

## ABSTRACT

Title: RELATION OF MATERNAL STRESS AND MATERNAL SUPPORT TO CHILDREN'S BEHAVIOR PROBLEMS IN AFRICAN AMERICAN FAMILIES

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Chronic parenting stress adversely influences parents and children. Mothers reporting high stress levels are more likely than those with lower stress levels to lack warmth and responsiveness in parent-child interactions; use permissive, harsh and inconsistent discipline; hold unrealistic behavioral expectations of children; and describe children as difficult. Similarly, chronic parenting stress has been linked with negative child outcomes (e.g., insecure attachment, sleep/feeding difficulties, and behavior problems). Few studies include school-aged children and African American families; or examine social support as a potential protective factor that may buffer the impact of parenting stress on child behavior problems. African American families disproportionately face stressors such as poverty and unemployment; yet some parents may function adequately with the support of extended family/kin. This study adopted an ecological/risk-resiliency theoretical framework to investigate the influence of maternal stress and social support on the behavior problems of school-aged, African American children.

Data were from a three-year study funded by the Center for Substance Abuse Prevention. Participants were 193 Black/African American females 18 years or older who were primary caregivers of a child age 6 to 12; most were low-income. Mothers were administered measures of parenting stress, social support, and child behavior problems. Hierarchical linear regression analyses with interaction effects were used to test hypothesized models examining main effects and social support as a moderator of maternal stress.

With the entire sample, maternal-child dysfunctional interaction was significantly associated with children's total, internalizing, and externalizing behavior problems. Moreover, for female caregivers other than grandmothers, the relationship between maternal-child dysfunctional interaction and children's internalizing behavior problems was attenuated at high levels of formal social support. For grandmothers, informal social support was detrimental to the relationship between maternal-child dysfunctional interaction and children's internalizing behavior problems.

Findings suggested differential intervention strategies are needed. Mothers may need increased formal support to address internalizing behavior problems of children whereas grandmothers may require interventions that focus on strengthening the quality of their sources of informal support that will reduce potential harmful effects. Implications for policy, research, and culturally-appropriate interventions are discussed.

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CHILDREN'S BEHAVIOR PROBLEMS IN AFRICAN AMERICAN FAMILIES**

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## DEDICATION

*In loving memory of*

***Raphael A. Nicholas***

January 14, 1927 – February 26, 2006

Although you are not here physically to see this journey to completion, I know you are with me in spirit. I thank you for all your love, sacrifices, and mentoring particularly in my earlier years. You were not only a wonderful example of a scholar; you were my Dad and my role model. I miss you.

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To my children, Elizabeth and Adrian Matthew, you deserve special recognition for being my cheering squad and for making my world a much better and happier place. To my husband Wade Matthew, thank you for your love and unending faith in me. You have been my rock; I could not have done this without you.

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## CHAPTER I: INTRODUCTION

Relations between parenting stress and parenting and their effects on children have long been of interest within the field of child development. Current research indicates that chronic parenting stress adversely influences both the parent and the child (Creasey & Jarvis, 1994; Crnic & Greenberg, 1990; Deater-Deckard, 1998; Koeske & Koeske, 1990). Moreover, there are several studies that have documented the negative consequences of parenting stress on parents' physical and mental health (Cohen & Williamson, 1991; Creasey & Reese, 1996; Crnic & Greenberg, 1990; Koeske & Koeske, 1990; Rodgers, 1998) and parental mood and affect (Creasey, Ottlinger, & DeVico, 1997; Fauber & Long, 1991). For example, hassles related to parenting have been positively associated with symptoms of psychological distress in mothers and fathers of school-aged children (Creasey & Reese, 1996; Crnic & Greenberg, 1990). Additionally, studies by Koeske and Koeske (1990) of mothers with 9-month to 14-year-old children and Rodgers (1998) of Head Start families also provide evidence to support the association between parenting stress and parental symptomatology (e.g., depression, anxiety). Lavee, Sharlin, and Katz (1996) also showed that parents' psychological well being and the marital quality were both negatively affected by parenting stress. As further evidence, other studies have also demonstrated links between parenting stress and drug use (Kelley, 1992), depression (Gelfand, Teti, & Fox, 1992), and type-A personality (Forgays, 1992).

Parenting stress is also a factor that has been noted to influence parental behavior. A growing body of literature indicates that mothers who experience high levels of parenting stress are more likely to use punitive parenting practices (Crnic & Greenberg, 1987; McLoyd, Jayaratne, Ceballo, & Borquez, 1994), be less responsive, more

authoritarian, and possibly neglectful and abusive (Deater-Deckard, 1998, 2005). Studies have also indicated that more stress is associated with poorer parenting behaviors. Most notably, in a correlational study using a proxy for maternal stress, mothers who were severely distressed were more likely to exhibit negative commands and engage in hostile behaviors toward their children than nondistressed mothers (Forehand, Lautenschlager, Faust, & Graziano, 1986). Findings with specific measures of stress have also shown that mothers who report higher levels of stress are more likely to be harsh and negative in their parenting (Belsky, Woodworth, & Crnic, 1996; Conger, Patterson, & Ge, 1995; Deater-Deckard & Scarr, 1996) and less involved with their children (McBride & Mills, 1994).

Some studies have also found that maternal stress serves as a risk factor for child maladjustment (Deater-Deckard, 1998). Thus, high levels of parenting stress are of particular concern because maternal stress has been associated with a variety of negative child outcomes. Investigations have indicated that children whose mothers are experiencing stress are at risk for a myriad of adjustment problems including social, academic, emotional, and behavioral difficulties (e.g., Creasey & Reese, 1996; Danseco & Holden, 1998). Moreover, there is increasing evidence that frequent daily hassles or sustained daily stress of mothers, because of their chronic nature, may play a greater role in the development of adverse outcomes for children. In particular, there is empirical evidence to document an association between maternal report of stressors such as daily parenting hassles and insecure attachment formation in infants (Benn, 1986; Jarvis & Creasey, 1991; Teti, Nakagawa, Das, & Wirth, 1991). For example, in a study of Caucasian, married, working mothers and their firstborn infant sons, Benn (1986) found

that mothers who reported emotional distress about their child care situations had less securely attached infants than mothers who reported less stress. Similarly, Jarvis and Creasey (1991) found that for white mothers of 18-month old toddlers, parenting stress was significantly related to attachment. Specifically, the more stress a mother experienced, the less secure the attachment of their infants.

In addition to insecure attachment, parenting stress increases the risk of socioemotional and developmental problems for children (Creasey & Jarvis, 1994; Danseco & Holden, 1998; Goldberg et al., 1997). There are two notable studies that demonstrate the effects of parental stress on child development. In one study by Goldberg et al. (1997) that followed the development of a group of predominantly white children, parenting stress was the strongest predictor of children's emotional and behavioral problems at four years old. Another study of urban, predominantly African American homeless families found that those parents with the highest levels of parenting stress had children with the highest levels of problems in their cognitive and social development (Danseco & Holden, 1998).

It has also been suggested that maternal stress may be an antecedent of child abuse. A study by Chan (1994) involving Chinese mothers of preschool children found that levels of parenting stress is associated with abusive parenting and that parenting stress can discriminate between groups of abusive and nonabusive parents. Webster-Stratton (1988), with a sample of predominantly white mothers and fathers of 3- to 8-year olds, also demonstrated that parents with high levels of stress exhibited more abusive and punitive parenting behaviors than parents with lower levels of stress. Finally, the findings by Rodriguez and Green (1997), with a sample of New Zealand parents from varied

income brackets, revealed that parenting stress was significantly positively associated with parents' potential for child abuse.

Investigations have also found a link between maternal stress and children's behavior problems. Creasey and Jarvis (1994) found that middle class parents from upstate New York, who perceived more parental stress also reported that their toddlers exhibited more total behavior problems and externalizing behavior problems. Creasey and Reese (1996) also found evidence that parenting stress was related to child behavior problems independent of nonparenting stress. Additionally, they also found that teacher reports of behavior problems corroborated parents report, thus providing support for the notion that even when stressed, parents can be accurate raters of child behavior problems. This finding also supported the research efforts of Richters and Pellegrini (1989). With a sample of 73 families from the Washington, DC area drawn from a larger study, Richters and Pellegrini (1989) found that teachers' ratings of children's behaviors were in agreement with depressed mothers' self reports of their children's behaviors.

In light of the potential for maternal stress to have these deleterious effects on children, there is a need to examine protective processes that may mitigate the effects of such stress on the behavior of children. One variable with the potential to buffer the negative effects of chronic maternal stress on child outcomes is perceived social support. Mothers who are experiencing chronic stress in their parenting role may be more effective in coping with their parenting role when they receive emotional and instrumental support from individuals within their social networks (Deater-Deckard, 2004). A support network, including family, fictive kin, friends, neighbors, social groups, and professionals such as teachers, and physicians, may be especially likely to help a

mother cope with feelings of heavy parenting responsibilities and to feel less overwhelmed (Crnic, Greenberg, & Slough, 1986; McLoyd, 1990; 1998). Sepa, Frodi, and Ludvigsson (2004), with a sample of Swedish parents and their infants found a significant relation between high parenting stress and lack of support. Specifically, mothers who lacked social support scored significantly higher on their stress index measure. Crnic, Greenberg, and Slough (1986) in their study of mothers and infants found that greater degrees of support moderated the effects of high maternal stress on infant outcomes.

Although previous studies have examined links between maternal stress and child outcomes, there is an urgent need to investigate how maternal stress is related to children's development among African American families. As researchers study this ethnic population, it is important to note that historically, African American families have existed in nontraditional family forms including intergenerational households, grandmother headed households, and households with custodial grandmothers. This is supported by the literature, which indicates that grandmothers who rear their grandchildren are more likely to be African American and the experience of African American grandmothers is significantly different from their white counterparts (Crowther & Rodriguez, 2003; Rodriguez & Crowther, 2006). Thus, mothers as well as grandmothers who are primary caregivers are likely to experience stress in their parenting role. Further, relatively little systematic information is available about the influence of maternal stressors on child behavior problems among African Americans. Moreover, African American mothers, as compared to their white peers, are more likely to experience additional stressors such as poverty, racial discrimination, and educational



disadvantage that may serve to exacerbate the parental difficulties they are already facing. It has been noted in the literature that African American mothers are disproportionately overrepresented among individuals living in poverty (Brooks-Gunn, Klebanov, & Duncan, 1996; Children's Defense Fund, 2000). Further, in a study of race, socioeconomic status, and distress, Kessler and Neighbors (1986) found that low-income African Americans were particularly vulnerable to additional race-related stressors and reported higher levels of stress than their white counterparts. Thus, social support may be a potent buffer for African American mothers because a richer social network may provide greater protective resources, which may moderate the strength of the negative association between maternal stress and child behavior problems.

In all, it seems that both maternal stress and maternal social support are important ecological factors that influence child development during infancy and early childhood. Although the growing body of evidence demonstrates the association between maternal stress and behavioral problems in young children, few of these studies have focused on African American mothers of school-aged children. This developmental period is important because evidence suggests that children who exhibit externalizing behavior problems during the preschool years are at risk for continuing maladjustment in the school-aged years and beyond (Olson, Ceballo, & Park, 2002). Given that behavior problems tend to be stable throughout childhood, it can be assumed that some children may grow out of behavior problems but, a large number do not and would require intervention. Children with behavior problems usually are less responsive to interventions as they grow older and their behavior patterns become well established (Benzies, Harrison, & Magill-Evans, 2004; Grizenko, Sayegh, & Papineau, 1994). Another

argument is that problems in middle childhood have been found to be predictive of more serious behaviors in adolescence and adulthood (Tremblay, Pihl, Vitaro, & Dobkin, 1994).

These findings highlight the importance for additional research to examine these relationships with a population that continues to be underrepresented. A major goal of this study was to examine whether or not perceived social support buffers the relationship between maternal stress and child outcomes with a sample of African American families who have children ages 6 to 12 years. This study will further our understanding and fill an important gap in the literature examining how maternal stress and social support influence the behaviors of this group of children. Therefore, investigating the nature of these risk and protective factors and the processes by which they affect child behavior is a compelling research issue that has strong implications for preventive efforts before children reach adolescence.

## CHAPTER II: REVIEW OF THE LITERATURE

### *Rationale for the Study*

Parents, as the providers of fundamental needs, teachers, socializing agents, and role models, are essential to promoting the health and development of their children (Deater-Deckard, 2004). Thus, the parental role often is stressful and requires adaptation over the various developmental stages of children. The distress arising from the day-to-day strain of caregiving becomes an essential part of the functioning of parents and children and the functioning of the parent-child interaction. Modestly to moderately stressful experiences in parenthood are very common; yet, it is the subjective experiences, the response to and the coping mechanisms for stress, and the way children are affected by parenting and parent behavior that warrants attention (Deater-Deckard, 2004). Moreover, the chronic nature of stressful events that occur in the caregiving role and their effects on mothers can build over time.

Researchers also are beginning to realize that stress is specific to particular roles (Creasey & Reese, 1996; Deater-Deckard & Scarr, 1996; Deater-Deckard, Scarr, McCartney, & Eisenberg, 1994; Ostberg & Hagekull, 2000). That is, stress in the parenting role is distinct from stress in other roles. Moreover, it is extremely likely that parenting stress more strongly affects parenting behavior and children's development than the stress in other domains of life such as work-related stress (Creasey & Reese, 1996; Quittner, Glueckauf, & Jackson, 1990). There are studies of families experiencing various problems and difficulties that illustrate this relationship. For example, in one longitudinal study of predominantly white, Canadian parents of chronically ill and healthy children by Goldberg and colleagues (1997), findings suggested that parenting

stress was the strongest predictor of children's emotional and behavior problems at four years of age. In another study of predominantly African American homeless families with preschool and school-aged children, Danseco and Holden (1998) found that parents who had extremely high levels of parenting stress were more likely to have children who exhibited behavior problems. This was in sharp contrast to the homeless families who reported low levels of parenting stress and whose children exhibited fewer behavior problems.

As supported by this brief review of the literature, much of the empirical evidence on parenting stress has focused on families or children with problems such as homelessness or child attention deficits. There are few studies that have examined families selected from the broader communities in which they live. However, all parents experience parenting stress to some degree, regardless of their race/ethnicity, mental health status, or socioeconomic status. A special contribution of this study is that it adds to the body of existing literature, an understanding of how social support influences the relationship between maternal stress and child behavior problems by taking into consideration the typical stress that arises for most mothers on a daily or weekly basis. More importantly, this study will examine this relationship for African American families with school-aged children between the ages of 6 and 12.

### *Theoretical Framework*

Bronfenbrenner's (1979; 1986) ecological systems model integrated with a risk and resiliency framework (Dekovic, 1999; Rutter, 1987) is appropriate to examine the influence of perceived social support on the relationship between maternal stress and school-aged children's behavior problems. The ecological systems perspective considers

how the child develops and interacts with the immediate environment (e.g., the family) and how aspects of larger contextual settings (e.g., schools) influence the child and his or her immediate environment. According to this model, there are primarily four systems that influence children's development and behavior, which are the microsystem (individual), the mesosystem (family), the exosystem (community), and the macrosystem (culture or larger society). These four systems interact with and influence each other. For example, the school-aged child is not only affected by his or her characteristics (e.g., temperament, emotions) but also by his or her immediate physical and social surroundings (e.g., school, home) as well as by the interrelationships among various settings of his or her immediate environment (e.g., family, peers). Further, within each level there are risk and protective processes associated with child development outcomes. In this study, risk and protective processes for children's behavior problems will be explored within the ecological framework to ensure a more inclusive examination of factors, both positive and negative, that impact children.

Based on results of previous studies, factors in several domains have been identified as possible risk and protective factors for the development of behavior problems in children (Dekovic, 1999). Risk factors are defined as those conditions that are associated with a higher probability of negative outcomes such as behavior problems. The risk focused paradigmatic approach posits that child development is influenced by multiple risk processes; and taking the steps to reduce or eliminate these risks has tremendous potential for preventing or mitigating child behavior problems (Bogenschneider, 1996; Hawkins, Catalano, & Miller, 1992). Although risk processes for behavior problems have been extensively researched, the importance of identifying their

antecedents at each ecological level is particularly salient for school-aged children since behavior problems in middle childhood have been found to be predictive of more serious behaviors in adolescence and adulthood (Tremblay et al., 1994).

On the other hand, another approach is the resiliency or protective process model that speculates about the conditions, which facilitate positive child development (Bogenschneider, 1996). According to Rutter (1987), protective processes do not directly lead to an outcome per se, but rather operate when a risk is present. Additionally, Dekovic (1999) defines protective factors as those personal, social, and institutional resources that promote competence and successful development decreasing the likelihood of youth behavior problems. Simply put, these factors are linked to positive youth outcomes. However, protective factors can be more rigidly defined as requiring the presence of risk and working to buffer the risk factors that might undermine a child's development (Jessor, 1993). In other words, protective factors exhibit their effects under conditions of risk but provide no advantage under low risk conditions (Rutter, 1987). Thus, it becomes necessary to identify both risk and protective factors at each of the ecological levels that impact children in middle childhood because these factors may vary as children transition from early childhood.

This developmental transition from early to middle childhood is impacted by changes in both child maturation and home and school settings. Moreover, risk and protective factors in one level may impact the other three levels (Bronfenbrenner, 1986; Harden & Koblinsky, 1999). For example, risk factors at the community level such as lack of social support may increase the levels of maternal stress, which in turn may lead to adverse outcomes in children's socioemotional and cognitive development. This risk

and protective perspective, grounded in an ecological systems model, highlights the differential influences of individual, family, and community variables in determining which children are at risk for adverse behavioral outcomes and the circumstances under which resiliency is most likely.

In studying African American families, it is also important to recognize the impact culture has on family structure and processes because culture serves as a source of variation in the development of African American children (McLoyd, 2004). Thus, the concept of culture as a tool for understanding race differences in children's development is essential in order to progress research. To this end, Ogbu (1981) presents a cultural ecology model, which emphasizes the need to examine cultural contexts that are central to how African American mothers use their cultural values to shape their maternal-child interactions. Thus, studies examining the relationship between maternal stress and child behavior problems among African American families must also consider this group's unique cultural traditions and historical roots. One important tradition is the view that childrearing is a communal task that is shared by all members of the community (Franklin & Boyd-Franklin, 1985; Garcia-Coll, Meyer, & Brillon, 1995; McAdoo, 1978). Therefore, historically, African American mothers have relied on extended families, larger kin networks, neighbors, and church members to assist with child care (Wilson, 1991). As part of the adaptive culture for African Americans, this reliance on family and fictive kin as a form of social support is retained as these families may not be able to rely on mainstream institutions for aid to meet the unique childcare and parenting needs of the family (Garcia Coll, 1990; McAdoo, 1982). Moreover, this amount of caregiving support

within the extended family structure may be inversely related to child behavior problems for African Americans (Randolph, 1995).

Other theorists have expanded Bronfenbrenner's social ecology model to include larger contexts or ecologies that affect African American family functioning. For example, the Garcia-Coll integrative model for the study of minority children's development recognizes a wider array of cultural-level components that extends the traditional ecological framework (Garcia-Coll et al., 1996). Specifically, this model posits that in order to better understand the well-being of African American and other children of color and their families, researchers must also consider the impact of social position variables such as race, socioeconomic status, gender, and ethnicity experienced by families of color.

Drawing from the ecological model, the current study examines the effects of maternal perceived social support on the relationship between maternal stress and school-aged children's behavior problems. At the family level, maternal stress as a risk factor is explored in predicting behaviors of 6- to 12-year old African American children. At the community level, perceived social support as the protective process is investigated.

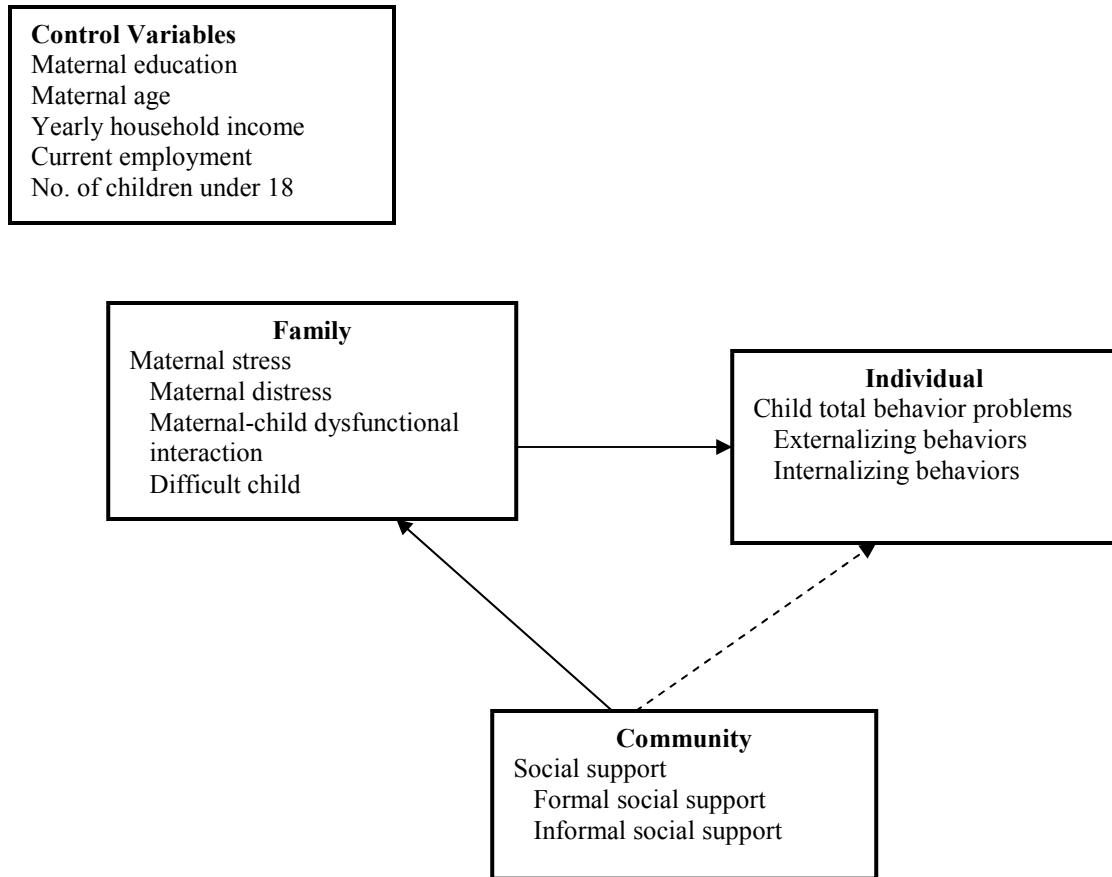
Figure 1 presents a model of how familial and community variables theoretically affect African American children<sup>1</sup>. This model serves as a framework for examining the relationships of risk (maternal stress) and protective (social support) processes on child behavior problems for this study. The strength of this model is that it contributes to a richer, more comprehensive framework that explores the mutual influence of factors at various levels related to child behavior problems as well as examines how risk and

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<sup>1</sup> The theoretical model of the hypothesized interrelationship in this study is presented later in the data analysis section.



protective processes in one system (the parental system) may impact outcomes in other systems (child). Thus, the findings will underscore the importance of placing child behavior problems within an ecological framework.



Indicates indirect effects. ----->

Figure 1. Ecological model of constructs to be examined for their influence on the behavior problems of African American children

### *Stress in the Parenting Role*

Stress is a well known construct to most researchers and practitioners in the behavioral science and medical fields. Esterling and Rabin (1987) discussed experiences of high stress resulting in somatic consequences from sleep disturbances to pain and ill health. Additionally, a number of life events stressors such as death of a spouse or child, marital discord, high density living conditions, and crime have been linked to immunological deficiencies and have deleterious effects on the progression of some diseases (Sepa et al., 2004).

More recently, parenting stress as a specific form of stress has received a fair share of attention (Abidin, 1990; Crnic & Low, 2002; Deater-Deckard & Scarr, 1996; Ostberg & Hagekull, 2000; Sepa et al., 2004) because psychological distress arising from the role of parenting contributes to the development of dysfunctional parent-child interaction and poses a risk factor for both adult and child psychopathology (Reitman, Currier, & Stickle, 2002). As defined by Deater-Deckard (2004, p. 6), “parenting stress is a set of processes that lead to aversive psychological and physiological reactions arising from attempts to adapt to the demands of parenthood.” The construct of parenting stress includes the personal experiences of distress (e.g., anxiety, emotional pain) as well as thoughts, beliefs, and attributions. Parenting stress has been found to be associated with a myriad of negative consequences for both parents and their children (Cohen & Williamson, 1991; Creasey & Reese, 1996; Gelfand, Teti, & Fox, 1992; Kelley, 1992).

Further, there is evidence that parenting stress is not limited to the role of the biological parent, but also to the role of primary caregiver for a child. For example, relatives that become primary caregivers also report experiencing psychological distress

from the care of the children. Specifically, a small body of literature exists on grandmothers as caregivers that documents adverse psychological functioning such as depression, distress, parenting stress, anger, and resentment (Burton, 1992; Fuller-Thomson & Minkler; 2000; Linsk & Mason, 2004; Shore & Hayslip, 1994). Additionally, Linsk and Mason (2004) in their qualitative study of 28 predominantly African American kinship caregivers of children ranging from 4 months to 20 years of age, reported that these primary caregivers are also likely to experience issues with children's behavior problems and emotional needs, concerns with balancing multiple tasks, and feelings of stress from lack of time for personal or social activities. Cross-cultural research on parenting stress among grandmothers also lends support to this phenomenon. In particular, a study of Kenyan grandmothers parenting their orphaned grandchildren ages 1 to 10 years, reported high levels of parenting stress as they fulfilled their disciplinarian role of primary caregiver (Oburu & Palmerus, 2003).

In addition to examination of the relationship between daily stress and behavior and health functioning among mothers and grandmothers, family researchers have also conducted studies on how parental stress influences children. Specifically, researchers have suggested that when parents experience increased or chronic perceptions of stress or poor psychological well-being due to high stress in the parenting role, such experiences in turn might negatively influence the attachment, socioemotional, and behavioral development of their children (Creasey & Jarvis, 1994; Crnic, Greenberg, & Slough, 1986). Such speculation is supported by researchers who have documented positive associations between parenting stress and insecure attachment in infants. In a longitudinal study of 52 predominantly white mothers and their newborn infants, Crnic and colleagues

(1986) found higher levels of parenting stress to be linked to poorer maternal responsiveness to infant cues, fewer secure infant-mother attachment relationships, and suboptimal mother-infant interactions. Another example is a study by Jarvis and Creasey (1991) of 32 mothers and fathers from upstate New York and their healthy 18-month old children, which assessed coping as a mediator of the relation between parenting stress and attachment. The results indicated that for both mothers and fathers, certain coping strategies such as escape-avoidant coping were associated with parenting stress. More specifically, an increase in escape as a means of coping was associated with an increase in parenting stress. Additionally, the results suggested that the more stress experienced by the parents, the less the attachment exhibited by the child. The finding that escape-avoidance coping was positively related to parenting stress but did not reduce the impact of such stress on attachment indicated that this strategy may not be effective in dealing with stress. This is also supported by research conducted with high-risk populations. Finally, with a sample of Swedish mothers and their children ages 6 months to 3 years, Ostberg and Hagekull (2000) showed associations between parenting stress and a composite measure of caretaking hassles such as infant feeding and sleep difficulties, colic and crying, and excessive childhood infections.

The existing literature further supports a relationship between parental stress and behavior problems in toddlers. In a follow-up study of 30 middle class families from upstate New York with 2-year olds, Creasey and Jarvis (1994) found that mothers who reported higher levels of stress related to parental adjustment had toddlers who exhibited more externalizing behaviors and total behavior problems. Similarly, fathers who reported higher levels of stress in relation to their toddlers reported more child behavior

problems. Also, mothers who reported higher levels of stress in relation to their toddler were more likely to have toddlers who exhibited behavior problems, demonstrated less use of self-assertion, and engaged in less pretend play.

#### *Stability of Parenting Stress Over Time*

According to Deater-Deckard (2004), parents who experience high levels of parenting stress when their children are young are more likely to continue to experience higher levels of parenting stress several years later. For example, in the Child Care and Family Project, a study of 141 predominantly white, school-aged children and their working mothers, findings indicated moderate stability of parenting stress over time. Specifically, based on self reports, mothers who had the highest levels of stress at the beginning of the study were likely to be the most distressed at the second point of assessment whereas the mothers who reported the least amount of stress were more likely to remain less stressed at the second assessment point (Deater-Deckard, Pinkerton, & Scarr, 1996). Similar results suggesting the stability of parenting stress over time have been documented by other researchers (Abidin, 1990; Dyson, 1993). On the other hand, the Early Intervention Collaborative Study which is a 10-year longitudinal study in Massachusetts and New Hampshire of disabled infants and their parents showed increases in parenting stress over the duration of the study regardless of parent gender (Hauser-Cram et al., 2001; Shonkoff, Hauser-Cram, Krauss, Christofk, Upshur, & Sameroff, 1992).

Based on the empirical evidence that parenting stress either remains stable or increases over time, one can posit that such stress will contribute to poor parenting and poor child outcomes over time. Although this development occurs within a dyadic

relationship, the parent's stress reaction to the demands of caregiving is a key factor that drives the process forward (Deater-Deckard, 2004). Moreover, this process, if manifested during the toddler or early childhood years, will continue over time so that by middle childhood it becomes an ingrained form of family functioning. Thus, there is a need to examine parents of children who have transitioned to middle childhood in order to promote the development of coping strategies and programs and services that might strengthen family functioning before the children reach adolescence and problems become more serious.

Additionally, parents who have difficulty adapting to the transition of their children to middle childhood may feel more challenged in their parenting role than parents who make a smooth transition. One can speculate that old parenting demands are replaced by new ones that can continue to present potentially stressful experiences for parents thus, maintaining high levels of parenting stress. Further, these stress inducing occurrences related to children's behavior problems and attributes tend not to be acute, but rather chronic and occurring on a daily basis (Deater-Deckard, 2004). Thus, the field would benefit greatly from further research examining the influence of chronic stress in the parenting role of caregivers with children who have transitioned to middle childhood.

#### *Parental Gender Differences and Parenting Stress*

Both fathers and mothers seem to be affected by parenting stress, but empirical evidence seems to suggest that this effect is greater for mothers. With a sample of predominantly white, middle to upper socioeconomic parents of preschool children, Baker and Heller (1996) investigated behavior disorders and their effects on both mothers and fathers. These researchers found that mothers experienced high levels of stress and

the need for assistance with both moderate and high child externalizing behavior problems; however, fathers did not have high levels of stress unless the child's externalizing behaviors were high. Another study with mothers and fathers of preschool children with and without disabilities demonstrated a significant difference between mothers and fathers. Employing the Parenting Domain of the *Parenting Stress Index*, Beckman (1991) examined the parenting stress for mothers and fathers of preschool children with and without disabilities. She found that mothers reported more stress than did fathers and stress was positively associated with increased caregiving requirements for mothers. These results conflict with findings by Baker (1994) who examined differences between middle to middle-upper class, predominantly white, married couples' reports of parenting stress associated with having a child with Attention Deficit Hyperactivity Disorder (ADHD). His findings indicated that fathers experience levels of stress similar to those experienced by mothers. Finally, these other studies also appear to conflict with a longitudinal study of mostly white, married, upper middle class couples with children under the age of five, in which both mothers and fathers were almost indistinguishable in their parenting stress scores (Deater-Deckard et al., 1994; Deater-Deckard & Scarr, 1996).

In sum, the studies cited above show that mothers report slightly higher levels of parenting stress than fathers while other studies show no parental gender differences. However, for the purpose of this study, only African American mothers will serve as principal informants because the literature indicates that mothers have been and still continue to be the primary caregiver who is responsible for the majority of daily child rearing (Deater-Deckard, 2004; Hauenstein, 1990). Another crucial factor in examining

only maternal reports of parenting stress for this minority group is that an estimated 43% of households among African American families are female-headed (McKinnon, 2003).

### *Maternal Stress and Child Behavior Problems*

The ecological systems framework (Bronfenbrenner, 1979; 1986) posits that individuals do not exist in a vacuum but interact with and influence or are influenced by those in their families. This framework suggests that maternal distress can influence children's development and behaviors in powerful ways, just as children can have an effect on mothers and their parenting stress (Deater-Deckard, 2004). Specifically, maternal stress and children's development and behavior are connected through a bi-directional process that evolves over time as indicated by numerous studies (Calam, Bolton, & Roberts, 2002; Chang, Ng, & Wong, 2002; Creasey, Mitts, & Catanzaro, 1995; Crnic & Greenberg, 1990; Duvdevany & Abboud, 2003; Floyd & Gallagher, 1997; Hastings, 2002; Jackson, 2000; Kazdin & Whitley, 2003; Morgan, Robinson, & Aldridge, 2002; Seginer, Vermulst, & Gerris, 2002). Some of these studies link maternal stress to child behavior problems in families characterized by disabilities (Duvdevany & Abboud, 2003; Feldman, Varghese, Ramsay, & Rajska, 2002; Keller, & Honig, 2004; Mullins, Aniol, Boyd, Page, & Chaney, 2002) or in families that are clinically referred (Chang, Ng, & Wong, 2002; Kazdin & Whitley, 2003).

In a review of the literature, Hastings (2002) discusses studies demonstrating that when children with developmental disabilities exhibit more behavior problems, their parents are also likely to report more stress. For example, with a population of Malaysian mothers of children with mental retardation, Ong, Chandran, and Peng (1999) found that these mothers appeared to have a higher risk of stress and that chronic, unresolved



maternal stress was more closely related to maladaptive behavior than the level of cognitive functioning of the child. Similarly, from a larger longitudinal study, Floyd and Gallagher (1997) examined a subset of predominantly white families (n=231) with school-aged children 6-18 years with mental disabilities or chronic illness and a nondisabled behavior problem sample. These families represented the full range of socioeconomic status. Findings revealed that the presence of significant behavior problems was more important than disability type in determining most forms of parental stress. Notably, parents of the children with mental disability reported relatively lower levels of stress and depression when the child did not have significant behavior problems. In the group of parents with children with chronic illness, parents had the lowest levels of stress when their children did not have significant behavior problems. A striking aspect of these results is that behavior problems were consistently a more important factor than child disability in contributing to maternal stress. Conversely, Fischer (1990) suggested the direction of influence for behaviors of children with ADHD might be the effect rather than the cause of their mothers' stress.

In examining the relationship of these variables among clinically referred families, a similar pattern emerges. Kazdin and Whitley (2003) examined an existing evidence-based therapy intervention for families with children referred to treatment for aggressive and antisocial behavior. Families were randomly assigned to either receive or not receive a supplemental component that specifically addressed parental stress over the course of therapy. Findings showed that parental stress changed over the course of treatment. Specific examination of the Parenting subscale of the *Parenting Stress Index Long Form* showed a significantly greater reduction in parenting stress in the group that

received the additional component than the group that did not receive the additional component. There was also improvement in children's conduct as parental stress was reduced.

Although the construct of parenting stress was developed for clinical research and practice in clinically referred children and in high-risk families (Abidin, 1995; Seginer, Vermulst, & Gerris, 2002), parenting stress has also been found to be prevalent among nonclinical families (Chang et al., 2004; Deater-Deckard & Scarr, 1996; Lavee et al., 1996). Thus, there is a crucial need to examine the stresses related to parenting not only in families with disabilities or clinically referred families, but also in community settings. For example, an early correlational study by Patterson (1983) suggested that the daily accumulation of hassles and crises can have a significant and adverse impact on the parent-child dyad. Specifically, the cumulative impact of these hassles experienced by mothers increased the mother's irritability, which in turn increased her child's aggressive problems. Findings indicated that the higher the incidence of maternal hassles, the greater the likelihood of her child's physical aggression. Patterson (1983) speculated that parents of toddlers may encounter different types and intensities of stress than parents of school-aged children. One can speculate that stressors will vary in types and intensity as families move through the various developmental stages.

In a similar vein, Crnic and Greenberg (1990) explored the relation of minor parenting stresses to children's behavioral status with predominantly white mothers and their 5-year old children. The researchers found that minor maternal stresses related to the role of parenting significantly predicted child behavior. In fact, minor parenting stresses accounted for a significant percent of the variance in the total behavior problems.

Moreover, greater stress was associated with more behavior problems and lower social competence. This finding indicates that minor parenting hassles are not only an important source of stress, but also an important construct for examining the parent-child context.

Finally, in one of the few studies involving intact families with children in the second through fourth grade, Creasey and Reese (1996) examined the associations between parenting hassles, nonparenting hassles and child behavior problems in a middle class, predominantly white community. This investigation found that child behavior problems and nonparenting stress were both correlated with parenting stress, and that child behavior problems were a much stronger predictor of parenting stress than nonparenting stress. An important finding from this study was evidence that parenting stress was more related to actual child behavior problems than nonparenting stress because independent teacher reports of child behavior problems were related to parenting stress.

Overall, most of the existing literature suggests there is evidence in white families that maternal stress has a strong relationship to child behavior problems. However, there continues to be a dearth of literature examining this relationship between maternal stress and its influence on child behavior problems in African American families. This study addresses this shortcoming in the literature and provides a heuristic model that examines within group variability (McLoyd, 1990) in a sample of African American mothers.

Another shortcoming of the literature is the failure to examine the impact of maternal stress on the development and behaviors of children who have transitioned to middle childhood in African American families. This developmental period for African American children might also be marked by early maturation processes (Spencer, Dobbs,

& Swanson, 1988) that serve as risk factors for the increased likelihood of becoming involved in behavior problems and developing psychopathology such as emotional distress and depression (Ge et al., 2002; Ge et al., 2003). These risk factors might be exacerbated by contextual circumstances such as the lack of support from mothers experiencing chronic stress related to their parenting role.

### *Social Support*

Another variable that might affect the behavioral outcomes of children in low-income families is the availability of social support to their caregivers. Social support has been defined as emotional, material, informational, or instrumental assistance that is offered by members of a person's informal or formal network (Dunst & Trivette, 1990). Informal sources of support include relatives, fictive kin, friends, and neighbors whereas formal support is both professionals (e.g., physicians, social workers, therapists) and agencies (e.g., health departments, intervention/prevention programs) that provide assistance to families. A large and growing literature supports the direct and indirect influences of social support. According to Dunst (2000), social support and resources directly influence the health and well-being of individuals; both support and health/well-being influence parenting styles; and support, well-being, and parenting styles directly and indirectly influence child behavior and development. Likewise, there is an extensive body of research demonstrating that perception of family social support among adults is related to their physical and emotional well-being (for a review, see Thoits, 1995). Informal and formal support from extended networks have been found to strengthen self-esteem (Taylor, Chatters, Tucker, & Lewis, 1990), enhance parent-child interactions

(Weintraub & Wolf, 1987), and strengthen one's ability to deal with social problems such as economic hardship (Ceballo & McLoyd, 2002).

Researchers have reported that parenting under conditions of economic hardship is characterized by frequent use of restrictions and physical punishment, a high value placed on obedience, and the absence of reasoning when providing discipline (Hanson, McLanahan, & Thomson, 1997; McLoyd, 1990, 1998). Moreover, isolation from sources of social support is repeatedly associated with child abuse and neglect in poor families (Garbarino & Sherman, 1980; Wandersman & Nation, 1998). Maltreated children have problems regulating their behaviors and tend to be aggressive, disruptive, and noncompliant (Shields, Cicchetti, & Ryan, 1994). Thus, poor single mothers who are more likely to experience social isolation and have less social contacts (Ceballo & McLoyd, 2002), are at risk for parenting stress and developing unstable parenting patterns that lead to poor developmental and behavioral outcomes in children.

On the other hand, social support can serve as a positive influence in parents' lives and prevent or alleviate family problems. Several studies have indicated that support systems may serve as a protective factor to enhance adults' psychological well-being and parenting (Dressler, 1985; Mason, Cauce, Gonzales, Hiraga, & Grove, 1994; McLoyd, 1990; Taylor & Roberts, 1995; Unger & Wandersman, 1988). For example, McLoyd (1990) reports that African American mothers with higher levels of social support are generally more nurturant and consistent in their parenting and less likely to use punitive strategies. Additionally, with a sample of low-income African American mothers of adolescents, Taylor and Roberts (1995) found that social support was related to more sensitive and accepting parental behaviors. Further, with a similar population, Mason et

al. (1994) found that the size of the mothers' social networks was positively related to expressions of parental warmth to their adolescent children ages 12 to 15 years.

Other studies indicate that social support is an important protective factor for the psychological well-being of African Americans. For example, in a mixed-method study of rural African American families, Dressler's (1985) findings indicate that individuals who perceived their informal (extended kin) support network to be more supportive reported fewer symptoms of depression. Also, in a longitudinal study with a low-income, rural sample of mostly African American adolescent mothers, Unger and Wandersman (1988) found that both family and partner support were positively associated with greater satisfaction with life. For these primiparous mothers, at the 8-month postpartum period, perceived support from the current male partner was additionally related to the mother's responsiveness to her baby. One can speculate that the resources provided by social networks might buffer parenting stress and result in improved parent-child interactions, which in turn positively influence children's development and behavior.

Numerous studies on the influence of social support have focused on infants/toddlers (Crnic, Greenberg, Robinson, & Ragozin, 1984), preschool children (Duncan, Brooks-Gunn & Klebanov, 1994), and adolescents (Ceballo & McLoyd, 2002; Mason et al., 1996; Taylor & Roberts, 1995). Yet, despite the extensive literature dealing with the relationship between social support and child behavior problems, very little empirical research addresses the issue with respect to African American families with children in the middle childhood of ages 6 to 12 years. Family social support is one area that holds promise as a form of protection or buffer of parenting stress and its potentially

negative impact on child development in African American children that have transitioned to the middle childhood years.

### *Child Behavior Problems*

Child behavior problems served as the dependent variable and have been examined extensively in the literature. This study examined the influence of maternal support and maternal stress on the externalizing and internalizing behavior problems of children in the middle childhood years. Specifically, the study addressed externalizing behaviors characterized by a lack of control and hyperactive or aggressive symptomatology and internalizing behaviors characterized by withdrawal, anxiety, depression, and somatic concerns (Achenbach, 1991). Both types of behaviors have been well documented as adverse outcomes for children under several contextual circumstances. For example, a study by Onyskiw and Hayduk (2001) with a sample of Canadian families of various socioeconomic status with children ages 4 to 11 years demonstrated that children exposed to physical aggression in the family and parental disruption, are more likely to exhibit aggressive and internalizing behaviors and have fewer prosocial behaviors. A longitudinal study by Marchand (2003) investigated the links between depression in Caucasian parents and conflict in the marriage, and externalizing and internalizing behaviors in children from birth to 6 years. The study indicated that mothers' and fathers' conflict avoidance strategies were significant predictors of children's internalizing behavior problems. Another longitudinal study that investigated the effects of the timing of initial exposure to predominantly white mothers' depression and marital conflict on the behavior of kindergarten children demonstrated that girls evidenced more internalizing behaviors and boys more externalizing behaviors

(Essex, Klein, Eunsuk, & Kraemer, 2003). The more severe behavior problems may be attributed to the additive effects of maternal depression and marital conflict. Boys exposed to maternal depression in infancy had a preponderance of internalizing behaviors, but when subsequently exposed to marital conflict, the severity of the boys' externalizing behaviors increased to match the levels of clinic referred children.

#### *Methodological Weaknesses of the Literature*

Methodologically, investigators who have addressed the role of social support have used many different social support measures that complicate comparison among studies (Thompson, 1995). The research on parenting stress has also been limited by a predominant use of European-American parents, by the examination of between group differences in the analysis (i.e., European vs. African American), or by the use of clinically referred families or high risk families. Finally, prior research has focused heavily on families with infants, toddlers, preschool children, and adolescents. Thus, in addition to focusing solely on African American families, this study makes contributions to the literature by a) using a community sample of families and b) using families with school-aged children.

#### *Purpose of the Study/Research Questions*

This study addresses some of the existing gaps in the literature by examining the influence of social support and maternal stress on African American children's behavior problems. The model tests the proposition that the effects of maternal stress on child behavior problems would vary depending on the levels of perceived social support received by the mothers. It was hypothesized that there will be a significant positive relationship between maternal stress and children's internalizing and externalizing



behavior problems. Further, social support was predicted to moderate the relationship between maternal stress and child's behavior problems. Specifically, under conditions of greater social support versus lower social support, it was expected that there would be a weaker relationship between maternal stress and children's internalizing and externalizing behavior problems. Figure 2 shows the hypothesized relationships between the variables to be tested in this study.

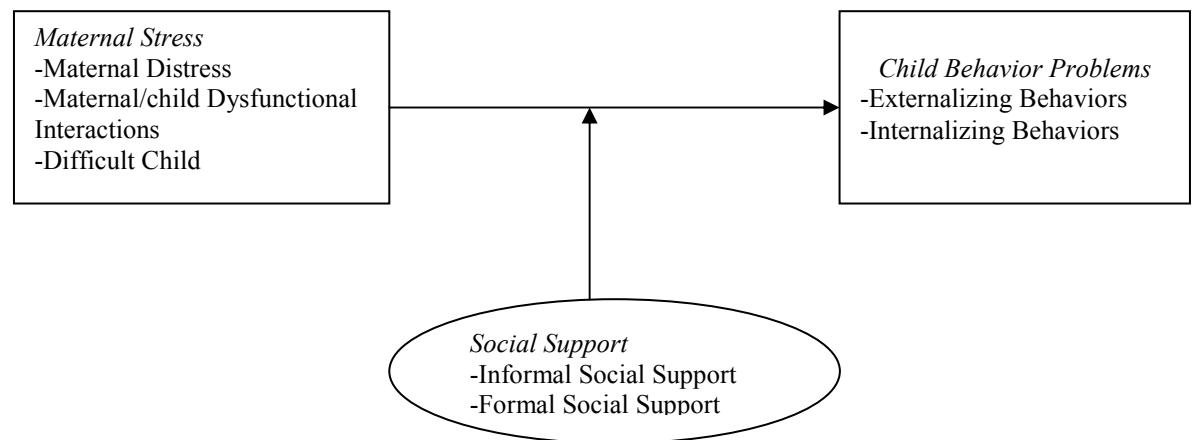


Figure 2. Hypothesized model testing the effects of social support moderation in the relation between maternal stress and child behavior problems (Child behavior problems are predicted directly by maternal stress and indirectly by social support.)

The specific research questions addressed are:

1. Are maternal stress and its key components (i.e., maternal distress, maternal-child dysfunctional interaction, and difficult child) related to child behavior problems among African American children in the middle childhood years?
2. Does formal and informal social support moderate the effect of maternal stress and its key components on child behavior problems?

3. At various levels (low, medium, and high) of formal and informal social support, would maternal stress and its key components still be significantly associated with child behavior problems?

#### *Operational Definitions*

*Maternal stress:* The degree of stress a mother experiences in the child rearing role (Abidin, 1995).

*Social Support:* Mother's satisfaction with the perceived helpfulness of support from family members, friends, social groups, social workers, physicians, and other professionals (Dunst, Trivette, & Deal, 2003).

*Child Behavior Problems:* Mother's perception of child's internalizing and externalizing behavior problems. Externalizing behavior problems include aggression, defiance, impulsivity, and anger. Internalizing behavior problems include symptoms of anxiety, sadness/depression, loneliness, and low self esteem (Achenbach, 1991).

#### *Control Variables*

Control variables were used in the proposed model to eliminate alternative explanations in investigating the hypothesized relationships. Each of these controls has been associated with either the independent or dependent variables in previous research.

The control variables are:

*Marital status:* Marital status is defined as single, married, divorced, separated, widowed, or living with a partner. Studies that have examined the experiences of single mothers suggest that they experience more stress than cohabiting women (Weintraub & Wolf, 1983). In families with one or more children exhibiting behavior problems, there is evidence to suggest that single mothers do not fare as well as mothers living with a

partner. Moreover, in research specifically on women experiencing psychological distress, marital status has been a variable routinely found to be related to maternal psychological well-being. Spouses and partners potentially protect against psychological distress by mitigating stress and providing social support (Christie-Mizell, Steelman, & Stewart, 2003; Kandel, Davies, & Raveis, 1985; Turner & Marino, 1994). Therefore, marital status was entered into the analytic model as a control variable.

*Sex of the child:* Sex of the focal child is identified as female (girl) or male (boy).

Research has indicated differential behavior problems exhibited by girls and boys. Specifically, boys are more susceptible than girls to negative outcomes in response to stressful events in the home environment (Hetherington, Cox, & Cox, 1982 as cited in Christie-Mizell, Steelman, & Stewart, 2003). Additionally, a study of African American families by Forehand and colleagues (2002) found that poor maternal psychological well-being was associated with a greater likelihood of school-aged boys displaying externalizing problems, but more depressive symptoms in girls. Based on the evidence cited above, child's sex will be entered into the analytic model as a control variable.

*Number of children:* This variable is defined as the number of children under the age of 18 years living in the household. Larger family size and the demands associated with taking care of multiple children may be especially distressing for mothers (McLanahan & Adams, 1987). Researchers have identified number of children in the home as a variable related to levels of parenting stress (Mash & Johnston, 1990; Morgan et al., 2002) and maternal psychological well-being (Brines & Joyner, 1999; Christie-Mizell et al., 2003). Therefore, the number of children living in a household was entered into the analytic model as a control variable.

## CHAPTER III: METHODOLOGY

### *Design and Study Sample*

The design of this study is cross-sectional and involves secondary analyses of a subset of data from a larger multi-site, three-year study. The overall goal of the larger study was to determine the processes and outcomes of widespread implementation of effective science-based parenting education models through a cross-site evaluation. The current study is a secondary data analysis of baseline data collected as part of a larger multi-site study funded by the Department of Health and Human Services, Center for Substance Abuse Prevention (CSAP) under grant number 5 UD1 SP09563-03 entitled the Family Strengthening/Mentoring Initiative. A total of 1,752 adult caregivers participated in the family strengthening component of the initiative of which 88% of these caregivers were female. There were 9 family strengthening sites located in several states (Arizona, Florida, Illinois, Maryland, Pennsylvania, Rhode Island, Wisconsin). The racial/ethnic composition of the participants is as follows: 31% for both Hispanics and whites, 28% were African Americans, 7% were Native American, and 3% identified as other. From the family strengthening dataset, a subsample (n=193) of African American mothers with children ages 6 to 12 years at baseline was selected for the current study.

For the purpose of this study, the sample was drawn from the baseline dataset and was comprised of 193 African American mothers or female caregivers functioning in the role of primary caregiver (e.g., grandmothers, aunts). For the remainder of this study, the term “mothers” was used for all female caregivers serving in the maternal role. All mothers had at least one child between the ages of six and twelve who was identified by the caregiver as the focal child for the parenting intervention. African American

participants in the subsample were recruited from communities across five states. Families with children who were identified as special needs (e.g., mental disabilities, autism) were excluded from the study. A separate data file was constructed for use in this study. The study was approved by the Institutional Review Board (IRB) of the University of Maryland, College Park (see Appendix A).

### *Measures*

In addition to the routine demographic variables such as age and race, information regarding the participants' income, marital status, educational attainment, employment status, child gender, and household composition were obtained from the larger dataset (see Appendix B). The following section describes the measures for the independent variables of maternal stress and social support and the measure for the dependent variables, which are total child behavior problems, externalizing behaviors, and internalizing behaviors.

Maternal stress in the parental role was measured using the *Parental Stress Index-Short Form* (PSI-SF; Abidin, 1990). This measure is a 36-item screening instrument designed to provide an indication of the overall level of parenting stress experienced by an individual (see Appendix C). Items examine stressors associated specifically with the parental role and do not include stressors associated with other life roles and events. The PSI-SF consists of three subscales. First, the Parental Distress subscale taps the distress parents experience in their roles as parents as a function of personal factors that are directly related to parenting (e.g., "I find myself giving up more of my life to meet my child's needs than I ever expected"). This subscale consists of 12 items that focus on parents' anxiety and strain in their role as parents. The Parent-Child Dysfunctional

Interaction subscale consists of 12 items that focus on parents' perceptions that their children do not measure up to their expectations and that their interactions with their children are not reinforcing to them as parents (e.g., "My child rarely does things for me that make me feel good"). The Difficult Child subscale includes 12 items that focus on some of the basic behavioral characteristics of children that make them either easy or difficult to manage (e.g., "My child does things that bother me a great deal").

Characteristics on this subscale are often rooted in the temperament of the child and also include learned patterns of defiant, noncompliant, and demanding behavior, thus distinguishing these items from assessments of temperament (Abidin, 1990; McBride, Schoppe, & Rane, 2002). Mothers responded to each of the items along a 5-point scale ranging from 1 (strongly agree) to 5 (strongly disagree). Item scores for the total scale were summed to yield a possible total score of 36 to 180. Item scores for each subscale were also summed to yield a possible range of scores from 12 to 60. Higher scores indicated more total parenting stress, more parental distress, more parent-child dysfunctional interactions, or more difficulty managing the child.

Studies with ethnic minority populations found the PSI and PSI-SF were highly internally consistent (Chang et al., 2002; Reitman et al., 2002; Solis & Abidin, 1991; Yeh, Chen, Li, & Chuang, 2001). Further, this instrument and its subscales have shown good reliability in studies of low-income African American families (with a Head Start population) with coefficient alphas ranging from .88 to .95 (Reitman et al., 2002). Based on these previous studies, it was anticipated that the instrument would also demonstrate good reliability with African American families with school-aged children ages 6-12 years.

Social support was measured using the *Family Support Scale* (FSS; Dunst, Jenkins, & Trivette, 1984). FSS measures a respondent's personal perception of social support; that is, how helpful different sources of support are to parents caring for children (see Appendix D). The sources of support include both individual (e.g., spouse, parents, friends) and groups (e.g., school, church, day care) at the different ecological levels posited by Bronfenbrenner (1979). The FSS includes two subscales, which measure the helpfulness of informal and formal support. The informal support subscale consisted of ten items which included the following: 1) How often do you receive help or support in terms of raising your child(ren) from your parents? 2) How often do you receive help or support in terms of raising your child(ren) from your spouse or partner? 3) How often do you receive help or support in terms of raising your child(ren) from your spouse or partner's parents? 4) How often do you receive help or support in terms of raising your child(ren) from your relative/kin? 5) How often do you receive help or support in terms of raising your child(ren) from your spouse or partner's relative/kin? 6) How often do you receive help or support in terms of raising your child(ren) from your friends? 7) How often do you receive help or support in terms of raising your child(ren) from your spouse or partner's friends? 8) How often do you receive help or support in terms of raising your child(ren) from your own children? 9) How often do you receive help or support in terms of raising your child(ren) from other parents? and; 10) How often do you receive help or support in terms of raising your child(ren) from your co-workers? The formal support subscale consisted of five items which included the following: 1) How often do you receive help or support in terms of raising your child(ren) from your church, temple or mosque? 2) How often do you receive help or support in terms of raising your child(ren)

from your family or child's physician? 3) How often do you receive help or support in terms of raising your child(ren) from a school/day-care center? 4) How often do you receive help or support in terms of raising your child(ren) from your professional helpers (Social workers, therapists, teachers, etc.)? and; 5) How often do you receive help or support in terms of raising your child(ren) from a professional agency (public health, social services, mental health, etc.)? Respondents use a 5-point scale ranging from 1 (never) to 5 (always) to indicate how often each source is helpful. Scores are summed for all items to produce the total social support score ranging from 15 to 75. Items for each subscale are also summed to produce the informal and formal social support subscales with possible ranges of 10 to 50 for informal support and 5 to 25 for formal support. Higher scores indicated higher levels of total support, informal support, or formal support.

Both reliability and validity of the FSS were established by Dunst and colleagues (1984) with a sample of parents of developmentally at-risk and physically and mentally challenged preschool children. The internal consistency of the measure, as measured with a coefficient alpha, was .85, and the scale's test-retest reliability taken one month apart was .91 for the total scale scores. Also, studies by Letiecq, Anderson, and Koblinsky (1996) and Randolph, Koblinsky, and Roberts (1996) of predominantly African American homeless and low-income housed mothers of preschool children found the FSS to be a reliable measure of support with a Cronbach's alpha of .81 for the total scale in both studies. There is also research to support the scale's content, criterion, and construct validity (Dunst et al., 1984).



Child behavior problems was measured using the Parent-Elementary (PE) form of the *Social Skills Rating Scale* (SSRS; Gresham & Elliott, 1990; see Appendix E). Parents or primary caregivers often are the main source of information about their children due to their accessibility and their knowledge of behavior across situations and time. The SSRS is a well-known measure of children's social skills and behavior problems. The PE form consists of 55 items that asks a parent/caregiver to rate the frequency of the social skills and behavior problems of a child on a 3-point scale (Never, Sometimes, Very Often). For the purposes of this study, the 3-point scale was changed to a 5-point response scale ranging from 1 (never) to 5 (always) to ensure consistency with the Likert scale of other measures used in the larger study. The SSRS assesses children on two broad domains which are social skills and behavior problems; however, constructs of interest for this study are in the latter domain for behavior problems. Although the PE form contains many subscales, of interest to this study are the Externalizing and Internalizing subscales. The PE's first 38 items that constitute the social skills scales (i.e., cooperation, assertiveness, responsibility and self-control) were not used in this study. The remainder of the items (39-55) comprises the behavior problem subscales. There are six items that comprise the Externalizing subscale and seven items that comprise the Internalizing subscale. Item scores on these subscales are summed with a possible range of 6 to 30 for externalizing behaviors and a range of 7 to 35 for internalizing behaviors. Lower scores are indicative of fewer externalizing and fewer internalizing problems. The two subscale scores are then summed for a total behavior problem score with a possible range of 13 to 65. Lower scores are indicative of fewer total behavior problems.

The PE form of the SSRS displays better psychometric properties than the student forms as noted by Benes (1995) and Furlong and Karno (1995). Further, Gresham and Elliott's (1990) review of validity evidence found high correlations between SSRS subscales and similar measures such as the *Child Behavior Checklist* (Achenbach, 1991), which also includes total behavior problems, and externalizing and internalizing behavior problems. However, a review of the literature showed no psychometrics on African Americans.

### *Procedure*

As noted earlier, data were drawn from a baseline dataset of a larger multi-site study. Participants who were recruited to participate in the larger study were assured that their participation was voluntary and that they had the right to withdraw from the study at any time. Written, informed consent was obtained from participants prior to participation. Upon consent, interviews were conducted prior to participating in the parenting education classes. All caregivers were interviewed in a one-to-one (60%), small group (18%), medium group (7%), or large group (14%) format. Three to four research assistants proctored the interviews for the small, medium, and large groups. For their participation in the study participants received monetary compensation or gift certificates.

Finally, to further ensure their protection, confidentiality to the extent permitted by the law was maintained, with the exception of cases where ongoing child abuse or neglect was discovered. Each participant was assigned an alpha-numeric identification number to ensure confidentiality of all data collected. For the purposes of this study, a separate dataset was used that contained only the ID number and the needed study data.

### *Data Analysis*

All statistical procedures were conducted using SPSS-PC software. The analyses for the study consisted of four steps. First, descriptive statistics (including means, standard deviations, and percentages) were used, as appropriate, to summarize the demographic characteristics of the sample and to examine the distributions of the independent and dependent variables.

Second, Cronbach's alpha coefficients for the PSI-SF, FSS, SSRS, and relevant subscales were computed to examine the internal consistency reliability. In examining the alpha coefficients, the true scores and error scores were obtained to assess the strengths and weaknesses of the scales. Prior to further analyses, all of the predictor variables, because they are Likert scales, were summed to create their respective composite scores. In turn, each scale total was then treated as an interval scale in the analyses. The same procedures were conducted for the dependent variable subscales (total behavior problems, externalizing behavior, and internalizing behavior).

Third, correlational analyses to examine the linear relationship between the variables were conducted. Specifically, the demographic variables were correlated with the study variables and the study variables were correlated with each other. Demographic variables that are significantly correlated with the study variables were included in the analyses as control variables.

Fourth, to test the hypothesized model (refer to Figure 2), the analytic technique of hierarchical linear regression analyses was conducted. Hierarchical linear regression functions like stepwise regression; however, the major difference is that the stepwise regression does not have any control over which variables are entered and in what

sequence. The hierarchical linear regression analysis procedure allows the researcher to determine the importance of the variables based on theory and/or the literature; and to enter them into the regression model accordingly, instead of letting the software select the order in which the variables are entered into the model. Further, this approach allows for the proportion of variance accounted for by all of the independent variables (i.e.,  $R^2$ ) to be partitioned incrementally, noting the increment in the proportion of variance accounted for by each independent variable (or by a set of independent variables) at the point at which it is entered into a regression analysis (Pedhazur, 1997). The regression coefficients were then obtained to assess the direction and the magnitude of the independent variables selected by the hierarchical linear regression.

Finally, the fit of the hierarchical linear regression model were assessed by looking for the combination of results including:  $R^2$ , standard error of estimate, the significance and the magnitude of each predictor, the power and the sample size of the model, and the pattern of the predictors.

Figure 2, as presented earlier, was used to generate three separate regression equations in which maternal stress and social support predict total child behavior problems in the first, externalizing behavior in the second, and internalizing behavior in the third equation. Prior to entering the predictor variables into the regression analyses, they were centered (i.e., put in deviation score form so that the means are zero) as recommended by Aiken and West (1991). Centering the predictor variables consisted of taking the raw scores for each predictor and subtracting their respective mean from each score, thus yielding a centered score. This process produced a zero value on the predictor variables' continuous scales that is meaningful as well as greatly lessened

multicollinearity with higher order terms (e.g., XZ; see equation 1 below) due to scaling (Aiken & West, 1991). Further argument for employing the centering strategy is that when first order terms (e.g., X and Z; see equation 1 below) are not centered, the interaction term XZ is highly correlated with the variables of which it is comprised. When used in regression analyses, the interaction term can produce large standard errors for the regression coefficients of the lower order terms. However, the standard error of the interaction term will not be affected (Aiken & West, 1991). Next, the interaction term (i.e., maternal stress x social support) was computed by multiplying together the centered predictor variables. The regression with an interaction equation is found below.

$$\hat{Y} = b_1X + b_2Z + b_3XZ + b_0$$

In the first step of the regression analyses, the demographic control variables that are significantly associated with the predictor and outcome variables were entered. In steps two and three, maternal stress and social support were entered, respectively as main effect predictors of child internalizing, externalizing, and total behavior problems. Maternal stress, as measured by the PSI-Short Form, social support, as measured by the FSS, and child behavior problems, as measured by the SSRS were examined as continuous variables. To test for moderation effects, the interaction term between maternal stress and social support was entered in the last step of the regressions. Finally, once a significant interaction was obtained, the interaction was plotted to better understand its meaning. The equation used to plot the significant interactions (see equation below) used the mean, one standard deviation below the mean, and one standard

deviation above the mean as the as the values for social support (Z values) to substitute into the equation below.

$$\hat{Y} = (b_1 + b_3Z)X + (b_2Z + b_0)$$

These points represented medium, low, and high social support, respectively in plotting significant interactions.

Once plotting the interaction was accomplished, a comparison of the regression lines was conducted utilizing the general linear test approach (Neter & Wasserman, 1974) in SAS to determine whether the slopes of the lines were the same.

## CHAPTER IV: RESULTS

### *Demographic Characteristics of the Sample*

As previously noted, this sample was drawn from an existing, publicly available dataset that was part of a larger three-year study funded by the Center for Substance Abuse Prevention. Table 1 presents the demographic characteristics of the sample for this study. These data include means and standard deviations for maternal age, child age, the number of children in the home, and the number of adults living in the home. Additionally, the frequencies and percentages for maternal education, marital status, employment status of the mother, and the sex of the index child are provided. It should be noted that approximately one-fifth of the female caregivers functioning in the mother's role in this study were grandmothers (21%).

As displayed in Table 1, the sample consisted of 193 African American female caregivers serving in the maternal role. Of the sample, 134 (72%) were the biological mothers of the index child. An additional 39 (21%) were grandmothers, another 8 (4%) were other female relatives functioning in the mother's role, and 2 (1%) were the stepmother of an index child. Hereafter, all caregivers will be referred to as "mothers." Age of the mothers in the current study ranged from 22 to 75 years with a mean age of 41.2 years (SD = 12.3). Children's ages ranged from 6 to 12 years, with a mean of 10.2 years (SD = 1.6). Forty-five percent of the children were boys and 55% were girls. Mothers reported having an average of three children and two adults (1.7; including themselves) living in the household.

Table 1

*Demographic Characteristics of the Sample*

Demographic Characteristics	Female Caregivers (N=193)		Range
	Mean	SD	
Mother's Age in Years	41.2	12.30	22-75
Child's Age in Years	10.2	1.61	6-12
Number of Children less than 18 yrs in the Home	2.9	1.50	1-10
Adults in Home (including mother)	1.7	0.94	1-5
Demographic Characteristics	<i>n</i> (Percentage)		
Maternal Education			
Grade School			3 (1.6%)
Some High School			44 (23.7%)
High School Graduate			61 (32.8%)
Some College			35 (18.8%)
College Graduate			20 (10.8%)
Trade/Technical School			20 (10.8%)
Post College			3 (1.6%)
Child's Sex			
Male			65 (45%)
Female			84 (55%)
Female Caregiver's Relationship to Child			
Biological Parent			134 (71.7%)
Grandparent			39 (20.9%)
Step-parent			2 (1.1%)
Other Relative			8 (4.2%)
Marital Status of Mother/Caregiver			
Single			88 (47.6%)
Married			39 (21.1%)
Divorced			17 (9.2%)
Separated			17 (9.2%)
Widowed			13 (7.0%)
Living with Partner			10 (5.4%)
Employment Status			
Full-time Job			46 (24.5%)
Part-time Job			26 (13.8%)
Not Employed			116 (61.7%)
Household Yearly Income			
0-\$10,000			64 (36.6%)
\$10,001-20,000			51 (29.1%)
\$20,001-30,000			28 (16.0%)
\$30,001-40,000			17 (9.7%)
\$40,001-50,000			4 (2.3%)
Over \$50,000			11 (6.3%)



With regard to education, 10.8% of the sample was college graduates, 18.8% had some college education, 42% had some education beyond the high school level, 33% were high school graduates, and the remaining 25% had less than a high school education. Overall, almost three-fourths (73%) of the mothers were single, divorced, widowed or separated; while 21% reported being married and 5% were living with a partner. Approximately 62% of the mothers were not employed, 14% were working part-time, and 25% were employed full-time.

### *Psychometric Properties of Study Measures*

Cronbach's coefficient alphas were computed to examine the internal consistency of the three study measures and their subscales (see Table 2). The alpha for total maternal stress, measured using the PSI-SF, was .94. The coefficient alphas for the subscales parental distress, parent-child dysfunctional interaction, and difficult child were .85, .86, and .89, respectively. These results are consistent with the reliability from previous studies with African American families (Reitman et al., 2002). The alpha for social support, measured using the FSS, was .85, which mirrors the reliability established by Dunst and colleagues (1984) with a sample of high-risk families. The reliability coefficient for the FSS was also similar to that obtained by Randolph et al. (1996) in a study of predominantly African American families. Additionally, informal social support and formal social support subscales had coefficient alphas of .80 and .78, respectively. For the SSRS, the reliability coefficients for externalizing and internalizing subscales and the total behavior problems subscale were .78, .72, and .82, respectively, which according to Nunnally and Bernstein (1994), are in an acceptable range. These alphas are also well

within the reported coefficient alphas range for the PE form found by the scales' authors (Gresham & Elliott, 1990).

Table 2

*Descriptive Data and Coefficient Alphas for Scores on Study Measures*

Variables (Measures)	Number of Items	Sample Range	Mean	SD	Coefficient Alpha
<b>Maternal Stress (PSI-SF)</b>					
Total Maternal Stress	36	37-158	80.6	23.3	.94
Maternal Distress	12	12-51	28.8	9.05	.85
Maternal-Child Dysfunctional Interaction	12	12-50	23.3	8.23	.86
Difficult Child	12	12-59	28.5	9.57	.89
<b>Social Support (FSS)</b>					
Total Support	15	14-74	32.7	11.34	.85
Informal Support	10	8-49	21.7	8.42	.80
Formal Support	5	5-25	11.0	4.85	.78
<b>Behavior Problems (SSRS)</b>					
Total	13	1-24	11.5	4.23	.82
Externalizing	6	0-12	5.1	2.37	.78
Internalizing	7	1-12	6.4	2.44	.72

*Scores on Study Measures*

Table 2 also presents means and standard deviations for mothers' scores on the PSI-SF, FSS, and for mothers' reports on children's behavior problems on the SSRS. The PSI-SF measured mothers' total parenting stress (i.e., total maternal stress), with lower scores indicating lower levels of stress. Study participants' mean total score on the PSI-SF was 80.6 (SD=23.3). Mothers, on average, reported moderate levels of maternal distress, maternal-child dysfunctional interaction, and difficult child management on the PSI-SF subscales.

The FSS assessed the level of perceived social support mothers received in raising their children. Higher scores indicated receipt of more overall support, informal social support, or formal social support in parenting. Study participants had a mean score of

32.7 (SD= 11.34) on the total social support scale, 21.7 (SD= 8.42) on the informal social support subscale, and 11.0 (SD= 4.85) on the formal social support subscale.

School-aged children's behavior problems were measured using the SSRS. Lower scores indicated fewer behavior problems. Mothers reported moderate levels of total, externalizing, and internalizing behavior problems with means of 11.5 (SD= 4.23), 5.1 (SD= 2.37), and 6.4 (SD= 2.44), respectively.

#### *Bivariate Relationships Between Variables*

Table 3 presents a correlation matrix depicting the relationships between all of the study variables. As expected, total maternal stress was positively correlated with the subscales on the PSI-SF: maternal distress ( $r=.83, p<.01$ ), maternal-child dysfunctional interaction ( $r=.90, p<.01$ ), and difficult child ( $r=.88, p<.01$ ). Total maternal stress was also positively correlated with total behavior problems ( $r=.60, p<.01$ ), externalizing behaviors ( $r=.55, p<.01$ ), and internalizing behaviors ( $r=.51, p<.01$ ). Results also indicated that maternal distress had significant positive associations with total behavior problems ( $r=.37, p<.01$ ), externalizing behaviors ( $r=.31, p<.01$ ), and internalizing behaviors ( $r=.34, p<.01$ ). There were also positive relationships between maternal-child dysfunctional interaction and total behavior problems ( $r=.54, p<.01$ ), externalizing behaviors ( $r=.48, p<.01$ ), and internalizing behaviors ( $r=.47, p<.01$ ). The difficult child subscale was also positively correlated with total behavior problems ( $r=.65, p<.01$ ), externalizing behaviors ( $r=.62, p<.01$ ), and internalizing behaviors ( $r=.52, p<.01$ ).

Table 3

*Bivariate Relationships Between Variables*

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
<i>Control Variables</i>																	
1. Maternal Education	–																
2. Maternal Age	-.26**	–															
3. Marital Status	-.05	-.16*	–														
4. Yearly Household Income	.30**	-.01	-.51**	–													
5. Current Employment	.31**	.24**	.16*	-.38**	–												
6. Child Sex	.10	.03	-.04	.13	-.07	–											
7. No. of Children	-.12	-.19*	-.07	.06	.02	.06	–										
<i>Predictor Variables</i>																	
8. Maternal Total Stress	-.23**	.13	.12	-.22**	.10	-.10	-.05	–									
9. Maternal Distress	-.15*	.02	.13	-.26**	.15*	-.08	-.01	.83**	–								
10. M-C Dysfunctional Interaction	-.23**	.14*	.10	-.16*	.07	-.10	-.03	.90**	.63**	–							
11. Difficult Child	-.22**	.16*	.08	-.15*	.05	-.09	-.08	.88**	.54**	.73**	–						
12. Social Support	-.08	-.04	-.06	-.04	-.07	.12	-.11	-.02	-.08	.04	-.00	–					
13. Informal Support	-.04	-.15*	-.13	.06	-.13	.14	.16*	-.06	-.10	-.00	-.06	.92**	–				
14. Formal Support	-.13	.16*	.09	-.19*	.07	.04	-.11	.07	-.02	.10	.10	.74**	.42**	–			
<i>Outcome Variables</i>																	
15. Total Behavior Problems	-.22**	.04	.07	-.15*	.03	-.10	-.08	.60**	.37**	.54**	.65**	.09	.03	.15*	–		
16. Externalizing Behaviors	-.22**	.05	.10	-.14	.02	-.15	-.01	.55**	.31**	.48**	.62**	.05	.00	.12	.87**	–	
17. Internalizing Behaviors	-.17*	.02	.03	-.11	.03	-.03	-.12	.51**	.34**	.47**	.52**	.10	.05	.15*	.88**	.54**	–

Note. Correlations for dichotomous variables are point-biserial correlations.

\* $p < .05$ . \*\* $p < .01$

The parenting stress variables (total PSI-SF and subscales) were not significantly related to total social support, informal support, or formal support. Total social support and informal support also were not significantly related to the outcome measures (i.e., behavior problems). Formal support was not significantly related to externalizing behavior problems, but did have a significant positive association with total behavior problems ( $r=.15, p<.05$ ) and internalizing behaviors ( $r=.15, p<.05$ ).

Table 3 also shows the intercorrelations among the control variables and the variables of interest. Of the control variables, maternal education, yearly household income, mother's age, number of children in the household, and employment status correlated significantly with the variables under investigation. Mothers who had more education perceived their children as having less externalizing behavior problems ( $r = -.22, p < .01$ ), fewer internalizing behavior problems ( $r = -.17, p < .01$ ), and fewer total behavior problems ( $r = -.22, p < .01$ ). Moreover, mothers with a high level of education reported less total maternal stress ( $r = -.23, p < .01$ ), less maternal distress ( $r = -.15, p < .05$ ), less maternal-child dysfunctional interaction ( $r = -.23, p < .01$ ), and less difficult child ( $r = -.22, p < .01$ ). Results also indicated mothers in households with higher yearly incomes reported lower total maternal stress ( $r = -.22, p < .01$ ), lower levels of maternal distress ( $r = -.26, p < .01$ ), lower levels of mother-child dysfunctional interaction ( $r = -.16, p < .05$ ), and lower difficult child ( $r = -.15, p < .05$ ). In regards to the key variables of interest, employment status was only significantly correlated (positively) with the maternal distress subscale of the PSI-SF ( $r = .15, p < .05$ ). This indicates that as employment status increases (i.e., full-time employment), there is a corresponding increase in maternal distress. There were no significant associations between employment

status with the outcome measures. Additionally, the number of children under 18 years in the household was only positively correlated with informal social support ( $r = .16, p < .05$ ). There were no significant associations between number of children under 18 years in the household and any other variables of interest. More importantly, no control variables correlated significantly with the variables of interest at or above .80 indicating multicollinearity (Field, 2000).

Child sex was proposed as a potential influence on behavior problems, but no significant relationships between child sex and total behavior problems ( $r_{pb} = -0.10, ns$ ), child sex and externalizing behavior problems ( $r_{pb} = -0.15, ns$ ), and child sex and internalizing behavior problems ( $r_{pb} = -0.03, ns$ ) were revealed. Marital status was not significantly correlated with any of the predictor or outcome variables. Therefore, child sex and marital status were not included in further analyses. Thus, the test of theoretical models included maternal education, maternal age, yearly household income, current employment, and number of children under age 18 in the household as control variables.

#### *Tests of Theoretical Models*

A major objective of this study was to identify factors that may buffer African American school-aged children from the effects of living with a mother experiencing stress in the parenting role by examining the buffering potential of social support on the relationship between maternal stress and children's total, internalizing, and externalizing behavior problems.

Based on the first research question, maternal stress was expected to be significantly associated with children's behavior problems. In order to test this hypothesis, linear regression analyses were conducted to evaluate the prediction of

Table 4

*Children's Behavior Problems Regressed on Parenting Stress*

Predictors	Total Behavior Problems (N= 188)				Externalizing Behavior Problems (N= 188)				Internalizing Behavior Problems (N= 188)			
	B (SE)	R <sup>2</sup>	Adj R <sup>2</sup>	p	B (SE)	R <sup>2</sup>	Adj R <sup>2</sup>	p	B (SE)	R <sup>2</sup>	Adj R <sup>2</sup>	p
Total maternal stress	0.11 (0.01)	0.36	0.36	.000	0.06 (0.01)	0.30	0.29	.000	0.05 (0.01)	0.26	0.26	.000
Maternal distress	0.17 (0.03)	0.14	0.13	.000	0.08 (0.02)	0.10	0.09	.000	0.09 (0.02)	0.12	0.11	.000
M/C dysfunctional interaction	0.28 (0.03)	0.30	0.29	.000	0.14 (0.02)	0.23	0.23	.000	0.14 (0.02)	0.22	0.22	.000
Difficult child	0.29 (0.03)	0.42	0.42	.000	0.15 (0.01)	0.38	0.38	.000	0.13 (0.02)	0.27	0.27	.000

Note. B = unstandardized regression coefficient; SE = standard error.

children's behavior problems from maternal parenting stress with an African American sample. Table 4 presents the results of the linear regression models examining the PSI-SF and its subscales as predictors of children's behavior problems. As hypothesized, mothers who experience higher levels of parenting stress tended to report their child had more total behavior problems. Accuracy in predicting children's behavior problems was good. The correlation between total maternal stress and children's behavior problems was  $.60$ ,  $t(187) = 10.30$ ,  $p = .000$ . Approximately 36% of the variance of children's total behavior problems was accounted for by its linear relationship with total maternal stress. The scatterplot in figure 3 depicts the linear relationship of the two variables.

The PSI-SF subscales were also significant predictors of children's total behavior problems. As expected, simple linear regression also revealed a significant relationship between maternal distress in the parenting role and children's total behavior problems ( $t(189) = 5.45$ ,  $p < .001$ ). This significant relationship continued for maternal-child dysfunctional interaction and total behavior problems ( $t(189) = 8.85$ ,  $p < .001$ ), and difficult child and total behavior problems ( $t(189) = 11.62$ ,  $p < .001$ ).



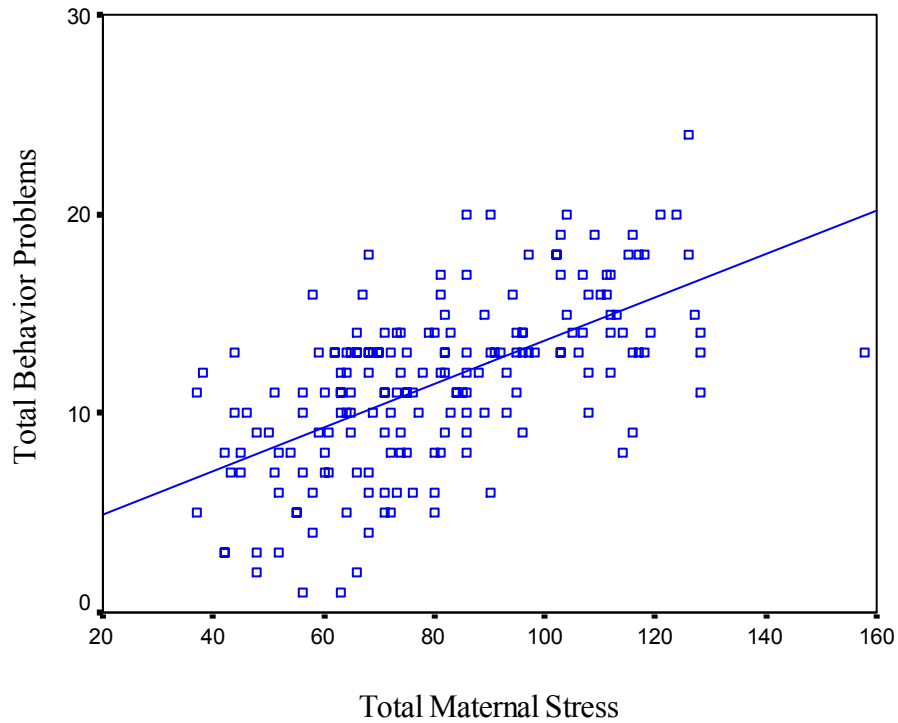


Figure 3. Scatterplot of relationship between children’s total behavior problems and total maternal stress

Simple linear regression results also indicated significant relationships between total maternal stress and externalizing behaviors. As hypothesized, mothers who experience higher levels of total parenting stress tended to report their child as having more externalizing behavior problems. The correlation between total maternal stress and children’s externalizing behavior problems was .55 ( $t(189) = 8.88, p < .001$ ). Approximately 30% of the variance of children’s externalizing behavior problems was accounted for by its linear relationship with total maternal stress. The scatterplot in figure 4 depicts the linear relationship of the two variables.

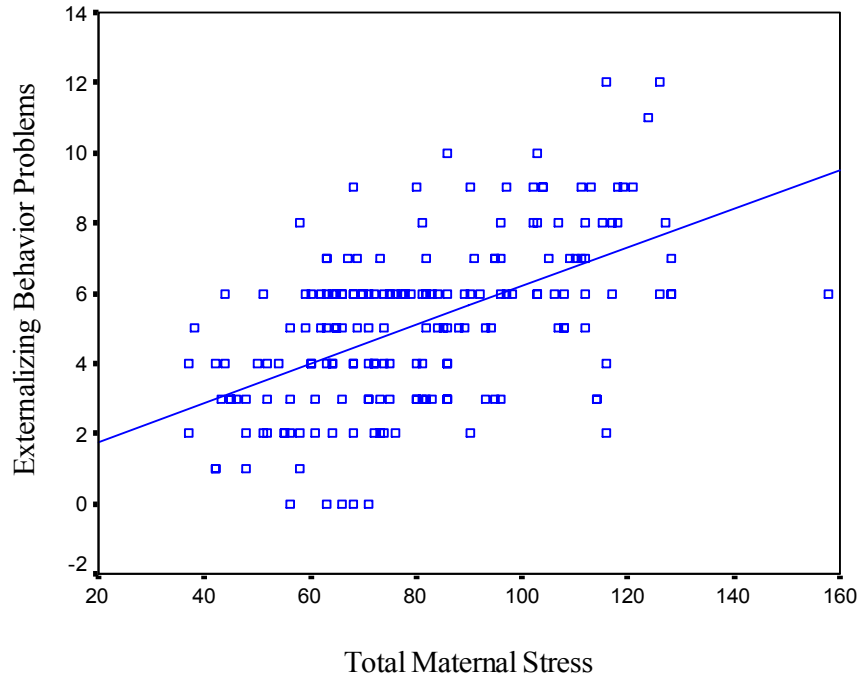


Figure 4. Scatterplot of relationship between externalizing behavior problems and total maternal stress

The PSI-SF subscales were also significant predictors of children’s externalizing behavior problems. As expected, simple linear regression also revealed a significant relationship between externalizing behavior problems and the PSI-SF subscales: maternal distress ( $t(189) = 4.44, p < .001$ ), maternal-child dysfunctional interaction ( $t(189) = 7.52, p < .001$ ), and difficult child ( $t(189) = 10.80, p < .001$ ).

Finally, as expected, there was also a significant positive association with maternal stress and internalizing behavior problems. The correlation between total maternal stress and children’s internalizing behavior problems was .51, ( $t(189) = 8.17, p < .001$ ). Approximately 27% of the variance of children’s internalizing behavior problems was accounted for by its linear relationship with maternal stress. The scatterplot in figure 5 depicts the linear relationship of the two variables.

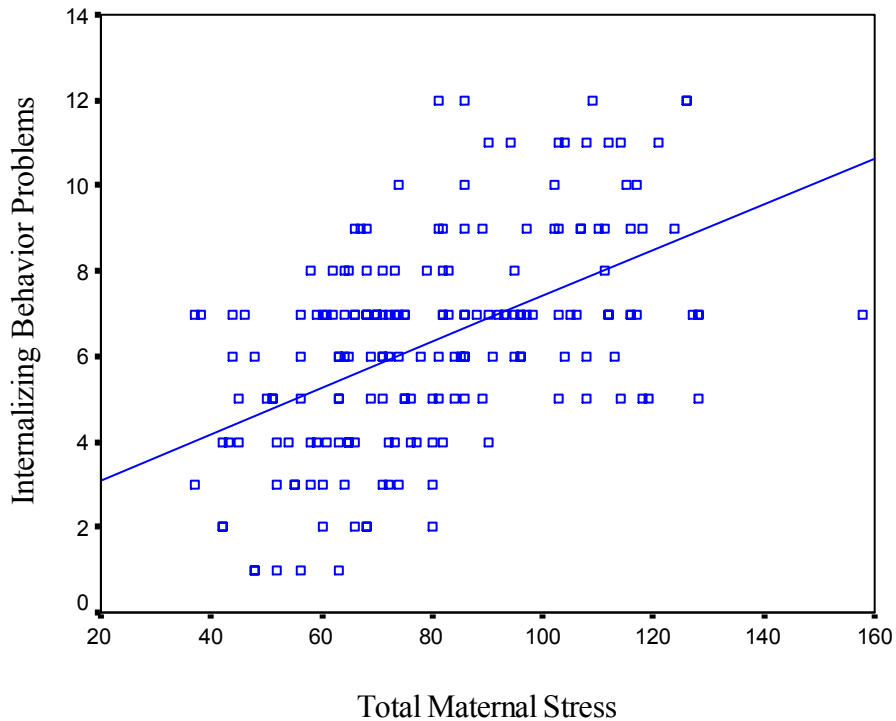


Figure 5. Scatterplot of relationship between children’s internalizing behavior problems and total maternal stress

The PSI-SF subscales were also significant predictors of children’s internalizing behavior problems. As expected, simple linear regression also revealed a significant relationship between PSI-SF subscales and internalizing behavior problems: maternal distress ( $t(189) = 4.96, p < .001$ ), maternal-child dysfunctional interactions ( $t(189) = 7.35, p < .001$ ), and difficult child ( $t(189) = 8.32, p < .001$ ).

Additional study objectives were to: determine the unique contributions of maternal stress and social support to child behavior problems, and examine social support as a potential moderator. Hierarchical linear regression was used to examine the main and interaction effects of the variables. Entry of the variables proceeded in the following order: block 1 was demographic control variables, block 2 was maternal stress, block 3

was social support, and block 4 was the interaction term between maternal stress and social support. Following guidelines by Aiken and West (1991), interaction terms were created with the centered total maternal stress and total social support and their respective subscales as presented in the analysis plan. Separate hierarchical regression analyses were conducted for each of the outcome variables (i.e., total behavior problems, externalizing behavior problems, and internalizing behavior problems).

Contrary to expectations, total social support did not moderate the relation of total maternal stress and total behavior problems ( $t(139) = .75, ns$ ). Further, none of the interaction terms between the PSI-SF subscales and social support were statistically significant. Given that social support was not a significant moderator of the relationship between maternal stress and children's behavior problems, a possibility may be that the FSS measure masks the buffering effects of its subscales (formal and informal social support) to moderate the relation of maternal stress and behavior problems. Thus, formal and informal social support subscales were examined to determine if these dimensions of social support attenuate the negative impact of maternal stress on child behavior problems. Subsequent analyses included only formal support or informal support as moderators. Reported below are only findings that are significant at the .05 level (see Tables 5, 8, 9).

The hypothesis that social support buffers the association between maternal stress and child behavior problems was supported only for formal support in the relation between maternal-child dysfunctional interaction and internalizing behavior problems. No other buffering effects were found. Specifically, formal support moderated the relation of maternal/child dysfunctional interaction to child's internalizing behavior

problems. Table 5 presents the results of the hierarchical regression model examining the interaction effect for children’s internalizing behavior problems. The overall model was significant and explains 29% of the variance in child internalizing behavior problems ( $R^2=.29, p<.05$ ). As indicated in Table 5, formal support moderated the relationship between maternal-child dysfunctional interactions and children’s internalizing behavior problems.

Table 5

*Summary of Hierarchical Regression Analyses for Variables Predicting Child Internalizing Behaviors: Formal Support as Moderator Using Entire Sample (N=169)*

Variable	B	SE	$\beta$
Step 1:			
Maternal Education	-.40	.16	-.21*
Yearly Household Income	-.01	.08	-.08
Maternal Age	-.01	.02	-.05
Employment Status	-.18	.25	-.06
No. of Children less than 18 yrs in the Home	-.29	.14	-.17*
Step 2:			
Maternal-Child Dysfunctional Interaction (MCDI)	.14	.02	.47***
Step 3:			
Formal Support	.03	.04	.06
Step 4:			
MCDI X Formal Support	-.01	.00	-.58*

*Note.* B = unstandardized regression coefficient; SE = standard error of B;  $\beta$  =standardized regression coefficient.  
 $R^2=0.07$  for Step 1 ( $p <.05$ );  $\Delta R^2 =0.20$  for Step 2 ( $p <.001$ );  $\Delta R^2 =0.003$  for Step 3 ( $p ns$ );  $\Delta R^2 =0.02$  for Step 4 ( $p <.05$ ).  
 \* $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

Post hoc probing of the significant interaction was conducted in accordance with standards outlined by Aiken and West (1991). The significant interaction term (maternal-child dysfunctional interactions X formal support) was plotted to gain a deeper understanding of this interaction. As is the case for social support as a moderator, there is not yet an existing science-based rationale to guide the choice of several moderator

values. Cohen and Cohen (1983) suggest utilizing the values of high, medium and low corresponding to one standard deviation above the mean, the mean, and one standard deviation below the mean, respectively, in plotting significant interactions. In this study, the corresponding values for high, medium, and low formal support were determined by using the mean as the medium value and calculating a high score based one SD above the mean and the low support score at one SD below the mean. These values were used to plot the interaction between maternal-child dysfunctional interaction and formal support. A graphic display of this interaction as related to internalizing behavior problems appears in figure 6.

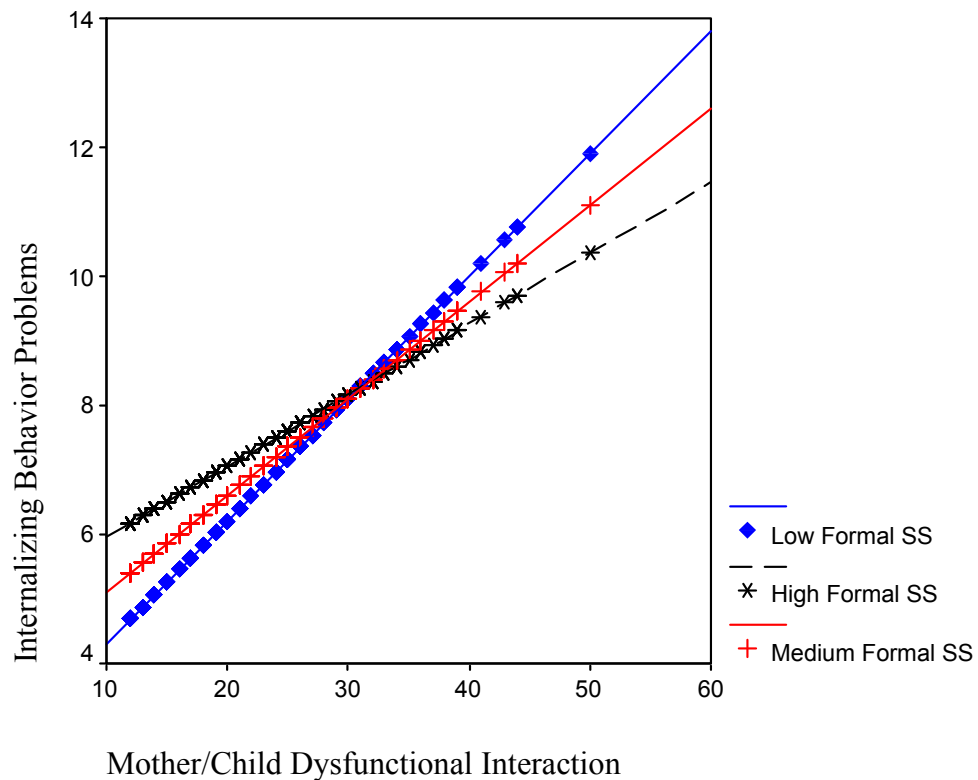


Figure 6. Depiction of moderation effect of formal support on relationship between maternal/child dysfunctional interaction and child internalizing behavior problems

As illustrated, the three regression lines interact when maternal-child dysfunctional interaction score is approximately 32. In the group of mothers whose maternal-child dysfunctional interaction scores are below 32, children have more internalizing behavior problems when the level of formal support is high as compared to lower levels of formal support. The pattern appears different when maternal-child dysfunctional interaction scores are greater than 32. In this group, maternal-child dysfunctional interaction appears to have a lesser impact on child internalizing behavior problems when the level of formal support is high as compared to lower levels of formal support. Testing of the slopes of the regression lines showed that the slopes for low formal support and medium formal support were not significantly different from each other. This was also the same for the slopes for medium formal support and high formal support. In contrast, the slopes between high formal support and low formal support were significantly different from each other.

Because there is empirical evidence to support that the functional role of social support may differ for grandmothers, especially those who have taken on a parenting role at an unexpected life stage (Landry-Meyer, Gerard, & Guzella, 2005), the sample was divided into two groups (grandmothers and other female caregivers) for additional analyses. The category of grandmother was defined as those who self-identified as the index child's grandmother, great grandmother, or great aunt. All other participants were categorized as other female caregivers.

Table 6 presents the demographic characteristics for the subsample of grandmothers and other female caregivers. These data include means and standard

Table 6

*Demographic Characteristics of the Sample (By Group)*

Demographic Characteristics	<u>Female Caregivers</u> (N=150)		Range	<u>Grandmothers</u> (N=43)		Range
	<u>Mean</u>	<u>SD</u>		<u>Mean</u>	<u>SD</u>	
Mother's Age in Years	36.0	7.11	22-66	59.2	9.22	40-75
Child's Age in Years	10.3	1.54	6-12	9.7	1.81	6-12
Number of Children less than 18 yrs in the Home	3.0	1.46	1-10	2.5	1.58	1-7
Adults in Home (including mother)	1.7	0.93	1-5	1.9	0.96	1-4
Demographic Characteristics			<i>n</i> (Percentage)			<i>n</i> (Percentage)
<b>Maternal Education</b>						
Grade School			2 (1.4%)			1 (2.4%)
Some High School			25 (17.4%)			19 (45.2%)
High School Graduate			45 (31.3%)			16 (38.1%)
Some College			35 (24.3%)			0 (-.-%)
College Graduate			18 (12.5%)			2 (4.8%)
Trade/Technical School			16 (11.1%)			20 (10.8%)
Post College			3 (2.1%)			4 (9.5%)
<b>Child's Sex</b>						
Male			59 (46%)			10 (40%)
Female			69 (54%)			15 (60%)



Demographic Characteristics	<i>n</i> (Percentage)	<i>n</i> (Percentage)
Marital Status of Caregiver		
Single	73 (51.0%)	15 (35.7%)
Married	34 (23.8%)	5 (11.9%)
Divorced	11 (7.7%)	6 (14.3%)
Separated	15 (10.5%)	2 (4.8%)
Widowed	1 (0.7%)	12 (28.6%)
Living with Partner	8 (5.6%)	2 (4.8%)
Employment Status		
Full-time Job	43 (29.7%)	3 (7.0%)
Part-time Job	21 (14.5%)	5 (11.6%)
Not Employed	81 (55.9%)	35 (81.4%)
Household Yearly Income		
0-\$10,000	55 (36.0%)	17 (40.5%)
\$10,001-20,000	35 (25.1%)	17 (40.5%)
\$20,001-30,000	24 (17.3)	5 (11.9)
\$30,001-40,000	17 (12.2%)	1 (2.4%)
\$40,001-50,000	3 (2.1%)	1 (2.4%)
Over \$50,000	10 (7.2%)	1 (2.4%)

deviations for maternal age, child age, the number of children in the home, and the number of adults living in the home. As with Table 1, the frequencies and percentages for maternal education, marital status, employment status, and the sex of the index child are provided. As displayed in Table 6, the sample consisted of 150 African American female caregivers and 43 African American grandmothers serving in the maternal role. Age of the female caregivers ranged from 22 to 66 years with a mean age of 36 years ( $SD = 7.1$ ) and age of the grandmothers ranged from 40 to 75 years with a mean age of 59.2 years ( $SD = 9.2$ ). Children's ages ranged from 6 to 12 years, with a mean of 10.3 years ( $SD = 1.5$ ) for children of female caregivers and a mean age of 9.7 years ( $SD = 1.8$ ) for grandchildren of the grandmothers. Forty-six percent of the children were boys and 54% were girls for female caregivers and 40% were boys and 60% were girls for grandmothers. Female caregivers and grandmothers reported having an average of three children and two adults (including themselves) living in the household.

With regard to education, 12.5% of female caregivers and 4.8% of grandmothers were college graduates, 24.3% of female caregivers had some college education, 31.3% of female caregivers and 38.1% of grandmothers were high school graduates, and the remaining 18.8% of female caregivers and 47.6% of grandmothers had less than a high school education. Overall, almost one half (51%) of female caregivers were single, whereas 35.7% of grandmothers reported being single. While 23.8% of female caregivers reported being married, 11.9% of grandmothers indicated they were married. Approximately 8% of female caregivers were divorced, 10.5% separated, and 5.6% were living with a partner. However, 14.3% of grandmothers were divorced, 4.8% separated, 28.6 widowed, and 4.8% were living with a partner. Approximately 56% of female

caregivers were not employed, 14.5% were working part-time, and 29.7% were employed full-time. As for grandmothers, 81.4% reported they were not employed, 11.6% had part-time employment, and 7% were employed full-time.

*Scores on Study Measures By Group*

Table 7 presents means and standard deviations for female caregivers' and grandmothers' scores on the PSI-SF, FSS, and for caregivers' reports on children's behavior problems on the SSRS. As mentioned above, the PSI-SF measured mothers' total parenting stress (i.e., total maternal stress), with lower scores indicating lower levels of stress. Female caregivers' mean total score on the PSI-SF was 78.6 (SD=23.3) and grandmothers' mean total score on the PSI-SF was 87.4 (SD=22.4). Further, grandmothers reported slightly higher levels of maternal distress, and higher levels of maternal-child dysfunctional interaction, and difficult child management on the PSI-SF subscales than female caregivers.

Table 7

*Descriptive Data and Coefficient Alphas for Scores on Study Measures (By Group)*

Variables (Measures)	Female Caregivers (N=146)				Grandmothers (N=43)			
	Sample Range	Mean	SD	Coefficient Alpha	Sample Range	Mean	SD	Coefficient Alpha
<b>Maternal Stress (PSI-SF)</b>								
Total Maternal Stress	37-158	78.6	23.3	.94	43-126	87.4	22.40	.93
Maternal Distress	12-51	28.6	9.17	.86	12-48	29.6	8.69	.83
M-C Dysfunctional Interaction	12-50	22.5	7.93	.86	12-41	26.0	8.75	.87
Difficult Child	12-59	27.5	9.62	.90	14-48	31.9	8.70	.86
<b>Social Support (FSS)</b>								
Total Support	14-74	32.6	11.41	.85	15-59	32.7	11.24	.84
Informal Support	8-49	22.2	8.45	.81	8-40	20.0	8.16	.79
Formal Support	5-25	10.5	4.45	.75	5-25	12.7	5.72	.82
<b>Behavior Problems (SSRS)</b>								
Total	1-20	11.3	4.28	.83	2-24	12.1	4.01	.78
Externalizing	0-12	5.0	2.34	.77	0-12	5.6	2.40	.79
Internalizing	1-12	6.3	2.46	.73	2-12	6.6	2.39	.65

The FSS scores indicated receipt of more overall support, informal social support, or formal social support in parenting. Female caregivers had a mean score of 32.6 (SD= 11.41) on the total social support scale, 22.2 (SD= 8.45) on the informal social support subscale, and 10.5 (SD= 4.45) on the formal social support subscale. On the other hand, grandmothers had a mean score of 32.7 (SD= 11.24) on the total social support scale, 20.0 (SD= 8.16) on the informal social support subscale, and 12.7 (SD= 5.72) on the formal social support subscale.

School-aged children's behavior problems were measured using the SSRS with lower scores indicating fewer behavior problems. Similar to the study sample, female caregivers reported moderate levels of total, externalizing, and internalizing behavior problems with means of 11.3 (SD= 4.28), 5.0 (SD= 2.34), and 6.3 (SD= 2.46), respectively. On the other hand, grandmothers reported slightly higher levels of total, externalizing, and internalizing behavior problems than female caregivers with means of 12.1 (SD= 4.01), 5.6 (SD= 2.40), and 6.6 (SD= 2.39), respectively.

To detect group differences between female caregivers and grandmothers on the study measures, multivariate analyses of variance (MANOVA) were conducted. Significant differences were found between female caregivers and grandmothers on the formal social support subscale,  $F(1, 187) = 7.68, p < .01$ , with grandmothers reporting receipt of more formal support than female caregivers. No significant differences were found for total social support or informal social support. Additionally, significant differences were found between female caregivers and grandmothers for total stress,  $F(1, 187) = 4.89, p < .05$ , for maternal-child dysfunctional interaction,  $F(1, 187) = 6.26, p < .05$ ,

and for difficult child management,  $F(1, 187) = 7.03, p < .01$ , with grandmothers reporting significantly higher levels of stress on these three variables. Finally, there were no significant differences between female caregivers and grandmothers in their reports of child total, internalizing, and externalizing behavior problems.

#### *Test of Hierarchical Regression Models By Group*

All hierarchical regression analyses were re-run for the two groups (i.e., female caregivers and grandmothers). Again, results for the total social support measure conflicted with the hypothesis that it would moderate the association between maternal stress and child behavior problems. However, the results for the hierarchical regression analyses for formal and informal social support revealed two significant interactions. As seen in Table 8, which displays significant findings for female caregivers (i.e., not grandmothers) and findings for grandmothers, the analysis regressing internalizing behavior problems on maternal-child dysfunctional interaction, formal social support, and the maternal-child dysfunctional interaction X formal support interaction term indicated that the control variables were significant predictors of child internalizing behaviors ( $R^2 = .11, p < .01$ ). Further, maternal-child dysfunctional interaction was also a significant predictor of child internalizing behaviors explaining an additional 17% of the variance ( $R^2 = .28, p < .001$ ). On the other hand, no significant main effect was found for formal social support ( $R^2 = .29, ns$ ). However, the interaction between maternal-child dysfunctional interaction and formal social support was statistically significant ( $R^2 = .31, p < .05$ ) for female caregivers, but not for grandmothers.

Table 8

*Summary of Hierarchical Regression Analysis for Variables Predicting Internalizing Behaviors: Formal Support as Moderator (By Group)*

Variable	Other Female Caregivers (N= 128)			Grandmothers (N=41)		
	B	SE B	$\beta$	B	SE B	$\beta$
Step 1						
Maternal education	-0.50	0.17	-0.26*	-0.13	0.38	-0.07
Yearly household income	-0.13	0.08	-0.15	0.25	0.21	0.22
Employment Status	-0.18	0.25	-0.07	-0.32	0.78	-0.08
No. of Children in the Home	-0.27	0.16	-0.14	-0.28	0.25	-0.18
Step 2						
Maternal-child dysfunctional interaction	0.14	0.03	0.44***	0.13	0.04	0.45**
Step 3						
Formal social support	0.02	0.05	0.04	0.06	0.06	0.14
Step 4						
MCDI X Formal social support	-0.01	0.01	-0.63*	-0.00	0.01	-0.31

*Note:* B = unstandardized regression coefficient; SE = standard error of B;  $\beta$  = standardized regression coefficient.

$R^2 = 0.11$  for Step 1 ( $p < .01$ );  $\Delta R^2 = 0.17$  for Step 2 ( $p < .001$ );  $\Delta R^2 = 0.001$  for Step 3 ( $p ns$ );  $\Delta R^2 = 0.02$  for Step 4 ( $p < .05$ ).

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

Probing of this significant interaction, using Aiken and West's (1991) guidelines, culminated in the plotted graphic found in figure 7. This figure demonstrates that for female caregivers other than grandmothers, high levels of formal social support attenuate the negative impact of the relation between maternal-child dysfunctional interaction and internalizing behavior problems in comparison to medium and low levels of formal social support.

Further, in figure 7, the three regression lines interact when maternal-child dysfunctional interaction score is approximately 27. In the group of mothers whose maternal-child dysfunctional interaction scores are 27 or below, children have more internalizing behavior problems when the level of formal support is high as compared to

lower levels of formal support. The pattern appears different when maternal-child dysfunctional interaction scores are greater than 27. In this group, maternal-child dysfunctional interaction appears to have a lesser impact on child internalizing behavior problems when the level of formal support is high as compared to lower levels of formal support. Further, testing of the slopes of the regression lines showed that the slopes for low formal support and medium formal support were not significantly different from each other. This was also the same for the slopes for medium formal support and high formal support. In contrast, the slopes between high formal support and low formal support were significantly different from each other.

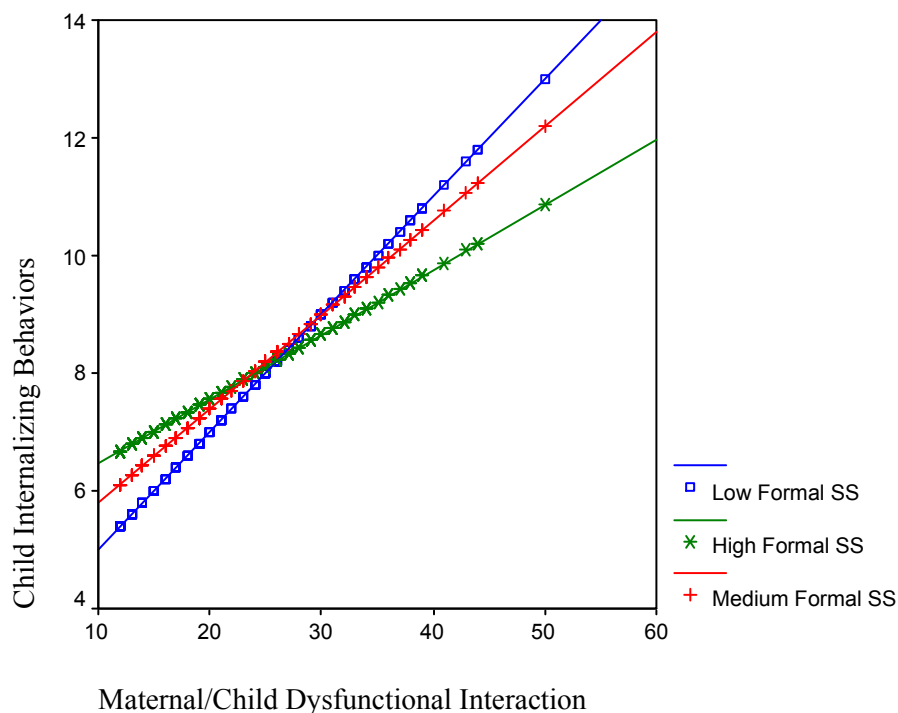


Figure 7. Depiction of moderation effect of formal social support on relationship between maternal/child dysfunctional interaction and child internalizing behavior problems for female caregivers other than grandmothers

The second significant finding was for the grandmothers in the analysis regressing internalizing behavior problems on maternal-child dysfunctional interaction, informal social support, and the maternal-child dysfunctional interaction X support interaction term. Results in Table 9 indicated that the control variables were not a significant predictor of child internalizing behaviors ( $R^2=.09$ ,  $p$  ns). In contrast, maternal-child dysfunctional interaction was a significant predictor of child internalizing behaviors explaining an additional 18% of the variance ( $R^2=.27$ ,  $p<.01$ ). There was also no significant main effect found for informal social support ( $R^2=.27$ , ns). However, the interaction between maternal-child dysfunctional interaction and informal social support was statistically significant ( $R^2=.35$ ,  $p<.05$ ) for grandmothers.

Table 9

*Summary of Hierarchical Regression Analysis for Variables Predicting Internalizing Behaviors: Informal Support as Moderator (By Group)*

Variable	Other Female Caregivers (N= 138)			Grandmothers (N=41)		
	B	SE B	$\beta$	B	SE B	$\beta$
Step 1						
Maternal education	-0.50	0.17	-0.26	-0.13	0.38	-0.07
Yearly household income	-0.13	0.08	-0.15	0.25	0.21	0.22
Employment Status	-0.18	0.26	-0.07	-0.32	0.78	-0.08
No. of Children in the Home	-0.27	0.16	-0.14	-0.28	0.25	-0.18
Step 2						
Maternal-child dysfunctional interaction	0.14	0.03	0.44**	0.13	0.04	-0.45**
Step 3						
Informal social support	0.02	0.02	0.06	-0.02	0.05	-0.07
Step 4						
MCDI X Informal social support	0.00	0.00	0.17	0.01	0.01	1.45*

Note. B = unstandardized regression coefficient; SE = standard error of B;  $\beta$  =standardized regression coefficient.

$R^2$  =0.09 for Step 1 ( $p$  = ns);  $\Delta R^2$  =0.18 for Step 2 ( $p$  <.01);  $\Delta R^2$  =0.004 for Step 3 ( $p$  ns);  $\Delta R^2$  =0.08 for Step 4 ( $p$  <.05).

\* $p$ < .05. \*\* $p$ <.01. \*\*\* $p$ <.001.



Contrary to the study hypothesis, for grandmothers informal social support exacerbated the negative association between maternal-child dysfunctional interaction and child internalizing behavior problems. In other words, as seen in the graphic depicted in figure 8, at higher levels of informal social support, grandmothers experience more maternal-child dysfunctional interactions and report more child internalizing behavior problems.

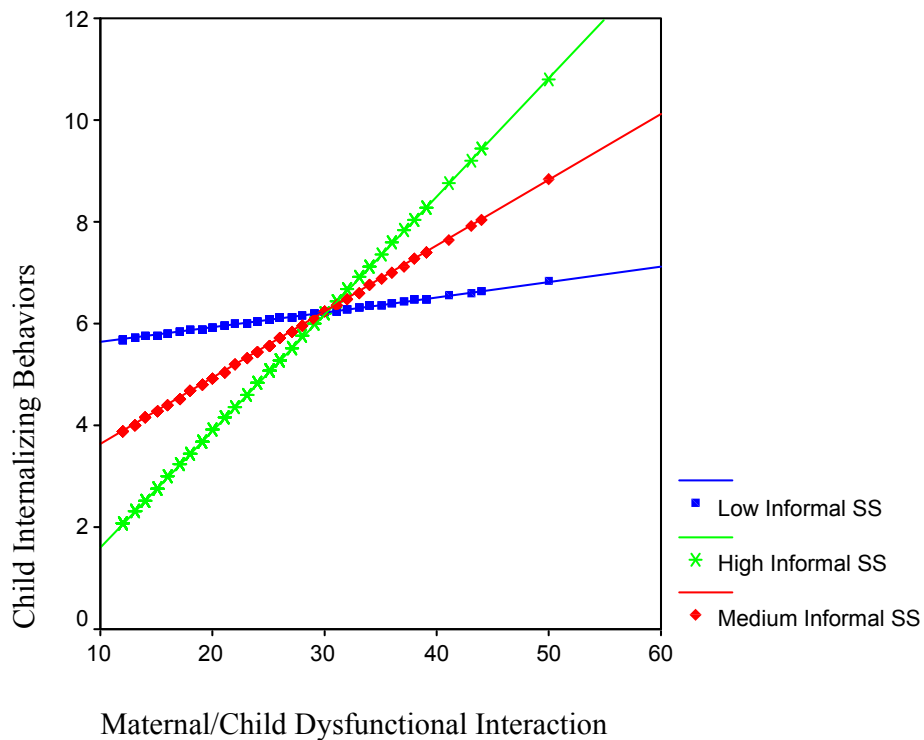


Figure 8. Depiction of moderation effect of informal social support on relationship between maternal/child dysfunctional interaction and child internalizing behavior problems for grandmothers

As seen in figure 8, the three regression lines interact when maternal-child dysfunctional interaction score is approximately 30. In the group of mothers whose maternal-child dysfunctional interaction scores are 30 or below, children have less internalizing behavior problems when the level of informal support is high as compared

to lower levels of formal support. The pattern appears different when maternal-child dysfunctional interaction scores are greater than 30. In this group, maternal-child dysfunctional interaction appears to have more of an impact on child internalizing behavior problems when the level of informal support is high as compared to lower levels of informal support. Testing of the slopes of the regression lines showed that the slopes for medium formal support and high formal support were not significantly different from each other. In contrast, the slopes between high formal support and low formal support as well as low formal support and medium formal support were significantly different from each other.

## CHAPTER V: DISCUSSION

The goal of this research was to examine social support as a potential buffer of the relationship between maternal stress and school-aged children's total, internalizing, and externalizing behavior problems utilizing an ecological/risk and resiliency model with a sample of African American families. The ecological model targeted an intervenable, community-level protective factor—maternal social support—that may attenuate the relationship between maternal stress and school-aged children's behavioral problems. Maternal social support examined the level of assistance that mothers perceived they had received from formal and informal sources in rearing their school-aged child. Higher levels of maternal social support were expected to mitigate the deleterious effects of maternal stress on school-aged children's total, internalizing, and externalizing behavior problems.

A growing body of literature has documented that parenting stress is negatively associated with children's socioemotional development and adjustment (Creasey & Reese, 1996; Crnic & Greenberg, 1990; Crnic & Low, 2002; Deater-Deckard & Scarr, 1996; Deater-Deckard et al., 2005; Jarvis & Creasey, 1991; Willinger et al., 2005). Yet, relatively few studies have focused exclusively on African American families with children of school-age, which is a crucial developmental stage during which to prevent the escalation of behavior problems into antisocial and delinquent acts during the adolescent period. The current study provided a unique opportunity to examine whether a community-level factor would moderate the negative impact of maternal stress on the behavior problems of school-aged, African American children.

This study assessed the potential buffering role of social support that has historically helped to sustain African American families during difficult times (Billingsley, 1999; Hogan et al., 1990; Jayakody et al., 1993; McAdoo, 1980). Specifically, the study investigated whether maternal social support served as a protective mechanism by moderating the relationship between maternal stress and children's total, internalizing, and externalizing behavior problems. The findings from this current study may have some important implications for family practitioners seeking to create culturally sensitive prevention and intervention programs that reduce maternal stress. Theoretically, intervening at this family-level variable (i.e., maternal stress) has the potential to impact behavior problems and change the trajectory of behavior problems in school-aged children before they escalate to more serious conduct disorders, delinquency, and other antisocial behaviors.

#### *Maternal Stress as a Predictor of Child Behavior Problems*

It was hypothesized that the family-level factor, maternal stress, would predict children's total, internalizing, and externalizing behavior problems. Higher levels of total maternal stress were expected to be a significant predictor of child behavior problems. Consistent with the first hypothesis, total maternal stress was a significant predictor of child behavior problems. Mothers perceiving higher levels of total maternal stress reported more child behavior problems—thus, highlighting that maternal stress was a significant risk factor in this sample. These results were replicated when the sample was divided into the “grandmothers” and “other female caregivers” subgroups. Current results support previous findings linking maternal stress to child internalizing and externalizing behavior problems among samples of predominantly white mothers with preschool

children (Crnic et al., 2005) and among low income, African American families with Head Start children (Anthony et al., 2005).

Previous studies suggest that parenting may be a pathway through which maternal stress negatively impacts children's socioemotional development (Anthony et al., 2005; Crnic & Low, 2002; Deater-Deckard, 1998; Deater-Deckard & Scarr, 1996). Mothers experiencing high levels of maternal stress may have negative or dysfunctional interactions with their children such as use of aggression, hostility, and outbursts of anger directed at their children. Children who are subjected to these behaviors may begin to imitate them or exhibit anxiety or withdrawal. In other words, harsh and inept parenting due to maternal stress provides opportunities for children to learn aggressive strategies and model them in their social relationships. Moreover, in a sample of low-income African American families, parental stress was related to increases in externalizing behaviors if the parent had higher expectations of their child (Anthony et al., 2005). Also, highly stressed mothers may engage in harsh discipline or rejecting behaviors that may be associated with increased internalizing behaviors in their children (Dodge et al., 1994). The high levels of maternal stress may also create a negative affective environment, which may impact children's emotional development and have a negative effect on their behaviors (Anthony et al., 2005).

#### *Moderating Role of Total Social Support*

A major goal of this study was to assess social support as an ecological factor that might buffer school-aged, African American children from the negative effects of mothers experiencing chronic stress in their role as parents. In this study, social support was hypothesized to moderate the relationship between maternal stress and child

behavior problems. Contrary to expectations, total social support did not serve to buffer any of the relationships between total maternal stress or its PSI-SF subscales and children's total, internalizing, or externalizing behavior problems. In other words, the perceived availability of greater total social support to mothers experiencing varying levels of stress did not weaken the positive relationship between maternal stress and school-aged children's behavior problems. This finding is consistent with the literature because some studies have failed to provide evidence for the buffering effect when assessing specific stress, such as stress related to parenting, rather than stress associated with life events (e.g., Hobfall & Learman, 1988; Quittner et al., 1990). A review of the stress-buffering hypothesis by Cohen and Wills (1985) may offer a possible explanation for this finding. They suggest that there must be a match between the source of maternal stress and the type of social support received in order for support to be an effective moderator. For example, if a mother's source of maternal stress is a lack of quality after school child care, then after care assistance would be the effective support that may buffer the association. Moreover, the construct of social support may have failed to buffer the relation between maternal stress and child behavior problems because of its multidimensionality. Researchers may need to explore the various dimensions of social support separately to assess whether they serve as buffers for specific sources of stress such as parenting stress. For example, Cameron and Vanderwoerd (1997) deconstructed social support into four dimensions: instrumental, educational, social, and psychological support. They further classified these dimensions into four functional components: 1) concrete/tangible help; 2) support through education, information and/or referral; 3) emotional support; and 4) social integration. Thus, the ambiguous generality of the social

support measure adopted in this study may obscure the buffering influence it may have on maternal stress. Examination of specific dimensions of the nature of social support (e.g., educational, psychological) provided by informal and formal sources may reveal areas where particular types of support buffer the impact of maternal stress on child behavior problems.

#### *Moderating Role of Formal Social Support*

As mentioned earlier, given that total social support was not a significant moderator of the relationship between total maternal stress and children's behavior problems, the buffering effects of its subscales, formal and informal social support were examined as moderators of the relation of maternal stress and child behavior problems. Utilizing the entire sample in testing the hypotheses that formal social support would moderate the effects of maternal stress or its subscales on child behavior problems, findings revealed only one buffering effect. Specifically, formal social support weakened the strength of association between maternal-child dysfunctional interaction and child internalizing behavior problems. In other words, mothers experiencing higher amounts of maternal-child dysfunctional interactions, when they perceived formal social support was helpful, tended to report their child had less internalizing behavior problems. However, using the entire sample, formal social support failed to buffer the relationship between total maternal stress or the other PSI-SF subscales and child behavior problems.

After separating the sample into grandmothers and mothers, and examining the moderating role of formal support, it was found that formal social support provided buffering effects for the relation of maternal-child dysfunctional interaction on child's internalizing behavior problems. The buffering effects were found only for female

caregivers other than grandmothers. At high levels of perceived formal social support, there were fewer maternal-child dysfunctional interactions and fewer child internalizing behavior problems. This finding is intriguing with one possible explanation being that in the face of internalizing behavior problems which might be perceived as more challenging, mothers may turn to formal sources of social support such as school guidance counselors and professionals or paraprofessionals for assistance with parenting concerns. Thus, mothers may perceive that support from formal sources is more helpful. Another explanation may be that these sources of formal social support may assist mothers with counseling for themselves to increase self-esteem, help with social integration, or assist mothers with interacting with a child who is exhibiting internalizing behavior problems. Thus, mothers are more likely to perceive formal social support as helpful in addressing their specific stressors. A third explanation for this finding may be that because the sample is mothers with school-aged children, mothers may enroll their children in formal programs such as the Boys and Girls Club, Big Brother, Big Sister, or more formal team sports. When the child is involved in the various activities away from the mother, this provides her with a respite from caring for a child with internalizing behavior problems. On the other hand, a child with internalizing behavior problems may find the involvement in formal activities gives him or her the opportunity to interact with their peers and enhance their self-esteem. Therefore, mothers may view this type of formal support as beneficial when positive changes begin to occur in the child with internalizing behavior problems.



### *Moderating Role of Informal Social Support*

Contrary to expectations, informal social support did not moderate the relationship between maternal stress or its subscales and child total, internalizing, and externalizing behavior problems. This finding is intriguing and deserves further explanation because a number of researchers have described the significance of informal social support and extended kin as resources among African Americans (Hatchett & Jackson, 1993; McAdoo, 1981; Miller-Loncar et al., 1998; Taylor & Chatters, 1989). The types of informal social support that relatives and friends provide may be limited to tangible help or emotional support. For example, a review of previous research on informal social support has found that this type of social support offered to mothers is centered on tangible support such as providing money for basic needs, housing, transportation, clothing for the children, assistance with laundry, and temporary accommodations and emotional support such as sharing leisure time, providing sympathetic comments, and encouragement (Manji et al., 2005). Although this type of informal social support is necessary to the psychological well-being of mothers, it may not be the type of support that assists them with parenting children with behavior problems, especially children with internalizing behavior problems.

Finally, this failure for informal social support to provide buffering effects for the association between of maternal stress and children's internalizing behaviors may also result in part, from the fact that school-aged children's internalizing behavior problems tend to be less visible, often go undetected, and receive less attention from members of mothers' social support networks. Internalizing behavior problems may be more difficult

for extended family, friends, and kin to recognize and address. Moreover, informal social network members may not feel adequately equipped to assist mothers in dealing with school-aged children's internalizing problems, such as the anxiety, withdrawal, or depression that are often associated with relating to peers in school. Extended family members and friends may recognize that such problems often require professional assistance and considerable time to adjust. Therefore, members of the mother's informal social support network may relinquish responsibility for dealing with children's internalizing behavior problems to the mother, a school guidance counselor, or professionals and para-professionals. Thus, informal social support may not have reduced the negative impact of maternal stress on children's internalizing behavior problems because of its limited visibility and intrusiveness of such problems, as well as family and friends' hesitancy to intervene in helping parents and children handle internalizing problems.

However, when the sample was split into the categories of grandmothers and other female caregivers, the model using maternal-child dysfunctional interaction provided evidence for the buffering effect of informal social support on child internalizing behavior problems for the sample of grandmothers. Findings revealed that a high degree of perceived informal social support functioned as a detriment to grandmothers under conditions of high stress. Specifically, grandmothers with higher levels of maternal-child dysfunctional interactions reported more child internalizing behavior problems under conditions of high levels of informal social support.

Current results are consistent with those of previous studies finding that higher informal social support functioned as a hindrance to grandparents who reported a high

degree of caregiver stress (Landry-Meyer et al., 2005). First, this counterintuitive finding may be explained by the possibility that sources of informal support can also be sources of stress such as when friends and relatives provide criticism even as they offer assistance with parenting. Under these circumstances, sources of informal social support would be perceived as detrimental and would, therefore, fail to buffer the relation of maternal stress to child behavior problems.

A second explanation may be that as friends provide the needed support, they may also serve as a reminder to grandmother caregivers that they are off-time with their same-age peers. This perception may be more likely if friends are pursuing their retirement goals for which grandmothers who assume the role of primary caregiver have no time to pursue. If a grandmother's source of informal support is not engaged in similar tasks or sees re-parenting tasks in a negative light, then grandmother caregivers may not perceive this support as helpful. Another reason why sources of informal support were found to be detrimental to grandmothers under high levels of stress may be due to the age difference between the child and grandmother. Perhaps grandmothers may have unrealistic expectations for the children who exhibit anxious and depressive behaviors and the type of support they receive from family and friends may not be an appropriate match in dealing with these behaviors. Thus, the support from informal sources may not be perceived by grandmothers as being helpful. A fourth possible explanation may be that grandmothers may be seeking assistance from relatives and friends, but these sources are not equipped to provide the guidance/informational support as it relates to locating formal sources of parenting services or parenting concerns. This explanation is consistent with evidence from the help seeking literature which suggests that before seeking assistance

from formal sources, individuals tend to turn to people in their informal network for help (Ayers, 1989; Bowen & Richman, 1991; Neighbors, 1985). Consequently, there may be an over-reliance on informal support members, who are also ill-equipped to assist or deal directly with the challenges of children exhibiting internalizing behavior problems. Further, it is very likely the existence of the child's internalizing behavior problems pre-dates when the grandmother assumes the role of caregiving. The literature supports that children who enter kinship care exhibit severe behavior problems and experience a myriad of medical problems (Dubowitz et al., 1994). Moreover, the situations that precipitate the need for a child to be placed in the grandmother's care include abuse or neglect by the biological parent, substance abuse by the parent, or reasons for involvement with Child Protective Services. Any one of these situations can result in conflict between the grandmother and the child's biological parent that may cause grandmothers to feel insecure in their role as primary caregivers. And, grandmothers may find that their connection with friends and other family members, who do not approve of the situation that led to the kinship arrangement, may diminish. Taken together, these factors may result in grandmothers perceiving that informal social support is not helpful.

#### *Child Behavior Problems*

An unexpected finding in this study was that no models provided evidence for the buffering effect of social support on the relation between maternal stress and total child behavior problems or externalizing behavior problems. These findings are of particular interest because children with excessive behavior problems, in particular, children with externalizing behaviors are found in households with parents who have increased parenting stress levels as pointed out in clinical (Fischer, 1990; Mash & Johnston, 1990)

and non-clinical populations (Campbell, 1994; Jackson, 2000). One possible explanation for the lack of support for the models with total child behavior problems is that by collapsing the two subscales of externalizing and internalizing behaviors together, the multidimensional scale masks the more potent effects of the individual subscales.

In regards to the lack of a buffering effect of social support, and its subscales on externalizing behavior problems, a reason may be that externalizing behavior problems are more visible or interfere more with family functioning and so may receive more attention from stressed mothers. Mothers may tend to handle these behaviors with disciplinary practices such as physical punishment or other forms of discipline that require compliance. Stress tends to increase a mother's irritability and her attention to acting out behaviors as well as the likelihood that she initiates aversive exchanges with her child (Patterson, 1988; Patterson & Forgatch, 1990). There are also studies to support that higher levels of parenting stress are predictive of parents' negative appraisal of their children and the use of physical discipline (Crnic & Acevedo, 1995; Jackson et al., 1998; Magnuson & Waldfogel, 2005; Pinderhughes et al., 2000). Thus, stressed mothers would tend to handle their child's externalizing behaviors without the need of support from relatives, friends, or formal sources of support.

Another reason is perhaps due to the stability of externalizing behavior problems over time (Bates et al., 1991; Denham et al., 2000), mothers may have become desensitized to their child's acting out behaviors and ignore them. Thus, if stressed mothers become detached from their child's externalizing behaviors and do not perceive them as being problematic, then social support would fail to attenuate the relation between maternal stress and externalizing behaviors. Additionally, as posited by Anthony

and colleagues (2005), externalizing behaviors are relatively context specific. There is the possibility that because children are developmentally at school-age, these children exhibit externalizing behaviors in the classroom. When the stressed mothers receive teachers' reports of these school-based externalizing behaviors, they reinforce the mother's perception of the child's behavior then the anticipated social support would not be expected to buffer the relationship between maternal stress and externalizing behaviors. Teachers and other providers tied to the school are among the sources of formal support from which mothers potentially could draw help. However, these helpers might also be sources of stress when they interact with parents to report on children's behavior problems. Additional measures tapping into the multi-dimensional or stress-specific nature of social support might have indicated the extent to which school-based helpers were viewed as supportive or stressful.

#### *Limitations to the Study*

Although the current study expands existing literature and explores intervenable, ecological factors that may buffer the impact of maternal stress on the behavior problems of African American children, the research has several limitations. First, this study used secondary data analyses, which limited the author to using data that had been collected in the original study; therefore, no new measures could be added. There are likely to be many factors other than those discussed here, such as maternal depression or maternal self-efficacy, that help to explain child outcomes. Second, the data were cross-sectional in nature, which did not allow for causal relations to be tested. For example, although there is evidence for a bidirectional relationship, it is not known whether maternal stress precedes child behavior problems or whether child behavior problems contribute to

maternal stress. Longitudinal designs are needed to explore the temporal nature of the relationships between study variables. Third, utilizing only mothers as the sole informant may produce response bias that could either deflate or inflate associations among the variables. In the future, studies of parenting stress and child behavior problems should use a multi-informant approach and cross-validate mothers' self-reports with third-party reports such as teachers' reports or observations of child behavior problems. In addition, the current study focused solely on mothers' stress in the parenting role; yet, research also indicates that fathers' stress plays a significant role in child outcomes (e.g., Hart & Kelley, 2006). Examining paternal stress would broaden our knowledge base of stress related to parenting across ecological contexts. Further, the study findings have limited generalizability because participants were drawn from a sample in an available dataset which was not nationally representative. Thus, the author has no way of knowing how representative the findings are of other African American mothers or other parents and their children's behaviors. One methodological limitation of the study was the measurement of the moderating variable, social support. The findings pertain only to perceived helpfulness of formal and informal social support for raising a child. Conceivably, other types of support, such as mothers' appraisal of the availability and adequacy of support, the degree of satisfaction with sources of social support, or the quality of emotional and instrumental support could yield different results.

Despite the limitations of this study, it advances understanding of the relation between stress and child behavior problems in several ways. First, the study examined the relations of these variables within an ecological/risk and resiliency framework with an understudied population, African American mothers with school-aged children. Second,

the study added to the evidence showing that maternal stress is associated with child behavior problems and expanded this field of inquiry to include grandmothers as primary caregivers. Third, there was evidence that formal social support may moderate the association between maternal-child dysfunctional interaction and internalizing behavior problems for caregivers other than grandmothers. Finally, the author has highlighted the importance of considering risk and protective factors for grandmothers in the primary caregiving role for school-aged children.

#### *Implications for Family Practitioners and Policymakers*

The findings from this study have implications for family practitioners and policymakers. This study suggests that intervention and prevention programs developed for African American families should take into account specific sources of maternal stress, the relation of stress to psychological well-being, the effects of stress on parenting behavior, and the effects of stress on children's behavior. Programs should specifically target maternal-child dysfunctional interactions and incorporate a variety of techniques to help mothers deal with the stress they experience in their role as a parent. There exists a body of research that suggests stress and coping of the parents predict subsequent externalizing and internalizing behavior problems among children in community samples (Takeuchi et al., 1991). Researchers have reported that directly intervening to reduce stress increases positive mother-child interactions (Rose, Jones, & Fletcher, 1998). Another reason to consider targeting maternal-child dysfunctional interactions is that it is more feasible to provide interventions that foster more positive interactions with the child or assist mothers in developing positive communication skills within the constraints of providing prevention or treatment services than it is to change socioeconomic



disadvantage, poor living conditions, life events, or other structural factors (Kazdin & Whitley, 2003).

An example of one type of prevention program that has shown promise to assist mothers experiencing high levels of maternal stress is parent management training programs. It is well documented that parent management training programs have been shown to reduce maternal stress (Kazdin, 1985; Miller & Prinz, 1990) and maternal depression (Kazdin, 1985, 1997). Additionally, interventions that include components for helping mothers deal with the stress in their lives may be beneficial in impacting maternal parenting behaviors which are linked to children's negative behavior patterns (Kazdin, 1993; Reid, 1993). Further in a randomized controlled trial to evaluate a component of treatment designed to reduce parenting stress, Kazdin and Moira (2003) found results that suggested the group that received the additional stress reduction component showed a significantly greater reduction in parenting stress as compared to the group that only received the parent management training. Moreover, the study also indicated that children whose parents had received the stress reduction component, compared with those who did not, showed fewer child behavior problems.

The literature has documented that high maternal stress is a variable that is strongly associated with characteristics predictive of physical child abuse risk (Milner, 1986). It is also important to note that stress stemming specifically from maternal-child dysfunctional interactions, as measured by the PSI-SF, has been studied specifically with relation to the potential for child abuse (Rodriguez & Green, 1997). This link between negative maternal-child interaction and the potential for child abuse has important implications for this study. As noted earlier, the findings for this study indicated there

were high levels of maternal-child dysfunctional interactions, which can place these mothers at high risk for perpetrating child abuse. However, parent management training can provide mothers and grandmother caregivers with an informal support system when they interact with each other in a group setting. Further, these trainings can assist with providing more effective means of interacting with their children. It would seem plausible that an improved relationship and interactions between mother or grandmother and child would be expected to mitigate child behavior problems over time.

Another benefit of parent management training programs is that it may connect mothers to other mothers in their community that may serve to establish a form of informal social support for them. Research attention has focused on the impact neighbors can have as a form of informal support. In his review, Jayakody (1993) discussed the role of neighbors as a form of informal social support for African Americans, which indicated that neighbors had the potential to provide support that cannot be met by family members, friends, or formal organizations. This benefit may be extremely important for female caregivers and grandmothers who are primary caregivers. In this study, it was found that such informal support did not have a buffering effect on the relation between maternal stress and child behavior problems for grandmothers and this may serve to strengthen the quality of their sources of informal support. For example, these newly forged relationships may be uniquely suited to provide mothers with after school childcare or respite care. Given the important role of support, more frequent contact with caregivers with similar experiences may reduce mothers' stress that is associated with negative child outcomes.

Current findings also hold implications for policymakers interested in the well-being of grandmother caregivers. Policymakers must recognize that grandmothers who are primary caregivers for their grandchildren oftentimes provide care without governmental support. Further, these grandmothers may also be dealing with health problems, lack of personal time for themselves, lack of health insurance, and additional stressors in addition to rearing grandchildren with emotional and behavioral problems. Policymakers are encouraged to draw on existing empirical literature in formulating new policies that are “family friendly.” These policies should not only address the grandmothers’ needs, but also accommodate the family as a unit. Clearly, more generative policies that recognize the important role of grandmothers as primary caregivers and provide them with the types of support and services that are beneficial to their unique circumstances will serve them and their grandchildren better.

#### *Recommendations for Future Research*

Future research examining the relationship between maternal stress and child behavior problems should focus specifically on grandmothers who have assumed a re-parenting role as primary caregiver for their grandchildren. Decreasing caregiver stress appears to be critically important to the well-being of grandmother caregivers (Kelley, Whitley, Sipe, & Yorker, 2000).

Given that minority group members often report greater experiences of discrimination than whites (LaVeist, Rolley, & Daila, 2003; Schuman, Steeh, & Bobo, 1985), future research in this area should include an examination of the role of other stressors such as racial discrimination and their potential cumulative impact on maternal stress and children’s development (McLoyd, 1990).

Because high levels of maternal stress can lead to negative outcomes for children, identifying protective factors that can ameliorate the effects of maternal stress can promote the well-being of children and families. Future studies should also focus on other elements of maternal psychological functioning such as self-efficacy which may provide insight into the nature of parenting stress among African American families. Self-efficacy is comprised of the belief in one's ability to perform competently and effectively in a particular role or task (Teti & Gelfand, 1991). Moreover, there is previous research demonstrating the importance of maternal self-efficacy in impacting parenting behaviors and emotions. Specifically, previous work has established that high maternal self-efficacy can positively affect children by leading to more positive maternal behaviors and more active, direct parenting interactions (Coleman & Karraker, 1997). Further, there is empirical evidence to support that maternal self-efficacy affects the relationship between maternal emotional distress and parental responsiveness (Gondoli & Silverberg, 1997) and that higher levels of maternal self-efficacy were consistently associated with lower levels of parenting stress (Raikes & Thompson, 2005). However, few of these studies have included samples of African American parents.

Future studies should seek to replicate the present findings with longitudinal data to investigate longer-term models of the effects of social support and maternal stress on child behavior problems. This would cast light on the temporal ordering of events as well as assess the effects of support over time.

Accordingly, understanding the specific types of support that may interact to facilitate or impede the alleviation of maternal stress takes on great importance in order to answer such questions as, What impact do members of an informal support network have

on the use of formal services? Do these members provide mothers with accurate information about and access to formal services or do they discourage service utilization?

### *Conclusion*

This study utilized an ecological approach to examine the potential of social support to buffer the relationship between maternal stress and child behavior problems in a sample of African American families with school-aged children. As hypothesized, analyses revealed that maternal stress was a significant predictor of child behavior problems. Contrary to expectations, social support failed to buffer the relationship between maternal stress and child behavior problems; however formal and informal social support provided buffering effects. Specifically, for female caregivers, excluding grandmothers, the relationship between maternal-child dysfunctional interaction and children's internalizing behavior problems was weakened as formal social support increased. Additionally, for grandmothers experiencing high levels of maternal-child dysfunctional interactions, high informal social support was predictive of greater internalizing child behavior problems.

Current findings underscore the need for family practitioners to develop, test, and incorporate culturally-sensitive strategies for reducing parental stress among African American mothers of school-aged children. Such interventions, may decrease maternal stress, increase the number of positive mother-child interactions, and result in fewer child behavior problems in school-aged children.

## APPENDIX A: IRB APPROVAL



UNIVERSITY OF  
MARYLAND

INSTITUTIONAL REVIEW BOARD

2100 Lee Building  
College Park, Maryland 20742-5121  
301.405.4212 TEL 301.314.1475 FAX  
irb@deans.umd.edu  
www.umresearch.umd.edu/IRB

*Notice: IRB Review Is Not Required Because Research Does Not Involve Human Subjects*

Date: December 5, 2005

To: Suzanne M. Randolph, Ph.D.  
Resa F. Matthew  
Department of Family Studies

From: Roslyn Edson, M.S., CIP *RE*  
IRB Manager  
University of Maryland, College Park

Re: IRB Application #05-0623  
Title of Research Project: *Relation of Maternal Support and  
Maternal Stress to Children's Behavior Problems in African  
American Families*

Type of Application: Initial

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The above-referenced Institutional Review Board (IRB) initial application does not include any activities that meet the Federal definition of research involving human subjects. Specifically, the analysis of existing data that does not contain individually identifiable information is not research involving human subjects. Individually identifiable data is data for which the identity of the subject is or may readily be ascertained by the investigator or associated with the information. Examples of individually identifiable data include information with a subject's name and information with a code that links data to a subject's identity. Since the existing data does not contain individually identifiable data, the application does not need to be reviewed by the IRB under the requirements of the U. S. Department of Health and Human Services (HHS) regulations at 45 CRR Part 46 and the University's Federal Wide Assurance. Therefore, the application was not reviewed under exempt, expedited or full Board review procedures. However, if you plan to modify your research to include any of the following activities, you are required to submit an IRB application and obtain prior IRB approval: obtaining data through intervention or interaction with human subjects; obtaining identifiable private information about living individuals; or analyzing identifiable private information about living individuals.

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Please contact the IRB Office at 301-405-0678 if you have any IRB-related questions or concerns. Please refer to the above-cited IRB application number in any future communications with our office regarding this research.

## APPENDIX B: DEMOGRAPHIC ITEMS

First, we'd like to ask some basic questions about you, like your gender and how old you are. We're not going to use this information to identify you and what you have to say, but instead to talk about what adults raising children or teenagers have to say.

1. Gender (*Fill in only one bubble*)
  - Male
  - Female
  - Other (Write in here): \_\_\_\_\_
  
2. What is your race? Fill in the bubble that best describes what you consider yourself to be. If you are more than one race (bi-racial or multi-racial), fill in each bubble that best describes what you consider yourself to be (*It's okay to fill in more than one bubble*).
  - Black or African American
  - Native American (Write in your Tribe here) \_\_\_\_\_
  - Alaska Native
  - White
  - Native Hawaiian or other Pacific Islander
  - Asian
  - Spanish/Hispanic/Latino
  - Other (Write in here): \_\_\_\_\_
  
3. What is the race of the child participating in this study with you? Fill in the bubble that best describes what you consider your child to be. If your child is more than one race (bi-racial or multi-racial), fill in each bubble that best describes what you consider your child to be (*It's okay to fill in more than one bubble*).
  - Black or African American
  - Native American (Write in your Tribe here) \_\_\_\_\_
  - Alaska Native
  - White
  - Native Hawaiian or other Pacific Islander
  - Asian
  - Spanish/Hispanic/Latino
  - Other (Write in here): \_\_\_\_\_



4. What month were you born? *(Fill in only one bubble)*
- |                                |                                 |
|--------------------------------|---------------------------------|
| <input type="radio"/> January  | <input type="radio"/> July      |
| <input type="radio"/> February | <input type="radio"/> August    |
| <input type="radio"/> March    | <input type="radio"/> September |
| <input type="radio"/> April    | <input type="radio"/> October   |
| <input type="radio"/> May      | <input type="radio"/> November  |
| <input type="radio"/> June     | <input type="radio"/> December  |
5. What day of the month were you born? *(Fill in only one bubble)*
- |                          |                          |                          |                          |                          |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <input type="radio"/> 01 | <input type="radio"/> 08 | <input type="radio"/> 15 | <input type="radio"/> 22 | <input type="radio"/> 29 |
| <input type="radio"/> 02 | <input type="radio"/> 09 | <input type="radio"/> 16 | <input type="radio"/> 23 | <input type="radio"/> 30 |
| <input type="radio"/> 03 | <input type="radio"/> 10 | <input type="radio"/> 17 | <input type="radio"/> 24 | <input type="radio"/> 31 |
| <input type="radio"/> 04 | <input type="radio"/> 11 | <input type="radio"/> 18 | <input type="radio"/> 25 |                          |
| <input type="radio"/> 05 | <input type="radio"/> 12 | <input type="radio"/> 19 | <input type="radio"/> 26 |                          |
| <input type="radio"/> 06 | <input type="radio"/> 13 | <input type="radio"/> 20 | <input type="radio"/> 27 |                          |
| <input type="radio"/> 07 | <input type="radio"/> 14 | <input type="radio"/> 21 | <input type="radio"/> 28 |                          |
6. What year were you born?
- \_\_\_\_ \_

The next few questions are about your health and health insurance for you and your child. “Your Child” means the child participating in this study with you.

7. How would you rate your overall health right now? *(Fill in only one bubble)*
- Excellent (I’m really healthy and hardly ever get sick)
  - Good (I’m healthy and only get sick sometimes)
  - Fair (I’m healthy about half the time and sick the other half of the time)
  - Poor (I get sick a lot)
8. Do you have health insurance for yourself? *(Fill in only one bubble)*
- Yes
  - No
9. Do you currently have any type of health insurance for your child?  
*(Fill in only one bubble)*
- Yes
  - No

The next few questions are about employment, education and income for yourself and your child’s other primary caretaker in the household. The other primary caretaker may be the child’s father, or another adult who lives in the household right now.

10. Are you currently seeking or receiving assistance from any of the following?  
(Mark YES or NO for each item listed)

	YES	NO
a. Medicaid/Medicare		
b. Food Stamps.		
c. Public Assistance/Welfare (e.g. TANF/AFDC)		
d. WIC		
e. Supplemental Security Income (SSI)		
f. Foster Care/Adoption Subsidy		
g. Unemployment Insurance		
h. Public Housing		
i. Child Care Subsidy		
j. Other: Specify _____		

11. Think about the household members that live with your child right now. About how much income did the whole household have in the past year? Please include wages or pay from jobs before taxes. Please also include child support, and/or cash payments from the government (for example, welfare (TANF), SSI, or unemployment insurance).

(Fill in only one bubble)

- |   |   |
|---|---|
| <input type="radio"/> 0 - \$5,000         | <input type="radio"/> \$30,001 - \$35,000 |
| <input type="radio"/> \$5,001 - \$10,000  | <input type="radio"/> \$35,001 - \$40,000 |
| <input type="radio"/> \$10,001 - \$15,000 | <input type="radio"/> \$40,001 - \$45,000 |
| <input type="radio"/> \$15,001 - \$20,000 | <input type="radio"/> \$45,001 - \$50,000 |
| <input type="radio"/> \$20,001 - \$25,000 | <input type="radio"/> Over \$50,000       |
| <input type="radio"/> \$25,001 - \$30,000 |   |

12. About how much income did your family have from all sources (wages or pay from jobs and/or assistance) over the past month (30 days)? *(Fill in only one bubble)*
- |   |   |
|---|---|
| <input type="radio"/> \$0 - \$417       | <input type="radio"/> \$2,501 - \$2,917 |
| <input type="radio"/> \$418 - \$833     | <input type="radio"/> \$2,918 - \$3,333 |
| <input type="radio"/> \$834 - \$1,250   | <input type="radio"/> \$3,334 - \$3,750 |
| <input type="radio"/> \$1,251 - \$1,667 | <input type="radio"/> \$3,751 - \$4,167 |
| <input type="radio"/> \$1,668 - \$2,083 | <input type="radio"/> Over \$4,168      |
| <input type="radio"/> \$2,084 - \$2,500 |   |
13. What is the highest level of education you have finished, whether or not you received a degree? *(Fill in only one bubble)*
- |  |   |
|--|---|
| <input type="radio"/> None             | <input type="radio"/> Some College              |
| <input type="radio"/> Grade School     | <input type="radio"/> College                   |
| <input type="radio"/> Some High School | <input type="radio"/> Trade or Technical School |
| <input type="radio"/> High School      | <input type="radio"/> Post College              |
14. If you have less than 12 years of education, do you have a GED (Graduate Equivalent Diploma)? *(Fill in only one bubble)*
- Yes  
 No  
 Not applicable
15. Are you currently enrolled in school or a job training program? *(Fill in only one bubble)*
- Yes  
 No
16. Are you currently employed? *(Fill in only one bubble)*
- Yes, have full-time job  
 Yes, have part-time job  
 No
17. Who is living with your child now? *(Fill in only one bubble)*
- Both parents (biological parents)  
 1 parent, 1 step parent  
 Single parent  
 Other (specify) \_\_\_\_\_

18. How many adults live in your home? Adults are people who are at least 18 years or older. *(Fill in only one bubble)*
- |                         |                                  |
|-------------------------|----------------------------------|
| <input type="radio"/> 1 | <input type="radio"/> 6          |
| <input type="radio"/> 2 | <input type="radio"/> 7          |
| <input type="radio"/> 3 | <input type="radio"/> 8          |
| <input type="radio"/> 4 | <input type="radio"/> 9          |
| <input type="radio"/> 5 | <input type="radio"/> 10 or more |
19. How many children live in your home? Children are people who are under the age of 18 years. *(Fill in only one bubble)*
- |                         |                                  |
|-------------------------|----------------------------------|
| <input type="radio"/> 1 | <input type="radio"/> 6          |
| <input type="radio"/> 2 | <input type="radio"/> 7          |
| <input type="radio"/> 3 | <input type="radio"/> 8          |
| <input type="radio"/> 4 | <input type="radio"/> 9          |
| <input type="radio"/> 5 | <input type="radio"/> 10 or more |
20. Where does your child currently live? *(Fill in only one bubble)*
- At home with family (parents, brothers and sisters, grandparents, aunts, uncles or cousins)
  - With a foster family
  - In a shelter
  - With adult friends
  - On the street
  - Other (Write in here): \_\_\_\_\_
21. How many times has your child moved in the LAST YEAR? *(Fill in only one bubble)*
- Have not moved
  - Moved once
  - Moved twice
  - Moved three times
  - Moved more than three times
22. How long has your child lived with you? *(Fill in only one bubble)*
- Since birth
  - Over 16 years
  - 11 to 15 years
  - 5-10 years
  - 1 -5 years
  - Less than 1 year

23. Are you currently? *(Fill in only one bubble)*
- Married
  - Divorced
  - Separated
  - Widowed
  - Single
  - Living with my partner
  - Other (Write in here): \_\_\_\_\_
24. How are you related to the child who is participating in this study with you?  
*(Fill in only one bubble)*
- Parent
  - Step-parent
  - Grandparent
  - Aunt or Uncle
  - Other relative
  - Foster parent
  - Close non-relative
  - Other (Write in here): \_\_\_\_\_
25. How many years have you lived in the United States? *(Fill in only one bubble)*
- I was born in the United States
  - Less than one year
  - More than one year but less than two years
  - More than two years but less than three years
  - More than three years
26. How many years has your child's primary caretaker lived in the United States?  
*(Fill in only one bubble)*
- I'm the child's only primary caretaker
  - He/she was born in the United States
  - Less than one year
  - More than one year but less than two years
  - More than two years but less than three years
  - More than three years
  - Don't know
27. Is there another language spoken in your child's home? *(Fill in only one bubble)*
- Yes
  - No
28. What is the language you use most often at home? *(Fill in only one bubble)*
- English
  - Spanish
  - English and Spanish equally
  - Other language

## APPENDIX C: PARENTING STRESS INDEX-SHORT FORM

The next few questions are about what it is like to be the person responsible for raising the child or teenager participating in this study with you.

Here are examples of what each answer means:

Strongly Agree:	This REALLY describes you
Agree:	This describes you pretty well
Not Sure:	You are not sure if this describes you
Disagree:	This does NOT describe you
Strongly Disagree:	This REALLY does NOT describe you

Please read each question and mark the answer that best describes YOU—what you do and how you feel.

1. I often have the feeling that I cannot handle things very well. *(Fill in only one bubble)*
2. I find myself giving up more of my life to meet my child's needs than I ever expected. *(Fill in only one bubble)*
3. I feel limited by my responsibilities as a parent. *(Fill in only one bubble)*
4. Since having a child I have been unable to do new and different things. *(Fill in only one bubble)*
5. Since having a child, I feel that I am almost never able to do things that I like to do. *(Fill in only one bubble)*
6. I am unhappy with the last purchase of clothing I made for myself. *(Fill in only one bubble)*
7. There are quite a few things that bother me about my life. *(Fill in only one bubble)*
8. Having a child has caused more problems than I expected in my relationship with my spouse (male/female friend). *(Fill in only one bubble)*
9. I feel alone and without friends. *(Fill in only one bubble)*
10. When I go to a party, I usually expect not to enjoy myself. *(Fill in only one bubble)*
11. I am not as interested in people as I used to be. *(Fill in only one bubble)*

12. I don't enjoy things as I used to. *(Fill in only one bubble)*
13. My child rarely does things for me that make me feel good. *(Fill in only one bubble)*
14. Most times I feel that my child does not like me and does not want to be close to me.  
*(Fill in only one bubble)*
15. My child smiles at me much less than I expected. *(Fill in only one bubble)*
16. When I do things for my child, I get the feeling that my efforts are not appreciated very much. *(Fill in only one bubble)*
17. When playing, my child doesn't often giggle or laugh. *(Fill in only one bubble)*
18. My child doesn't seem to learn as quickly as most children. *(Fill in only one bubble)*
19. My child doesn't seem to smile as much as most children. *(Fill in only one bubble)*
20. My child is not able to do as much as I expected. *(Fill in only one bubble)*
21. It takes a long time and it is very hard for my child to get used to new things.
22. I feel that I am not very good at being a parent. *(Fill in only one bubble)*
23. I expected to have closer and warmer feelings for my child than I do and this bothers me. *(Fill in only one bubble)*
24. Sometimes my child does things that bother me just to be mean. *(Fill in only one bubble)*
25. My child seems to get upset more often than most children. *(Fill in only one bubble)*
26. My child generally wakes up in a bad mood. *(Fill in only one bubble)*
27. I feel that my child is very moody and easily upset. *(Fill in only one bubble)*
28. My child does a few things which bother me a great deal. *(Fill in only one bubble)*
29. My child reacts very strongly when something happens that my child doesn't like.  
*(Fill in only one bubble)*
30. My child gets upset easily over the smallest thing. *(Fill in only one bubble)*

31. My child's sleeping or eating schedule was much harder to establish than I expected. *(Fill in only one bubble)*
32. I have found that getting my child to do something or stop doing something is much harder than I expected. *(Fill in only one bubble)*
33. Think carefully and count the number of things which your child does that bother you. For example: dawdles, refuses to listen, overactive, cries, interrupts, fights, whines, etc. *(Fill in only one bubble)*
- 10+
  - 8-9
  - 6-7
  - 4-5
  - 1-3
34. There are some things my child does that really bother me a lot. *(Fill in only one bubble)*
35. My child turned out to be more of a problem than I had expected. *(Fill in only one bubble)*
36. My child makes more demands on me than most children. *(Fill in only one bubble)*

Source: Abidin, R. (1990).



## APPENDIX D: FAMILY SUPPORT SCALE (FSS)

These questions ask about the help or support you receive in raising your child. Please fill in only one bubble answer for each question.

Here are examples of what each answer means:

Never: You NEVER get help from the person/people listed in the question

Once in a while: You hardly ever or rarely get help from the person or people listed in the question. *(For example, you may only get help from this source 25% of the time)*

Sometimes: You get help from this person or people some of the time. *(For example, you may get help from this source half (or 50%) of the time)*

Frequently: You get help from this person or people most of the time. *(For example, 75% of the time)*

Always: You ALWAYS get help from this source.

1. How often do you receive help or support in terms of raising your child(ren) from your parents? *(Fill in only one bubble)*
2. How often do you receive help or support in terms of raising your child(ren) from your spouse or partner? *(Fill in only one bubble)*
3. How often do you receive help or support in terms of raising your child(ren) from your spouse or partner's parents? *(Fill in only one bubble)*
4. How often do you receive help or support in terms of raising your child(ren) from your relative/kin? *(Fill in only one bubble)*
5. How often do you receive help or support in terms of raising your child(ren) from your spouse or partner's relative/kin? *(Fill in only one bubble)*
6. How often do you receive help or support in terms of raising your child(ren) from your friends? *(Fill in only one bubble)*
7. How often do you receive help or support in terms of raising your child(ren) from your spouse or partner's friends? *(Fill in only one bubble)*
8. How often do you receive help or support in terms of raising your child(ren) from your own children? *(Fill in only one bubble)*
9. How often do you receive help or support in terms of raising your child(ren) from other parents? *(Fill in only one bubble)*
10. How often do you receive help or support in terms of raising your child(ren) from your co-workers? *(Fill in only one bubble)*

11. How often do you receive help or support in terms of raising your child(ren) from your church, temple or mosque? *(Fill in only one bubble)*
12. How often do you receive help or support in terms of raising your child(ren) from your family or child's physician? *(Fill in only one bubble)*
13. How often do you receive help or support in terms of raising your child(ren) from a school/day-care center? *(Fill in only one bubble)*
14. How often do you receive help or support in terms of raising your child(ren) from your professional helpers (Social workers, therapists, teachers, etc.)? *(Fill in only one bubble)*
15. How often do you receive help or support in terms of raising your child(ren) from a professional agency (public health, social services, mental health, etc.)? *(Fill in only one bubble)*

Source: Dunst, C., Jenkins, V., & Trivette, C. (1984).

## APPENDIX E: SOCIAL SKILLS RATING SCALE (SSRS)

The next set of questions provide descriptions of some things different children or teenagers do. There are also questions about how some children or teenagers might feel. These questions may or may not describe your child.

Here are examples of what each answer means:

<u>Never:</u>	Your child NEVER feels this way or NEVER does this.
<u>Once in a while:</u>	Your child hardly ever or rarely feels this way. <i>(For example, your child may only do this 25% of the time)</i>
<u>Sometimes:</u>	Your child feels or does this some of the time. <i>(For example, your child may do this half (or 50%) of the time)</i>
<u>Frequently:</u>	Your child feels or does this most of the time. <i>(For example, 75% of the time)</i>
<u>Always:</u>	Your child ALWAYS feels this way or does this.

### Internalizing Behavior Problems

1. Acts sad or depressed. *(Fill in only one bubble)*
2. Appears lonely. *(Fill in only one bubble)*
3. Shows anxiety about being with a group of children. *(Fill in only one bubble)*
4. Has low self-esteem. *(Fill in only one bubble)*
5. Likes to be alone. *(Fill in only one bubble)*
6. Is easily embarrassed. *(Fill in only one bubble)*
7. Is easily distracted. *(Fill in only one bubble)*

### Externalizing Behavior Problems

1. Argues with others. *(Fill in only one bubble)*
2. Has temper tantrums. *(Fill in only one bubble)*
3. Fights with others. *(Fill in only one bubble)*
4. Threatens or bullies others. *(Fill in only one bubble)*
5. Talks back to adults when corrected. *(Fill in only one bubble)*
6. Gets angry easily. *(Fill in only one bubble)*

Source: Gresham, F. & Elliott, S. (1990).

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