.g. "My child tries to calmly deal with what is making him/her worried/mad," "I try to calmly settle the problem when I feel worried/mad"). Parents and children reported on the frequency of the child's emotion management behaviors for each item using a three-point scale (1 = *hardly ever*, 2 = *sometimes*, 3 = *often*). Items in the coping subscale were reverse coded so that higher scores indicate greater dysregulation, similar to other CEMS subscales. Scores were obtained for each subscale by calculating the item mean responses for all responses across subscales. Subscales (i.e., inhibition, dysregulation, and coping) for each emotion were originally combined to form one scale score for each of anger and worry for parent and child. However, because of low internal reliability across items the decision was made to retain each subscale without combining, resulting in 3 variables for each emotion for both parent and child reports, a total of 12

variables of emotion regulation. Scores range from 1 (positive emotion regulation skills) to 3 (negative emotion regulation skills).

Reliability and validity of the three subscales of the CEMS—Anger and Worry (inhibition, dysregulation, and coping) have been examined independently. Zeman, Cassano, Suveg and Shipman (2010) examined the reliability and validity of the CEMS—Worry by comparing child self-reports with other related measures using a sample of children with mean age of 9 years. Zeman et al. (2010) reported internal consistency of the measures indicating good reliability for the inhibition subscale (alpha = .74), and acceptable reliability for the coping (alpha = .69) and dysregulation subscales (alpha = .72) for the worry measure. In the present study, internal reliability for child reports on CEMS—Worry were fairly low. In order to improve reliability, the decision was made to reduce the inhibition scale by one item, specifically the item stating "I show my worried feelings." It is likely that children did not comprehend the phrasing of this question as it did not highly correlate with "I hold my worried feelings in" as expected (r = -.10). Removing this item from the scale increased the alpha from .47 to .61 for the inhibition subscale. Alphas for the remaining subscales were .50 for the coping subscale and .54 for the dysregulation scale. Internal reliability for the child reports on CEMS—Anger were .52 for the inhibition subscale, .62 for the coping subscale, and .60 for the dysregulation subscale. No previous research could be located which examined the internal consistency of the CEMS—Anger measure. Zeman et al. (2010) also indicated convergent validity between the CEMS—Worry and similar measures. Significant positive correlations were found between the worry inhibition subscale and the poor awareness (r = .24) and expressive reluctance subscales (r = .32) on the Emotion

Expression Scale for Children (EESC), although this was only true for girls, not boys. Significant positive correlations were also found between the worry dysregulation subscale and measures of internalizing and externalizing, specifically, the anxiety/depressed syndrome scale (r = .19) and internalizing problems summary (r = .17) on the Child Behavior Checklist (CBCL). Significant negative correlations were found between the worry coping subscale and the anxiety/depressed syndrome (r = -.20), internalizing problems (r = -.19), and externalizing problems (r = -.22) subscales of the CBCL (Zeman et al., 2010). Additionally, Zeman et al. (2010) utilized the Anxiety Disorders Interview Schedule for DSM-IV (ADIS-IV) to demonstrate discriminant validity of the CEMS—Worry by illustrating its ability to differentiate children ($\bar{x}$ age = 10 years) with anxiety disorders from those without. However, the brevity of the scale has the potential to limit the reliability of the measure.

The present study examined the internal consistency of parent reports for both CEMS—Anger and Worry measures. Alpha reliability scores on parent reports on the CEMS—Anger subscales were .76 on the inhibition subscale, .79 on the coping subscale and .65 on the dysregulation subscale. Additionally, alpha reliability scores on the parent reports on CEMS—Worry subscales were .69 on the inhibition subscale, .53 on the coping subscale, and .63 on the dysregulation subscale.

Additionally, the very short form of the Child Behavior Questionnaire (CBQ; Putnam & Rothbart, 2006; See Appendix F for complete assessment) was used to measure children's emotion regulation. This form of measurement is appropriate in the assessment of children ages 3 to 8. Parents reported on 36 items that assess their child's temperament defined by reactivity and self-regulation. These items were based on three

subscales including surgency/extraversion, negative affectivity, and effortful control. For the current study, items from the effortful control subscale were used. Effortful control was measured by the 6-item inhibitory control (e.g. "Approaches places s/he has been told are dangerous slowly and cautiously") and 6-item attentional focusing (e.g., "When drawing or coloring in a book, shows strong concentration") subscales. Parents rated their child on a 7-point scale (1 = *extremely untrue of your child* to 7 = *extremely true of your child*), and were also provided with the option of rating *Not Applicable* for situations in which the child has not been observed. Scores for this scale were obtained by calculating the mean of all responses for the item set in order to obtain a single score for the effortful control subscale. Scores range from 1 (low effortful control) to 7 (high effortful control). Child effortful control and emotion regulation variables were tested through separate analyses in order to obtain further clarity as to how emotion regulation and effortful control may differentially mediate the relations.

The very short form of the CBQ was developed with caution in order to maintain the validity and reliability of the standard CBQ measurement (Putnam & Rothbart, 2006). Correlations between scales on the standard and short forms reveal strong correlations, ranging from .62 to .88 (Putnam & Rothbart, 2006). Internal consistency scores for the very short form of the CBQ were .75 for surgency, .72 for negative affect, and .74 for effortful control subscales (Putnam & Rothbart, 2006). In the present study, the internal consistency score for the effortful control subscale was .72. Putnam and Rothbart (2006) also indentified longitudinal stability using rank order stability from 33 to 46 months which provided correlations ranging from .61 to .74 for the effortful control subscales.

Child Internalizing and Externalizing Behaviors

The Behavior Assessment System for Children, Second Edition (BASC-II; Reynolds & Kamphaus, 2004; See Appendix G for complete assessment) was used to measure children's internalizing and externalizing behaviors, specifically the Teacher Rating Scales (TRS) and Parent Rating Scales (PRS). The BASC-II is used to evaluate the behavioral and emotional functioning of individuals ages 2 to 25 years. Four-point scales are used (1 = *never*, 2 = *sometimes*, 3 = *often*, and 4 = *almost always*) for this extensive 160-item instrument to identify child problem behaviors and emotional disturbances across contexts of school and home environments. The BASC-II includes measures of internalizing behaviors, externalizing behaviors, and adaptive skills in school (TRS) and community and/or home (PRS) environments. Specifically, internalizing behaviors were assessed using the 7-item anxiety (e.g., "Is nervous"), 11-item depression (e.g., "Seems lonely), and 9-item somatization (e.g., "Complains of pain") subscales for both parent and teacher measures. Externalizing behaviors were assessed using the 10-item aggression (e.g., "Seeks revenge on others") and 9-item conduct problem (e.g., "Breaks the rules") subscales for both parent and teacher measures. Scores for internalizing and externalizing subscales for TRS and PRS were obtained by calculating mean responses for each subscale. Scores range from 1 (low levels of internalizing/externalizing behaviors) to 4 (high levels of internalizing/externalizing behaviors). Analyses using TRS and PRS were conducted separately in order to obtain the unique perspectives of parents and teachers and highlight any differences in reporting bias which Funderburk, Eyberg, Rich and Behar (2003) explained may occur when reporting on child behavior problems, particularly regarding gender.

The BASC-II was created with the intention of maintaining high construct validity (Reynolds & Kamphaus, 2004). Significant inter-rater reliability has been found between teacher and parent forms with the median reliability estimates between .53 and .65 for various age groups, indicating that the measure maintains consistency across sources (Reynolds & Kamphaus, 2004; Tan, 2004). Additionally, scales have been reported to be consistent for various ages and sexes, indicating consistency across time as well (Reynolds & Kamphaus, 2004). Significantly high test-retest reliability for the TRS continues to be reported with correlation coefficients of at least .78 (Tan, 2004). Strong internal consistency has been indicated as well, with alphas of at least .80 for both TRS and PRS (Reynolds & Kamphaus, 2004). In the present study, internal consistency was strong for the parent report scales with alphas of .89 for internalizing and .94 for externalizing. Internal consistency was also strong for teacher report scales with alphas of .92 for internalizing and .98 for externalizing. (See Table 1 for descriptive statistics of variables).

Analysis

Pearson product moment correlations were computed to determine the significance of the bivariate relations among variables for the first three hypotheses. In order to test the fourth hypothesis, two regression analyses were conducted for each potential mediating association; the first, regressing the child emotion regulation variable onto the maternal negative response variable, and the second, regressing child internalizing or externalizing onto both the maternal negative response and the child emotion regulation variables. Mediation was tested on variable sets in which bivariate correlations were found to be

Table 1

Descriptive Statistics of Variables

Variable	*n*	Mean (SD)	Range
1. Minimizing response	170	2.13 (.48)	2.50
2. Punitive response	170	1.93 (.43)	2.08
3. Distress response	170	2.23 (.41)	2.08
4. MR of C anger dysregulation	216	1.61 (.47)	2.00
5. MR of C anger coping	217	1.85 (.49)	2.00
6. MR of C anger inhibition	217	1.34 (.37)	1.50
7. MR of C worry coping	217	1.60 (.45)	2.00
8. MR of C worry dysregulation	217	1.48 (.46)	1.67
9. MR of C worry inhibition	217	1.42 (.44)	2.00
10. CR of C anger coping	206	1.80 (.54)	2.00
11. CR of C anger dysregulation	206	1.53 (.55)	2.00
12. CR of C anger inhibition	206	1.90 (.49)	2.00
13. CR of C worry inhibition	205	1.85 (.58)	2.00
14. CR of C worry coping	206	1.79 (.55)	2.00
15. CR of C worry dysregulation	206	1.62 (.56)	2.00
16. Effortful Control	209	5.36 (.68)	3.58
17. TR of C internalizing	185	1.36 (.33)	2.16
18. TR of C externalizing	185	1.47 (.54)	2.52
19. MR of C internalizing	208	1.57 (.27)	1.41
20. MR of C externalizing	209	1.66 (.37)	1.97

significant between the independent variable, the mediator, and the dependent variable. To confirm the strength of child emotion regulation as a mediator, a Sobel test was conducted using the Sobel test calculator (Preacher & Leonardelli, 2012) for each

potential mediating association. This calculation was used to demonstrate the strength in the relation between parent negative response and child problem behaviors with child emotion regulation as the mediator. The raw regression coefficient and standard errors for the associations were used as inputs into the Sobel test calculator.

CHAPTER IV

RESULTS

Overview

In the current study, it was hypothesized that child emotion regulation would partially mediate the relation between mothers' negative response to their children's emotions and child internalizing and externalizing behaviors (hypothesis 4). In order for mediation to be evidenced, however, the following hypotheses must also be supported: 1) children whose mothers respond with higher negativity to their expression of negative emotion will display more internalizing and externalizing behaviors, 2) children whose mothers respond with higher negativity to their expression of negative emotion will report poorer emotion regulation, and 3) children who demonstrate poorer emotion regulation will engage in more internalizing and externalizing behaviors.

Correlational Analyses

A correlation matrix was used to test hypotheses 1 through 3 (see Tables 2 and 3). Correlational analyses revealed a number of significant associations between the variables of interest. A number of correlations supported the first hypothesis. The punitive response variable was significantly correlated with maternal report of child externalizing (r = .22, p = .004) and maternal report of child internalizing (r = .17, p =

.031). Distress response, however, was only significantly associated with maternal report of child internalizing (r = .20, p = .010). No significant correlations were found between minimizing response and maternal report or teacher report of internalizing or externalizing, nor were teacher report variables significantly related to any maternal negative response variables.

Several correlations were found to support the second hypothesis as well. Negative mother responses to child emotion expression were positively associated with maternal reported dysregulation and their child's inadequate management of anger and worry. Specifically, minimizing response (r =.26, p = .001), punitive response (r = .30, p < .001), and distress response (r = .29, p < .001) were positively correlated with maternal report of child anger dysregulation. Similarly, minimizing response (r =.17, p = .027), punitive response (r = .32, p < .001), and distress response (r = .23, p = .003) were positively correlated with maternal report of child anger coping. Punitive response (r = .19, p = .014) and distress response (r = .17, p = .030), but not minimizing response (r = .15, p = .059), were also significantly correlated with maternal report of child worry coping. Only distress response was significantly associated with maternal report of child worry dysregulation (r = .18, p = .018). All three maternal response variables were significantly correlated with effortful control, such that higher levels of negative responses from mothers (minimizing response r = -.15, p = .050), (punitive response r = -.21, p = .007), and (distress response r = -.18, p = .019) predicted lower levels of effortful control. Few significant correlations were identified between maternal negative response and child report of emotion management. Minimizing response was positively correlated

with child report of anger dysregulation (r = .16; p = .049). Distress response was negatively associated with child report of anger inhibition (r = -.17; p = .034).

Several correlations also supported the third hypothesis. Maternal report of child anger dysregulation was related to all reports of internalizing and externalizing variables, specifically, maternal report of child internalizing (r = .23, p = .001), maternal report of child externalizing (r = .51, p < .001), teacher report of child internalizing (r = .15, p = .046), and teacher report of child externalizing (r = .32, p < .001). Similarly, maternal report of child worry coping was also related to all reports of internalizing and externalizing, specifically, maternal report of child internalizing (r = .28, p < .001), maternal report of externalizing (r = .30, p < .001), teacher report of child internalizing (r = .22, p = .002), and teacher report of child externalizing (r = .21, p = .005). Maternal report of child anger coping was positively associated with maternal report of child internalizing (r = .23, p = .001), maternal report of child externalizing (r = .55, p = .000), and teacher report of child externalizing (r = .25, p = .001), but not teacher report of child internalizing. Significant correlations were also found between maternal report of child anger inhibition and maternal report of child internalizing (r = .17, p = .015), maternal report of child externalizing (r = -.22, p = .002), and teacher report of child externalizing (r = -.15, p = .045), but not teacher report of child internalizing. Significant positive correlations between maternal report of child worry dysregulation and maternal report of child internalizing (r = .34, p< .001) and maternal report of child externalizing (r = .21, p = .002) were also identified. Maternal report of child worry inhibition was only significantly associated with maternal report of child internalizing (r = .16, p = .019). Additionally, effortful control was negatively related to both maternal report of child

Table 2

Bivariate Correlations with Maternal Report of Child Emotion Regulation Variables

Variables	1	2	3	4	5	6	7	8	9	16	17	18	19	20
1. Minimizing response	--													
2. Punitive response	.648**	--												
3. Distress response	.489**	.523**	--											
4. MR of C anger dysregulation	.257**	.301**	.294**	--										
5. MR of C anger coping	.170*	.318**	.228**	.565**	--									
6. MR of C anger inhibition	.010	-.142	-.025	-.294**	-.271**	--								
7. MR of C worry coping	.145	.189*	.166*	.370**	.588**	.062	--							
8. MR of C worry dysregulation	.143	.135	.181*	.157*	.174*	.008	.204**	--						
9. MR of C worry inhibition	.091	-.022	-.026	-.063	.038	.387**	.216**	.060	--					
10. Effortful Control	-.153*	-.211**	-.183*	-.249**	-.293**	.036	-.353**	-.038	-.159*	--				
11. TR of C internalizing	.041	.105	.069	.147*	.131	.011	.224**	.081	.006	-.109	--			
12. TR of C externalizing	.003	.110	-.017	.324**	.250**	-.148	.208**	-.015	-.033	-.249**	.491**	--		
13. MR of C internalizing	.145	.166*	.199**	.225**	.230**	.169*	.281**	.343**	.162*	.-.021	.181*	.079	--	
14. MR of C externalizing	.082	.220**	.117	.511**	.545**	-.217**	.307**	.209**	.042	-.322**	.233**	.502**	.450**	--

*p < .05, **p < .01 (2-tailed)

Table 3

Bivariate Correlations with Child Report of Child Emotion Regulation Variables

Variables	1	2	3	4	5	6	7	8	9	16	17	18	19	20
1. Minimizing response	--													
2. Punitive response	.648**	--												
3. Distress response	.489**	.523**	--											
4. CR of C anger coping	.153	.132	.109	--										
5. CR of C anger dysregulation	-.155*	-.092	-.035	.089**	--									
6. CR of C anger inhibition	-.004	-.058	-.166*	-.373**	-.008	--								
7. CR of C worry coping	.067	.090	.022	.443**	-.017	-.289**	--							
8. CR of C worry dysregulation	-.128	-.104	.047	-.044	.436**	.130	-.109	--						
9. CR of C worry inhibition	.027	.000	.006	-.268**	.156*	.390**	-.228**	.045	--					
10. Effortful Control	-.153*	-.211**	-.183*	.044	.004	-.007	.004	.133	-.130	--				
11. TR of C internalizing	.041	.105	.069	-.017	-.012	.064	-.048	.032	.007	-.109	--			
12. TR of C externalizing	.003	.110	-.017	.016	.138	.021	.069	-.003	.120	-.249**	.491**	--		
13. MR of C internalizing	.145	.166*	.199**	.199**	.090	-.052	-.029	-.049	.063	.-.021	.181*	.079	--	
14. MR of C externalizing	.082	.220**	.117	.036	.115	.016	.076	-.080	-.040	-.322**	.233**	.502**	.450**	--

*p < .05, **p < .01 (2-tailed)

externalizing (r = -.32; p < .001) and teacher report of child externalizing (r = -.25; p = .001). No child reports of emotion regulation variables were significantly related to internalizing and externalizing behaviors.

Mediation Analyses

Based on the recommendations of Baron and Kenney (1986) the following are required for mediation: 1) maternal negative response to child negative emotion expression is significantly associated with child emotion regulation, 2) child emotion regulation is significantly associated with child internalizing or externalizing, and 3) when the first two relations are controlled, a previously significant association between maternal negative response and internalizing or externalizing is no longer significant. More recently, Holmbeck (2002) contends that this last criterion, a change from significance to insignificance, is unnecessary as a change or absence of change does not necessarily suggest the presence of mediation. For this reason, Holmbeck (2002) suggests that the significance of the reduction should be tested. Thus, in the present study, the Sobel test was used to test the significance of the indirect effects of maternal negative response on child internalizing and externalizing behaviors.

Based on correlation analyses, mediation was tested for 11 potential mediating relations using the Sobel test (Preacher & Leonardelli, 2012; See Table 1 for a list of all potential mediating relations with outcomes). In order to test for mediation, several regression analyses were conducted to obtain the information necessary to complete the Sobel test. Two regression analyses were conducted for each of the 11 relations; the first, regressing the child emotion regulation variable (mediator) onto the maternal negative response variable (independent variable), and the second, regressing child internalizing or

externalizing (dependent variable) onto both the maternal negative response (independent variable) and the child emotion regulation (mediator) variables. These analyses provided the raw regression coefficient (a) and the standard error (s_a) of the relation between the independent variable and the mediator as well as the raw regression coefficient (b) and the standard error (s_b) of the relation between the mediator and the outcome while also controlling for the influence of the independent variable. These statistics were entered into the Sobel test calculator which tested the significance of the mediating effects of the child emotion regulation variables (Preacher & Leonardelli, 2012; See Figure 1 for conceptual model). Several relations supported the meditational role of emotion regulation (See Table 4). In the first Sobel test, maternal report of child worry coping was tested as a mediator between punitive response and maternal report of child internalizing. The hypothesized mediation for these variables was supported (z = 2.08, p = .038). In the second, maternal report of child worry coping was tested as a mediator between punitive response and maternal report of child externalizing. The hypothesized mediation for these variables was supported (z = 2.04, p = .041). In the third, maternal report of child anger dysregulation was tested as a mediator between punitive response

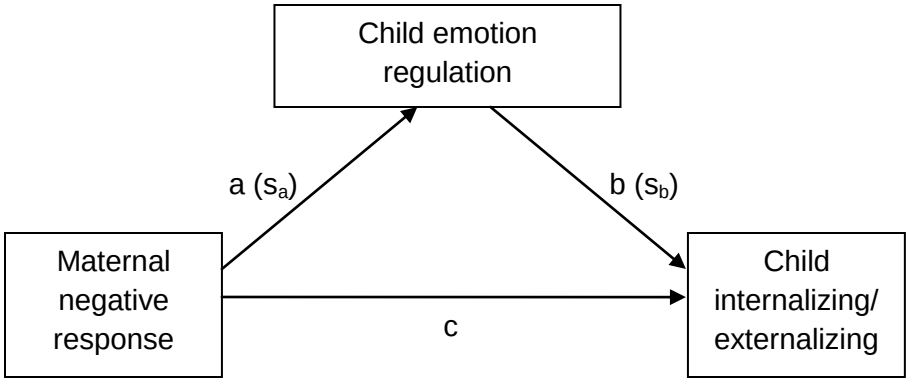

Figure 1. Mediational model tested in the present study.

and maternal report of child internalizing. The hypothesized mediation for these variables was not supported (z = 1.91, p = .056). In the fourth, maternal report of child anger dysregulation was tested as a mediator between punitive response and maternal report of child externalizing. The hypothesized mediation for these variables was supported (z = 3.56, p< .001). In the fifth, maternal report of child anger coping was tested as a mediator between punitive response and maternal report of child internalizing. The hypothesized mediation for these variables was supported (z = 2.48, p = .013). In the sixth, maternal report of child anger coping was tested as a mediator between punitive response and maternal report of child externalizing. The hypothesized mediation for

Table 4

Mediating Relations

Relation tested	Significance
Punitive response → MR of C worry coping → MR of C internalizing	Significant (n = 168)
Punitive response → MR of C worry coping → MR of C externalizing	Significant (n = 168)
Punitive response → MR of C anger dysregulation → MR of C internalizing	Not significant (n = 167)
Punitive response → MR of C anger dysregulation → MR of C externalizing	Significant (n = 142)
Punitive response → MR of C anger coping → MR of C internalizing	Significant (n = 168)
Punitive response → MR of C anger coping → MR of C externalizing	Significant (n = 143)
Punitive response → Effortful control → MR of C externalizing	Significant (n = 162)
Distress response →MR of C worry dysregulation →MR of C internalizing	Significant (n = 168)
Distress response → MR of C worry coping → MR of C internalizing	Not significant (n = 168)
Distress response → MR of C anger dysregulation → MR of C internalizing	Not significant (n = 167)
Distress response → MR of C anger coping → MR of C internalizing	Significant (n = 168)

these variables was supported ($z = 3.77$, $p < .001$). In the seventh, effortful control was tested as a mediator between punitive response and maternal report of child internalizing. The hypothesized mediation for these variables was supported ($z = 2.24$, $p = .025$). In the eighth, maternal report of child worry dysregulation was tested as a mediator between distress response and maternal report of child internalizing. The hypothesized mediation for these variables was supported ($z = 2.22$, $p = .027$). In the ninth, maternal report of child worry coping was tested as a mediator between distress response and maternal report of child internalizing. The hypothesized mediation for these variables was not supported ($z = 1.89$, $p = .059$). In the tenth, maternal report of child anger dysregulation was tested as a mediator between distress response and maternal report of child internalizing. The hypothesized mediation for these variables was not supported ($z = 1.85$, $p = .064$). In the eleventh, maternal report of child anger coping was tested as a mediator between distress response and maternal report of child internalizing. The hypothesized mediation for these variables was supported ($z = 2.18$, $p = .030$).

CHAPTER V

DISCUSSION

Summary and Interpretation of Results

The present study sought to investigate the relation between mothers' negative response to their children's emotion expressions and internalizing and externalizing behaviors of children, specifically through mediation of the children's emotion regulation. Overall, the findings of this study support the proposed hypotheses; child emotion regulation was found to mediate the relation between mothers' negative response to their children's emotions and child internalizing and externalizing behaviors. In testing the mediational effects of this relation, 8 of the 11 (73%) relations that met the requirements for mediation were significant (See Table 1).

First, previous research has indicated associations between parental punishing and emotion regulation (Eisenberg et al., 1998; Shipman et al., 2007), as well as emotion regulation and internalizing and externalizing behaviors (Eisenberg et al., 1999). The present study supports these findings and suggests that emotion coping, an element of emotion regulation, mediates the relation between maternal punishing and child internalizing and externalizing behaviors; specifically, that the effects of maternal

punishing on increasing child internalizing and externalizing behaviors at least partially occurs through impaired child coping with negative emotion. While this relation was found through solely maternal response variables, teacher reports on child internalizing (r = .18, p = .016) and externalizing (r = .50, p < .001) behaviors were significantly associated with maternal reports on such behaviors, offering validation for maternal reports of problem behaviors. Additionally, maternal reports of worry coping and teacher report of child internalizing (r = .22, p = .002) and externalizing behaviors (r = .21, p = .005) as well as the relation between maternal report of anger coping and teacher report of child externalizing (r = .25, p = .001) were also significantly related. It has been suggested that children whose parents punish their emotional displays often do not receive adequate assistance in managing their emotions, leading them to develop disorganized socioemotional skills (Denham et al., 2000). In this way, as children are punished, children may come to believe that they are not understood by their parents, their feelings are not valid, or something is wrong with them (Gottman et al., 1996). Without appropriate emotion coaching, children may be less able to learn acceptable methods of coping, leading them to use maladaptive methods of regulation, such as internalizing and externalizing behaviors. As these unsupportive and intolerant practices persist, children may feel insecure and unsure of themselves, further increasing the likelihood for problem behaviors to persist and translate into poor social skills as well (Gottman et al., 1996).

Additionally, dysregulation of anger was found to mediate the relation between maternal punishing of emotion expression and child externalizing behaviors. Teacher responses on child anger dysregulation also convey a link to internalizing (r = .23 .001)

and externalizing behaviors (r = .55, p = .000), offering support for mothers' perspectives. As stated previously, children who are punished for expressing their emotions often do not receive adequate guidance to develop appropriate emotion regulation skills. Ineffective anger regulation skills are often associated with externalizing behaviors as children struggle to control their impulsivity (Eisenberg, 2009). As these children grow, continued unsuccessful attempts to gain these skills may contribute to the frustration of frequent punishment.

Poor effortful control was also found to mediate the relation between maternal punishing of emotion expression and externalizing behaviors. Teacher reports also supported the relation between effortful control and externalizing behaviors (r = -.25, p = .001), offering validation for such relation using maternal response variables. Previous research conducted by Valiente et al. (2003) suggested that children with high effortful control are able to regulate their behavior and therefore displayed fewer externalizing behaviors. It can be assumed then, that when children have difficulty regulating their attention and emotions, they are more prone to act impulsively. In this way, children with low effortful control are likely to have little control of their emotional displays as well. Valiente et al. (2003) state that deficits in effortful control predicted long-term externalizing behaviors. Kindlon, Mezzacappa, and Earls (1995) suggest that this may be associated with the tendency for impulsive children to be insensitive to reward and punishment mechanisms. Thus, when parents punish uncontrolled displays of emotion, children may be unaffected by the punishment, therefore continuing the ineffective control attempts. Additionally, from a functionalist perspective, children who lack adequate regulation skills may use externalizing behaviors to communicate an unmet

need or desire. However, parents who punish and do not guide their children in gaining such skills, may perpetuate children's use of externalizing behaviors as they continue to feel misunderstood and are unable to achieve their desired goal within that relationship.

Further, previous research has considered the role of parental distress on child internalizing behaviors (see Eisenberg et al., 1999; Krain & Kendall, 2000; Sawyer, Streiner, & Baghurst, 1998), although results remain inconsistent. Findings of the present study support those that have established a link between parental distress response and child internalizing behaviors. Mediational analyses from this study suggest that dysregulation of worry and low levels of anger coping are responsible for a significant portion of the variance in this relation. It is possible that when mothers respond to their children's expressions of negative emotions with distress, children may feel responsible for their parents' negative emotional experience, leading to the development of internalizing symptoms as an attempt to protect parents from harm or discomfort. It is also likely that when children are unable to appropriately regulate their worry, they become overwhelmed and ruminate, leading them to internalize and persist in their maladaptive regulatory mechanisms as they fail to receive appropriate guidance from their distressed parent. Research has also noted an observational learning component of emotion regulation (see Morris et al., 2007) which could suggest that children may model their parent's distress and incorporate such displays into their own repertoire of emotion management skills, leading them to utilize such dysregulated responses as emotion management attempts. It is also possible that children may be seeking assistance through such dysregulated displays, yet continue to not receive such assistance as parents are unable to respond appropriately due to their own distress, often leading them to leave or

avoid the situation rather than provide assistance (Eisenberg et al., 1999). This may leave children feeling anxious, worried, and fearful as they learn they cannot approach their parents for guidance, causing their worries go unregulated, leading to persistent internalizing symptoms. As children search for other methods of coping, they may utilize maladaptive methods such as internalizing symptoms in attempt to cope on their own (Eisenberg et al., 2009).

Mediation was not found for a few relations. Anger dysregulation was not a significant mediator of maternal punishing and child internalizing behaviors. Nor was anger dysregulation a mediator of maternal distress response and child internalizing. This could be explained by the tendency for behaviors associated with anger dysregulation to be closely related to externalizing (e.g., aggression and conduct problems) rather than internalizing behaviors (Eisenberg et al., 2009). Unexpectedly, worry coping was not supported as a mediator between maternal distress response and child internalizing, although the relation nearly approached significance ($z = 1.89$, $p = .059$). It could be that other factors play a more significant mediating role between maternal distress and child internalizing behaviors. Although worry coping may contribute somewhat to the relation, mechanisms such as maternal rejection, or warmth and availability, may be more important when considering the association of mothers' distress response with internalizing behaviors. Roelofs, Meesters, Huurne, Bamelis, and Muris (2006) noted that parents who reject their children are more likely to have children with internalizing and externalizing behaviors.

The inhibitory subscale did not offer any significant relations to be tested in mediational analyses, which may be due to the difficulty of observing such behavior as it

is an internal process. For this reason, parents may miss signs of inhibitory control and report incongruently with what children are actually experiencing. Additionally, the items within the inhibitory subscale measures parents' attunement to their child's feelings by asking if their children hide or hold their feelings in. However, parents who respond negatively to their children's expressions of emotion are unlikely to be adequately attuned to their child, thus leading them underreport unexpressed emotions in their children. Furthermore, the lack of significant relations using child self-report of inhibition may be attributed to low alpha coefficients or to the capturing of child regulation processes other than inhibition. For instance, the items "I hold my worried/angry feelings in," or "I get worried/angry and don't show it" could reflect positive emotion coping processes in some children rather than dysfunctional ones. Correlations between the inhibitory subscale and coping and dysregulation subscales further support this hypothesis. Child report of anger inhibition was significantly negatively correlated with anger coping problems ($r = -.37$, $p < .001$), and worry coping problems ($r = -.29$, $p < .001$). Additionally, child report of worry inhibition was significantly negatively correlated with anger coping problems ($r = -.27$, $p < .001$) and worry coping problems ($r = -.23$, $p = .001$). This suggests that children who evidence more problems coping with their emotions portray less inhibition of their emotions, or children with greater emotion coping also have greater inhibition. It is possible that children who are able to cope with their emotions appropriately hold their emotions in, therefore capturing more positive emotion regulation skills rather than dysfunctional ones that the inhibition subscale sought to measure.

Application of Findings

This study contributes to the existing body of research by examining and uncovering some of the specific mechanisms that mediate the relation between maternal negative response to child emotion and problem behaviors during middle childhood. Undergoing much growth and change, children in middle childhood are at a critical period of emotional development. Without adequate assistance and opportunities to learn appropriate emotion regulation strategies, children are at risk to develop long-term struggles that may impact multiple developmental areas. For these reasons, several implications are important to consider. First, intervention efforts to remediate or prevent child behavior problems should be addressed by increasing positive and adaptive emotion regulation skills as these abilities can have a strong impact on problem behaviors (Eisenberg et al., 2009) and may serve as a protective factor when negative parenting may be present or in times of stress and/or crisis (Kliewer et al., 2004). An example of an approach targeting child emotional regulation is Al's Pals: Kids Making Healthy Choices. Through school intervention, this program seeks to increase socioemotional competence and decrease aggressive behaviors through creative play, puppetry, role plays, and music. Teachers present 46 lessons during this year-long interactive curriculum focused on various topics such as regulating emotions and behavior, problem-solving, responsibility, and positive social relationship skills. Parents are also engage in this program through progress letters and at home activities in order to further reinforce the concepts. Researchers have examined the efficacy of Al's Pals for preschool through early elementary aged children and have noted that children involved in the intervention

displayed a greater decrease in problem behaviors and increase in coping and prosocial behaviors than those not involved in the intervention (Lynch, Geller, & Schmidt, 2004).

The present study revealed several significant mediational relations involving the management of anger, identifying anger as a potential intervention point for children as well. For this reason, programs that have been developed to assist children in regulating and coping with their anger should be used to provide children with the skills necessary to manage their anger, and therefore offer protection from against potential risk for developing problem behaviors. Flanagan, Allen, and Henry (2010) propose an approach to addressing anger management that combines traditional anger management techniques with concepts from Rational Emotive Behavioral Therapy (REBT). This approach helps children apply various problem solving techniques and manage affect and behaviors associated with anger, and also teaches them to identify the activating events, associated beliefs, and emotional consequences, and introduces methods to dispute irrational beliefs, and engage in effective coping. Researchers have noted that the combination of cognitive and behavioral control strategies provide added benefits for children; specifically, they are better able to manage and cope with anger, which not only promotes effective behavior management skills, but social skills as well (Flanagan et al., 2010).

Findings of the current study also support previous research that highlighted the detriments of parent negative response to children. Positive parental involvement is especially important in children's development of emotion regulation; thus, interventions should be designed to promote supportive parenting techniques to assist children in such development. One intervention that addresses the critical role of parent support and guidance is Gottman's *emotion coaching*. In the book *Raising an Emotionally Intelligent*

Child, Gottman and DeClaire (1997) guide parents through appropriately responding to children's expressions of emotion. In this way, parents are taught to coach their children to appropriately manage their emotions through positive responses and appropriate modeling. Teaching parents supportive responses that focus on emotion regulation can impact many other areas of growth and development for children; specifically, researchers have noted additional benefits in areas of attentional control and interpersonal relationships (Gottman et al., 1996). This provides support for programs that encourage and teach positive responsiveness and emotion-related communication between parents and children.

Limitations

Despite the many strengths of this study, a number of limitations should be considered. First, due to the limited availability and response from fathers, this study focused on maternal responses to child emotion expression. Further research is needed to examining paternal negative responses and effects on child emotion regulation and problem behaviors. Additionally, significant mediating relations were only found using maternal report measures. It is possible that mothers who respond to their children's expressions of emotion with distress or punishment are more sensitive to impairments in child emotion regulation and/or behavior problems, leading them to over-report; thus providing more significant results. In fact, Eisenberg et al. (1999) found that over time, parents tend to punish their children more often for externalizing behaviors that result from deficiencies in emotion regulation, therefore, supporting the sensitivity hypothesis. Child report measures offered few significant correlations with maternal and teacher report variables; thus were not included in mediational analyses. It is likely that the age of

the children was a limiting factor here. Although reliability and validity on the child report measures were established in previous studies with older children, alphas for these measures in the present study were somewhat low, therefore posing the question about the use of these measures with younger children. Correlations between teacher reports of internalizing and externalizing outcomes and predictors or mediators were not significant. This may be a function of the different environment where the children were assessed. For instance, teachers may report differently on a child because they spend limited individual time with children, therefore do not see similar behaviors as parents report. Teachers also have the opportunity to observe children in an environment with many other children, providing an opportunity to compare children at similar developmental levels which may lead to different concerns than parents. Nonetheless, the use of only maternal report measures may limit the generalizability of the data due to the single reporter bias. Further, a significant number of mothers who completed Wave 1 questionnaire packets failed to return Wave 3 packets. This high rate of attrition may contribute to biased results considering the mothers who remained involved throughout the duration of the study may have been more or less distressed than the general population, leading to different levels of commitment to and involvement in the study. It is possible that mothers with higher distress levels were less likely to continue in the study due to the overwhelming nature of their daily functioning. For this reason, it may be that mothers who responded in Wave 3 were less likely to view their children's behaviors as intense and problematic, therefore leading to biased results. The number of analyses is also a limitation of this study. Due to the poor reliability across CEMS subscales, separate analyses were conducted for each. Although this provided more

specific information about the mechanisms by which the variables are related, it is also possible that this increased the likelihood for chance findings (i.e., Type I error).

Future Research Suggestions

Future research should continue to examine mechanisms of emotion regulation as a mediator of parent response and problem behaviors. Because children are initially socialized by their parents and model parent behaviors, it is important to consider the hidden role parents play in socializing socioemotional functioning. Additionally, although this study attempted to utilize multiple reporters, the results were primarily only significant for maternal report variables. Future researchers should continue utilizing multiple reporters to further investigate and specify the validity of these relations and improve the generalizability of the study. Additional efforts to clearly phrase and define questions as developmentally appropriate would provide more reliability and validity in children's self-reports which could increase positive findings. Additionally, incorporating observational assessments of parent-child interactions and observing children in the context of their schools may provide additional benefits in the validity and reliability of multiple reporters. Furthermore, a larger sample with more participating fathers would also provide a more comprehensive and systemic view of child emotion regulation. Finally, it would also be beneficial to focus on maintaining the sample numbers over time, therefore, providing more confidence to the relations that are identified. This may be facilitated by increasing incentives, engaging in more direct personal involvement with parents, teachers, and children throughout the study, or offering greater flexibility when possible.

Conclusion

The current study sought to investigate the potential mediating role of several emotion regulation processes between maternal negative response to child emotion expression and child internalizing and externalizing behaviors. As previous research supported links between each variable, it was hypothesized that child emotion regulation would mediate the relation between parent response to child negative emotion and child externalizing and internalizing behaviors. Mediational analyses provided support for several emotion regulation variables, suggesting that parent negative response is linked to child internalizing and externalizing behaviors at least partially through poor child emotion regulation processes. These results add to the current body of research by offering a more detailed understanding about the child emotion regulation mechanisms that are involved in the development of problem behaviors. Little is known about emotion regulation processes and the influence of parental responses to emotions during middle childhood. Although parents act as a critical influence on socioemotional development during infancy and toddlerhood, their role remains significant throughout childhood. With the increase importance of peer relationships, research interest tends to be focused on peer and school contexts, and less on familial relationships during this developmental period. However, this may cause researchers to miss important elements of socioemotional development during childhood if this critical time is overlooked.

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APPENDICES

Appendix A

CCNES

Punishing

1a. Send my child to his or her room to cool off.
2f. Tell my child to stop crying or he/she won't be allowed to ride his/her bike anytime soon.
3f. Tell him/her that's what happens when you're not careful.
4a. 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).
5d. Tell the child that if he/she doesn't stop that he/she won't be allowed to go out.
6d. Tell my child to straighten up or we'll go home right away.
7e. Tell my child that if he/she doesn't calm down, we'll have to leave and go home right away.
8e. Scold my child for being insensitive to the friend's feelings.
9e. Tell him/her to go to bed or he/she won't be able to watch anymore TV.
10b. Tell my child that if he/she starts crying then we'll have to go home right away.
11c. Tell my child to behave or we'll have to go home right away.
12e. Tell my child that he/she must stay in the living room and visit without friends.

Minimizing

1d. Tell my child not to make a big deal out of missing the party.
2c. Tell my child that he/she is over-reacting.
3b. Tell my child that he/she is over-reacting.
4c. Tell my child not to make a big deal of the shot.
5c. Tell my child to quit over-reacting and being a baby.
6b. Tell my child he/she is over-reacting.
7d. Tell my child he/she is being a baby about it.
8d. Tell my child that he/she is over-reacting.
9c. Tell my child that he/she is over-reacting.
10f. Tell my child that he/she will feel better soon.
11a. Tell my child not to make a big deal out of it.
12f. Tell my child that he/she is being a baby.

Distress

1b. Send my child to his/her room to cool off.
2a. Remain calm and not let myself get anxious.
3a. Get upset with him/her for being so careless and then crying about it.
4d. Tell him/her not to embarrass us by crying.
5e. Feel upset and uncomfortable because of my child's reactions.
6c. Feel uncomfortable and embarrassed myself.
7c. Remain calm and not get nervous myself.
8c. Not get annoyed with my child for being rude.
9b. Get upset with him/her for being silly.
10a. Not get upset at myself.
11b. Feel upset myself.
12d. Feel upset and uncomfortable because of my child's reactions.

Appendix B

Children's Emotion Management Scale: Anger (Child Report)

Inhibition

2. I hold my anger in.
5. I hide my anger.
7. I get mad inside but I don't show it.
11. I'm afraid to show my anger.

Dysregulated Emotion Expression

4. I do things like slam doors when I am mad.
6. I attack whatever it is that makes me mad.
9. I say mean things to others when I am mad.

Emotion Coping

1. When I am feeling mad, I control my temper.
3. I stay calm and keep my cool when I am feeling mad.
8. I can stop myself from losing my temper.
10. I try to calmly deal with what is making me feel mad.

Appendix C

Children's Emotion Management Scale: Worry (Child Report)

Inhibition

3. I hold my worried feelings in.
6. I hide my worried feelings.
8. I get worried inside but don't show it.

Dysregulated Emotion Expression

5. I do things like cry and carry on when I'm worried.
7. I keep whining about how worried I am.

9. I can't stop myself from acting really worried.

Emotion Coping

1. I keep myself from losing control of my worried feelings.
2. I show my worried feelings.
4. I talk to someone until I feel better when I'm worried.
10. I try to calmly settle the problem when I feel worried.

Appendix D

Children's Emotion Management Scale: Anger (Parent Report)

Inhibition

2. My child holds his/her anger in.
5. My child hides his/her anger.
7. My child gets mad inside but doesn't show it.
11. My child is afraid to show his/her anger.

Dysregulated Emotion Expression

4. My child does things like slam doors when he/she is mad.
6. My child attacks whatever it is that makes him/her very angry.
9. My child says mean things to others when he/she is mad.

Emotion Coping

1. When my child is feeling mad, he/she can control his/her temper.
3. My child stays calm and keeps his/her cool when he/she is feeling mad.
8. My child can stop him/herself from losing his/her temper when he/she is mad.
10. My child tries to calmly deal with what is making him/her mad.

Appendix E

Children's Emotion Management Scale: Worry (Parent Report)

Inhibition

3. My child holds his/her worried feelings in.
6. My child hides his/her worried feelings.
8. My child gets worried inside by doesn't show it.

Dysregulated Emotion Expression

5. My child does things like cry and carry on when he/she is worried.
7. My child keeps whining about how worried he/she is.
9. My child can't stop him/herself from acting really worried

Emotion Coping

1. My child can keep him/herself from losing control of his/her worried feelings.
2. My child shows his/her worried feelings.
4. My child talks to someone until he/she feels better when he/she is worried
10. My child tries to calmly settle the problem when he/she feels worried.

Appendix F

Children's Behavior Questionnaire

Effortful Control

3. When drawing or coloring in a book, shows strong concentration.
6. Prepares for trips and outings by planning things s/he will need.
9. Likes to be sung to.
12. Notices it when parents are wearing new clothing.
15. When building of putting something together, becomes very involved in what s/he is doing, and works for long periods.
18. Is good at following instructions.
21. Likes the sounds of words, as in nursery rhymes.
24. Is quickly aware of some new item in the living room.
27. Sometimes becomes absorbed in a picture book and looks at it for a long time.
30. Approaches places s/he has been told are dangerous slowly and cautiously.
33. Enjoys gentle rhythmic activities, such as rocking or swaying.
36. Comments when a parent has changed his/her appearance.

Appendix G

BASC-II (Parent Report)

Internalizing

Anxiety

5. Worries.
12. Worries about what teachers think.
13. Is too serious.
32. Worries about making mistakes.
37. Worries about what parents think.
44. Worries about school work.
45. Is fearful.
64. Tries to hard to please others.
69. Is nervous.
77. Worries about things that cannot be changed.
101. Says, “I don’t have any friends.”
109. Says, “I’m not very good at this.”
133. Says, “It’s all my fault.”
141. Worries about what other children think.

Depression

10. Is easily upset.
18. Complains about being teased.
28. Cries easily.
42. Says, “Nobody understands me.”
50. Complains about not having friends.
60. Says, “Nobody likes me.”
74. Is negative about things.
82. Says, “I don’t have any friends.”
92. Says, “I want to die” or “I wish I were dead.”
114. Is sad.
124. Seems lonely.
138. Says, “I want to kill myself.”
156. Changes mood quickly.

Somatization

30. Expressed fear of getting sick.
54. Complains of pain.
59. Has stomach problems.
62. Says, “I think I’m sick.”
86. Has headaches.
91. Complains about health.
94. Gets sick.
118. Has fevers.
123. Is afraid of getting sick.

126. Complains of being sick when nothing is wrong.
150. Vomits.
158. Complains about shortness of breath.

Externalizing

Aggression
8. Teases others.
24. Bullies others.
26. Hits other children.
40. Argues with parents.
56. Argues when denied own way.
58. Threatens to hurt others.
72. Annoys others on purpose.
88. Seeks revenge on others.
90. Loses temper easily.
104. Calls other children names.
136. Is cruel to others.

Conduct
15. Disobeys.
29. Steals.
47. Breaks the rules.
61. Lies to get out of trouble.
79. Deceives others.
93. Sneaks around.
111. Lies.
125. Breaks the rules just to see what will happen.
157. Gets into trouble.

Appendix H

BASC – II (Teacher Report)

Internalizing

Anxiety

11. Worries about things that cannot be changed.
25. Says, “I get nervous during tests” or “Tests make me nervous.”
39. Is nervous.
53. Says, “I’m afraid I will make a mistake.”
81. Worries about what other children think.
109. Is fearful.
137. Worries.

Depression

9. Says, “I hate myself.”
12. Seems lonely.
37. Says, “I want to die.” or “I wish I was dead.”
40. Says, “Nobody likes me.”
49. Is easily upset.
68. Is sad.
77. Is negative about things.
96. Cries easily.
105. Is pessimistic.
124. Complains about being teased.
133. Says, “I don’t have any friends.”

Somatization

6. Complains about health.
27. Has headaches.
34. Visits the school nurse.
55. Has stomach problems.
62. Has fevers.
83. Complains of shortness of breath.
90. Complains of pain.
111. Is afraid of getting sick.
139. Gets sick.

Externalizing

Aggression

8. Argues when denied own way.
24. Threatens to hurt others.
36. Loses temper too easily.
52. Defies teachers.
64. Bullies others.

80. Seeks revenge on others.
92. Calls other children names.
108. Annoys others on purpose.
120. Hits children.
136. Teases others.

Conduct

14. Breaks the rules.
28. Disobeys.
42. Sneaks around.
56. Steals at school.
70. Cheats in school.
84. Bullies others.
98. Deceives others.
112. Lies.
126. Gets into trouble.

VITA

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