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Previous research has implicated maternal emotion socialization as an important predictor of children's future social competence and behavior. However, the factors related to emotion socialization strategies have yet to be explored. This study examined the relative contribution of child temperament, maternal parenting stress and psychopathology, and the mother-child relationship as factors related to dimensions of non-supportive and supportive emotion socialization practices of mothers of 4-year-old children. Results indicated that maternal psychopathology, maternal parenting stress, and a positive mother-child relationship were related to non-supportive emotion socialization practices. In addition, a negative mother-child relationship mediated the relationship between child frustration distress and non-supportive emotion socialization. Exploratory analyses examined the possibility that mothers may fall into groups based on their patterns of emotion socialization.

MATERNAL SOCIALIZATION OF EMOTION: CHILD, MATERNAL, AND
RELATIONAL FACTORS

by

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CHAPTER I

INTRODUCTION

In everyday life, children frequently express positive and negative emotions. Parents, as socializers, have an opportunity to react in supportive or non-supportive ways in response. These reactions have a direct effect on children's day-to-day emotional functioning and the development of appropriate communication of emotions over time. Parents who actively listen and respond to expressions of emotion in a supportive manner have children who are more likely to feel secure to communicate both positive and negative feelings to parents and peers in the future. Thus, an understanding of the socialization of emotion has implications for social and emotional development, as emotion-related capacities are believed to play a major role in the development of social competence (Eisenberg & Fabes, 1992; Hubbard & Coie, 1994; Saarni, 1990). Parental emotion socialization strategies contribute to the manner in which children's affective organizations develop and become consolidated over time (Garside & Klimes-Dougan, 2002).

Although the manner in which parents respond to children's emotions may be a part of parenting style, general parenting practices have not been found to be predictive of children's emotion-related responding (Gottman, Katz, & Hooven, 1996a). Children are affected by parenting behaviors such as warmth, control, or hostility; but it is possible

that specific emotion-laden learning experiences have different consequences, especially with regard to future emotional expression and communication. Thus, parental reactions to children's displays of emotion may be particularly salient aspects of the development of emotional and social competence. Children generalize these experiences to their own expressiveness and use them in building emotion knowledge (Denham et al, 1997). If the foundation of emotional and social competence lies partly in the emotion socialization practices of parents, it is important to understand how this influence takes shape.

Research to this point has focused on how maternal reactions to their children's emotional expressions predict future emotional and behavioral outcomes. The strategies mothers use to manage emotions—especially negative emotions—have been found to be predictive of various socio-emotional outcomes. Mothers' negative responding has been found to undermine emotional security and regulation (Cummings & Davies, 1994). So, children who experience a non-supportive relationship with a parent during an emotionally challenging situation may themselves become emotionally dysregulated. Non-supportive reactions may challenge children's abilities to constructively cope with negative states (Denham, 1997). Children may learn to suppress negative emotion, which in turn, increases negative emotional arousal and anxiety (Gross & Levenson, 1993).

Receiving negative feedback for expressing anger or frustration has also been found to elicit a pattern of stored and released negative emotion in children (Gross & Levenson, 1997). For example, research supports the idea that emotionally unexpressive adults and children are more physiologically reactive to a variety of emotional stimuli than are expressive individuals (Field & Walden, 1982). Children's inability to

comprehend, cope with, and express negative emotions in an adaptive manner is also predictive of negative outcomes associated with specific psychopathologies, including aggression (Zeman, Shipman & Suveg, 2002), oppositional behavior and conduct disorder (Cole, Zahn-Waxler, Smith, 1994), and depression (Shaw, Keenan, et al, 1997).

The emotion socialization process does not occur overnight; rather, it exerts its influence throughout early and middle childhood. Emotion socialization begins during infancy. Caregivers' interactions and responses to their infants' emotions appear to influence the way infants learn to express and regulate their internal states (Malatesta, Culver, Tesman & Shephard, 1989). Research has shown that infants whose mothers were responsive to their changing emotional cues were less likely to react negatively and used more regulatory behaviors than did infants whose mothers were less sensitive to their cues (Stifter & Moyer, 1991). Each interaction with their mother is a learning experience for children. Those who do not have the opportunity to build this secure relationship feel that they cannot rely on others for assistance and develop fewer strategies for coping with negative emotions, as well as less confidence that they are able to do so (Eisenberg, Cumberland, & Spinrad, 1998).

As children move through toddlerhood and early childhood, social situations become more complex, as interaction with peers becomes a more common occurrence. Emotional and social competence becomes increasingly important for successful management of family and peer social opportunities. Buck (1984) hypothesized that children whose negative emotional expression is not supported by parents learn to hide their overt expression; but at the same time, experience heightened physiological

reactivity in emotion-evoking situations. Supporting this hypothesis, Fabes, Leonard, Kupanoff, & Martin (2001) found that the relation of parental coping and distress to children's social competence was mediated by children's level of emotional intensity. Children whose parents support their emotional expression may not have to constantly worry about display rules and may afford more effort to developing peer networks and friendships. Four and five year olds whose parents were comforting or matched their positive emotions were seen by teachers as more skilled with peers, more cooperative, and more empathic (Denham, 1997), factors that are essential to social competence throughout middle childhood.

Theorists have used both general and specific constructs to describe the emotion management strategies employed by parents. These strategies have been found to differ widely between parents, depending on their parenting style and their child's disposition. Gottman and colleagues (1996b) described these differences as distinctions of *parental meta-emotion philosophy*, defined as an organized set of feelings and thoughts about one's own emotions and the emotions of ones' child. They include two dimensions: emotion-coaching and dismissing. Parents with an *emotion-coaching philosophy* are aware of emotion in themselves and in their child. They use negative emotions as an opportunity for intimacy and teaching and assist their children with problems-solving, setting limits, and discussing coping strategies. Parents who employ a *dismissing philosophy* view sadness and anger as dangerous to their child and see it as their job to fix or change these emotions as quickly as possible. Negative emotions are not thought of as important or worthy of spending time or energy.

More specifically, maternal self-report of emotion management strategies have been assessed using *The Coping with Children's Negative Emotions Scale* (Fabes, Eisenberg, & Bernzweig, 1990). This questionnaire measures the degree to which parents perceive themselves as reactive to young children's negative affect in distressing situations. Nonsupportive reactions are divided up into 3 subscales: *punitive* (the degree to which parents respond with punitive reactions that decrease their exposure or need to deal with the negative emotions of their children); *minimizing* (the degree to which parents minimize the seriousness of the situation or devalue the child's problem or distressed reaction; and *parental distress* (the degree to which parents experience distress when children express negative affect. Supportive reactions include: *expressive encouragement* (the degree to which parents encourage children to express negative affect or the degree to which they validate a child's negative emotional states), *emotion-focused reactions* (the degree to which parents respond with strategies that are designed to help the child feel better), and *problem-focused reactions* (the degree to which parents help the child solve the problem that caused the child's distress).

Non-supportive reactions tend to be associated with undesirable outcomes for children, such as externalizing problems (Eisenberg et al, 2003) and low levels of emotion knowledge (Denham et al, 1997). For example, children who attempt to communicate a difficult emotional experience that occurred during the school day to their parents and are met with punishment, lack of interest, or parental distress, are not learning to express emotions in the future, but perhaps to use more aggressive or avoidant coping strategies.

Taken together, this work demonstrates that mother's reactions to emotional expressions have a profound effect on children's future ability to successfully handle emotionally challenging situations with parents, siblings, and peers. Parents shape their children's beliefs and expectations regarding the future appropriateness of expressing certain emotions. Missing from this line of research is an examination of factors related to supportive or non-supportive emotion management strategies. Since non-supportive parental reactions to emotion have been found to be harmful to children's social and emotional development, it seems a logical next step to determine how these parental behaviors themselves develop.

Several factors that influence the mother-child relationship throughout the toddler and preschool years most likely continue to have an effect on mothers' ability to supportively socialize emotions in their children throughout development. It is possible that characteristics of the child, the parent, and the ongoing relationship between the two contribute to the development of emotion socialization practices.

Child Temperament

Child temperament is one mechanism that may affect the development of emotion socialization style throughout infancy, childhood, and adolescence. Temperament has been defined as "constitutionally based individual differences in emotional, motor, and attentional reactivity and self regulation" (Rothbart & Bates, 1998). Temperamental characteristics are relatively consistent across situations, as well as over time (Rothbart, Derryberry, & Hershey, 2000). However, temperamental processes are seen as open systems, allowing for the content of experience to influence their development, which

stresses the need for studying the links between temperament and experiences (Rothbart & Bates, 1998). Thus, there may be many developmental factors that may alter the course of initial temperamental dispositions.

Beginning in infancy, there are recognizable individual differences in the intensity and valence of emotion, which affect a child's development throughout early and middle childhood. Through the development of tools designed to measure infant temperament, six dimensions have been identified: fearful distress, irritable distress, positive affect, activity level, attention span/persistence, and rhythmicity (Rothbart & Mauro, 1990). These dimensions have been used to study outcomes of different temperamental styles displayed by children. Easily frustrated infants were found to use different regulatory strategies and were observed to be less attentive and more active than less easily frustrated infants (Calkins, Dedmon, Gill et al, 2002). Dysregulated toddlers were found to be more aggressive than those who were better able to regulate their emotions or inhibit undesirable behaviors when necessary (Rubin, Burgess, Dwyer, & Hastings, 2003). Individual differences in temperament clearly affect the development of self-control and emotion regulation—skills necessary for successful social relationships.

Few studies have examined the direct effects of temperament on the parent-child relationship. Individual differences in temperament play a central role in future social functioning and others' reactions to children's behavior (Eisenberg, Fabes, Guthrie & Reiser, 2000). Children who are easily frustrated are likely to express emotion inappropriately, engage in socially problematic behaviors, and elicit negative responses

from others. These children may elicit controlling or distressed reactions from parents who are routinely unable to control their emotionality.

During infancy, easy, positive babies are thought to evoke different reactions from caregivers than difficult, negative babies (Scarr & McCartney, 1983). It is possible that difficult babies may pose more challenges to parents and may elicit less responsive parenting. Kochanska, Friesenborg, Lange, & Martel (2004) found that infants' temperament was a significant contributor to three dimensions of the mother-infant relationship—shared positive ambience, responsiveness, and consistent tracking of the infant. Children who typically exhibit more frequent and intense negative emotions would be expected to induce more distress in parents and elicit negative reactions. In support of this idea, Eisenberg and Fabes (1994) found that children high in negative affect and emotional intensity had mothers who reported high amounts of minimizing, punitive, and distress reactions to their children's negative emotions. Thus, children with different temperaments elicit different reactions from mothers, which may directly affect the development of emotion-management strategies.

Researchers have pointed out that it is essential to include these child characteristics when testing models of emotion socialization (Zahn-Waxler, Klimes-Dougan, & Kendziora, 1998). It is likely that individual differences in infants' emotionality influence both parents' responsiveness as reflected in assessments of attachment behaviors and parental management of emotions (Calkins & Fox, 1992). Opportunities for management of emotional reactivity are themselves the product of the temperament of the child (Fox & Calkins, 2003). The manner in which caregivers

respond to the expressive tendencies of their children has a profound effect on their future emotional expression and ability to cope with stressful situations.

Maternal Parenting Stress and Psychopathology

Maternal factors, such as parenting stress and psychopathology, may also play a role in the development of emotion socialization practices. Handling children's strong negative emotional expressions taxes a parent's skills and requires understanding, patience, and a willingness to guide the child through the experience. These parenting tasks become increasingly challenging in the context of high levels of parenting stress or psychopathology. To date, few studies have directly examined the effect that these factors have on emotion management strategies of mothers. However, several studies have found that these maternal factors do affect the quality of the parent-child relationship.

Mothers who have low self-efficacy in terms of their parenting skills, or who experience high levels of parenting stress, may be more susceptible to reacting in a negative manner to their children's negative emotions. These mothers may not have the confidence that they will be able to perform competently and effectively during emotional experiences with their children. Bandura (1989) has described perceived self-efficacy as an important factor that mediates relations between feelings and behavior. For example, a mother who is feeling very distressed about her relationship with her child may feel threatened by her child's negative emotions, and attempt to fix the problem or alleviate her own stress in lieu of processing the experience with her child. Mothers who have confidence may be more likely to use their child's frustration as a learning experience.

In terms of psychopathology, children of depressed and anxious mothers have been studied extensively. They have been found to be at heightened risk for the development of psychopathology (Beardslee, Bemporad, Keller, & Klerman, 1983; Downey & Coyne, 1990). Theoretical mechanisms addressing the transmission of psychopathology from depressed parents to their children center on the parent-child relationship (Gelfand and Teti, 1990). It is possible that mothers experiencing these emotional difficulties are unable to tolerate strong negative emotion from their children. Research suggests that processes of negative emotionality and its regulation in children and families are especially affected (Cummings & Davies, 1994). Mothers who are unable to understand and cope with their own negative emotionality are less likely to have the capacity to be supportive of their child's negative emotional experiences.

The relationship between maternal psychopathology and negative outcomes for children has also been studied. Relatively weak effects have been found for teaching or puzzle-completion tasks (Goldsmith & Rogoff, 1995) or when global factors of parent-child interaction were assessed in low-stress situations (Tarullo et al., 1995). However, Cummings (1995) suggested that when tasks are negatively arousing, parental depression may have stronger effects than during primarily academic or intellectual performance tasks. Adverse impacts on emotional functioning may be evident in stress-inducing contexts that challenge the coping capacities of depressed parents and their children, or in situations that demand precise emotional communication, contingent expression of affect, or other deficits specifically linked with depressive symptomatology. The children of

depressed or anxious mothers do not have the same emotional learning experiences as children of mothers who are more emotionally healthy themselves.

Mother-Child Relationship

Recent theoretical formulations highlight the role of attachment in the development of emotion regulation (Cassidy, 1994; Calkins & Fox, 1992). The emotional security hypothesis put forth by Davies & Cummings (1996), suggests that emotional security—springing from a secure attachment—is a goal that motivates children’s future regulatory processes. The mother-child relationship is most likely the first setting in which children learn lessons about expressing emotion and interpreting emotional cues from the external world. Basic parameters, such as the frequency, duration, and intensity of emotional expressions, are shaped in the face-to-face interactions between children and their significant others (Malatesta & Haviland, 1982).

Children who have experienced sensitive, responsive care are expected to develop confidence in the mother’s emotional availability and responsiveness, and to promote a positive and trusting orientation toward the mother, themselves, and the world. In contrast, children who have experienced insensitive, relatively unresponsive care are expected to develop a lack of confidence in the mother’s emotional availability and responsiveness, and to foster a negative and mistrusting orientation towards the mother, themselves, and the world (Belsky & Fearon, 2002). Secure infants have mothers who are accepting of their displays of both positive and negative emotions, and these infants are likely to feel free to express a range of emotions and develop expectations that their needs will be responded to sensitively (Eisenberg, Cumberland, & Spinrad, 1998).

A neglected area in attachment and emotional security research is the measurement of the mother-child relationship after infancy and an examination of factors that contribute to the continuity or discontinuity of this bond, and its implications for future outcomes. Results from several studies suggest that children vary considerably in the extent to which attachment security remains individually consistent over time (e.g., Sroufe, Carlson, Levy & Egeland, 1999). Research has pointed to the continuity of the rearing environment playing a part in attachment security continuity (Erickson, Egeland, & Sroufe, 1985). Assessment of the mother-child relationship in the preschool period may reveal more profound influences on development than assessment in infancy because of the greater integrity and sophistication of the internal working models with which it is associated (Thompson, 2000). Measurements after infancy may offer a glimpse into the type of relationship that a mother has developed with her child. This relational variable may differentially predict mothers' supportive and nonsupportive reactions to their children's expression of negative emotions.

The Current Study

Taken together, this research points to the fact that multiple factors may play a role in the development of maternal socialization of emotion. Child temperament, maternal parenting stress and psychopathology, and the mother-child relationship may be differentially related to maternal emotion management strategies. In addition, these factors may interact with each other. Thus, the goal of this study is to examine the relative contributions of child, maternal, and relationship factors to supportive and non-supportive maternal socialization of emotion.

The first question is whether child temperament, maternal parenting stress and psychopathology, and the mother-child relationship at age four are related to mother-reported supportive and non-supportive emotion socialization strategies. It is expected that children who are highly distressed will elicit more negative or non-supportive reactions from their mothers than supportive. Mothers who are experiencing high levels of parenting stress and psychopathology are expected to display more non-supportive emotion management strategies with their children than supportive. Mothers and children in dyads that have not developed a strong and positive relationship are also expected to report more non-supportive reactions.

The second question will address whether these factors interact with each other in predicting emotion socialization. It is hypothesized that mothers of children who are easily frustrated, and are highly distressed themselves, are more likely to display nonsupportive reactions; while mothers of easily frustrated children who have lower levels of parenting stress and psychopathology, are more likely to be more supportive. Additionally, mothers of easily frustrated children who have maintained a good relationship with their children, are expected to be more supportive. However, mothers of the same group of children, who have not maintained a good relationship, are expected to be more non-supportive. Thus, easily frustrated children are expected to have an effect on maternal emotion socialization, but perhaps through indirect means (e.g. maternal psychopathology or the mother-child relationship).

CHAPTER II

METHODS

Participants

Participants for this study are part of an ongoing longitudinal study that began when the children were 2 years old. The larger study focused on the relation between emotion regulation and early problem behaviors. This study focuses on the 4-year-old assessments. Initially, to obtain a diverse, community-based sample, 474 potential participants were recruited through child day-care centers, local pediatric offices, and programs at the County Health Department. At the time of initial recruitment, mothers completed the Child Behavior Checklist (CBCL 2/3, Achenbach & Edelbrock, 1987). Sixty-five percent of the families who returned the CBCL were European American, 30% were African American, and 5% were Asian or Hispanic. Hollingshead (1975) SES scores classified 61% of the families as middle class, 25% as lower class, and 14% as upper class.

To ensure a heterogeneous sample of children with a variety of behavioral problems, children were initially selected for participation based on their CBCL scores in two cohorts. Three groups of children were selected from the first cohort: (1) children with externalizing scores on the CBCL in the clinical or borderline range, with t-scores of 60 or above, (n = 46); (2) children with externalizing and internalizing scores on the CBCL in the clinical or borderline range (n = 24); and (3) children with CBCL t-scores below 60 on both internalizing and externalizing scales (n = 84). A second cohort of 153

children was selected in the same manner as the first. This cohort consists of 44 children in the high externalizing group, 30 children in the mixed group, and 79 children in the control group.

Thus, the final sample for this study, including both cohorts, consisted of 307 2-year-old children. This sample was racially and economically diverse (28% African American, 66% European American, 6% Other; mean Hollingshead score = 39.8), primarily from intact families (77%), and consisted of 149 males and 158 females. Eighty-eight of these children were in the high externalizing group, 57 were in the mixed group, and 162 were in the control group.

Two years after the original assessment, the families were contacted by mail and telephone and asked to participate in a follow-up study of the children at preschool and kindergarten. Of the original 307 children, 265 agreed to participate in the follow-up phase of the study (125 from the first cohort and 140 from the second cohort). In most cases, attrition was due to the family relocating from the area, but a small number of families refused to continue in the study or could not be located. More families with boys discontinued participation; however, there were no differences in race, SES, or CBCL externalizing, internalizing, or total scores between the subjects who continued participating in the study and those who did not, or between boys who discontinued and those who did not. This sample was made up of 124 (46.8%) males and 141 (53.2% females). Of these children, 75 (28.3%) were African American, 173 (65.3%) were Caucasian, and 17 (6.4%) were mixed or other in terms of ethnicity. The mean

Hollingshead score for this sample was 43.05. (See Table 1 for complete demographic descriptive data).

Procedures

This study focuses on the 4-year-old assessment. Mother-child dyads were invited to the laboratory and completed a series of tasks designed to measure child temperament and the mother-child relationship. These tasks included a *frustration task*, in which children were presented with a blank sheet of paper and a green marker and asked repeatedly to draw a “perfect circle” (4 min); a *teaching task*, in which mothers were asked to teach their children how to replicate a model made of blocks (4 min); a *puzzle task*, in which mothers were asked to let their children work on a series of two puzzles of increasing difficulty and to help if they thought their children needed help (5 min); a *pretend play* task, in which the mothers and children were given a train set and asked to play like they do at home (6 min); and a *second frustration task*, in which children were given a choice of two toys, which was placed by the experimenter in a clear plastic box, which was locked with a padlock. The child was given a ring of keys (none of which were the correct key) and told to attempt to open the box to get the toy. The experimenter returned with the correct key at the end of the task (4 min).

During the course of this visit and a second visit to the laboratory, mothers were asked to complete a set of questionnaires assessing a wide range of functioning, including the Emotion Regulation Checklist (Shields & Cicchetti, 1997), Symptom Checklist-90 (Derogatis, 1977), the Coping with Children’s Negative Emotion Scale (Fabes, Eisenberg, & Bernzweig, 1990), and the Parenting Stress Index (Abidin, 1995).

Measures

Child temperament. Each child's frustration distress was coded for the two frustration tasks. These codes included: *latency to frustration*, the time at which the child shows the first sign of frustration; *duration of frustration*, the total time period for all frustration episodes; and *global frustration*, during the entire task measured on a 5-point scale. *Latency to frustration* was subtracted from the total time of the task to create a *reverse latency* variable. *Duration of frustration* was divided by the total time of the task to create a *proportion of time frustrated* variable. Therefore, for all three coded measures, higher scores indicate increased distress. The Emotion Regulation Checklist (ERC), a 24-item mother-report assessment of temperament in early to middle childhood was administered to mothers. Two factors have been reliably recovered from this instrument, labeled Negativity and Regulation. For the purposes of this study, the *negativity* factor will be used as a measure of maternal report of frustration distress.

Maternal parenting stress. The Parenting Stress Index Short Form (Abidin, 1995), a 36-item questionnaire designed to measure stress in the parent-child system was administered to mothers. Four factor scores are derived from the questionnaire: *total stress*, an indication of the overall level of parenting stress an individual is experiencing; *parental distress*, the distress a parent is experiencing in her role as a parent as a function of personal factors that are directly related to parenting; *parent-child dysfunctional interaction*, the mother's perception that his or her child does not meet the parent's expectations, and the interactions with his or her child are not reinforcing for her as a parent; and *difficult child*, focusing on basic behavioral characteristics of children that

make them either easy or difficult to manage. The *difficult child* factor was used as the measure of parenting stress for this study, because this factor reflects stress the mother feels that is directly associated with her child's behavior. Higher scores indicate greater stress levels.

Maternal psychopathology. The Symptom Checklist-90-Revised (Derogatis, 1977), a self-report measure that assesses psychiatric symptoms, was administered to mothers. This scale provides a measure of the severity of general psychiatric symptomatology. Twelve factors scores are derived from this questionnaire: somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, psychoticism, general severity, positive symptom distress, and positive symptom total. For the purposes of this study, the *general severity index* was used as the measure of maternal psychopathology, as it reflects a general level of psychopathology across the measure. Higher scores on this index indicate higher levels of psychopathology.

Mother-child relationship. Global coding of the mother-child interaction (Winslow, Shaw, Bruns, & Kiebler, 1995) was completed across the teaching, puzzle, and pretend play tasks. All codes were completed for both the child and the parent and included: *hostility*, the emotional expression of anger towards the other person; *positive affect*, positive emotion during communication and level of warmth; and *responsiveness*, promptly and appropriately responding to bids from the other person. Summary scores were calculated across the tasks, as well as mother and child codes combined to create positive and negative relationship variables (see results).

Maternal Emotion Socialization. Mothers completed the Coping with Children's Negative Emotions Scale (CCNES; Fabes, Eisenberg, & Bernzweig, 1990), which measures the degree to which parents perceive themselves as reactive to young children's negative affect in distressful situations. The CCNES has been found to be internally reliable with sound test-retest reliability and construct validity (Fabes et. al., 2002). Six subscales are derived that reflect the specific types of coping response parents tend to use in these situations. These subscales can be divided into supportive and nonsupportive strategies. The supportive subscales are: *expressive encouragement*, the degree to which parents encourage children to express negative affect or the degree to which they validate child's negative emotional states; *emotion-focused reactions*, the degree to which parents respond with strategies that are designed to help the child feel better; and *problem-focused reactions*, the degree to which parents help the child solve the problem that caused the child's distress. The non-supportive subscales are: *distress reactions*, the degree to which parents experience distress when children express negative affect; *punitive reactions*, the degree to which parents respond with punitive reactions that decrease their exposure or need to deal with the negative emotions of their children; and *minimization reactions*, the degree to which parents minimize the seriousness of the situation or devalue the child's problem or distressful reaction.

CHAPTER III

RESULTS

Preliminary Analyses

Given the different assessments and the varying procedures for data collection, the number of participants varies across measures (see Table 2 for exact N values and descriptive statistics). For each analysis, all available data were used. Preliminary analyses examined gender, SES, and race differences on all study measures. These analyses indicated that there were no gender differences on any measures. Several measures were significantly related to the participant's Hollingshead score and race. Race was only related to independent measures, therefore it was not added to subsequent analyses. However, Hollingshead was significantly positively correlated with the CCNES supportive reaction mean, and therefore will be added to subsequent analyses as a covariate.

Data Reduction

Given the large number of independent measures, preliminary analyses were used to reduce the number of variables to be used in subsequent analyses. The frustration distress coded measures from each task were transformed into z-scores to put them on a standard scale for comparison. Across the two frustration tasks, these scores were significantly correlated (r -values ranged from .12 to .28). To create a single score that would represent frustration distress for both coded tasks, a mean was calculated across all

six measures (See Table 3 for descriptive statistics for this composite). In addition, because the coded distress and mother-reported distress (ERC negativity) measures were positively correlated, they were combined to create a composite score.

Maternal and child coded measures (hostility, positive affect, responsiveness) were significantly correlated across three tasks (2 teaching tasks and pretend play). Positive correlations ranged from .26 to .46 and were significant at $p < .01$. To create a single score that would represent the mother-child relationship, a factor analysis was performed on the 3 coded measures collapsed across tasks for the mother and child. Two factors emerged, which explained 64% of the variance, cumulatively. The first factor (eigenvalue = 2.59) loaded highly and positively on maternal positive affect, child positive affect, and maternal responsiveness (factor loadings were .91, .66, and .84, respectively). In subsequent analyses, this factor is called "*positive mother-child relationship*." The second factor (eigenvalue = 1.28) loaded highly and positively on maternal hostility and child hostility (factors loadings were .53 and .87, respectively) and negatively on child responsiveness (factor loading = -.79). In subsequent analyses, this factor is named "*negative mother-child relationship*." Weighted factor scores were created for each participant after the factor analysis was completed (See Table 3 for descriptive statistics for these factors).

Bivariate Analyses

Interrelations between all measures were examined (See Table 4). The frustration composite score was significantly and positively correlated with maternal psychopathology, parenting stress, and the negative mother-child relationship factor. Not

surprisingly, maternal psychopathology (SCL-90) was positively related to parenting stress (PSI). Parenting stress was also positively related to the negative mother-child relationship factor. All of the independent measures were significantly correlated with the non-supportive reactions mean. Finally, the supportive and non-supportive means were not significantly correlated.

Multivariate Analyses

To examine which child, maternal, and relational factors best explained non-supportive reactions, regression analyses were computed. For these analyses, five independent variables were entered simultaneously. Before analyses were performed, all independent variables were converted into T-scores ($M = 50$, $SD = 10$) in order to discuss results on a standard scale. Although some of these factors were moderately correlated, the variance inflation statistic indicated that multicollinearity was not a problem. These regression analyses are presented in Table 5 for non-supportive reactions. Because none of the independent measures were significantly correlated with the supportive mean, a regression was not performed for this measure.

As Table 5 indicates, the frustration composite measure was not significantly related to non-supportive emotion socialization. Maternal psychopathology showed the strongest relationship to non-supportive reactions reported on the CCNES. Parenting stress was also related to non-supportive reactions. The positive relationship factor was inversely related to non-supportive reactions. Finally, the negative relationship factor indicated a trend in its relation to non-supportive reactions. Variables were centered and

tested for hypothesized interactions, however, no significant moderating effects were found in these analyses. In total, the model accounted for just over 18% of the variance.

Exploratory Analyses: Testing Mediation

Further examination of the regression analysis predicting non-supportive reactions revealed that the frustration composite measure remained significant in the model until the negative mother-child relationship was added to the model. This suggested the possibility that the negative relationship factor mediated the relationship between frustration and non-supportive reactions. Therefore, to test mediation, procedures recommended by Baron and Kenny (1986) were followed. First, the independent variable must predict the mediator. Second, the independent variable must predict the dependent variable. Finally, the mediator must predict the dependent variable. Full mediation holds if the independent variable has no effect on the dependent variable when the mediator is controlled.

To examine whether the negative mother-child relationship measure mediated the relationship between the frustration composite and non-supportive emotion socialization, four regression equations were computed. Each of these included maternal psychopathology, parenting stress, and the positive relationship factor as control variables. These results are presented in Table 6. In the first regression, the frustration composite predicted the negative relationship factor. In the second equation, the frustration factor also predicted non-supportive reactions. In the third equation, the negative mother-child relationship predicted non-supportive reactions. Finally, when the

negative mother-child relationship was controlled, the frustration composite no longer predicted non-supportive reactions.

Exploratory Analyses: Testing Three Groups

Because the supportive and non-supportive means were not significantly negatively correlated with each other, we examined whether or not these emotion socialization practices were orthogonal. To do so, the 6 subscales of the CCNES were placed into a k-means cluster analysis, forcing three clusters. Results yielded 3 clusters, which reflected three types of emotion socialization. The first cluster, called “*supportive*” (n = 120), had final cluster centers that were above the mean on all three supportive subscales: expressive encouragement, emotion focused, and problem focused (cluster centers were 5.91, 5.75, and 6.06 respectively). The second cluster, called “*nonsupportive*” (n = 72), had final cluster centers that were above the mean on all three nonsupportive subscales: distress, punitive, and minimization (cluster centers were 3.15, 3.09, and 3.37, respectively). The third cluster, called “*uninvolved*” (n = 73), had final cluster centers that were below the mean on both supportive and nonsupportive subscales (cluster centers were 4.48, 4.89, 5.11, 2.82, 1.97, and 2.25, respectively). An ANOVA examining the relative importance of each CCNES subscale to differences between the clusters indicated that all subscales were significant at the $p < .001$ level. This indicates that all six subscales included in the analysis significantly influenced group separation.

To ensure that the three created CCNES groups actually differed on supportive and non-supportive emotion socialization, a between-groups one-way ANOVA was run. Results indicated that the three groups were significantly different on supportive

reactions ($F(2,253) = 188.04, p < .001$). The supportive group was the highest, followed by the non-supportive and uninvolved groups. In terms of non-supportive reactions, the non-supportive group was higher than both the supportive and uninvolved groups ($F(2,253) = 128.44, p < .001$). This indicated that these groups differ on measures of interest. In addition, a within-group repeated measures ANOVA was calculated to examine the differences in supportive and non-supportive means within each group. This analysis indicated that there was a main effect across the groups ($F(1,253) = 6322.41, p < .001$) as well as a difference within each group ($F(2,253) = 186.76, p < .001$). Post-hoc analyses indicated that within each group, the supportive mean was significantly higher than the non-supportive mean.

A between-groups one-way analysis of variance (ANOVA) was run to examine differences between the three CCNES groups for each independent measure (See Figure 1 for a profile plot of these means by CCNES group). All independent measures reached statistical significance ($p < .05$) and were retained for further analyses using Multinomial Logistic Regression (MLR). MLR enables the prediction of discrete dependent variables with multiple categories (Hosmer & Lemeshow, 2000). MLR was used to identify which factors increase or decrease the likelihood of being in the supportive or uninvolved group in comparison to being in the non-supportive group (reference category). The parameter estimates obtained from MLR give the magnitude of effect of each factor on being in the supportive or uninvolved group in comparison to the nonsupportive group. Exponents of the effects are the odds ratios (OR) of being in the supportive or inconsistent group, instead of being in the non-supportive group. Before analyses were performed, all

independent variables were converted into T-scores ($M = 50$, $SD = 10$) in order to discuss results on a standard scale. Therefore, the resulting odds ratios are the likelihood of change from being in each group as compared to the nonsupportive group with every one-unit increase in each particular independent factor.

In Table 7, the parameter estimates and odds ratios for the model are presented. If odds ratios were less than 0, they were inverted to ease their interpretation. According to the effect likelihood ratio tests ($p < .15$), the frustration composite measure, maternal psychopathology (SCL-90-R), parenting stress (PSI), positive mother-child relationship, and negative mother-child relationship had significant effects on CCNES group status. Thus, when comparing the odds of being in the supportive versus the non-supportive group, mother-child dyads with a more positive relationship were 5.49 times more likely to be in the supportive group, while dyads with a more negative relationship were 33.33 times more likely to be in the non-supportive group. There were no differences between these groups on frustration, maternal psychopathology, or parenting stress.

When comparing the odds of being in the uninvolved versus the non-supportive group, for every increase of one unit in maternal psychopathology, the odds of being the non-supportive group increased by 10.53. Mother-child dyads with a more negative relationship were nearly 40 times more likely to be in the non-supportive group than the uninvolved group. Odds for being in these groups did not depend on frustration, parenting stress or the positive relationship factor.

A second MLR model was run in order to compare the likelihood of being the supportive group as compared to the uninvolved group (see Table 8 for parameter

estimates and odds ratios). This analysis showed that the odds of being in the supportive group increased for mothers with higher levels of psychopathology (but in the expected ranges) by a factor of 7.20. These odds also increased by a factor of 9.95 for mother-child dyads with a more positive mother-child relationship. For mothers with higher levels of parenting stress, the odds of being in the uninvolved group increased by a factor of 8.55. Child frustration and the negative mother-child relationship did not change the odds of being in either group.

The likelihood ratio (-2 log likelihood) compares the likelihood function for a model with the effects of predictors to the likelihood function for the null hypothesis model that all effects, except the intercept, are 0. A chi-square table is used to determine the probability of the likelihood ratio, which is less than .001 in both models. The pseudo R^2 is .08 for both models, which is an estimate of the amount of variance in CCNES group accounted for by predictors.

CHAPTER IV

DISCUSSION

Existing literature has found that maternal emotion socialization plays a part in the development of children's ability to effectively express and regulate their emotions. The goal of this study was to expand on this work by examining factors that are related to why mothers respond in a supportive or non-supportive manner when children express negative emotions. Specifically, we hypothesized that supportive and non-supportive maternal emotion socialization would be affected by characteristics of the child (frustration distress), the mother (psychopathology & parenting stress) and the relationship between the child and mother—positive and negative. This question was addressed using regression analyses.

Contrary to our hypothesis, these factors were not significantly related to supportive reactions by mothers. However, these factors were related to non-supportive emotion socialization practices. Consistent with the finding that maternal psychopathology is related to harsh and controlling parenting generally (Beardslee, Bemporad, Keller, & Klerman, 1983; Downey & Coyne, 1990), this measure showed the strongest relationship to non-supportive reactions by mothers. This follows the hypothesis that mothers, who—due to their own problems with adjusting to life situations—have trouble regulating emotions, also have trouble tolerating negative emotional expression by their children. For example, a depressed mother may be less

motivated or have less energy to pay attention to emotional cues from her child, and is therefore not able to respond contingently upon that child's expression of disappointment, sadness, or anger. Similarly, a mother experiencing high levels of anxiety may attempt to avoid all situations where strong negative emotions are expressed in order to suppress her own distress, which may cause her to try to minimize or penalize these expressions in her child.

Parenting stress was also significantly related to non-supportive reactions of mothers. This confirms our hypothesis and is also in line with previous research, which has shown that mothers who report higher levels of parenting stress have less self-efficacy when it comes to their role as a parent (Bandura, 1989). It appears that this relationship also exists for more specific emotion-laden experiences mothers have with their children. In addition, mothers who report higher levels of parenting stress may feel more pressure to behave in a way that appeases her child, leading them to try to eliminate all negative emotions their children express. Similar to mothers who are depressed or anxious, mothers who feel higher amounts of stress may view negative emotions exhibited by their children as a threat to their own success as a parent.

The positive mother-child relationship factor was negatively related to non-supportive emotion socialization practices. This indicates that mothers and children who exhibit more positive affect with each other and mothers who show more responsiveness within the parent-child relationship are less likely to be non-supportive towards their child's expression of negative emotions. This relationship measure was related to maternal non-supportive reactions above and beyond the effects of the individual child

and maternal variables. It appears that mother-child dyads who have developed a predominantly positive bond with each other by the time a child is four years of age results in mothers who are less likely to use non-supportive emotion socialization strategies during times when their children are distressed. Since this measure takes into account both child and maternal behavior, it lends support to the idea that the development of emotion socialization strategies on the part of mothers is impacted by not only their own attitudes and behavior, but by the behavior of their child as well. It is possible that mothers who expect their children to be more positive are more able to act responsively in emotional situations.

None of the predicted moderation effects were found to be significant in the analyses. It was expected that certain child and maternal factors would interact with each other in their effect on maternal socialization strategies. One reason for this may be that the positive and negative mother-child relationship factors themselves took the interactions between child and maternal factors into account. Since these factor scores included both child and mother positive affect, responsiveness, and hostility, this seems a logical conclusion.

The first set of exploratory analyses presented attempted to explain the relationship between frustration distress on the part of children and the negative mother-child relationship, as they predicted non-supportive reactions. Results showed that the negative mother-child relationship in fact mediated the relationship between child frustration and maternal non-supportive emotion socialization. This indicates that although child frustration was related to non-supportive reactions, this relation lost its

direct significance when the negative relationship measure was added to the model. It appears that the effect of frustration on non-supportive emotion socialization is not direct, but works through its effect on the parent-child relationship, including more hostility displayed by both the child and mother as well as less child responsiveness. This lends support to the idea that mothers who are unable to maintain a supportive relationship with their children in general, reflecting both child and maternal factors, are more likely to be non-supportive during emotion socialization opportunities. These results also suggest that children with higher levels of frustration may affect the mother-child relationship in a negative way, which makes it more likely that mothers would use non-supportive emotion socialization strategies.

The second set of exploratory analyses presented explored the possibility that mothers may not always be highly supportive or highly non-supportive in their pattern of emotion socialization strategies. Since these measures were not significantly negatively correlated, it seemed possible that a third group of mothers might emerge from the data. The cluster analysis revealed that three groups of mothers could be identified: supportive, non-supportive, and uninvolved (mothers who displayed low levels of both dimensions).

Using multinomial logistic regression comparing the supportive and non-supportive groups, the odds of being in the non-supportive group increased for mother-child dyads with a more negative relationship. Consistent with findings from linear regression analyses, dyads with a negative relationship were more likely to have mothers who used non-supportive strategies. The odds of being the supportive group increased for mother-child dyads with a more positive relationship. Again, this relational measure—

taking into account both mother and child behaviors—is an important factor in its relation to emotion socialization.

When comparing the uninvolved and non-supportive groups, the odds of being in the non-supportive group increased for mothers with higher levels of psychopathology, children displaying more frustration, as well as mother-child dyads with a more negative relationship. This analysis did not reveal any new information about mothers in the uninvolved group, as they appeared to be similar to mothers in the supportive group in terms of having lower levels of psychopathology than mothers in the non-supportive group. Mother-child dyads in the uninvolved group were also similar to mothers in the supportive group, in that they had developed a less negative relationship than those in the non-supportive group.

An interesting finding was established when comparing the supportive and uninvolved groups, which did lend some new information in terms of discriminating between these groups of mothers on the factors of interest. Mothers in the supportive group were more likely to have higher level of psychopathology than mothers in the uninvolved group. However, mothers in the uninvolved group were more likely to have higher levels of parenting stress. This indicates that mothers in the uninvolved group may feel stressed about their ability to parent, which affects their ability to respond when their child becomes upset. Results also revealed that mother-child dyads with a more positive relationship were more likely to be in the supportive versus the uninvolved group. A possible interpretation of this finding is that uninvolved mothers are not distressed themselves in emotion-laden experiences, but perhaps have not developed the skills

necessary to maintain a contingent positive relationship with their children in both general situations as well as specifically emotional situations. It seems possible that uninvolved mothers do not notice subtle or dramatic changes in their children's affect and therefore do not have a consistent pattern of responding in a highly supportive or non-supportive fashion.

Summary and Implications

Results of this study indicate that child, maternal, and relational factors are all related to maternal non-supportive emotional socialization practices. Since children are continually learning lessons from interactions with parents about the appropriateness and effectiveness of expression of negative emotions, it is important to understand how these maternal behaviors themselves develop. One limitation of this study is that it examined these factors at one point in time when children were four years old as opposed to using a longitudinal design. Future work should attempt to examine the stability and continuity of emotion socialization practices over time. It is possible that these practices become relatively stable at a certain point in early childhood. Another limitation of this study is that it used maternal self-report of psychopathology, parenting stress, and emotion socialization strategies instead of observational measures. Mothers who have a negative or positive view of themselves and their children may have been biased in their responses to these measures. This makes it difficult to tease apart why these measures are actually related to each other. Finally, although several of the proposed relationships were found to be significant, the final model only explained just over 18% of the variance in non-supportive emotion socialization practices. Other factors, such as maternal emotion

regulation, and mothers' attitudes about emotions and how children are expected to behave, may play a role in emotion socialization as well. Future work should examine these possibilities.

These results confirm the necessity of mental health professionals treating children to pay attention to the behavior of parents— specifically mothers—in addition to child behaviors. The implications of a child who does not develop effective emotion regulation skills are well documented and have an impact on the well-being of families, educational institutions, and other places where children are the focus. It appears that mothers' own ability to regulate emotions may play a part in their ability to implement strategies suggested to them by mental health professionals in parent training programs. The ability to recognize and contingently respond to children's negative emotions is apparently not a skill that all mothers develop on their own. Paying attention to this element of the parent-child relationship may shed light on why implemented programs work with certain families, but fail with others. These implications highlight the need for clinicians to stay informed not only of the latest efficacious treatments, but of developmental research that informs their work.

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APPENDIX A. TABLES

Table 1.

Descriptive Statistics for Demographic Measures

Measure	N	%	M	SD	Minimum	Maximum
Child Gender						
Male	124	46.8				
Female	141	53.2				
Ethnicity						
African American	75	28.3				
Caucasian	173	65.3				
Mixed	8	3.0				
Other	9	3.4				
Child Age (months)			54.56	3.52	40.00	68.00
Maternal Education						
Some high school	6	1.9				
High school degree	32	10.4				
Some college	74	23.9				
College degree	120	38.8				
Advanced degree	31	10.0				
Marital Status						
Single	41	13.3				
Married	203	67.7				
Divorced	14	4.5				
Separated	5	1.6				
Remarried	1	0.3				
Hollingshead (SES)			43.05	10.82	19.00	66.00

Table 2.

Descriptive Statistics for Study Measures

Measure	<i>N</i>	%	<i>M</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>
Circles reverse latency to frustration:	259		80.71	72.22	0	209.00
Circles proportion of task frustrated:	259		.03	.04	0	.24
Circles Global Distress						
0	143	54.3				
1	82	30.9				
2	28	10.6				
3	6	2.3				
4	0	0				
Toy-in-Box reverse latency to frustration:	260		135.23	73.86	-23.00	248.00
Toy-in-Box proportion of task frustrated:	260		.08	.08	0.00	.49
Toy-in-Box Global Distress	260					
0	67	25.7				
1	100	37.7				
2	69	26.0				
3	22	8.3				
4	2	0.8				
Negativity Subscale	261		1.90	.37	1.13	3.07
SCL-90-R General Severity Index	250		50.41	10.61	30.00	81.00
PSI Difficult Child	258		29.16	7.95	13.00	54.00
Maternal hostility	264		1.06	.23	1	3.33
Child hostility	264		1.13	.27	1	2.67
Maternal positive affect	264		2.83	.83	1	4
Child positive affect	264		2.84	.66	1	4
Maternal responsiveness	264		3.02	.70	1	4
Child responsiveness	264		3.49	.49	1.67	4
CCNES						
Distress Reaction	256		2.86	.65	1.50	5.00
Punitive Reaction	256		2.26	.74	1.00	5.25
Minimization Reaction	256		2.58	.72	1.17	5.08
Expressiveness Encouragement	256		5.29	.87	2.92	7.00
Emotion Focused Response	256		5.44	.63	3.67	6.75
Problem Focused Response	256		5.67	.66	3.50	6.75

TABLE 3.

Descriptive Statistics for Frustration and Relationship Factors

Variable	M	SD	Minimum	Maximum
Frustration composite	0.00	.73	-1.19	2.59
Mother-child positive relationship factor	0.00	1.00	-2.89	2.14
Mother-child negative relationship factor	0.00	1.00	-1.19	6.09

TABLE 4.

Zero Order Correlation Matrix for Independent Measures

Variable	1	2	3	4	5	6	7
1. Frustration composite	-						
2. Maternal Psychopathology (SCL-90)	.26**	-					
3. Parenting Stress Difficult Child (PSI)	.44**	.34**	-				
4. Positive Mother-Child Relationship	.03	-.09	.07	-			
5. Negative Mother-Child Relationship	.32**	.12	.21**	.00	-		
6. CCNES supportive mean	.04	.11	-.11	.12	-.01	-	
7. CCNES non-supportive mean	.27**	.31**	.29**	-.14*	.20**	-.08	-

* $p < .05$; ** $p < .01$

TABLE 5.

Predictors of CCNES Non-Supportive Reactions Mean

Predictor	R^2	F	B	T
Equation	.18	10.62**		
Frustration Composite			.10	1.49
Maternal Psychopathology			.21	3.32**
Parenting Stress			.15	2.21*
Positive Relationship			-.13	-2.25*
Negative Relationship			.12	1.89 [†]

[†] $p < .10$; * $p < .05$; ** $p < .01$

TABLE 6.

Negative Relationship as a Mediator of the Relation Between Frustration and Non-Supportive Reactions

Predictor	R^2	F	B	T
1. Frustration as a predictor of negative relationship: Frustration	.13	8.87	.31	4.64**
2. Frustration as a predictor of non-supportive reactions: Frustration	.17	12.25	.14	2.09*
3. Negative relationship as a predictor of non-supportive reactions: Negative relationship	.17	12.66	.15	2.40*
4. Negative relationship as a mediator: Negative relationship	.17	12.66	.12	1.89 [†]
Frustration	.18	10.62	.10	1.49

[†] $p < .10$; * $p < .05$; ** $p < .01$

TABLE 7.

MLR: Supportive or Uninvolved Group Versus Non-Supportive Group

Factors	Supportive		Uninvolved	
	PE ^a	OR ^b	PE	OR
Frustration Composite	-.02	2.70 ^c	-.04 [†]	8.85 ^c
Maternal Psychopathology	-.01	1.46 ^c	-.04*	10.53 ^c
Parenting Stress	.03	4.18 ^c	.01	2.05
Positive mother-child relationship	.03*	5.49	-.01	1.81 ^c
Negative mother-child relationship	-.05**	33.33 ^c	-.05*	39.37 ^c
-2 log likelihood	20.94**			

^aparameter estimate^bodds ratio^cinverted[†] $p < .10$, * $p < .05$; ** $p < .01$

TABLE 8.

MLR: Supportive Group Versus Uninvolved Group

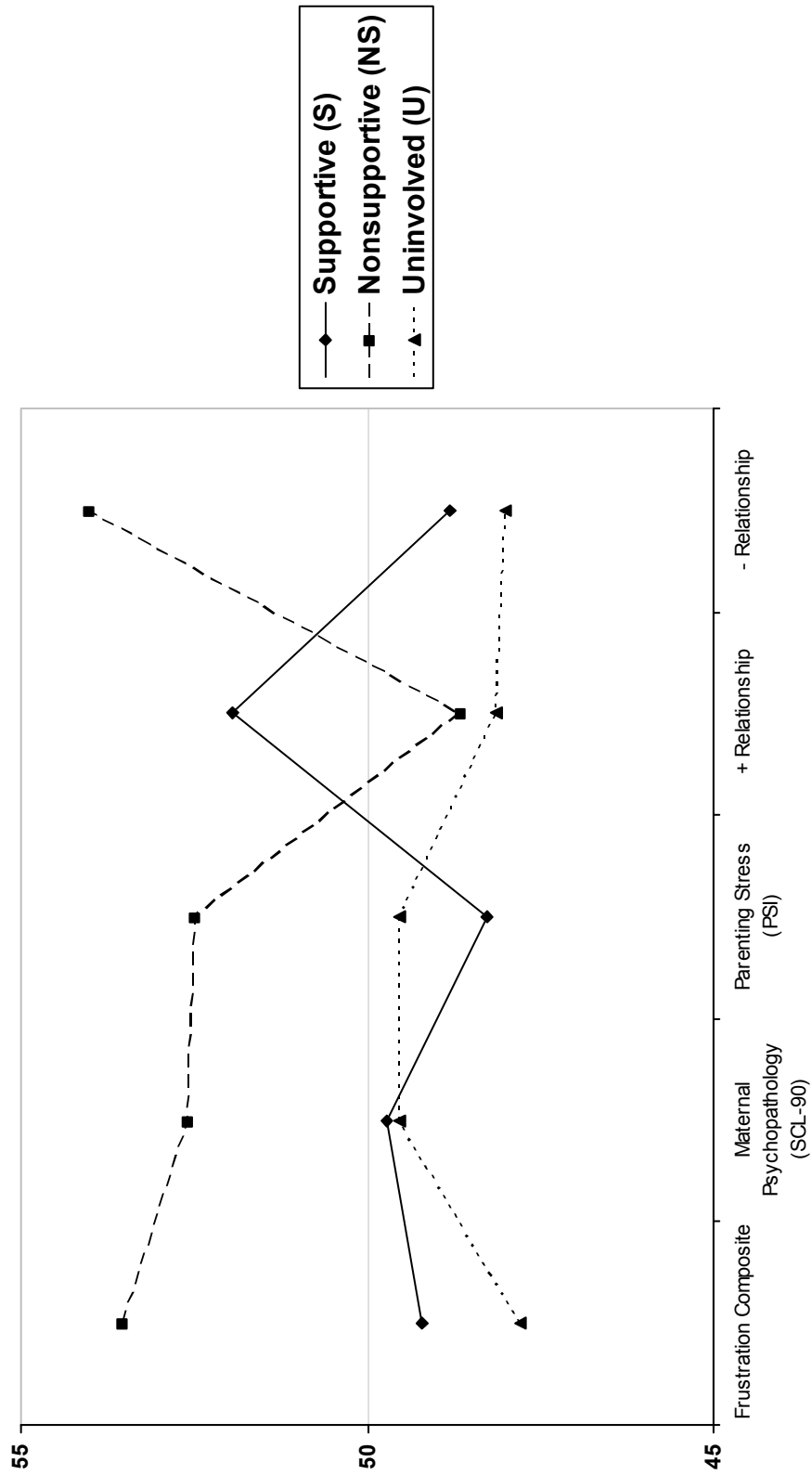
Factors	Supportive	
	PE ^a	OR ^b
Frustration Composite	.02	3.28
Maternal Psychopathology	.04*	7.20
Parenting Stress	-.04*	8.55 ^c
Positive mother-child relationship	.05**	9.95
Negative mother-child relationship	.00	1.17
-2 log likelihood	20.94**	

^aparameter estimate^bodds ratio^cinverted* $p < .05$; ** $p < .01$

APPENDIX B. FIGURES

FIGURE 1.

Independent Measure Means (T-scores) by CCNES Group



p-values < .001 (NS > S,U) < .05 (NS > S,U) < .05 (NS > S,U) < .05 (S > NS,U) < .001 (NS > S,U)