FACTORS INFLUENCING FEMALE CAREGIVERS' APPRAISALS OF THEIR PRESCHOOLERS' BEHAVIORS

by

SALLIE COKE

A DISSERTATION

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ACCEPTANCE

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ABSTRACT

FACTORS INFLUENCING FEMALE CAREGIVERS' APPRAISALS OF THEIR PRESCHOOLERS' BEHAVIORS

by

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Children with psychologically vulnerable caregivers may be at risk for being labeled as having behavior problems when typical behaviors are viewed by their caregivers as problematic. Research examining the accuracy of the caregivers' perceptions of children's behaviors is limited. The purpose of this study was to use the Resiliency Model of Family Stress, Adjustment, and Adaptation to explore family and female caregiver factors associated with appraisals of children's behaviors, the extent to which these appraisals may be distorted and children's level of risk of having behavioral problems.

A cross-sectional, correlational design was used. Data were collected from female caregivers of preschoolers. Reliable and valid instruments measured family factors, demographic characteristics, comfort in parenting, appraisal of behaviors, daily stress, parenting stress, depressive symptoms, social support, ratings of children's behaviors, and distortion in the ratings. Analyses included ANOVA, ANCOVA, Chi-square, simultaneous and hierarchical linear regressions.

Results indicated that family typology was not associated with the female caregivers' appraisals of children's behaviors or distortion of caregivers' ratings of behaviors; however, it was associated with risk of having children with behavioral problems. In the simultaneous regressions models, greater discomfort with parenting and

greater perceived daily stress were associated with more negative appraisals of children's behaviors by the female caregivers and Caucasian race and higher distortion in behavioral ratings were associated with higher risk of behavioral problems in children. Social support did not buffer the effects of caregiver depression on appraisals of children's behaviors or level of risk of children having behavioral problems.

Vulnerability of the family, as measured by family hardiness and family cohesion, was associated with a higher risk of having children with behavioral problems. The caregiver's appraisal of her child's behavior was associated with her daily stress level and her comfort with parenting. Caucasian American's had the highest risk of having children with behavioral problems.

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"Children love and want to be loved and they very much prefer the joy of accomplishment to the triumph of hateful failure. Do not mistake a child for his symptom." ....Erik Erikson

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LIST OF ABBREVATIONS

CAHMI	Child and Adolescent Health Measurement Initiative
DSM IV-TR	Diagnostic and Statistical Manual IV, Text Revision
ADHD	Attention Deficit Hyperactivity Disorder
BASC-2, BESS	Behavior Assessment Scale for Children -2, Behavioral and Emotional Screening System
FHI	Family Hardiness Index
FCCI	Family Coping Coherence Index
CES-D	Center for Epidemiologic Studies Depression Scale
NIMH	National Institute of Mental Health
SSI	Social Support Index
PSS	Perceived Stress Scale
PSI-SF	Parenting Stress Index, Short Form
IRB	Institutional Review Board

CHAPTER I

Introduction

In the United States, the prevalence of children with behavioral problems has increased markedly in the last 15 years. Preschool children, ages three to five years, are not immune to the marked increase in behavioral problems, as estimates indicate 40% of the parents of preschoolers have one or more significant concerns about their child's development (Child and Adolescent Health Measurement Initiative [CAHMI], 2007). Research in social development indicates that young children's earliest relationships with their parents shape how they will respond to others (Cooper et al., 2008). Pre-verbal young children often use behavior such as biting or hitting to communicate anger and frustration (Green & Palfrey, 2007). A parent must intervene when a young child exhibits persistent inappropriate behavior (biting, hitting) and help the child understand how his behavior makes others feel (Green & Palfrey, 2007).

Fortunately, most young children are raised in supportive, nurturing, and stimulating environments where parents provide limits to behavior in healthy ways (Cooper et al., 2008). For those preschool children that have parents who may be encountering serious stressful events, who are suffering from depressive episodes or who lack social support to accomplish parenting tasks, the young children's behaviors may persist because the parents cannot provide the structure they need to learn self-control leaving them without the necessary skills to appropriately communicate their needs

(Cooper et al., 2008). Parents may react to behaviors in unhealthy ways, for example misinterpreting behavior or expecting young children to act at a development level which is beyond their years (Tremblay et al., 2004). Children with vulnerable parents may be at risk for being labeled as having behavior problems when their typically developing behaviors, such as temper tantrums and toileting difficulties, are viewed by their parents as disruptive or stressful (Tremblay et al., 2004).

Parental depression and depressive symptomatology, especially maternal depression, has been strongly associated with problematic child behavior (Calzada, Eyberg, Rich & Querido, 2004; Civic & Holt, 2000; Condon, Donovan, & Corkindale, 2000; Dawson et al., 2003; Pratt & Brody, 2008; Ramchandani et al., 2008). Even though there is evidence that depression and depressive symptoms, which usually begin during the immediate postpartum period, are strongly associated with maternal reports of child behavioral problems (Calzada et al., 2004), the accuracy of the depressed female caregiver's appraisal of her preschool child's behavior has not been examined thoroughly. It remains unclear whether preschool children of depressed mothers actually are acting out (behaving badly) or whether the female caregivers' depressive symptoms negatively impact her perception of their behaviors.

Purpose

The purpose of this study was to use the Resiliency Model of Family Stress, Adjustment, and Adaptation as the theoretical foundation to explore the family and individual factors associated with the primary female caregiver's appraisal of her child's behavior, the extent to which the primary female caregiver's appraisal of her child's behavior may be distorted and the child's level of risk of having a behavioral problem.

The study was conducted to increase the knowledge base related to female caregivers' appraisals of preschool children's behaviors by exploring those female caregiver characteristics and stressors that are most associated with the caregivers' appraisals. This study also explored the role of social support as a moderator of the relationship between female caregivers' depressive symptoms, and appraisals of preschool children's behaviors, and children's level of risk of having a behavioral problem, controlling for distortion in caregivers' appraisals.

Significance of the Problem

Two terms are generally used to define the behavioral problems found in the developing child: internalizing behaviors (depression, anxiety) or externalizing behaviors (aggression, noncompliance) (Campbell, Shaw, & Gilliom, 2000). Childhood behavioral problems are found in all societies with an estimated worldwide prevalence ranging from 5.29% to 26% (Bloom & Cohen, 2007; Egger & Angold, 2006; Polanczyk, Silva de Lima, Horta, Biederman, & Rohde, 2007). In the United States, the prevalence of children with behavioral problems has increased markedly in the last 15 years (Buitelaar et al., 2006; Cooper et al., 2006; Egger & Angold, 2006; Zito et al., 2003; Zito et al., 2008). Prescriptions for psychotherapeutic medications directed toward reducing behavioral problems in the school aged child increased two to three fold in the early 1990's (Zito et al., 2007) and from the mid 1990's to 2002 rates for these medications increased from 8.6 per 1000 children to 39.4 per 1000 children (Cooper et al., 2006). Preschool children also had marked increases in psychotropic medication usage as estimates now indicate 2.3% to 7% of preschoolers receive one or more prescriptions for these medications (Luby, Stalets, & Belden, 2007; Raghavan et al., 2005; Zito et al.,

2007). In the 2007 National Survey of Children's Health, 40% of parents of preschool children had concerns about their child's physical, social, and emotional development and 17.5% of the preschooler's parents had concerns with how well their child got along with other preschoolers (CAHMI, 2007).

Young children's relationships with their caregivers are crucial to their development of social skills and self-control (Cooper et al., 2008). In families without supportive, nurturing environments, preschool children may fail to learn impulse control and appropriate communication skills, which may lead to development of aggressive (biting, scratching) and rebellious behaviors (temper tantrums) (Cooper et al., 2008; Green & Palfrey, 2007). The caregiver may be unaware of the seriousness of the preschooler's escalating behaviors until marked problems are occurring and issues are raised by other child care providers, especially in settings where behavioral restrictions are enforced (such as the preschool setting) (Tremblay et al., 2004).

There is also the potential for caregivers to perceive normal preschooler behaviors as abnormal and respond to these behaviors inappropriately, especially if the caregivers are suffering from depression or depressive symptomatology. Research has indicated that mothers with current depressive symptoms or histories of chronic depression display fewer positive behaviors toward their children (Cunningham & Boyle, 2002; Foster, Garber, & Durlak, 2007). Cunningham and Boyle (2002) in their study of 129 Canadian families with preschool children found that mothers with depressive symptoms felt less competent as parents and used more negative, controlling discipline techniques (Cunningham & Boyle, 2002). In a study comparing depressed mothers' ratings of their children's behavior to their children's teachers' ratings (Chilcoat & Breslau, 1997), 801

six-year-old children were rated by their mothers and their teachers on behavioral problems. Mothers with any psychiatric disorder reported significantly more externalizing behaviors (aggression, impulsivity) in their children than did their children's teachers (Chilcoat & Breslau, 1997).

In the United States, each year 14.8 million adults are majorly depressed (National Institute of Mental Health [NIMH], 2009). In numerous large, racially diverse studies that included Caucasian, African American, Asian, Hispanic, Native American and Interracial families, researchers have consistently shown that maternal depression is strongly associated with problematic child behavior (Calzada, et al., 2004; Civic & Holt, 2000; Dawson et al., 2003; Durbin, Klein, Hayden, Buckley & Moerk, 2005; Garstein & Sheeber, 2004; Hughes, Hedtke, & Kendall, 2008; Kendall, Leo, Perrin & Hatton, 2005; Kopp & Beauchaine, 2007; Owens & Shaw, 2003; Walker & Cheng, 2007; Weissman et al., 2006). Depressed mothers of preschool children also received less social support than non-depressed mothers (Black et al., 2002; Dawson et al., 2003; Lee, Halpern, Hertz-Picciotto, Martin, & Suchindran, 2006). In two large studies conducted in New Zealand, maternal stress (stressful life events such as death of a loved one and perceived maternal stress) and lack of social support were related to problem behaviors in the preschool child (Robinson et al., 2008; Slykerman et al., 2005).

Research examining the accuracy of the depressed mother's perceptions of her child's behavior is limited. If the mother's report is not accurate because of her depressive symptoms, the child may be mistakenly treated with psychotropic medications when it is the mother that needs mental health interventions. One research study found that, after identifying a mother as depressive and beginning appropriate treatment, within

three months one third of the 150 school age and high school aged students in the study no longer were rated as having problematic behaviors by their mothers (Weissman et al., 2006). It is possible that the mother's depressive symptoms distort her perception of her child's behavior.

Paternal depression, unlike maternal depression, has only been studied by a few researchers. Depressed men are reluctant to seek help for emotional symptoms and may resort to drug or alcohol abuse to cope with their depression (Condon et al., 2000; Pratt & Brody, 2008; Ramchandani et al., 2008; Spector, 2006). Paternal depression has been linked to adverse emotional and behavioral problems in children in some studies (Calzada et al., 2004; Dave, Sherr, Senior, & Nazareth, 2008; Ramchandani, Stein, Evans, O'Conner, & ALSPAC, 2005) but other studies found no effect on the preschooler (Durbin et al., 2005; Gross, Shaw, Moilanen, Dishion & Wilson, 2008). The largest study was conducted on 8431 mothers and fathers in the United Kingdom (Ramchandani et al., 2005). Depression in the fathers during the postnatal period was associated with behavioral problems, especially in boys, at age five. A few studies suggested the father's involvement with the child might help to buffer the effects of maternal depression, but results were mixed with some indication that fathers may buffer some of the effects of mild to moderate maternal depression but not severe depression (Chang, Halpern, & Kaufman, 2007; Mezulia, Hyde, & Clark, 2004).

Several studies compared parent ratings of their child's behavior (Achenbach & Rescorla, 2000; Briggs-Gowan, Carter, Irwin, Wachtel, & Cicchetti, 2004; Reynolds & Kamphaus, 2004). Most of the studies indicated weak to moderate correlations between parent ratings (Achenbach & Rescorla, 2000; Briggs-Gowan et al., 2004; Reynolds &

Kamphaus, 2004). A few studies examined the discrepancies that occur between parent ratings of their child's behavior (Treutler & Epkins, 2003; Youngstrom, Loeber, & Stouthamer-Loeber, 2000). These studies indicate that caregivers with depressive symptomatology and high levels of stress tend to rate their children as having more externalizing behavior problems (Treutler & Epkins, 2003; Youngstrom, Loeber, & Stouthamer-Loeber, 2000).

It is vital that research be conducted about how depressive symptoms may influence caregivers' appraisals of their children's behavior, especially if behaviors of normally developing children are viewed as atypical or problematic. If the caregiver's reports are distorted because of depressive symptoms, the preschool child may be treated for behavioral problems when in reality treatment is needed for the caregiver, not the child.

Specific Aims and Research Questions

Within a cross-sectional, correlational design, this study addressed the following specific aims and associated research questions:

Specific Aim I

Explore differences in female caregivers' appraisals of children's behavior, distortion in caregivers' behavior ratings, and level of risk of children having a behavioral problem by family typology.

Research question 1. Will the female caregiver's appraisal of her preschool child's behavior differ by family typology?

Research question 2. Will distortion in female caregivers' behavioral ratings differ by family typology?

Research question 3. Will level of risk of children having a behavioral problem differ by family typology, controlling for distortion in female caregivers' behavioral ratings?

Specific Aim II

Explore which characteristics and stressors are associated with the female caregivers' appraisals of children's behavior and level of risk of children having a behavioral problem controlling for distortion in female caregivers' behavioral ratings.

Research question 4. Are there relationships between female caregiver age, race, marital status, educational level, social status, depressive symptoms, female caregiver comfort in parenting, perceived daily stress, perceived parenting stress, and female caregivers' appraisals of children's behavior?

Research question 5. Are there relationships between female caregiver age, race, marital status, educational level, social status, depressive symptoms, caregiver comfort in parenting, perceived daily stress, perceived parenting stress, female caregivers' appraisals of children's behavior, and level of risk of children having a behavioral problem, controlling for distortion in female caregivers' behavioral ratings?

Specific Aim III

Explore if social support buffers the influence of female caregiver depressive symptoms on female caregivers' appraisals of children's behavior, level of risk of children having a behavioral problem, controlling for distortion in caregivers' behavioral ratings, caregiver characteristics, and stressors.

Research question 6. Does social support buffer the effects of female caregiver depressive symptoms on female caregivers' appraisals of children's behavior controlling for caregiver age, race, marital status, educational level, social status, caregiver comfort in parenting, perceived daily stress, and perceived parenting stress?

Research question 7. Does social support buffer the effects of female caregiver depressive symptoms on level of risk of having a behavioral problem controlling for female caregiver age, race, marital status, educational level, social status, caregiver comfort in parenting, perceived daily stress, perceived parenting stress, appraisals of children's behavior and distortion in caregivers' behavioral ratings?

Assumptions

The assumptions associated with this study were the following:

1. Behavioral problems in preschool age children place a significant burden on female caregivers.

2. Female caregivers will appraise their children's behaviors based on their own experiences.

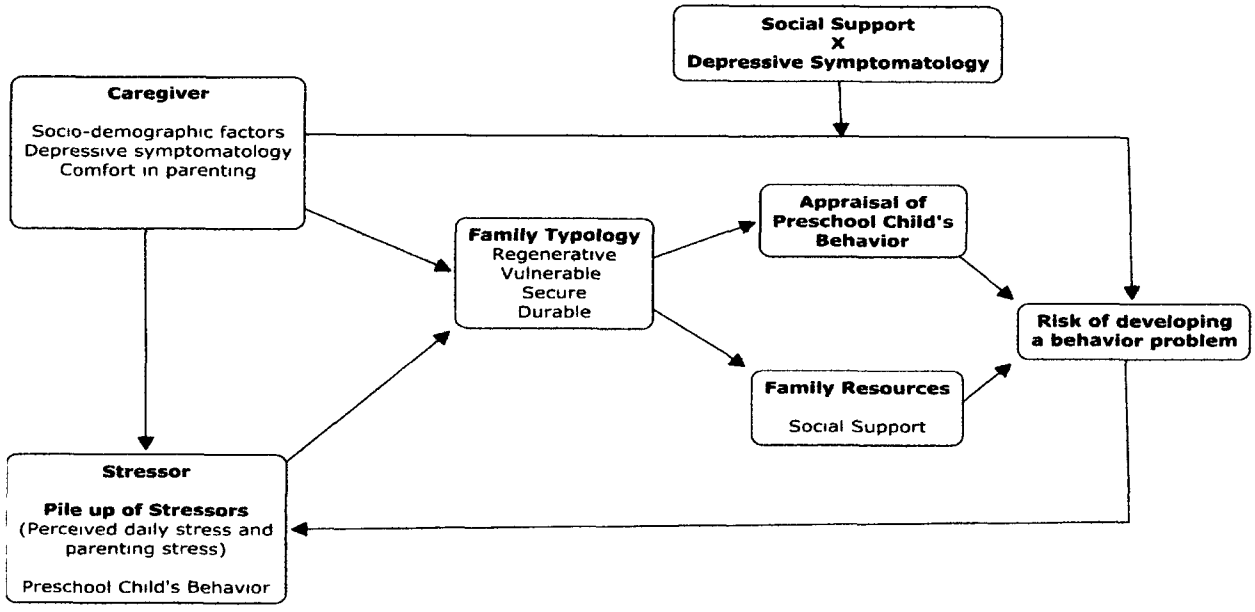
Theoretical Framework

The Resiliency Model of Family Stress, Adjustment, and Adaptation was proposed as the model for understanding the female caregivers' responses to their preschool children's behaviors. This model attempts to explain, using a theoretical framework, how family members change and adapt over time. The family's adaptation process is a dynamic response to excessive demands that occur during their lifetime together (McCubbin, Thompson, & McCubbin, 1996). When the stressor occurs, resilient families quickly work to restore functional stability within the family so that all

members can continue to develop and remain protected from undue emotional harm. Families that are vulnerable may have difficulty adapting to the stressor and need additional support from healthcare providers. Figure one illustrates how the model has been adapted for this study.

Figure 1.

Adapted Conceptual Model



Major Concepts of the Theory

The Resiliency Model of Family Stress, Adjustment, and Adaptation has several major concepts that explain how families face the challenges they encounter during their lives together. Table 1 reflects these concepts and how they will be used in this study. The Model encompasses several broad purposes that can be applied to individuals, families, groups, and communities. Its main purpose is to clarify and understand the process of family adaptation and adjustment to major life events (DeMarco, Ford-Gilboe, Friedemann, McCubbin, & McCubbin, 2000). The model also evaluates family support issues and the promotion of the well-being of all family members (DeMarco et al., 2000).

Stressor. Resiliency, according to the theory, is defined as those positive actions, behaviors, coping patterns, and abilities of the family unit and its members when they are faced with a stressor (McCubbin et al., 1996). A stressor is defined as an event or problem that has the ability to cause the family to experience an increased level of turmoil and can result in altering family dynamics (McCubbin et al., 1996). The stressor can affect all aspects of the family's relationships including interpersonal communication between its members (marital stress or parent-child difficulties, etc.) (McCubbin et al., 1996). The more powerful the stressor (behavioral issues of a child), the greater the influence it has on the family unit. Any additional stressors on the family unit (loss of a job, illness) also cause it significant difficulties, which are known as a pile-up of stressors or demands (McCubbin et al., 1996). All families will face a stressor or multiple stressors at some point during their time together (McCubbin et al., 1996). It is impossible for the family to organize itself and prepare for every stressor that they will encounter. For this study, the main stressor is the preschool child's behavior. Other stressors may also affect the female caregiver including the perceived stress the caregiver is encountering and any additional stressors that may be occurring (pile-up of stressors).

Family Typology. A family's typology is the patterns of functioning or group of behaviors that explain how the family works together and manages problems. Patterns of functioning that are well established in the family are vital to the development, re-establishment, and preservation of harmony and balance within the family (McCubbin et al., 1996). Harmony is defined as a state of comfort, security, and happiness that is characterized by energy and activity (McCubbin et al., 1996). Balance is defined as keeping stability within the family in spite of tribulations (McCubbin et al., 1996). The

family's typology is based on the family's levels of hardiness and cohesiveness. Hardiness is defined as a sense of control of life, viewing life changes as growth producing and family hardiness is defined as a family's combined strengths and resilience in approaching life's events with an eagerness to learn and explore (McCubbin et al, 1996). Cohesion is defined as the bonds that tie a family together that encompass trust, support, and respect for each other and family cohesion is defined as a reflection of this trust and support that enables the family to adapt to problems.

Resilient families that have a well-established pattern of functioning that is very cohesive and hardy are known as regenerative families. Regenerative families remain harmonious and balanced when faced with a stressor (McCubbin et al., 1996). They accept life's events and work together to problem solve (McCubbin et al., 1996). Regenerative families are capable of planning and are willing to actively learn and explore new things (McCubbin et al., 1996). Vulnerable families are the opposite of regenerative families. Vulnerable families are low in cohesion and hardiness (McCubbin et al., 1996). They become emotional when faced with a stressor, are less caring and respectful, and frequently blame each other for their problems (McCubbin et al., 1996). Vulnerable families lack a sense of control over their lives (McCubbin et al., 1996).

According to the Resiliency Model of Family Stress, Adjustment, and Adaptation two additional family types are possible based on levels of family hardiness and family cohesion. The secure family is low in cohesion but high in hardiness and is characterized by emotionality when faced with a stressor (McCubbin et al., 1996). Secure families do feel they are in control of their lives and are willing to try new things but are less supportive of each other. The durable family is low in family hardiness but high in

family cohesion. They have a lower sense of control over their lives but they have strong respect for each other and remain calm under pressure (McCubbin et al., 1996).

Since vulnerable families react to stressors with a lack of emotional control and are quick to blame each other (McCubbin et al., 1996), challenging preschool behaviors that are normal for all children may be appraised as problematic for the vulnerable family and reflected in the female caregiver's appraisal of her child's behavior. Regenerative families have a well-established pattern of functioning and female caregivers in these families are thought to have appraisals of their preschool children's behaviors that are based on mutual respect and understanding, which may result in fewer appraisals of their children's behaviors as problematic. Caregivers in secure and durable families may also have very distinct appraisals of their children's behaviors based on their families' levels of hardiness and cohesiveness.

Appraisal of the Stressor. The family's appraisal of the stressor is defined as the meaning or interpretation the family assigns to the hardship and struggle the stressor may cause (McCubbin et al., 1996). The family's appraisal may range from "no problem" to "disastrous" and influences the strategies the family will use to handle the stressor. Coping is an active process that relies on established patterns of functioning within the family and is enhanced by the family's use of resources (McCubbin et al., 1996). For this study, the stressor and appraisal that will be studied is the female caregiver's appraisal of her child's behavior. Factors, especially depressive symptoms that affect appraisal, will be explored. For this study, female caregiver characteristics and stressors that may influence the appraisal of her child's behavior include demographic variables (age, race, marital status, and socio-economic status), comfort in parenting, depressive

symptomatology, and stress (daily stress and parenting stress). The female caregiver's depressive symptoms and stress may make the family more vulnerable by decreasing family cohesiveness and hardiness. She may also appraise a greater number of her preschool child's behaviors as problematic. The female caregiver's comfort with parenting may affect appraisals of her preschool child's behaviors. A female caregiver with higher confidence in her childcare abilities may be more aware of normal child development and may appraise behaviors differently than a caregiver with lower confidence in her childcare abilities.

Family Resources. Family resources can be defined as informal (extended family, close friends, etc.) and formal (schools, churches, healthcare providers) (McCubbin et al., 1996). In the Model, a family resource that is considered vital to the family's harmony is social support received from the community (McCubbin et al., 1996). The Resiliency Model assumes the family will use the resources that are available to them in their community to help them with the stressor (McCubbin et al., 1996). These social support resources serve to buffer the family dealing with the stressor. The Model hypothesizes that the more social support families receive the more likely they are to adapt positively to the stressor (McCubbin et al., 1996).

Table 1

Theoretical Terminology

Major Terms	Theoretical Definition and Use in this Study
Female Caregiver Characteristics	Characteristics including demographic variables (age, race, marital status, social status, and education), comfort in parenting, and depressive symptomatology.
Stressor	The stressor is an event or problem that has the ability to cause the female caregiver to experience turmoil. This event includes the preschooler's behavior, parenting stress, and perceived daily stress.
Family Typology	Categorization of family function based on the family's levels of hardiness and cohesiveness. The different categories are regenerative families, vulnerable families, secure families, and durable families.
Appraisal	Appraisal is the meaning or interpretation the family assigns to the hardship or struggle. For this study, the female caregiver assigns a meaning to her preschool child's behavior.
Family Resources	Informal or formal assets the family has at their disposal. It is defined by the individual female caregiver and includes social support.

Summary

Female caregivers' perceptions of preschool children's behaviors may be influenced by many factors such as depressive symptoms or high levels of stress. The potential for caregivers to perceive normal preschoolers behaviors as abnormal behaviors needed to be explored. The Resiliency Model of Family Stress, Adjustment, and Adaptation provided the conceptual framework for the research study that explored factors that affect the female caregivers' appraisals of their children's behaviors.

CHAPTER II

Review of Literature

This chapter will review current information about behavioral problems and psychiatric disorders in preschool children. It will discuss the epidemiology and nosology of behavioral problems and the wide array of problematic behaviors and psychiatric illnesses that are found in preschool children. Lastly, the chapter includes a discussion of the factors that have been found to influence a preschool child's behavior and female caregivers' and other adults' appraisals of the child's behavior.

Epidemiology and Nosology of Preschool Behavioral Problems and Disorders

Current studies indicate the overall prevalence of preschool behavior problems and disorders to be between 5.3 to 26% and that the parents of 40% of the nation's preschool children have one or more concerns about their children's development (Bloom & Cohen, 2007; CAHMI, 2007; Egger & Angold, 2006; Polanczyk et al., 2007). The main difficulty in estimating the prevalence of actual preschool behavioral problems and behavioral disorders is because developmental changes in preschool age children occur rapidly between 2 to 5 years of age leading to controversy about the legitimacy of differentiating typical preschool behavior from atypical preschool behavior (Egger & Angold, 2006; Keenan & Wakshlag, 2002).

Behavioral problems in the preschool age child can manifest as externalizing or internalizing behaviors (Campbell et al., 2000). Externalizing behavior problems are a

child's outward manifestation of emotions associated with negativity toward the external environment and are displayed as marked noncompliance, aggressive tendencies with siblings or peers, and high activity levels (Campbell et al., 2000). A child may also develop internalizing behavior problems, which reflect the child's internal emotional situation and are displayed as shyness, separation anxiety, and withdrawal from social interactions (Campbell et al., 2000). If these behaviors are pervasive and cause distress or impairment to the preschool child or the caretakers of the child, then a diagnosis of a disorder may occur (Egger & Angold, 2006). When a diagnosis is made of an actual disorder, the Diagnostic and Statistical Manual of Mental Disorders, 4th edition, Text Revision (DSM-IV-TR) with some major modifications is the common framework used (Keenan & Wakshlag, 2002).

Strict use of the DSM IV-TR as the only diagnostic criteria for the preschool aged child has major problems as it does not account for developmental variations (Egger & Angold, 2006). The DSM IV-TR does require that some form of impairment or distress be present before the diagnosis of a disorder can be made (Egger & Angold, 2006). Many of the disorders listed in the DSM-IV-TR require the presence of developmentally inappropriate or impossible symptoms for the preschool child (Egger & Angold, 2006). For example, before the diagnosis of a conduct disorder can be made, symptoms such as sexual assault of another person, truancy, or burglary with confrontation, which are impossible for the preschool child to accomplish, would need to be present (Egger & Angold, 2006; Wakschlag, Leventhal, & Thomas, 2007).

There is a lack of consensus among experts as to exactly what changes are needed to the DSM criteria so that the many developmental variations that can be seen in

preschool aged children can be accounted for prior to the establishment of a psychiatric diagnosis of disorder (Egger & Angold, 2006; Wakschlag et al., 2007). Some researchers have suggested that the changes include more age appropriate symptomatology with the focus being on the quality of the behaviors and the behaviors' pervasiveness across different settings (home and preschool) (Egger & Angold, 2006; Wakschlag et al., 2007).

When a psychiatric diagnosis is made in a preschool child, it falls into the two broad categories of emotional disorders or behavioral disorders (Egger & Angold, 2006). The emotional disorders include all the depressive disorders (major depression, bipolar disorder) and anxiety disorders (generalized anxiety, obsessive compulsive disorders, phobias) and are estimated to occur in 10 to 14.9% of preschool children (Egger & Angold, 2006; Keenan & Wakshlag, 2002). The behavioral disorders include attention deficit hyperactivity disorder (ADHD), disruptive disorders (oppositional defiant disorder, conduct disorders), and pervasive developmental disorders (including autism spectrum disorders) (Egger & Angold, 2006; Keenan & Wakshlag, 2002). The behavioral disorders are estimated to occur in 9 – 15% of preschoolers (Egger & Angold, 2006; Keenan & Wakshlag, 2002).

Typical Preschool Behaviors and Manifestations of Behavioral Problems

Typically developing children between the ages of three and four years of age have a vocabulary of over a 1000 words, often think out loud, enjoy asking "why" and "how" questions, and try to do things without help from their caregiver even though they are not very good at it (such as getting dressed or brushing teeth) (Green & Palfrey, 2007). They have not fully mastered thinking before acting on an impulse and readiness for toilet training, especially in boys, may not have been reached until this age (Green &

Palfrey, 2007). The result of the children's impulsive actions or lack of toilet training can be very frustrating for their caregivers (Green & Palfrey, 2007).

Typically developing preschool children between the ages of four and five years have greatly expanded their vocabulary and delight in telling stories (Green & Palfrey, 2007). They are very active, enjoy make-believe and dress-up games, and, because they are beginning to identify differences in the sexes, sexual exploration (playing with their body parts) is typical for this age (Green & Palfrey, 2007). This can be very unsettling for the caregiver that is unfamiliar with normal child development or the caregiver that has different cultural beliefs on sexual development issues (Green & Palfrey, 2007). Since four year olds are still learning about the consequences of their actions, they will often challenge the caregiver repeatedly to see exactly what happens if they break a rule (Green & Palfrey, 2007).

The constructs of social and emotional competency are related to the normal developmental changes that all young children must master (National Children's Study 2005). Children in their early developmental years must learn to control their emotions and develop alternative methods of communicating their needs (Green & Palfrey, 2007). Emotional competency includes the development of self-awareness (understanding one's emotions), self-regulation (controlling physical needs and emotional needs), social awareness (empathy/sympathy), and social problem solving skills (communication) (National Children's Study 2005). Emotional competency in combination with relationship skills (cooperation, listening, taking turns) leads to the development of social competency (National Children's Study 2005). Social competency in the initial stages of infancy involves the relationships the infant forms with the primary caregivers and, as the

infant matures into a toddler, expands to include other immediate family members (siblings, etc.) (Squires, 2003). In the preschool years, social competency involves sharing toys and ideas and the development of sympathy for others (Squires, 2003). Emotional and social competencies overlap and include five primary behaviors: cooperation, relationship development, aggression management, self-esteem development, and emotional self-control (Squires, 2003). If the preschool child has not yet mastered self-regulation and gained emotional and social competency, the child may display behaviors that can be interpreted as atypical or maladaptive by his parents or teachers (Green & Palfrey, 2007). These behaviors manifest as externalizing behavior problems or internalizing behavior problems (Campbell et al., 2000).

Assessment of Behavioral Problems in the Preschool Aged Child

During the preschool years, children are learning to control their behaviors and are developing the capacity to sustain attention (Green & Palfrey, 2007) and since these children are undergoing rapid developmental changes, even experts can have difficulty discerning typical behaviors from atypical behaviors (Egger & Angold, 2006). Individual differences in a child's emotional and behavioral development could easily be inappropriately identified as a major symptom of a psychiatric disorder (Egger & Angold, 2006).

The marked increase in the number of psychotropic medications being prescribed to this age group in the last 15 years seems to indicate that normal, typical behaviors are being thought of as abnormal and clinically significant (Egger & Angold, 2006; McClellan & Speltz, 2003; Zito et al., 2007). Diagnosing a preschool child with a behavioral disorder can affect the child's perception of himself as well as the perceptions

of those dealing with the child on a daily basis (Egger & Angold, 2006). Additionally, the behaviors being displayed by the preschool child may be a reflection of the environment in which the child is being raised (Egger & Angold, 2006).

When a preschool child's behavior does need to be evaluated, several empirically derived checklist measures are available to define specific types of behavior disorders and behavior problems (Egger & Angold, 2006). Most of these checklists have objective scoring procedures (Caselman & Self, 2008), but many require advanced training to interpret (Achenbach & Rescorla, 2000; Gadow, Sprafkin, & Nolan, 2001). For several of the instruments, parent and teacher versions exist and comparisons between the different versions can be made.

Factors Influencing Behavioral Problems in Preschool Children

Young children develop social and emotional competence through their interactions with their environments and their connections with their parents and peers (Squires, 2003). Many studies have examined factors that influence the behaviors of preschool children. The following is a discussion of those factors that will be examined in the proposed study.

Female Caregiver Characteristics

Numerous studies have examined female caregiver characteristics that affect the preschool child's behavior. Female caregiver depressive symptomatology has been strongly linked to problematic child behavior (Calzada et al., 2004; Civic & Holt, 2000; Dawson et al., 2003; Durbin et al., 2005; Garstein & Sheeber, 2004; Hughes et al., 2008; Kendall et al., 2005; Kopp & Beauchaine, 2007; Owens & Shaw, 2003; Walker & Cheng, 2007; Weissman et al., 2006), but very few studies have examined the preschool child's

behavior once the female caregiver's depression was treated. Female caregiver depression and depressive symptomatology includes any form of depression in a female caregiver that affects the wellbeing of the entire family. The most commonly known form of caregiver depression is postpartum depression, which develops after the delivery of an infant (NIMH, 2009). The Agency for Healthcare Research and Quality estimates that the prevalence of depression during pregnancy ranges from 8.5% to 10.0% and during the first postpartum year it ranges from 6.5% to 12.9% (Gaynes et al., 2005). The actual prevalence of postpartum depression may be higher as diagnostic criteria vary among health care disciplines (Beck & Driscoll, 2006; NIMH, 2009; Paulson et al., 2006).

The effects of the female caregiver's depression on the infant and developing child can be very profound and ultimately life threatening. Schwebel & Brezausek (2008) in their examination of the data from the National Institute of Child Health and Human Development Study on Early Child Care found that infants and toddlers of chronically depressed mothers were at increased risk of injury during their first three years of life. It was suggested by the authors that the caregiver's depressive symptoms of inattention, poor concentration, and distractibility made her incapable of adequately supervising her child thereby increasing the young child's chances of being injured (Schwebel & Brezausek, 2008). Maternal depression has also been found to affect nutritional status, growth, and development (Rahman, Igbal, Bunn, Lovel, & Harrington, 2004). Stein et al. (2008) in a study of 1077 families over a 36-month period, found that maternal depression in the first year of an infant's life was associated with poorer

language development in the preschool child and the effects were most profound in the less advantaged families (Stein et al., 2008).

Economic deprivation and maternal depression were found in several studies to diminish the cognitive and emotional wellbeing of the young child (Kiernan & Carmen Huerta, 2008). Brennan et al. (2000) in a large cohort study of nearly 5000 five-year-old children, found that both the severity and the length of the mothers' depressive symptoms were related to more behavioral problems and lower vocabulary scores in five year old children (Brennan et al., 2000). Caregivers with current depressive symptoms and histories of chronic depression displayed fewer positive behaviors toward their preschool children (Cunningham & Boyle, 2002; Foster et al., 2007). Cunningham and Boyle (2002) in their study of 129 Canadian families with preschool children found that mothers with depression felt less competent as parents and used more negative, controlling discipline techniques (Cunningham & Boyle, 2002).

Children of chronically depressed mothers have been shown to have different brain activities and stress hormone response levels (Ashman, Dawson, & Panagiotides, 2008; Ashman, Dawson, Panagiotides, Yamada, ... & Wilkinson, 2002; Dawson et al., 2003), which may account for the marked behavioral problems seen in some of the children. Dawson et al. (2003) found that the children of 159 chronically depressed mothers exhibited significantly lower frontal and parietal brain activation than the children of mothers without depression or in children of mothers whose depression had remitted (Dawson et al., 2003). In a follow-up study of these same mothers and their children in 2007, the findings of frontal region brain activation changes continued to display significant differences between the groups. Levels of the stress hormone,

cortisol, were also significantly different in the children indicating a possible decrease in their parasympathetic reactions and increase in the sympathetic (flight or fight) reactions, which may explain the externalized behavioral problems (ADHD and Oppositional Defiant Disorder) seen in the children (Ashman et al., 2008). These changes in the cortisol levels of children with chronically depressed mothers were supported in a recent study of 94 females and 82 males and were linked to the hypothalamic-pituitary-adrenal axis, which responds to stress by releasing cortisol (Gump et al., 2009). Children in this study were also found to have higher cardiac output and stroke volumes in response to acute stress indicating an increased response to the sympathetic nervous system (Gump et al., 2009).

Other caregiver factors that have been infrequently examined but found to be associated with the preschool child's behavioral problems, include caregiver educational level, antisocial behavior in the caregiver, maternal young age at childbirth, alcohol consumption and smoking (Eiden, Edwards, & Leonard, 2007; Hastings, McShane, Parker, & Ladha, 2007; Kopp & Beauchaine, 2007; Querido, Warner, & Eyberg, 2002; Tremblay et al., 2004). Problems existed with these studies making the generalizations of their findings difficult. Hastings et al., (2007) and Tremblay et al. (2004) used instruments with unacceptably low reliability to form their conclusions. Eiden et al. (2007) in their study of 227 primarily White (94% of the mothers), married families coping with alcohol addiction found that a preschooler's positive behaviors were more strongly predicted by the mother's relationship with the child than the father's relationship with the child even when the mother was the alcoholic.

Race and family income have been researched as factors related to a preschool child's behavioral problems in a number of large studies (Benzies, Harrison, & Magill-Evans, 2004; Dooley & Stewart, 2007; Gross et al., 2008; Polaha, Larzelere, Shapiro, & Pettit, 2004; Querido et al., 2002; Tremblay et al., 2004). In one study, African American families were found to have fewer preschool child behavioral problems than Caucasian families (Kendall et al., 2005). In another study with very similar participants, no ethnic differences were observed except for the greater use of physical punishment in African American families (Polaha et al., 2004). Family income, like race, had mixed findings. Some reported an association between lower family income and greater preschool child behavioral problems (Kendall et al., 2005; Querido et al., 2002; Tremblay et al., 2004) while others found no association (Benzies et al., 2004; Dooley & Stewart, 2007).

Parenting styles have been investigated as a link to preschooler's behavioral problems in a few studies (Dooley & Stewart, 2007; Keown & Woodward, 2002; Polaha et al., 2004; Querido et al., 2002; Tremblay et al., 2004). In 108 African American families, authoritative parenting, which was defined as both strict and responsive to the child (clear rules but a willingness to be supportive of the child's views), was found to be the most predictive of positive child outcomes as opposed to authoritarian (punitive and very strict) and permissive (few demands or restrictions) parenting styles (Querido et al., 2002). Contrary to this, in a study of 63 African American families and 49 Caucasian families, strict and more frequent use of physical punishment reduced externalizing behavior in teacher reports for African American children but not Caucasian children (Polaha et al., 2004). In this study, all interactions with ethnicity were significant only when predicting teacher-rated behavior problems, indicating that either differences

existed due to the child's response to discipline techniques based on race or teacher perceptions of behavior were different based on the race of the child (Polaha et al., 2004). A New Zealand study of 67 families found that parents of hyperactive boys used either lax or over-reactive parenting styles (Keown & Woodward, 2002), which seem to be opposites of each other. Dooley and Stewart (2007) conducted a study with over 22,000 participants in Canada and found that parenting styles had a consistent impact on child behavior; however, it was not clear how they determined parenting styles and some of their correlations were extremely low.

Family Factors

Lucia & Breslau (2006) in their study of 823 children found that poor family cohesion was associated with maternal ratings of children's behaviors as internalizing (withdrawn, anxious, depressed) not externalizing (biting, temper tantrums). In these families, conflict and parental disagreement displayed as openly expressed anger among family members, was associated only with maternal ratings not teacher ratings of a child's behavior (Lucia & Breslau, 2006). Other large, ethnically diverse (African American, Caucasian, Asian, Native American, and Interracial families) studies found that family conflict was related to family functioning (and ultimately behavior problems in the child) and parenting stress (Benzies et al., 2004; Dawson et al., 2003; du Rocher Schudlich & Cummings, 2007; Hughes et al., 2008; Kendall et al., 2005; Shelton & Harold, 2008). Mothers who were experiencing more depressive symptoms reported more insecurity in their relationships and more marital dissatisfaction (Benzies et al., 2004; Dawson et al., 2003; du Rocher Schudlich & Cummings, 2007; Kendall et al., 2005; Hughes et al., 2008; Shelton & Harold, 2008).

Life Stress and Parenting Stress

In two large studies done in New Zealand, maternal stress (stressful events in the mother's life) and lack of social support were related to problem behaviors in the preschool child (Robinson et al., 2008; Slykerman et al., 2005). Slykerman et al. in their study of 550 European mothers and their children also found that maternal stress (even minor daily stress) and lack of social support were significantly associated with lower intelligence in the children (Slykerman et al., 2005). Robinson et al. in their cohort study of 2868 five-year-old, New Zealand children, found that besides high maternal stress and depression, male gender was significantly associated with behavior problems in the children (Robinson et al., 2008) these findings were also supported in a Bavarian study (Kurstjens & Wolke, 2001).

Parenting stress is defined as stress that occurs from a variety of sources (marital strain, sense of competency in parenting, and child- parent relationship problems) that can cause the caregiver to experience a stress response (Anthony et al., 2005; Benzies et al., 2004; Goldstein, Harvey, & Friedman-Weieneth, 2007; Hill, Stein, Keenan, & Wakschlag, 2006). High levels of parenting stress has been linked to harsher, less nurturing parenting styles, and more behavior problems in preschool age children (Goldstein et al., 2007). Parenting stress can directly affect the caregiver's ability to handle the preschool age child's behaviors which can impair the preschool child's development of social competency (Benzies et al., 2004; Goldstein et al., 2007; Hill et al., 2006). Parenting stress and major life stress may also cause the caregiver to form less secure bonds with their child and may cause the caregiver to perceive their child's behavior as more negative (Crnic, Gaze, & Hoffman, 2005).

Appraisal of Behavior

Because of the difficulty discerning typical preschool behaviors from atypical behaviors, the American Academy of Pediatrics recommends that healthcare providers use two informants as sources of information about the child's behavior (American Academy of Pediatrics [AAP], 2000). In a review of 30 studies on preschool behavior problems in low-income, primarily African American families, Qi & Kaiser (2003) found that 73% of the studies relied on behavioral ratings and informant interviews in the assessment of a child's behavior. The sample sizes for these studies ranged from 42 to 3,860 with 20 having over 100 participants (Qi & Kaiser, 2003). In 15 of the studies, a parent was the only informant of the child's behavior (95% were the child's mother) (Qi & Kaiser, 2003). Teachers were the only informants in six of the studies and both parents and teachers were informants in six additional studies (Qi & Kaiser, 2003). Qi and Kaiser found that the caregiver's characteristics, such as parenting stress, depression in the caregiver, and harsh discipline techniques, were strongly associated with greater reporting of behavioral problems in the preschool child (Qi & Kaiser, 2003).

Teacher reports of preschool behaviors were also found to be influenced by other factors (Glass & Wegar, 2000; Harvey, Olson, McCormick, & Cates, 2005; Jackson & King, 2004; Qi & Kaiser, 2003). Teachers were likely to identify preschool children as having ADHD at rates higher than the expected prevalence indicated by the DSM-IV-TR, especially if their class size was large (Glass & Wegar, 2000; Harvey et al., 2005). In a study involving 80 teachers in the Midwest, it was found that a preschool child's behavior was rated by the child's gender (Jackson & King, 2004). Girls were rated as oppositional defiant while the teachers rated boys displaying the same behaviors as

inattentive or hyperactive (Jackson & King, 2004). Another factor influencing a teacher's rating of a child was the familiarity they had with the child's typical behaviors (Barth & Archibald, 2003). If they were aware of a child's previous problematic behaviors, they rated the child according to those behaviors, not necessarily what the child was actually displaying (Barth & Archibald, 2003).

Several studies have compared parent ratings on child behavior. Treutler and Epkins (2003) found that both the mothers' and the fathers' psychiatric symptoms contributed to discrepancies in reporting child behavior (Treutler & Epkins, 2003). These authors argue that studies that focus on the correlation between the parents ratings or between parent and teacher ratings may be missing major discrepancies as the correlation only relates how closely the patterns match not the level or severity of the problems being reported by the informants (Treutler & Epkins, 2003). In a longitudinal study on the internalizing behaviors of twins in the Netherlands, rater disagreement was found to be substantial and the authors stated that rater bias may be persistent over several months to years and can significantly affect the results of longitudinal studies (Bartels, Boomsma, Hudziak, Beijsterveldt, & van den Oord, 2007).

In a German study of 198 adolescents and their parents, the mothers' and fathers' ratings were compared to their adolescent children's rating of their problems (Seiffge-Krenke & Kollmar, 1998). There was strong correlation between the parents on their ratings (r =.65) of the adolescents' behaviors but the parent to child correlations were low (r =.27). The mothers' ratings were significantly correlated to the adolescents' ratings while the fathers' ratings were not. Mothers in this study experiencing high levels of depressive symptoms and stress rated their children as having more behavioral problems

(Seiffge-Krenke & Kollmar, 1998). The fathers' perceptions of the children were not affected by their personal problems (Seiffge-Krenke & Kollmar, 1998).

Other studies that have compared mothers to adolescent self-ratings have also found that the mothers who are depressed consistently rated their adolescent as having more behavioral problems than mothers who were not depressed (Mick, Santangelo, Wypij, & Biederman, 2000). In a Finish study, both parents were found to rate their child as having more problems if the mother had depressive symptoms, though the fathers reported fewer problems than the mothers (Luoma, Koivisto, & Tamminen, 2004). Even though there is strong evidence that maternal depressive symptomatology is associated with greater reporting of child behavioral problems, the perceptions of the mother are often used by the provider in the evaluation of the child's behavior even though the provider may not have knowledge about the mother's mental health. If the mother's report is distorted because of her depressive symptoms, the child may be treated with psychotropic medications when in reality treatment is needed for the mother not the child.

One study was found that compared depressed mothers' ratings of their children's behavior to their children's teachers' ratings (Chilcoat & Breslau, 1997). In this study, 801 six-year-old children were rated by their mothers and their teachers on behavioral problems. Data on the mothers' history of major depression, anxiety disorders, and substance abuse were collected and compared to the teachers' ratings. They found that the mothers with any psychiatric disorder reported more externalizing behaviors in their children while the teachers' reports of externalizing behaviors were unrelated to the mothers' psychiatric history (Chilcoat & Breslau, 1997). Mother's with a recent episode of depression reported more child behavioral problems in their children (Brennan et al.,

2000). It is possible that the mothers' view of their children's behaviors were biased by their depressive symptoms. However, the authors did not question the validity of the mother's reporting on their child's behaviors.

All of these findings are of major concern as informant's opinions are relied on heavily in the diagnosis of behavioral disorders in young children. If the parent is the main informant, additional factors such as maternal depressive symptoms may be influencing the informant's rating of the child's behavior. If the teacher is the informant, they may be influenced by class size or the child's gender. In 2005, 83% of healthcare providers used teacher rating as well as parent ratings to form a diagnosis of a behavioral disorder (Chan, Hopkins, Perrin, Herrerias, & Homer, 2005). However, parent and teacher reports of the preschool child were often not congruent (Glass & Wegar, 2000; Harvey et al., 2005; Jackson & King, 2004; Qi & Kaiser, 2003). No research is currently available that relates how many of these children are unnecessarily diagnosed and treated based on inaccurate data. Accepting these biased ratings may result in the preschool child's unnecessary diagnosis and treatment with psychotropic medications when addressing informant issues may be a more appropriate action. For example, educating parents on normal developmental characteristics of preschool children may help the parents form more accurate expectations of their children's behavior.

Family Resources

Relatively few studies have examined the family's interaction with their community resources (close friends, extended family members, and healthcare providers). McElwain & Volling (2005) examined the role peers and siblings had on 52 preschool children's behavioral development. They found that, in primarily White,

middle to upper class families, the better the quality of sibling or peer relationships, the more the preschooler seemed to be buffered from behavioral and adjustment problems (McElwain & Volling, 2005). No studies were found that examined these relationships in lower income families or in other races.

Depressed mothers of preschool children received less social support than non-depressed mothers in two large studies (Black et al., 2002; Lee et al., 2006). In these racially diverse studies, close family members (spouse and grandmother) were included as social support providers. Lee et al. (2006) included the mother's spouse as a social support person and found that increased maternal support buffered the effects of the mother's depressive symptoms on the preschool child's behavior, but had no effect if she was severely depressed. Black et al (2002) found that the role of the grandparent in buffering the child was not beneficial in protecting the preschool child from the effects of maternal depression. Only one study was found that investigated the role of non-maternal care (day care) in the development of a preschool child's behavior (Cote et al., 2007). This large Canadian study found a decrease in preschooler's development of behavioral problems, especially if initiated prior to the child being 9 months of age (Cote et al., 2007). A methodological weakness was the study used instruments that lacked validity and reliability.

Summary of Findings

Preschool behavioral problems are difficult to define because of the rapid developmental changes that occur during the preschool years. Individual differences in a typical child's emotional and behavioral development can be identified as a major symptom of a mental health problem, when in actuality the child has not yet developed a

needed skill (such as impulse control). Additionally, the behaviors being displayed by the preschool child may be a reflection of the environment in which the child is being raised. Many caregiver factors, especially depressive symptoms, have been examined and have been found to be associated with the preschool child's behavioral problems. Very few studies, however, have attempted to determine if the female caregiver's rating of the child's behavior was distorted because of her depressive symptoms. Only a few studies used a theoretical framework to examine factors that may affect a preschool child's behavior and no studies were found that investigated the role of family typology on the preschool child's behavior and behavior rating.

CHAPTER III

Methodology

This chapter summarizes the methodology used in this cross-sectional, correlational study to explore the family and individual factors associated with the primary female caregivers' appraisals of their children as having behavioral problems, the level of risk of children having a behavioral problem, and the role of social support as a moderator of depression on the female caregivers' appraisals of their preschool children's behaviors and the children's level of risk of having behavioral problems.

Setting and Sample

The setting for this study was The Early Learning Center in Baldwin County, which was a rural Head Start preschool with 330 students located in Milledgeville, Georgia. Most of the incomes of the families at this preschool fell below state poverty levels. In Baldwin County at the time of this study, 97.8 % of the population was reported to be of Caucasian (54.9%) or African American descent (42.9%) (U.S. Census Bureau, 2007).

Inclusion Criteria. Because recruitment of male caregivers of young children is problematic in most research studies (Sherr, Dave, Lucas, Senior, & Nazareth, 2005), only female caregivers were included in this study. The main criterion for inclusion was that the female participants were caregivers of preschool-aged children. Since family compositions are varied in the United States, for the purposes of this study, the child's

primary female caregiver was defined as a female adult who lived with the preschool child and was directly involved in the child's daily care. This female caregiver potentially included the grandparent, biological parent, adoptive parent, relative, or foster parent of the preschool child.

The participants had to be able to speak and understand English. No participants needed assistance to complete the surveys because of reading difficulties or visual problems. The female caregivers who had more than one preschool child in the school were instructed to conduct their behavior rating for the preschool child that concerned them the most.

Exclusion Criteria. Exclusion criteria included female caregivers that were less than 18 years of age, as they were undergoing their own developmental processes. Only one potential participant was excluded because she was less than 18 years of age.

Sample Size. The sample size was determined with Warner's decision rule for calculating sample sizes for multiple regression analyses with a power of .80 and an alpha of .05 (Warner, 2008) to test the significance of R^2 with a medium effect ($f2$ -.15) the total N required was 104 +k where k was the number of independent variables. In this study, sample size was based on research question seven, which was the most complex research question, having 13 independent variables. Based on Warner's formula, the sample size needed for this study was 117 female caregivers.

Instruments

The following section discusses the instruments that were used in this study. Table 2 is an overview of these instruments.

Table 2

Variables, instruments, and measurements

Variables	**Instruments**	**Generated Measurements**
Risk of Behavioral Problem	BASC-2 BESS Behavior Assessment Scale for Children-2 Behavioral and Emotional Screening System	This instrument used interval/ratio levels of measurement. Possible raw scores range from 30 to 120. Age normative comparative tables were used to determine T-score. Two classifications of the child's behavior were formed from the t-score: normal (T-score < 60) and elevated risk (T-Score between ≥ 61).
Distortion in Female Caregiver's Behavioral Ratings	BASC-2 BESS Validity Indices	Validity indices were calculated according to standardized rules. Consistency Index (different answers on similar items), F-Index (portrays child as overly negative or positive), Pattern Response Index (repeated response). Results were reported as acceptable or caution. These results were considered nominal level data. When used as a control variable, it was dichotomized as not distorted (acceptable) vs. distorted (caution).
Female Caregiver Appraisal of Child Behavior	Score on the Behavior Comparison Scale + score on the Bothersome Scale	Both scales were one-item Likert scales asking the female caregiver to rank their child's behavior compared to other children's behavior and to rank how much that behavior bothers them. Values between 1 (poorly behaved or very bothersome) and 10 (very well behaved or not upsetting) were possible on both items. Items were summed to obtain a total appraisal score and treated as interval/ratio level data.
Female Caregiver Comfort in parenting	Caregiver Comfort Scale	Female caregivers ranked their comfort level in parenting children compared to other caregivers of preschool children on a Likert scale. Value between 1 (very uncomfortable) and 10 (very comfortable).

(Table 2 continues.)

(Table 2 continued.)

Variables	Instruments	Generated Measurements
Family Typology	Family Hardiness Index (FHI)	Family Hardiness Index had a possible range in scores from 0 to 60 with higher scores indicating higher family hardiness. This instrument used interval/ratio levels of measurement.
	Family Coping Coherence Index (FCCI)	Family Coping Coherence Index yielded interval/ratio data and had a range in scores from 4 to 20 with higher scores representing higher family coherence. Four family types were formed from the results of the FHI and FCCI using median splits: Regenerative (↑ hardiness, ↑ cohesion), Durable, (↓ hardiness, ↑ cohesion) Secure (↑ hardiness, ↓ cohesion) Vulnerable (↓ hardiness, ↓ cohesion)
Depressive Symptomatology	Center for Epidemiologic Studies Depression Scale (CES-D)	This 20 item instrument yielded interval/ratio data and had a possible range of scores from 0 to 60. Higher scores indicated the presence of more depressive symptomatology.
Social Support	Social Support Index (SSI)	The SSI was a 17-item Likert-type scale that yielded interval/ratio level data. Possible scores ranged from 0 to 68 on the instrument. Higher scores indicated greater social support.
Female Caregiver Perceived Daily Stress	Perceived Stress Scale (PSS)	The PSS was a 10-item Likert-type scale that yielded interval/ratio level data. Possible scores ranged from 0 to 40 with higher scores indicating higher levels of stress.
Female Caregiver Parenting Stress	Parenting Stress Index – Short Form (PSI-SF)	This instrument yielded interval/ratio data for Total Parenting Stress and subscale scores for Parental Distress, Parent-Child Dysfunctional Interaction, and Difficult Child. The range of possible scores on the total form was from 36 to 180 and on each of the subscales. Scores can range from 12 to 60. Higher scores indicated higher parenting stress.

Risk of Behavioral Problems

The primary female caregiver was asked to complete the Behavior Assessment Scale for Children-2 Behavioral and Emotional Screening System (BASC-2 BESS) preschool version on her child. The BASC-2 BESS was designed to evaluate the behavioral and emotional strengths and weakness of the preschool child. The BASC-2 BESS yielded a total raw score and validity indexes scores. Age and gender based normative tables were used to determine the T-score and percentile rank from the child's raw score (Furlong & O'Brennan, 2007). Using the T-score, the child was classified as having normal risk (T-score of 60 or below), elevated risk (T-score ranging from 61-70), or extremely elevated risk (T-score of 71 or higher) of having behavioral problems (Furlong & O'Brennan, 2007).

Initial reliability and validity data were obtained from August 2002 to May 2004 from testing sites throughout the United States (Reynolds & Kamphaus, 2004). The racially diverse sample was selected based on the 2004 U.S. Census and consisted of 4,600 parents from 233 cities in 40 states (Reynolds & Kamphaus, 2004). Internal consistency reliabilities on the parent report form were high (.90) as were test-retest reliabilities based on intervals ranging from 0 to 88 days (ranged from .80 to .91) (Furlong & O'Brennan, 2007; Reynolds & Kamphaus, 2004). Interrater reliability between parents was .83 (Reynolds & Kamphaus, 2004). Content validity was established using teachers and parents in initial item development (face validity) followed by approval from psychologists (expert validity) (Reynolds & Kamphaus, 2004). Construct validity was completed with a factor analysis and determination of the BASC-2 BESS accuracy in detecting children with known psychiatric problems (Reynolds &

Kamphaus, 2004). The BASC-2 BESS parent version was highly correlated with the parent versions of the Child Behavior Checklist 1.5-5/LDS (.71) and the parent version of the Conners' Rating Scales (.62) (Furlong & O'Brennan, 2007; Reynolds & Kamphaus, 2004).

The parent rating form had 30 questions that are both positively and negatively worded to which the rater marked the frequency rate for the described behavior on a 4 point scale (1- never, 2- sometimes, 3- often, 4- almost always) (Reynolds & Kamphaus, 2004). Every item on the BASC-2 BESS had been analyzed for gender and ethnic inconsistencies and identified items were dropped from the final scale (Reynolds & Kamphaus, 2004). The authors estimated that the BASC-2 BESS could be completed in five minutes (Reynolds & Kamphaus, 2004). Internal consistency reliability for the BASC-2BESS in this study was acceptable at .88 (Di Lorio, 2005).

Distortion in Female Caregiver's Behavioral Ratings. The BASC-2 BESS also included Validity Indexes that identified ratings that suggested questionable or distorted responses from the participants (Reynolds & Kamphaus, 2004). The indices included a Consistency Index which reviewed the respondents' answers to make sure they were consistent on similar items, an F-Index which indicated if the respondent was portraying the child as overly good or overly bad, and a Pattern Response Index which looked for repeated response patterns (Reynolds & Kamphaus, 2004). Each index yielded a raw score and was reported as acceptable, caution, caution low, caution high, and extreme caution according to established scoring for the instrument. For the purposes of this study, the validity measures were used as a measure of how the female caregiver's behavior ratings were distorted. A dichotomy was created based on scoring of any type of

caution or acceptable on any of the indices of the BASC-2 BESS. A caution was considered as a distortion in the behavioral rating.

Female Caregiver Appraisal of Child Behavior

To assess appraisal, female caregivers were asked to compare their children's behavior to the behavior of other preschool children. In keeping with the ladder design used in the MacArthur Sociodemographic Questionnaire which will be discussed later, the caregiver indicated where on the 10-rung ladder her child's behavior fit compared to other preschool children, with the first rung representing a poorly behaved child and the 10^{th} rung a well behaved child. The female caregiver was also asked to rate how bothersome or upsetting their child's behavior was to her (1^{st} rung – very bothersome/upsetting to 10^{th} rung – not bothersome/upsetting). For each of the likert format questions, the caregiver's responses could range from 1 to 10. The scores for the two items were summed and the total scores were then used in the data analysis.

Female Caregiver Comfort in Parenting

To assess the female caregiver's comfort in parenting her preschool child, the caregiver was asked to rate on a likert scale (ladder designed as above) how comfortable she was in parenting her preschool child (1^{st} rung – very uncomfortable to 10^{th} rung – very comfortable). This score was used in the data analysis.

Demographic Data

To examine the sociodemographics of the participants, the MacArthur Sociodemographic Questionnaire was used. This instrument was designed to assess the social status of participants in poorer communities (Adler & Stewart, 2007). It asks the participants to place an "X" on a 10-rung ladder that indicates where they felt they stood

on a traditional socioeconomic status indicator and where they feel they stood based on their position in their own community (Adler & Stewart, 2007). In poorer communities where participants may not rank high on traditional socioeconomic factors, their subjective view of their social standing in their community (religious etc) was correlated with several health outcomes including depression, cardiovascular risk, and obesity (Adler & Stewart, 2007; Goodman et al., 2001; Ostrove, Adler, Kuppermann, & Washington, 2000). The MacArthur Sociodemographic Questionnaire also included a measure of wealth, which indicated the family's ability to continue to meet its needs in the event of an unexpected hardship (loss of job) (Stewart, 2002). Additional demographic information not included in the MacArthur Questionnaire were collected on the female participants including their age, race, marital status, smoking status, alcohol use, diagnosis of an emotional or behavioral problem in the preschool child, and the presence of another child in the home that had a diagnosis of an emotional or behavioral problem. The female participant was also asked if she had ever been diagnosed with depression and if she had used any medications for the depression. This information was used to describe the sample and for later data analysis.

Family Typology

Established patterns of functioning are a family's typology that can be measured and quantified into levels of hardiness and cohesiveness (McCubbin et al., 1996). Family hardiness was measured using the Family Hardiness Index (FHI), which took approximately 10 minutes to complete. The FHI measured the internal strengths and durability of the family (McCubbin et al., 1996) and consisted of 20 items with a Likert-type response scale (false -0, mostly false -1, mostly true – 2, true – 3, not applicable –

0). The 20 items reflected three main sub-scales: Commitment, Challenge, and Control. Possible scores ranged from 0 to 60 with higher scores indicating higher family hardiness. No normative or cutoff scores were established (McCubbin et al., 1996). Comparative data are available for the instrument. Cronbach's alpha coefficients for the total scale range from .81 in Icelandic families dealing with childhood cancer (Svavarsdottir & Sigurdardottir, 2006) to .80 for families dealing with childhood cancer in the U.S. (Mellon, Northouse, & Weiss, 2006) and .84 in families dealing with stroke patients (Clark, 2002). Internal consistency reliability in this sample was satisfactory at .86 (Di Lorio, 2005). Construct validity was established with positive correlations for three family life scales (McCubbin et al., 1996) with correlations of .22 with Olson, Portner, and Bell's Family Flexibility FACES II, .23 with McCubbin, McCubbin, and Thompson's Family Time and Routines, and .20 with Olson and Barnes' Quality of Family Life (McCubbin et al., 1996). For most research studies using the Family Hardiness Index, the total score on the FHI was used as a continuous variable (Clark, 2002; Hern, Beery, & Barry, 2006; Svavarsdottir & Sigurdardottir, 2006).

The family's cohesiveness was measured using the Family Coping Cohesiveness Index (McCubbin et al., 1996). The FCCI was a four-item instrument which used a 5-point Likert scale ranging from strongly disagree (given the value of 1) to strongly agree (given the value of 5) and scores range from 4 to 20 (McCubbin et al., 1996). Higher scores indicated higher family coherence (McCubbin et al., 1996). It had an internal consistency of .71 with a test-retest reliability of .83 (McCubbin et al., 1996). The authors (McCubbin et al., 1996) have not established cutoff scores. Comparative data

was available for the instrument. Internal consistency for this sample was unsatisfactory at .67 (Di Lorio, 2005).

According to the Resiliency Model of Family Stress, Adjustment, and Adaptation four family types were possible based on family hardiness and family cohesion. The vulnerable family was low on family hardiness and cohesion, while the regenerative family was high in both. The secure family was low in cohesion but high in hardiness and the durable family was low in family hardiness but high in family cohesion. Classifications of families were based on the female caregivers' scores on the FHI and FCCI. Median splits were conducted for both FHI and FCCI and the sample grouped as "low" and "high" for each variable. Female caregivers with high FHI/high FCCI were categorized in the regenerative family typology group and caregivers with low FHI/high FCCI were categorized in the durable family typology group. Female caregivers with high FHI/low FCCI were categorized in the secure family typology group and caregivers with low FHI/low FCCI were categorized in the vulnerable family typology group. Both the FHI and FCCI had been used to examine difference in families dealing with a family member who has a panic disorder with significant differences noted between those families and healthy controls (Batinic, Trajkovic, Duisin, & Nikolic-Balkoski, 2009).

Depressive Symptoms

The Center for Epidemiologic Studies Depression Scale (CES-D) (Radloff, 1977) was used to measure the female caregiver's depressive symptoms. The CES-D was a 20 item, Likert-type scale, which contained items relating to depressed mood and psychological indicators of depressive symptoms. Possible scores ranged from 0 to 60 with higher scores indicating greater depressive symptoms. Scores of 16 or higher

indicated that the participant may be experiencing clinically significant symptoms of depression and were suggest as the research cutoff for depression symptomatology and scores of 26 or more indicated major depressive symptoms (Radloff & Locke, 2000). The form took 5 to 10 minutes to complete. The participant's responses were based on how frequently they had experienced the stated problem in the last two weeks. The CES-D has been used in numerous research studies on parents with Cronbach's alpha coefficients of .92 in a study of low-income single mothers (Peden, Rayens, Hall, & Grant, 2005) and .91 in parents of newly diagnosed children with type 1 diabetes (Streisand et al., 2008). Test-retest reliability is .51-.67 from two to eight weeks (Radloff & Locke, 2000). Construct validity has been established with strong correlations of .50 to .80 having been established with the Hamilton Rating Scale and the Raskin Rating Scale establishing criterion validity (Radloff & Locke, 2000). For this study, scores were treated as a continuous variable so that all levels of depressive symptoms could be analyzed as a female caregiver characteristic that may affect the appraisal of the preschool child's behavior. The Cronbach's alpha of this scale was an acceptable .87 (Di Lorio, 2005).

Social Support

Social support was measured using the Social Support Index, which was a 17-item Likert-type scale (McCubbin et al., 1996) scored from "strongly disagrees" (score of 0) to "strongly agrees" (score of 4). The Social Support Index (SSI) reflected the degree families receive support from their community. Possible scores ranged from 0 to 68 with higher scores indicating greater community support. The SSI has been used in numerous studies with Cronbach's alpha of .77 for families of cancer patients (Mellon et al., 2006)

and it has a test-retest reliability of .83, however, no time frame was indicated (McCubbin et al., 1996). Construct validity was established with a .40 correlation with measures of family wellbeing (McCubbin et al., 1996). The scale took 5 minutes to complete and was used as a continuous variable in this study. The Cronbach's alpha of the total scale in this sample was an acceptable .83 (Di Lorio, 2005).

Perceived Daily Stress

The female caregiver's perceptions of her daily life stress were measured using the Perceived Stress Scale (PSS) (Cohen & Williamson, 1988). This 10-item likert-type scale has been used in numerous studies to measure the participants appraisals of their lives as stressful (0 = never to 4= very often). Possible scores ranged from 0 to 40 with higher scores indicating higher levels of stress. In a 2006 study, the psychometrics of the PSS were updated using 285 college students (Roberti, Harrington, & Storch, 2006), which found the internal consistency of this instrument to be .89 and support for convergent validity with the State-Trait Anxiety Inventory – trait version with strong correlations (.62 to .73). For the purposes of this study, scores on the PSS were treated as a continuous variable so that all levels of perceived stress could be analyzed. Cronbach's alpha for the sample was an acceptable .83 (Di Lorio, 2005).

Parenting Stress

The female caregiver's perceptions of her level of stress in her parenting role were measured using the Parenting Stress Index – Short Form (PSI-SF) (Abidin, 2005). The PSI-SF consisted of 36 questions which were Likert-scaled from 1 to 5 (1= strongly disagree, 5= strongly agree) (Reitman, Currier, & Stickle, 2002). It yielded a total parenting stress score and three subscale scores (Parental Distress, Parent-Child

Dysfunctional Interaction, and Difficult Child) each derived from 12 questions (Anthony et al., 2005). Parental Distress reflected the female caregiver's perceptions of her childrearing competence, conflict in her relationship with her spouse/partner, perceived social support, and stress from the restrictions of caring for a child (Anthony et al, 2005). The Parent-Child Dysfunctional Interaction reflected the amount of positive feelings a female caregiver receives from the interactions she has with the child and the degree to which the child meets her expectations (Anthony et al., 2005). The Difficult Child subscale reflected the female caregiver's view of the child's temperament, defiance, and overall demanding characteristics the child possesses (Anthony et al., 2005). Possible range of scores on the total form was from 36 to 180 and on each of the subscales, scores could range from 12 to 60 (Reitman et al., 2002). Higher scores indicated greater parenting stress (Haskett, Ahern, Ward, & Allaire, 2006).

The PSI-SF was derived by factor analysis from the 120-item Parenting Stress Index and strong correlations between the short form and the full version have been reported (total stress score .94, parent distress .92, difficult child .87, and parent child dysfunctional interaction .73) (Reitman et al., 2002). Initial internal consistency assessed on primarily White (87%), married (88%) mothers of preschool children was strong (total stress .91, parental distress .87, parent-child dysfunctional interaction .80, and difficult child .85) (Ippen, Kuendig, & Mayorga, 2005). The PSI-SF has been used in several large studies of low-income African American caregivers. Anthony et al (2005) used the PSI-SF on 307 majority African American, single, low-income mothers of preschoolers in Head Start Program with internal consistency of .92 for the total scale, parental distress .85, parent-child dysfunctional interaction .87, and difficult child .84. These findings

were very similar to those reported in a study of 192 primarily minority (85% African American), single, low socioeconomic status participants from the rural Southeast region of the United States (Reitman et al., 2002).

The PSI-SF was designed to be administered in less than 10 minutes, was written on the 5th grade reading level and was designed for use on caregivers of children under the age of 12 (Anthony et al, 2005). The instrument was able to discriminate between caregivers with a history of child abuse from caregivers with no history of abuse and did correlate with parent reports of child behaviors one year after initial testing (Haskett et al., 2006). Test-retest reliability was reported as .84 for the total score, .85 for Parental Distress, .68 for Parent-Child Dysfunctional Interaction, and .78 for the Difficult Child subscale. The Cronbach's alpha of the total scale in this sample was an acceptable .95 and the subscales had the following Cronbach's alphas: Parent Distress was .90 (n =111), Parent Child Dysfunctional Interaction was .88 (n =110) and Difficult Child was .90 (n =105) (Di Lorio, 2005).

Procedures

Consent of the Baldwin County Board of Education and Georgia State University Institutional Review Board (IRB) was obtained prior to beginning the recruitment of participants for this study. Recruitment of the primary female caregiver participants occurred during a parent-child field day and a parent-teacher orientation in May, 2010. The principal investigator met with all volunteering participants that self-reported that they met the study's eligibility criteria (female caregiver of a preschool child, over age 18, and understands spoken English). During the meeting, participants were informed of all aspects of the study including time commitment and their right to withdraw at any

time without prejudice. They were assured of strict confidentiality in data collection, analysis, and reporting of the findings. Informed written consent to participate was obtained from those interested in participating in the study. The female participant was informed that the information she provided would be kept confidential to the extent allowed by law. She was informed that the principal investigator had to abide by her legal responsibility to report to Baldwin County's Department of Child and Family Services any suspicions of abuse or neglect that might have arisen in the context of the interview or data collection.

A unique identification number was assigned to each of the participants. All study instruments were marked only with the unique identification numbers. Only the principal investigator had access to the ledger that matched the participant's identity with her participant number. The ledger was kept separate from the study's instruments under lock and key at the principal investigator's office.

The participant was given the option of completing the study instruments immediately, returning them later to the principal investigator, or dropping them off at the preschool. All of the participants completed them immediately. None of the participants needed additional help reading the instruments. Total time for administration of the questionnaires averaged approximately 30 minutes. Upon receipt of the completed surveys, each participant was given a gift bag containing a five-dollar gift card to Wal-Mart and preschool health related educational materials.

Several of the study's instruments were screening tools for mental health issues. As per the protocol established by the Institutional Review Board, any participant ($n = 9$) whose data indicated a possible mental health issue was informed by a phone call from

the primary investigator and, if needed or requested by the participant ($n = 3$), referral was made to the Early Learning Center's social services. The participants were encouraged to contact their primary care provider or one of the providers on a list of names given to the participant during the consent process. Three of the nine had phones that were no longer in service and could not be contacted directly by the primary investigator. All nine participants that were in need of additional help had scores above 25 (cut-off for major depressive symptomatology) on the depression scale (CES-D) (Radloff & Locke, 2000). One participant had, in addition to elevated CES-D scores, a markedly elevated score on the Parenting Stress Index, which placed her at high risk for major parenting difficulties and the child at high risk for physical harm. This mother was referred to her primary care provider and arrangements were made directly with the Early Learning Center for the mother to receive additional social services. None of the participants needed immediate referral to mental health services.

Data Analysis

Data analysis began with an examination of missing data and standard data cleaning. Exploratory analysis was done to identify any issues with the data. Internal consistency reliability of all the instruments was determined for this sample. All interval/ratio variables were assessed for normality and measures of central tendency. Descriptive statistics were used to describe the demographics of the sample. Any instrument that was not completed fully by the participant was not used in the final analysis if greater than 20% of the data was missing. If less than 20% of the data on a single scale were missing, mean sample replacement was used when possible to replace

that data on the single scale. Statistical assumptions for all statistical tests were examined prior to addressing the research questions.

Analysis Plan for Research Questions

Research question 1: Will the female caregivers' appraisals of children's behavior differ by family typology?

Approach: To explore this research questions, the family's typology was determined based on the participant's rating of her family's hardiness on the Family Hardiness Index (FHI) and cohesiveness on the Family Coping Coherence Index (FCCI). In order to form groups, a median split was used on the FHI data and the FCCI data. Those participants that rated their family as high in hardiness and high in cohesiveness formed the regenerative/resilient family group. Those participants that rated their family as high in hardiness but low in cohesiveness formed the secure family group and participants that rated their family as low in hardiness but high in cohesiveness formed the durable family group. Any family rated as low in hardiness and low in cohesiveness was placed in the vulnerable family group. The female caregivers' appraisals of their children's behaviors were based on the ratings of their children's behaviors and how bothersome those behaviors were to them.

After forming the four family types, a one-way ANOVA was used to determine if female caregivers' appraisals differed by family type. Prior to beginning the analysis the data were examined to determine if it met the assumptions for ANOVA. If the overall F for the one-way ANOVA was statistically significant, post hoc testing was conducted using Tukey's HSD tests.

Research question 2: Will distortion in female caregivers' behavioral ratings differ by family typology?

Approach: distortion was determined based on the results of the Validity Indexes of the BASC-2 BESS. If one of the three indexes indicated a caution area, it was treated as a distorted rating. As this rating was nominal level data and family typology was nominal level data, a chi-square analysis was conducted to determine if a significant association occurred between distortion in female caregivers' behavioral ratings and family typology.

Research question 3: Will level of risk of children having a behavioral problem differ by family typology, controlling for distortion in caregivers' behavioral ratings?

Approach: The four family typology groups were determined as stated in research question I. The level of risk of having a preschool child with a behavioral disorder was determined based on the results of the BASC-2 BESS. A one-way ANCOVA was used to determine if level of risk of children having a behavioral problem differed by family typology. Prior to beginning the analysis the data were examined to determine if they met the assumptions for ANCOVA. Distortion in caregivers' behavioral ratings was used as a control variable in the analysis. If the overall F for the one-way ANCOVA was statistically significant, post hoc testing was conducted using Tukey's HSD tests to assess which group's adjusted means significantly differed from each other.

Research question 4: Are there relationships between female caregiver age, race, marital status, educational level, social status, depressive symptoms, caregiver comfort in parenting, perceived daily stress, perceived parenting stress, and female caregivers' appraisals of children's behavior?

Approach: To explore this question, a simultaneous multiple linear regression was done to determine if there were any relationships between the various female caregiver demographic characteristics, depressive symptomatology, stress levels (daily stress and parenting stress), comfort in parenting, and the female caregivers' appraisals of children's behaviors. Regression results indicated the amount of variance *(R^2)* that could be explained by the variables. Statistically significant beta weights indicated if a significant relationship existed between the independent variable and female caregivers' appraisals of children's behavior, controlling for the other independent variables in the model.

Research question 5: Are there relationships between female caregiver age, race, marital status, educational level, social status, depressive symptoms, caregiver comfort in parenting perceived daily stress, perceived parenting stress, female caregivers' appraisals of children's behavior, and level of risk of children having a behavioral problems, controlling for distortion in female caregivers' behavioral ratings?

Approach: To explore this question, a simultaneous multiple linear regression was done to determine if there is a relationship between the various female caregiver demographic characteristics, depressive symptomatology, stress levels (daily stress and parenting stress), and female caregivers' appraisals of children's behavior, and level of risk of children having behavioral problems, controlling for distortion in caregivers' behavioral ratings. Regression results indicated the amount of variance *(R^2)* that could be explained by the variables. Statistically significant beta weights indicated if a significant relationship existed between the independent variable and female caregivers' appraisals of children's behavior, controlling for the other independent variables.

Research question 6: Does social support buffer the effects of female caregiver depressive symptoms on female caregivers' appraisals of children's behavior controlling for caregiver age, race, marital status, educational level, social status, caregiver comfort in parenting, perceived daily stress, and perceived parenting stress?

Approach: A hierarchical linear regression was done to determine social support's effects on female caregiver depressive symptoms as it related to the caregivers' appraisal of children's behaviors. The control variables of female caregiver age, race, marital status, educational level, social status, caregiver comfort in parenting, perceived daily stress and parenting stress were entered at the first step. Depressive symptoms and social support were entered at the second step and depressive symptoms interaction with social support was entered at the last step. A significant change in R^2 from step 2 to 3 would support that social support moderated the effect of depressive symptoms on female caregivers' appraisals of children's behaviors. Further examination of the appraisal scores would indicate if social support had a buffering effect.

Research question 7: Does social support buffer the effects of female caregiver depressive symptoms on level of risk of having a behavioral problem controlling for caregiver age, race, marital status, educational level, social status, caregiver comfort in parenting, perceived daily stress, perceived parenting stress, appraisals of children's behavior and distortions in caregivers' behavioral ratings?

Approach: A hierarchical linear regression was done to determine social support's effects on female caregiver depressive symptoms as it related to the risk of having a behavioral problem in the preschool child. The control variables of the female caregiver's age, race, marital status, educational level, social status, caregiver comfort in

parenting, perceived daily stress and parenting stress, appraisals of children's behavior, and distortions in the female caregivers' behavioral ratings were entered at the first step. Depressive symptoms and social support were entered at the second step and depressive symptoms interaction with social support was entered in the last step. A significant change in R^2 from step 2 to 3 would support that social support moderated the effect of depressive symptoms on level of risk of having a behavioral problem. Further examination of the risk scores could indicate if social support had a buffering effect.

Summary

This chapter reviewed how the Resiliency Model of Family Stress, Adjustment, and Adaptation was used in this non-experimental, cross-sectional, correlational designed study to explore the family and individual factors associated with the primary female caregiver's appraisal of her child's behavior, the extent to which the primary female caregiver's appraisal of her child's behavior may be distorted and the child's level of risk of having a behavioral problem. Details of the instruments and procedures that were used in the study were also discussed. This discussion was followed by a review of the data analysis plan.

CHAPTER IV

Results

The results of this cross-sectional, correlational study of the factors influencing the female caregivers' appraisals of their preschool children's behaviors are discussed in this chapter. Findings reported here include descriptive information concerning family caregivers, preschool children, reliability of the instruments, and data addressing the research questions.

Data screening was performed prior to conducting the statistical analyses. Data were verified using a double entry method where two separate data bases are created and compared. Any discrepancies were reconciled with the participants' original data. Examination of all continuous variables was conducted to determine distribution using descriptive statistics for central tendency and Fisher's exact for skewness and kurtosis, histogram, Q-Q normality plots and Kolmogorov-Smirov test and Shapiro-Wilk test.

The study's instruments were examined for missing data. When participant's had less than 20% of the scores missing on the Family Hardiness Index (FHI) (n = 9), Social Support Index (SSI) (n = 5), Perceived Stress Scale (PSS) (n = 7), Center for Epidemiological Survey – Depression Scale (CES-D) (n = 13), the sample means were substituted for those missing items (Shrive, Stuart, Quan, & Ghali, 2006). Some scores were not used as greater than 20% of the data were missing (SSI (n = 1), CES-D (n = 1)). The Behavior Assessment Scale for Children 2, Behavioral and Emotional Screening

System's (BASC-2 BESS) authors supplied standardized replacement values for substitution of missing scores on their instrument (n = 7) (Kamphaus & Reynolds, 2007). One of these participants had greater than 6 items missing on the BASC-2 BESS and her scores were not used. The seven participants missing items on the Parenting Stress Index (PSI) all had more missing than acceptable according to the instrument's authors (Abidin, 1995).

Prior to analyses of the research questions, the variables were analyzed to see if they met the assumptions for an ANOVA and linear regression. No violations were noted; the dependent variables, Risk of Behavioral Problems and Appraisal of Behavior, were normally distributed in this sample and each participant made her own independent appraisal of the child's behavior, all family types were mutually exclusive, and the Levene tests were not significant indicating homogeneity of the variances of the family types on the dependent variables (Munro, 2005).

Sample Characteristics

The sample consisted of 117 female caregivers that were recruited during two preschool functions at the Early Learning Center in Baldwin County Georgia, which serves as the areas only public head-start and pre-K facility (ages 3-5 years) with an enrollment of 330 preschool children. None of the approached female caregivers refused to participate.

The study participants, as shown in Table 3, were primarily African American (82.8%). Two participants were Hispanic and one participant was Native American. As a result of the small number of other ethnic participants, these three participant's scores were included with the Caucasian group. Most of the participants had a high-school

degree (84.3%) and nearly a third of the participants were laid off or looking for work (27.5%). Ten of the caregivers (8.5%) had a previous diagnosis of depression and nine of them were taking an antidepressant at the time of the study.

Due to variations in family composition in the United States, study criteria was not limited to only biological mothers of the preschool children; therefore, the ages of the participants ranged from 19 to 62 years with a mean age of 30.3 (SD = 9.8) as some participants were the grandmothers of the preschool children. With the exception of age, there were no statistically significant differences between the biological mothers (n = 104) and the other female caregivers (n = 13) on race, marital status, years of education, status in the community, comfort in parenting, perceived daily stress, depressive symptomatology, parenting stress, distortion in behavioral ratings, level of risk of behavior problems, and appraisals of behavior. Female caregivers that were not the biological mother were statistically significantly older (M = 48.9, SD = 12.3) than the biological mothers (M = 28.0, SD = 6.4) t (12.8) = -6.1, $p < .01$.

Examination of the variable age found that it was not normally distributed in this sample. Fisher's exact skewness statistic was 7.2, for kurtosis it was 5.2 and the other normality assessments supported that the data were not normally distributed. Analysis of the data indicated there were 11 outliers, 8 of which were female caregivers that were not the biological mothers. As removing their data would decrease the power of the analysis and there were no other significant differences between the groups on any variables other than age, a statistical correction using an inverse natural logarithm was performed on the variable as recommend by Tabachnick & Fidell (2006) for severely skewed data. The resulting mean was 0.04 (SD = 0.01). The Fisher's measure of skewness was -1.8 and

kurtosis was -1.0, both were under the 1.96 suggested by Munro (2005). All research questions that used this variable were examined using the variable prior to transformation and after the inverse log transformation to ascertain any possible differences, there were none.

Of the 117 preschool children that were rated in this study by their caregivers, 58 were male and 59 were female and they had a mean age of 4.4 (*SD* = 0.7) years. Two of the study's children (both males) had a formal diagnosis of an emotional or behavioral problem. The majority of the caregiver's were caring for more than one child (76.1%), but only eight of these siblings had a formal diagnosis of an emotional or behavioral problem meaning the majority of the participants (93.2%) may not have had first-hand knowledge of dealing with a child with an emotional or behavioral problem in the home.

Table 3

Demographic Characteristics of the Female Caregivers

Variables	*N*	(%)	Mean	*(SD)*	Range
Age	116		30.32	(9.8)	19 – 62
Inverse Log Age			0.04	(0.0)	0.02-0.05
Ethnicity	116				
African American	96	(82.9)			
White	17	(14.5)			
Hispanic	2	(1.7)			
Native American	1	(0.9)			
Relationship to Child	117				
Mother	104	(88.8)			
Grandmother	6	(5.1)			
Aunt	3	(2.6)			
Adoptive Mother	1	(0.9)			
Foster Mother/Guardian/Other	3	(2.6)			

(Table 3 continues.)

(Table 3 continued.)

Variables	*N*	*(%)*	Mean (*SD*)	Range
Marital Status	116			
Single/divorced/separated/widowed	75	(64.7)		
Married/living with another	41	(35.3)		
Years of Education	117		12.6 (2.1)	8 - 19
Did not finish High school	18	(15.7)		
High school/ GED	65	(56.5)		
Associate Degree	18	(15.7)		
Bachelor Degree	5	(4.3)		
Master Degree	4	(3.5)		
Other	5	(4.3)		
Work Status	116			
Employed fulltime	52	(44.9)		
Employed part-time	9	(7.8)		
Laid off/looking	32	(27.5)		
Keep child full time	19	(16.4)		
Retired	4	(3.4)		
Total Yearly Family Income	117			
< $5000	17	(14.5)		
$5000-15,999	25	(21.4)		
$16,000-24,999	18	(15.4)		
$25000- 49,999	16	(13.7)		
$50,000-99,999	11	(9.4)		
Don't know	12	(10.2)		
Prefer not to respond	18	(15.4)		
Preschool Child Information				
Age of Child	117		4.4 (0.7)	2.8 – 5.8
Sex of Child	117			
Male	58	(49.6)		
Female	59	(50.4)		

Note. Participant numbers may vary from 117 as not all caregivers answered all questions.

Description of Research Instruments

This section describes the study instruments, reliability in this sample, the mean scores and standard deviations, the percentage of the study participants above the normal range, and procedures for handling missing data (Table 4). Instruments used as

continuous variables were normally distributed except for the Centers for Epidemiological Studies – Depression Scale (CES-D), Parenting Stress Index (PSI), and Comfort in Parenting.

Table 4

Description of Research Instruments

Variable	*M (SD)*	Observed Range	Possible Range	Cut-off or normative values	Cronbach's Alpha
Social Support Index (SSI)	48.2 (8.7)	17-68	0-68	N/A	0.83
Perceived Daily Stress-Perceived Stress Scale (PSS)	12.7 (6.6)	2-32	0-40	13.7 normative for females 43.6% scored above 13	0.83
Center for Epidemiological Studies – Depression Scale (CES-D)	10.2 (9.3)	0-48	0-60	>16 research cut-off - 23.9% scored above 16	0.87
Log Depression symptoms	0.9 (0.4)	0-1.7		> 25 major depressive symptoms - 7.7% scored above 25	
Risk of Behavioral Problem BASC-2 BESS	44.6 (8.7)	30-65	30-120	T-score > 60 – elevated risk 6.9% scored above 60	0.88
Parenting Stress Index (PSI)					
Total Scale	58.8 (20.6)	36-153	36-180	Totals > 85 indicated high levels of parenting stress 8.7% scored above 85	0.95
Parent Distress subscale	21.9 (9.1)	12-56	12-60		0.90
Parent-Child Difficult Interaction subscale	16.6 (6.1)	12-40	12-60		0.88
Difficult Child subscale	20.7 (8.4)	12-57	12-60		0.90
Family Typology					
Family Hardiness Index (FHI)	49.3 (8.2)	26-60	0-60	N/A	0.86
Family Coping Coherence Index (FCCI)	12.4 (2.6)	1-16	0-16	N/A	0.67

(Table 4 continues.)

(Table 4 continued.)

Variable	*M (SD)*	Observed Range	Possible Range	Cut-off or normative values	Cronbach's Alpha
Comfort in Parenting	8.72 (1.7)	1-10	1-10	N/A	N/A
Comfort in Parenting LOG TRANSFORMED (reflected)	0.3 (0.3)	0-1	0-1		
Appraisal of child's behavior	15.0 (3.9)	6-20	1-20	N/A	N/A

Social Support Index. Social support was measured using the Social Support Index, which was a 17-item Likert-type scale (McCubbin et al., 1996). The SSI reflected the degree families received support from their community and the scores ranged from 17 to 68 with higher scores indicating greater community support. Cronbach's alpha for the sample was an acceptable 0.83 (Di Lorio, 2005).

Perceived Daily Stress. The female caregiver's perceptions of daily life stress were measured using the 10-item, Likert-type Perceived Stress Scale (PSS) (Cohen & Williamson, 1988). Scores ranged from 2 to 32 with higher scores indicating higher levels of stress. National normative mean score for females is 13.7 ($SD = 6.6$) (Cohen, 1994). The mean score, in this study, was 12.7 ($SD = 6.6$) which was lower than the established norm, but 51 participants (43.6%) did score above 13 indicating higher stress levels. Cronbach's alpha for the sample was an acceptable 0.83 (Di Lorio, 2005).

Center for Epidemiologic Studies Depression Scale. The 20-item Center for Epidemiologic Studies Depression Scale (CES-D) (Radloff, 1977) was used to measure the female caregiver's depressive symptoms. Scores of 16 or higher was the recommended research cut-off score and it indicated that the participant may be experiencing clinically significant symptoms of depression; additionally, scores of 26 or

more indicated major depressive symptoms (Radloff & Locke, 2000). Scores ranged from 0 to 48 in this sample and 28 participants (23.9%) had scores of 16 or higher and 9 (7.7%) of these had scores of 26 or higher indicating major depressive symptomatology. Cronbach's alpha for the sample was an acceptable 0.87 (Di Lorio, 2005).

Analysis of the CES-D indicated that Fisher's measure of skewness was 6.2 and Fisher's measure of kurtosis was 4.7, which were well above the 3.3 recommended by Tabachnick & Fidell (Munro, 2005; Tabachnick & Fidell, 2006) and the other normality assessments supported that the data were not normally distributed. Since this variable was positively skewed, data transformation began with a natural log transformation. There were scores of zero on the CES-D and, as a result, one point was added to all the scores prior to doing the log transformation (Munro, 2005). Results indicated that the mean was 0.9 ($SD = 0.4$) and Fisher's measure of skewness was now 2.2 and kurtosis was 0.5 indicating the log transformed data were normally distributed. All analyses using the CES-D were run using both the CES-D before transformation and after the log transformation to determine if there were any differences there were none.

Behavior Assessment Scale for Children 2, Behavioral and Emotional Screening System. Behavior Assessment Scale for Children 2, Behavioral and Emotional Screening System (BASC-2 BESS) was designed to evaluate the behavioral and emotional strengths and weakness of the preschool child. The BASC-2 BESS yielded a total raw score and validity indexes scores. Cronbach's alpha for the sample was an acceptable 0.88 (Di Lorio, 2005).

Risk of Behavioral Problems. The T-scores represented the level of risk for having children with emotional or behavioral problems with higher scores indicating

greater risk (Kamphaus & Reynolds, 2007). T-scores greater than 60 (one standard deviation above the standardized normative mean of 50) indicated elevated risk (Kamphaus & Reynolds, 2007). In this sample, eight mothers (6.9%) identified their preschool children (seven males and one female) as falling into the category of having an elevated risk for emotional or behavioral problems. Risk of behavioral problems was used both categorically (elevated risk to normal risk) and as a continuous variable (T-scores). For the risk of behavioral problems continuous variable, the comparative T-scores for this sample were normally distributed.

Distortion in Behavioral Ratings. Distortion in the Female Caregiver's Behavioral Ratings was determined by the validity indices of the Behavior Assessment Scale for Children-2 Behavioral and Emotional Screening System (BASC-2 BESS). The F-Index is a measure of the caregiver's responses which are overly negative and were endorsed by less than 2% of the standardized respondents (Kamphaus & Reynolds, 2007). To form the F-index respondent scores of "almost always" to a negative behavior were counted. Those respondents with scores greater than three (caution) or four (extreme caution) were combined and considered as having "caution" scores and those respondents with scores of two or less were interpreted as "acceptable" (Kamphaus & Reynolds, 2007). In this sample, 11 participants were identified as having F-indexes categorized into the "caution" category.

The Consistency Index, which identifies inconsistencies in responses to items that are usually answered similarly, was formed using a standardized matrix provided by the instrument's authors (Kamphaus & Reynolds, 2007). The index was formed by summing the absolute values of the scored differences between paired items in the matrix. Scores

less than eight were considered acceptable and scores over eight were considered cautionary. Five participants had scores greater than eight, indicating inconsistencies in their ratings of their children's behavior.

The Response Pattern Index was formed by counting the number of times an item response differed from response to response for each participant and was designed to identify the extreme 1% of respondents scoring at each end of the Response Pattern Index in the normative sample (Kamphaus & Reynolds, 2007). For this sample, two participants were identified as cautionary.

Any participant that scored a caution on any of the indices of the BASC-2 BESS was considered as having a distortion in her behavioral rating of her child. In this sample, 14 participants (12.1%) were identified as having a distortion in their rating of their child's behavior. Four of these participants were identified as having a caution on two of the validity indices and the remaining 10 were identified as having a caution on only one validity index. The validity index that demonstrated the greatest sensitivity in identifying distortion was the F index, where 11 of the participants had a caution score.

Parenting Stress. The female caregiver's perceptions of her level of stress in her parenting role were measured using the 36-item Parenting Stress Index – Short Form (PSI-SF) (Abidin, 2005). It yielded a total parenting stress score. Cronbach's alpha for the total scale in this sample was an acceptable 0.95 and for the subscales Cronbach's alpha was 0.90 for Parent Distress, 0.88 for Parent-Child Difficult Interaction, and 0.90 for Difficult Child (Di Lorio, 2005). Scores higher than the 85% indicate high levels of parenting stress (Abidin, 2005). In this study, 9 caregivers (8.7%) had scores above this level.

The total Parenting Stress Index scores (n = 104) were examined for normality. Fisher's measure of skewness was 5.21 and Fisher's measure of kurtosis was 6.21 and other normality assessments supported that the data were not normally distributed. One participant was found to be an outlier in the distribution with a score greater than three standard deviations above the mean. When this participant's score was not included the variable was normally distributed. Consequently, the participant scores were not included in the analysis.

Family Typology. The 20-item Family Hardiness Index measured the internal strengths and durability of the family (McCubbin et al., 1996) with higher scores indicating higher levels of hardiness. Total scores ranged from 26-60 with no established cut-off scores. Cronbach's alpha for the total scale in this sample was satisfactory at 0.86 (Di Lorio, 2005). The median score for the FHI for this sample was 52 and this value was used as the cut-off to form two groupings: high hardiness group (n = 57) and low hardiness group (n = 60). Of the seven families scoring the median, all were assigned to the high hardiness group.

The 4-item Family Coping Coherence Index (FCCI) measured the families' cohesiveness (McCubbin et al., 1996). Scores could range from 0 – 16 with higher scores indicating higher family coherence (McCubbin et al., 1996). Cronbach's alpha in this sample was unsatisfactory at 0.67 (Di Lorio, 2005). Further analysis revealed that the item "Faith in God" did not vary much between the participants and if this item were deleted from the scale Cronbach's alpha would increase to an acceptable 0.72 (Di Lorio, 2005). Running the analysis without "Faith in God" was not considered appropriate due to the strong cultural reliance on religion for family cohesion and health in African

American families (Banks-Wallace & Parks, 2004; Drayton-Brooks & White, 2004; Lewis, 2008; Wilson & Miles; 2001).

The median score for the FCCI was 13 and this value was used as the cut-off to form two groups: high cohesion ($n = 48$) and low cohesion ($n = 69$). Due to the lack of a standardized cut-off score for the FCCI and with the median of 13 being on the higher end of the possible range (0 – 16), the 27 families that scored the median score were placed in the high cohesion group. All analyzes using family type were also run placing all the families in the low cohesion group to determine if there were differences there were none.

To form the family groups, those families that scored the median or above on the FHI and the FCCI were placed in the Regenerate Family; those families that scored below the median on both were placed in the Vulnerable Family group. Those families that rated their family as high in family hardiness but low in family cohesion were placed in the Secure Family group and those that rated their family as low in hardiness but high in cohesion were placed in the Durable Family group. Table 5 indicates the four family types that were formed using the FHI and FCCI.

Table 5

Family Types created from High and Low Levels of Hardiness and Cohesion

Family Types	N	%
Vulnerable	32	27.4
Durable	25	21.4
Secure	23	19.6
Regenerative	37	31.6
Total	117	

Comfort in Parenting. On the variable Comfort in Parenting, Fisher's measure of skewness was -7.82 and Fisher's measure of kurtosis was 8.20 and other normality assessments supported that the data were not normally distributed (Munro, 2005; Tabachnick & Fidell, 2006). Since this variable was negatively skewed, data transformation began with reflection of the variable by subtracting all of the values for the variable from one plus the value of the maximum value for the variable (10). This resulted in a positively skewed distribution with all values larger than zero (Munro, 2005). Since the scores were reflected, lower scores on this variable now represented greater comfort in parenting and higher scores less comfort in parenting. A log transformation was then performed for this variable. Results indicated that the variable was now normally distributed.

Since Comfort in Parenting was created exclusively for this study and was similar to some of the questions in the Parenting Stress Index (such as "I feel that I am a good parent"), correlations between this variable and the questions in the Parenting Stress Index were examined. Although there were several significant correlations, the strengths of the correlations were low ($r < .49$) (Munro, 2005) meaning the Comfort in Parenting variable was measuring a separate concept than the questions on the Parenting Stress Index.

Results for Research Question 1

Research question 1: Will the female caregiver's appraisals of children's behavior differ by family typology? Family groups formed by the FHI and the FCCI were tested. Table 6 indicates the means for each of the family groups on Appraisal of Behavior. The overall F for the one-way ANOVA was not significant $F(3, 113) = 1.21$, $p = .31$.

Table 6

Means and Standard Deviations of the Family Types on Appraisal of Behavior

Family Type	N	*Mean (SD)*
Vulnerable	32	14.7 (4.1)
Durable	25	14.5 (3.9)
Secure	23	14.5 (3.6)
Regenerative	37	16.0 (3.8)

Results of Research Question 2

Research question 2: Will distortion in female caregivers' behavioral ratings differ by family typology? Research question II was addressed with a chi-square analysis. The dependent variable, Distortion in Behavioral Ratings, was a dichotomous, nominal level variable (acceptable vs. behavioral distortion). Participants who scored a "caution" on any of the validity indices of the BASC 2 BESS were included in the behavioral distortion group (n = 14, 12.1%). Table 7 depicts the characteristics of the participants that had distortion in their ratings of their children's behaviors compared to the participants with acceptable ratings. Caregivers with a distortion in their rating of children's behaviors were statistically significantly younger, had less years of education, lower levels of social support, higher levels of depression, and higher levels of parenting stress. They were also significantly more likely to rate the child as having a behavioral problem; however, according to the authors of the BASC-2 BESS, because they scored as having a distortion in their ratings, these scores would not be considered in the evaluation of the children.

Table 7

Descriptive Statistics of the Differences between Caregiver's with Distorted Ratings and Caregivers with Acceptable Ratings.

	Acceptable Ratings		Distorted Ratings			
Variable	*M (SD)*	%	*M (SD)*	%	*t*	X^2
Sex of child						
Male		86.2		13.8		
Female		89.7		10.3		0.3
Relationship to child						
Mother		86.4		13.6		
Other		100		0.0		2.0
Marital Status						
Single		83.8		16.2		
Married		95.1		4.9		3.2
Race						
African American		89.5		10.5		
Caucasian		80.0		20.0		1.4
Social Status in Community	7.1 (2.0)		7.0 (2.4)		0.2	
Education level	12.8 (2.0)		11.1 (1.7)		2.9**	
LogComfort in parenting (reflected)	0.2 (0.2)		0.3 (0.3)		-0.7	
Appraisal of Behavior	15.1 (3.8)		14.6 (4.3)		0.4	
Inverse Log Age	0.03 (0.01)		0.04 (0.01)		-2.07*	
Social Support	49.0 (8.6)		41.8 (8.7)		2.9**	
Daily Perceived Stress	12.4 (6.5)		15.1 (6.4)		-1.5	
Log Depression symptoms	0.9 (0.4)		1.2 (0.2)		-2.9**	
Risk of Behavioral problem	43.1 (7.9)		54.9 (7.1)		-5.3**	
Parenting Stress	55.3 (15.7)		75.5 (26.0)		-2.8*	

Note: * p<.05, ** P<.01

The independent variable, family type, was formed using the FHI and the FCCI. Due to the low frequency of participants in the distortion group, there were inadequate cell frequencies to meet the cell frequency assumption of Chi Square and conduct the analysis using the four family groups. Consequently the data were collapsed into two FHI groups (high hardiness families (n = 60) and low hardiness (n = 57). Table 8 reports the chi-square analysis, which demonstrated there was not a significant association between family hardiness and distortion of the female caregiver's ratings of children's behavior X^2 (1, 116) = 1.63, p = .20.

Table 8

Distortion in Caregiver Ratings by Family Hardiness

		Distortion Ratings		
FHI Group		Acceptable	Caution	Total
Low Hardiness	N (% within distortion)	47 (46.1%)	9 (64.3%)	56
High Hardiness	N (% within distortion)	55 (53.9%)	5 (35.7%)	60
Total Count		102	14	116

Results of Research Question 3

Research Question 3: Will level of risk of children having a behavioral problem differ by family typology, controlling for distortion in caregivers' behavioral ratings? This research question was addressed using Analysis of Covariance. For this analysis, the dependent variable, level of risk of children having a behavioral problem, was standardized into T scores according to guidelines provided by the instrument's authors

on the BASC-2 BESS. The covariate, distortion in behavioral ratings, was a dichotomous variable indicating either "no distortion" or "distortion". The independent variable, family typology, was run using all combinations of the previously stated family groups. Table 9 depicts the adjusted means and standard errors of the different family types.

In the analysis using the family typologies created from the FHI and FCCI, the overall F for the one-way ANOVA was statistically significant $F(3, 111) = 4.38, p < .01$. Family type was significantly associated with the level of risk of children having a behavioral problem, controlling for distortion in the caregivers' behavioral ratings. Post hoc tests on the adjusted means were conducted using Bonferroni comparison. Vulnerable families ($M = 48.1$, $SE = 1.3$) had a significantly higher risk ($p < .01$) of having a child with a behavioral problem than Secure families ($M = 41.3$, $SE = 1.6$) and they had a significantly elevated risk ($p = .04$) of having children with behavioral problems than Regenerative families ($M = 43.0$, $SE = 1.4$).

Table 9

Risk of Behavioral Problems Adjusted Means of the Family Types, Controlling for Distortion

Family type	Adj. Mean (*SE*)
Vulnerable	48.1 (1.3)
Durable	45.3 (1.5)
Secure	41.3 (1.6)[a]
Regenerative	43.0 (1.2)[b]

Note: [a]Vulnerable families compared to Secure families $p < .01$. [b] Vulnerable families to Regenerative families $p = .04$.

Results of Research Question 4

Research Question 4: Are there relationships between female caregiver age, race, marital status, educational level, social status, depressive symptoms, caregiver comfort in parenting, perceived daily stress, perceived parenting stress, and female caregivers' appraisals of children's behavior? Prior to beginning the analysis, the independent variables (caregiver age, race, marital status, educational level, social status, depressive symptoms, caregiver comfort in parenting, perceived daily stress, perceived parenting stress) were examined for multicollinearity. Although there were several significant correlations between the independent variables, none were greater than .64 (Munro, 2005) indicating multicollinearity was not a problem. Table 10 reports the Pearson correlations between all the main variables in this study. The dependent variable, appraisal of behavior, was normally distributed for this sample.

Table 10

Pearson Correlations between the Major Variables

	1	2	3	4	5	6	7	8	9	10	11	12
1. Status in Community	—											
2. Years of ed.	.10	—										
3. Log Comfort in parenting (reflected)	-.39**	-.01	—									
4. Inverse Log Age	-.01	-.40**	.02	—								
5. Social Support	.16	.34**	-.14	-.17	—							

(Table 10 continues.)

(Table 10 continued.)

	1	2	3	4	5	6	7	8	9	10	11	12
6 Perceived Daily Stress	-34**	-11	24**	14	-49**	—						
7.Log Depression symptoms	-23*	-27**	12	10	-45**	62**	—					
8. Parenting Stress	-24*	-27*	46**	16	-54**	64**	54**	—				
9. Marital Status	-13	10	-06	-22*	04	-02	-17	-08	—			
10. Race	-16	-15	09	05	05	-01	-10	07	28**	—		
11. Distortion in behave Ratings	-02	-27**	07	19	-27**	14	26**	36**	-17	11	—	
12. Risk of behavior problems	-25**	-16	45**	03	-28**	41**	33**	56**	-11	28**	44**	—
13. Appraisal of Behavior	33**	-07	-54**	13	21*	-41**	-28**	-33**	02	-16	-04	-47

Note * p < 05, ** p < 01

Bivariate correlations indicated better appraisals of the child's behavior was significantly associated with higher status in the community, greater comfort in parenting, greater social support, less daily perceived stress, lower depressive symptomatology, lower risk of behavioral problems, and lower parenting stress.

A simultaneous multiple linear regression was conducted to test the relationships between caregiver age, race, marital status, educational level, social status, depressive symptoms, caregiver comfort in parenting, perceived daily stress, perceived parenting stress and the caregivers' appraisals of their children's behaviors. Regression results indicated that the model accounted for 45.3% of the variance in the caregivers' appraisals of children's behavior ($R^2 = .453$, $R^2adj. = .40$, $F(9, 92) = 8.47$, $p < .001$). Table 11

summarizes the multiple regression analysis. Two predictors in the model were statistically significant: comfort with parenting and perceived daily stress. Greater discomfort with parenting and greater perceived daily stress were associated with lower appraisals of children's behaviors by the female caregivers.

Table 11

Results of Simultaneous Regression of Predictors of Female Caregivers' Appraisals of Children's Behavior

Variable	*b weights*	*Std. β weights*	*t*	*p-value*
Inverse Log Age	63.38	0.14	1.65	.10
Race	-1.35	-0.13	-1.51	.14
Marital Status	0.52	0.06	0.75	.46
Years of education	-0.17	-0.09	-0.97	.34
Social Status	0.02	0.01	0.14	.89
Log Depression Symptoms	-1.17	-0.11	-1.08	.28
Log Comfort Parenting (Reflected)	-7.04	-0.48	-5.10	< .01
Perceived Daily Stress	-0.21	-0.33	-2.92	<.01
Parenting Stress	0.03	0.13	1.11	.27

Results of Question 5

Question 5: Are there relationships between female caregiver age, race, marital status, educational level, social status, depressive symptoms, caregiver comfort in parenting, perceived daily stress, perceived parenting stress, female caregiver's appraisals of children's behavior, and level of risk of children having a behavioral problem, controlling for distortion in female caregiver's behavioral ratings? Prior to running the multiple regression analysis, Pearson product moment correlations between the dependent variable and the independent variables was conducted. Those are reported in Table 10. Bivariate correlations between the level of risk of having a behavior problem

and the independent variables indicated higher risk of the child having a behavioral problem was significantly associated with lower social status, lower comfort in parenting, lower social support, higher daily stress, higher depressive symptomatology, lower appraisal of behavior, greater distortion in behavior ratings, higher parenting stress, and Caucasian race.

Prior to beginning the analysis, the independent variables were examined for multicollinearity. There were several significant correlations; however, none were greater than .64 which indicated there was not a problem with multicollinearity (Munro, 2005). The dependent variable, comparative T-scores on the BASC-2 BESS, was normally distributed for this sample.

A simultaneous multiple linear regression was conducted to test the relationships between caregiver age, race, marital status, educational level, social status, depressive symptoms, caregiver comfort in parenting, perceived daily stress, perceived parenting stress, caregivers' appraisals of their children's behaviors and level of risk of children having a behavioral problem, controlling for distortion in female caregiver's behavioral ratings. Regression results indicated that the model accounted for 56.6% of the variance in the level of risk of children having a behavioral problem ($R^2 = .566$, $R^2adj. = .512$, $F(11, 90) = 10.65$, $p < .001$). Table 12 summarizes the multiple regression analysis. Caucasian race and greater distortion in behavioral ratings were associated with higher level of risk of having children with behavioral problems.

Table 12

Results of Simultaneous Regression of Predictors of Level of Risk of Children Having a Behavioral Problem

Variable	*β weights*	*Std. β weights*	*t*	*p-value*
Inverse Log Age	-123.7	-0.1	-1.6	.12
Race	6.3	0.3	3.4	<.01
Marital Status	-1.9	-0.1	-1.3	.18
Years of Education	0.1	0.0	0.3	.78
Social Status	0.2	0.0	0.5	.63
Log Depression Symptoms	-0.2	0.0	-0.1	.92
Perceived Daily Stress	0.2	0.2	1.4	.18
Parenting Stress	0.1	0.2	1.9	.06
Log Comfort Parenting (reflected)	5.9	0.2	1.9	.07
Appraisal of behavior	-0.4	-0.2	-1.9	.06
Distortion in behavioral rating	8.1	0.3	3.9	< .01

Results of Question 6

Question 6: Does social support buffer the effects of female caregiver depressive symptoms on female caregivers' appraisals of behavior controlling for caregiver age, race, marital status, educational level, social status, caregiver comfort in parenting, perceived daily stress, and perceived parenting stress? A hierarchical multiple linear regression was chosen to conduct the analysis of this research question as it allowed for known predictors to be entered into the model first (for caregiver age, race, marital status, educational level, social status, caregiver comfort in parenting, perceived daily stress, and perceived parenting stress). After the known predictors were entered, additional predictors were added into the model in the second step (social support and depressive symptoms). In the final step, the interaction between social support and depressive symptoms were added to the model.

Regression results indicated that the variance inflation factors for the interaction variable between depression and social support were extremely high due to the presence of both variables in the second step of the hierarchical regression. A mathematical transformation to center the variable was then conducted to return the variance to an acceptable level by subtracting the mean from both social support and the log of the CES-D prior to combining them into an interaction term (Hamilton, 2009).

Table 13 presents the results of the hierarchical multiple regression analysis. The model accounted for 44.7% of the variance in the caregivers' appraisals of behavior (R^2 = .45, $R^2adj.$ = .40, F (8, 93) = 9.49, $p < .001$). When social support and depression were added to the model, regression results indicated that the model now predicted 46.1% of the variance in the caregivers' appraisals of behavior (R^2= .46, $R^2adj.$ = .40), however, the F for the change in R^2 was not statistically significant. In the last step, the interaction between social support and depression was added to the model. Regression results indicated that the model now predicted 46.3% of the variance (R^2 = .46, $R^2adj.$ = .40). There was no statistically significant change in R^2 when adding the interaction term, indicating that social support did not buffer the effects of depression on the caregivers' appraisals of children's behaviors.

Table 13

Summary of Hierarchical Regression Analysis for Variables Predicting if Social Support Buffer the Effects of Caregiver Depressive Symptoms on Caregivers' Appraisals of Behavior

	Model 1			Model 2			Model 3		
Variable	*B*	*SE B*	*β*	*B*	*SE B*	*β*	*B*	*SE B*	*β*
Inverse Log Age	68.16	38.28	0.15	63.25	38.44	0.14	59.81	39.26	0.13
Race	-1.22	0.89	-0.12	-1.49	0.90	-0.14	-1.50	0.91	-0.15
Marital Status	0.62	0.70	0.08	0.63	0.71	0.08	0.59	0.72	0.07
Years of Education	-0.13	0.17	-0.07	-0.21	0.18	-0.11	-0.20	0.18	-0.10
Social Status	0.04	0.18	0.02	0.03	0.18	0.02	0.03	0.18	0.02
Log Comfort in Parenting (reflected)	-6.82	1.37	-0.47**	-6.98	1.38	-0.48**	-6.91	1.39	-0.47**
Perceived Daily Stress	-0.24	0.07	-0.38**	-0.20	0.07	-0.31**	-0.20	0.07	-0.32**
Parenting Stress	0.02	0.03	0.10	0.04	0.03	0.17	0.03	0.03	0.16
Social Support				0.05	0.05	0.11	0.05	0.05	0.10
Log Depression Symptoms				-1.07	1.09	-0.10	1.00	1.10	0.10
Social Support X Log Depression Symptoms							-0.05	0.11	-0.04
R^2			0.45			0.46			0.46
F for change in R^2			9.40			1.23			0.23

Note: Social Support and depression were centered at their means. *$p < .05$. **$p < .01$.

Results of Question 7

Question 7: Does Social Support buffer the effects of female caregiver depressive symptoms on level of risk of having a behavioral problem controlling for caregiver age, race, marital status, educational level, social status, caregiver comfort in parenting, perceived daily stress, perceived parenting stress, appraisals of children's behavior and distortions in caregiver's behavioral ratings? As stated in Question 6, a hierarchical multiple linear regression was chosen to conduct the analysis of this research question as it allowed for known predictors to be entered into the model first (for caregiver age, race, marital status, educational level, social status, caregiver comfort in parenting, perceived daily stress, and perceived parenting stress). After the predictors were entered, additional predictors were added into the model in the second step (social support and depressive symptoms) then the interaction between social support and depressive symptoms was added to the model in the 3rd step. Regression results indicated that the variance inflation factor for the interaction variable between depression and social support was extremely high due to the presence of both variables in the second step of the hierarchical regression and a mathematical transformation to center the variable was done as described in Research Question 6 (Hamilton, 2009).

Table 14 presents the results of the hierarchical multiple regression analysis. The model accounted for 56.5% of the variance in the level of risk of the child having a behavioral problem ($R^2 = .565$, $R^2adj. = .518$, $F(10, 91) = 11.84$, $p < .001$). When social support and depression were added to the model, regression results indicated that the model now predicted 56.6% of the variance in the caregivers' appraisals of behavior ($R^2 = .566$, $R^2adj. = .508$). There was no significant change in R^2. In the last step, the

interaction between social support and depression was added to the model. Regression results indicated that the third model predicted 58.3% of the variance (R^2 = .583, $R^2adj.$ = .522). There was no significant change in R^2, although it was approaching significance (p = .060), indicating social support did not buffer the effects of depression on the level of risk of the child having a behavioral problem.

Table 14

Summary of Hierarchical Regression Analysis for Variables Predicting if Social Support Buffers the Effects of Caregiver Depressive Symptoms on Level of Risk of Having a Behavioral Problem.

	Model 1			Model 2			Model 3		
Variable	*B*	*SE B*	*β*	*B*	*SE B*	*β*	*B*	*SE B*	*β*
Inverse Log Age	-122.9	77.75	-0.12	-123.6	78.96	-0.12	-99.02	78.88	-0.10
Race	6.30	1.81	0.27**	6.14	1.89	0.27**	6.23	1.90	0.27**
Marital Status	-1.89	1.41	-0.10	-1.82	1.45	-0.10	-1.44	1.50	-0.08
Years of Education	0.11	0.34	0.03	0.07	0.36	0.02	-0.03	0.36	-0.02
Social Status	0.17	0.35	0.04	0.18	0.36	0.04	0.18	0.35	0.04
Log Comfort in Parenting reflected	5.93	3.09	0.18	5.87	3.16	0.18	5.63	3.12	0.17
Perceived Daily Stress	0.20	0.14	0.14	0.21	0.15	0.15	0.27	0.15	0.19
0Parenting Stress	0.10	0.05	0.21	0.11	0.06	0.22	0.12	0.06	0.24
Appraisal of Behavior	-0.40	0.21	-0.18	-0.41	0.21	-0.19	-0.4	0.21	-0.18
Distortion in Rating	8.07	2.07	0.31**	8.24	2.16	0.31**	8.80	2.13	0.33**
Social Support				0.04	0.10	0.03	0.06	0.10	0.06
Log Depression symptoms				-0.19	2.22	-0.01	-0.80	2.21	-.03
Social Support X Log Depression symptoms							0.40	0.21	0.15
R^2		0.57			0.57			0.58	
F for change in R^2		11.87			0.07			3.62	

Note: Social Support and depression were centered at their means. **$p < .01$.

Conclusion

This chapter presented the results of the research study. A total of 117 female caregivers were recruited to participate from a rural county in Georgia. Results indicated that family typology was not associated with the female caregiver's appraisals of her child's behavior or in the distortion of the caregiver's rating of her child's behavior. It was associated with the risk of having a child with a behavioral problem. The vulnerable family was significantly more likely to have a child with elevated risks of having behavioral problem than the secure family or the regenerative family. Greater discomfort with parenting and greater perceived daily stress was associated with lower appraisals of children's behaviors by the female caregivers. Caucasian race and higher distortion in behavioral ratings were associated with higher risk of behavioral problems in children. Lastly, social support did not buffer the effects of depression on the caregivers' appraisals of children's behaviors or the level of risk of children having behavioral problems.

CHAPTER V

Discussion

Chapter V presents a discussion of the study's findings and results. This chapter ends with a discussion of the limitations, strengths of the study, implications for practice and future research. This research is important in that it is one of the few that uses a model to understand how the female caregivers appraise preschool children's behaviors by exploring those female characteristics and stressors that are most associated with the appraisals. It also adds to the knowledge base of how social support moderates the relationship of female caregivers' depressive symptoms on appraisals of preschool children's behaviors and children's level of risk of having a behavioral problem.

The Resiliency Model of Family Stress, Coping and Adaptation

The Resiliency Model of Family Stress, Coping and Adaptation, as defined by this study, only partially explained the factors that are associated with the female caregiver's appraisals of their children's behaviors and the level of risk of having children with behavioral problems. In the first three research questions, family typologies were examined to determine if family type was associated with how the caregivers appraised their children's behaviors, the distortion in the caregivers' behavioral ratings, and the level of risk of having children with behavioral problems. The fourth research question examined the caregivers' factors that may influence their appraisals of children's behaviors and the fifth looked at how those factors may be

associated with the level of risk of children having behavioral problems. The final two research questions examined the buffering role of social support on depressive symptomatology as it related to the caregivers' appraisals and level of risk of having children with behavioral problems.

Typology of Families

Vulnerable families, in the theoretical definition, are low in cohesion and hardiness (McCubbin et al., 1996). They emotionally react when faced with a stressor, are less caring and respectful to each other as family members, frequently blame each other for their problems, and lack a sense of control over their lives (McCubbin et al., 1996). Regenerative families are the opposite of vulnerable families because they remain harmonious and balanced when faced with a stressor (McCubbin et al., 1996). Regenerative families accept life's events and work together to solve problems (McCubbin et al., 1996).

Different researchers apply different concepts to what they consider to be a vulnerable family. Hummer and Hamilton (2010) found that African American families have the highest prevalence of vulnerable families and that Asian Americans have the lowest with Caucasian families falling in the middle. They used non-marital childbearing as a prime measure of the fragility on a family. In this study, there was no statistical difference between Caucasian families and African American families in the number of families that were vulnerable. Being single parents was not a prime component of vulnerability in this study, and was not statistically associated with increased risk of having children with behavioral problems X^2 (1, n = 117) = 0.77, p = .38.

Applying non-marital childbearing as a major marker of vulnerability focuses the research onto single versus two-parent households and does not take into account the hardiness and cohesiveness of the family unit or the different views of family that exist in the United States (extended families, grandparent support, etc). Two parent households do have higher family income, but research has been mixed on how family income is associated with preschool behavioral problems with some studies reporting an association between lower family income and greater preschool child behavioral problems (Kendall et al., 2005; Querido et al., 2002; Tremblay et al., 2004) while others have found no association (Benzies et al., 2004; Dooley & Stewart, 2007). This study examined vulnerable families using the theoretical definition.

Appraisal of children's behaviors. The family's appraisal of the stressor in the Resiliency Model was defined as the meaning or interpretation the family assigned to the hardship and struggle the stressor may cause (McCubbin et al., 1996). Examination of the female caregiver's appraisal of her child's behavior included looking at her family typology and those female caregiver characteristics and stressors that may influence her appraisal of her child's behavior. These characteristics included demographic variables (age, race, marital status, and socio-economic status), comfort in parenting, depressive symptomatology, and stress (daily perceived stress and parenting stress).

In this study, vulnerable families did not differ from other family types in their appraisal of their children's behaviors. This finding was surprising as the Resiliency Model predicted that the vulnerable family would be less caring and respectful of each other and that they would frequently blame each other for problems. Very little research has been done on how the family appraises behavior. Lam, Giles, and Lavander's study

on 47 families of children suffering from conduct disorder and other psychiatric disorders found that families with high levels of expressed emotion (emotionally reactive to stressors – frequent anger, etc.) did appraise more of their children's behaviors as problematic (Lam, Giles, & Lavander, 2003). The Lam study was the opposite of what Jones, Rowe, and Becker (2009) found in their study on families caring for newly discharged premature infants. In their study, those families who reported the discharge situation as something they could control (similar to regenerative families) actually appraised the care of the infant at home as more threatening than families that felt as though they lacked control over their situation (Jones, Rowe, & Becker, 2009).

Individual caregiver characteristics have been studied frequently, especially the caregiver's depressive psychological symptom, as they related to how informants (either teachers, parents, or the children themselves) rate behaviors (Qi & Kaiser, 2003). In this study, depressive symptomatology was only weakly associated ($r = -.33, p < .01$) with lower appraisals of behavior as it had been in numerous other studies (Brennan et al, 2000, Chilcoat & Breslau, 1997; Seiffge-Krenke & Kollmar, 1998; Treutler & Epkins, 2003; Youngstrom et al., 2000). This weak association did not remain significant in the regression.

In this study, twenty-eight of the participants (23.9%) had increased levels of depressive symptomatology with scores above the research cutoff of 16 and 9 had scores greater than 25 (7.7%) (major depressive symptomatology) (Radloff & Locke, 2000). This finding was less than the 12 month prevalence rate of 13.1% for African American women and 19.5% for non-Hispanic White women in the National Survey of American Life (Williams et al., 2007). Some researchers have noted that African American women

often present to healthcare providers with somatic symptoms of depression unlike Caucasian women who present with melancholy which may lead to an under diagnosis of depression in African American women (Bailey, Blackman, & Stevens, 2009; Mezuk et al., 2010; Williams et al., 2007).

In this study, the role of perceived daily stress and the caregiver's comfort in parenting were the major predictors of how the caregivers appraised their children's behaviors. Higher levels of daily perceived stress and lower caregiver comfort in parenting were associated with lower appraisals of children's behaviors. Caregiver age, race, marital status, years of education, status in the community, depressive symptomatology, and parenting stress were not significantly associated with how the caregiver appraised her child's behavior.

This study's finding of the effect of daily stress on lower caregiver appraisals of behavior add to the limited amount of research that has shown an association between daily perceived stress and parental appraisals of children's behaviors (Martin, Ford, Dyer-Friedman, Tang, & Huffman, 2004; Tein et al., 2000). Tein, Sandier, and Zautra (2000) found that major and small stressful events had a significant impact on how parents appraise their children's behaviors. In their study, the negative impact on the mother's psychological distress was three times greater for everyday stressors than for major life event stressors (death of loved one, etc.). Perceived daily stress may play a very important role in how children's behaviors are appraised.

As the participants in this study were primarily African American, many factors may account for their daily stress perception. Some authors have suggested that powerlessness, defined as the inability of the African American woman to access and

obtain adequate income, education, and employment status, may result in an internal sense of helplessness and emotional distress while others have suggested that racism and gender issues play significant roles in global stress perceived by the African American woman (Ajrouch, Reisine, Lim, Sohn, & Ismail, 2010; Thomas & Gonzalez-Prendes, 2009; Woods-Giscombe & Lobel, 2008). These could be occurring in the participants in this study as one-third were recently laid-off from their jobs or currently looking to find work, only 28.7% had higher than a high school education, and half (51.3%) had a total family yearly income of less than $25,000. Other studies have found that, in African American women, higher global perceived stress is correlated with lower health status and lower well-being (Young et al., 2003). Further research is needed into the role of stress in the African American woman and how it can impact the appraisals of children's behaviors and level of risk of having children with behavioral problems.

Comfort in parenting also predicted how the female caregiver appraised her child's behavior. Those caregivers that expressed greater comfort in the parenting role appraised their children's behaviors higher than female caregivers that were not comfortable parenting preschool children. These findings are similar to the research findings of Morawska, Winter, & Sanders (2009). Their study examined parenting confidence separate from parenting knowledge of child development. They found that those parents who reported a greater sense of confidence reported less frequent disruptive child behavior while knowledge did not interact with disruptive behaviors. Ardelt & Eccles (2001) found that African American mothers who rated themselves with higher parenting efficacy tended to use more positive parenting strategies unlike Caucasian mothers.

It is possible that those caregivers with low confidence in their parenting abilities may be at greater risk of dysfunctional parenting (expecting the child to be able to do more than developmentally possible) which may lead to problems in the relationship between the parent and the child. Haung and colleagues showed that parents with developmental knowledge provided higher quality parenting behavior and more verbal and physical stimulation to their children (Huang, Caughy, Genevro, & Miller, 2005). It would have strengthened this study to include a measure of parental knowledge along with parenting confidence.

The association between daily stress and caregiver comfort needs further examination. Semke & colleagues (2010) found that in parents of children with behavioral problems, especially externalizing behavioral problem, daily stress was associated with the parent having a negative view of their parenting competence. Erdwins, Buffardi, Casper, & O'Brien (2001) in their study of 129 middle- to upper-income women of preschool children (racial characteristics were not given) that higher parenting comfort was associated with lower parent-child separation anxiety. In this study, higher daily perceived stress was weakly but significantly correlated with lower comfort in parenting ($r = .24, p < .01$). Research has demonstrated that the extended family is very important in African American families (Hill & Bush, 2001). It is possible that the extended family support buffers the effects of stress and caregiver comfort in parenting. Further research will need to be done on social support, daily stress, and the interaction with caregiver comfort in parenting.

In this study, it was surprising that parenting stress was not significantly associated with how the caregiver appraised her child's behavior. High levels of

parenting stress, has been linked to harsher, less nurturing parenting styles, and more behavior problems in preschool age children (Goldstein et al., 2007). Parenting stress may also affect the caregiver's ability to handle the preschool age child's behaviors (Benzies et al., 2004; Goldstein et al., 2007; Hill et al., 2006). In this study, it is uncertain why parenting stress did not play as great a role in the appraisal of children's behaviors. It is possible that because the majority of the participants were African American, that parenting stress was less of a factor because of the strong reliance in African American families on multigenerational and intergenerational family members to share the responsibility of rearing and caring for children (Hill & Bush, 2001; Waites, 2009).

Distortion in Behavioral Ratings. This study was unique in that it used the Validity Indexes of the BASC-2 Behavioral and Emotional Screening System to determine the accuracy of caregiver's ratings of children's behaviors. The Indexes measured ratings that suggested questionable responses from the participants (Reynolds & Kamphaus, 2004) such as inconsistent responses (rating child good and bad on similar items), overly negative responses, and patterned responses. In this study, 14 participants were identified as having a distortion in their ratings of their children's behaviors.

Vulnerable families did not differ from other family types in the amount of distortion they may have had in their ratings of their children's behaviors. This was surprising as vulnerable families, in the theoretical definition, often blame others for problems and lack respect for each other. Further examination of the caregivers that had distorted views of their children's behaviors found that there were no statistical differences between who was rating the child (mother or other female caregiver), the race

or marital status of the caregiver, the sex of the child, their status in the community, comfort in parenting, perceived daily stress, or their appraisals of their children's behaviors. It was surprising that the participant's whose ratings were distorted did not appraise their children's behaviors differently. Several factors may have occurred. The BASC-2 BESS was the last survey to be completed and the participants may have gotten tired of answering questions. Another possibility is that the appraisal of behavior was made up of only two questions and caregivers found them easier to complete.

There were some significant statistical differences between those caregivers with a distorted views and the caregiver's without a distorted view of their children's behaviors. Caregivers with a distortion in their rating of children's behaviors were statistically significantly younger and had less education. The lack of education and young age may mean that parenting knowledge played a role in the distorted view and needs further evaluation as this study did not include a measure of parenting knowledge. The lack of parenting knowledge did play a role in Landy and Menna's study that looked at an intervention for parents of aggressive preschool children in Canada (Landy & Menna, 2006). In their study, those parents that undertook the intervention to increase parenting knowledge had a statistically significant decrease in rating their preschool children as having aggressive behaviors (Landy & Menna, 2006).

The caregivers in this study that had a distortion also had statistically significantly lower levels of social support, higher levels of depression, and higher levels of parenting stress than the caregivers without a distortion. It could be that those caregivers' with a distortion may not have the same family support as those caregivers' without a distortion. It is possible that these particular caregivers' lacked a strong reliance on

multigenerational and intergenerational family members to share in the responsibility of rearing and caring for children that is common in African American families (Hill & Bush, 2001; Waites, 2009). They were also significantly more likely to rate the child as having a behavioral problem; however, according to the authors of the BASC-2 BESS, because they scored as having a distortion in their ratings, these scores would not be considered in the evaluation of the children's behaviors. Further research is needed into the female caregivers' factors that are associated with caregivers' distortion in behavioral ratings.

Level of Risk of Having a Child with a Behavioral Problem. Using the theoretical definition of family vulnerability, which includes the use of family hardiness and family cohesiveness, encompass the findings of this research study. Vulnerable families, in this study, did have a statistically significantly higher risk of having children with behavioral problems. In other recent studies, the vulnerability of the family has been the focus into behavioral problems of the young child. Poor family cohesion, openly expressed family conflict and anger, parental disagreement, and poor family functioning have all been found to be associated with behavioral problems in children (Benzies et al., 2004; Dawson et al., 2003; du Rocher Schudlich & Cummings, 2007; Hughes et al., 2008; Kendall et al., 2005; Lucia & Breslau, 2006; Oravecz, Koblinsky, & Randolph, 2008; Shelton & Harold, 2008) while supportive family factors (family resources, family problem-solving communication) are linked to the well being of all family members (Van Riper, 2000). Focusing on ways to identify and support these families may prove useful in decreasing the number of preschool children with behavioral problems.

Several factors were correlated with the increased level of risk of having a child with a behavioral problem. Weak but significant correlations were seen between a higher level of risk of having a child with a behavioral problem and lower status in the community, decreased amount of social support, and Caucasian race. Moderate associations were seen between higher risk of having a child with a behavioral problem and the caregiver being less comfortable in parenting, appraising the child's behavior as poor, higher levels of daily perceived stress, higher depression symptomatology, higher distortion in ratings, and higher parenting stress.

Romano, Kohen, & Findlay (2010) used a nationally representative sample of 4,521 Canadian families of 4–5-year-olds. They found that low household income was linked with greater hyperactivity-inattention among children in poor quality home daycare facilities but not high-quality daycare facilities. In the United States, 61% of children, less than the age of six, received daycare or preschool services from someone other than their parents (Child Stats, 2007). For most families in the United States with young children, there is no other choice but to depend on someone else to care for their child as they must work to help the support the family (American Academy of Pediatrics [AAP], 2003). Unfortunately, most childcare is of poor quality with only the rich being able to pay for quality childcare services (AAP, 2003).

A third of the participants in this study were laid off or currently looking for work. Research has indicated that in poorer communities, such as Baldwin County, the participant's view of her status in her community was correlated with health outcomes more than traditional socioeconomic indicators (Adler & Stewart, 2007; Goodman et al., 2001; Ostrove et al., 2000). For this study, social status in the community was used to

examine interactions rather than actual socioeconomic factors. Results indicated that higher status in the community was weakly but significantly correlated with higher appraisals of children's behaviors, greater comfort in parenting, lower perceived daily stress, lower depressive symptoms, lower parenting stress, and lower risk of having children with behavioral problems.

Social status did not remain significant in the simultaneous linear regression of the predictors of the female caregivers' level of risk of having a child with a behavioral problem. It is possible that even though the Early Learning Center is located in a very poor community, its extensive association with Georgia College may provide higher quality interactions for the preschool students which make the preschool of higher quality than what is often seen in poor communities.

Including all the caregiver characteristics (age, race, marital status, social status, educational level, perceived daily stress and parenting stress, appraisal of behavior) accounted for 56.6% of the variance in the level of risk of having a child with a behavioral problem. When distortion in the caregiver's ratings were controlled for in the regression analysis, only race and distortion remained statistically significant although parenting stress, comfort in parenting, and appraisal of behavior were approaching significance. These findings were similar to a study of 731 mother–child dyads recruited from WIC Programs in rural, suburban, and urban localities (Wilson, Hurtt, Shaw, Dishion, & Gardner, 2009). In their study, even though the African American children were exposed to a greater number of risk factors and cumulative risk (poverty, violence, etc) in relation to other ethnic children and localities, they were not at greater risk for behavioral problems; Caucasian children had the highest risk. The authors of the study

checked for differences in the perceptions of behavior problems between African American parents and Caucasian parents and found none. African American children were at lower risk of having a behavioral problem in spite of having the highest number of risk factors (Wilson et al., 2009). This has been supported by other researchers (Jaffee et al., 2005; Kendall et al., 2005). The present study had similar results. Caucasian preschool children had a higher level of risk of having a behavioral problem than African American preschool children. As the racial prevalence of behavioral problems is very unclear in the United States, the Centers for Disease Control have made researching it one of their recommended areas of future research (CDC, April 12, 2010).

It is known that cultural norms in childrearing practices influence the definitions of normal behavior (Lubell, Lofton, & Singer, 2008) and many of the instruments that are currently used in the evaluation of the preschool child's behavior contain areas that may vary by cultural practices. Several research studies have used instruments that have asked the parent specifically about preschool behavior that may be thought of as problematic in the Caucasian American view but not in another cultural view such as the preschool child's reluctance to go to bed at night (Achenbach, 2000; Briggs-Gowan et al., 2004; Colvin, Eyberg, & Adams,1999; Conners, Sitarenios, Parker, & Epstein, 1998; LeBuffe & Naglier, 2007).

This study used the BASC-2 Behavioral and Emotional Screening System to evaluate the preschool child's level of risk of having a behavioral problem. Every item on the BASC-2 BESS had been analyzed for gender and ethnic discrepancies and identified items were dropped from the final scale (Reynolds & Kamphaus, 2004). Using this instrument gives a measure of confidence to the differences found in the level of risk

of having children with behavioral problems between African American families and Caucasian families. Further research will need to be done to determine why these differences occur.

Social Support as a Buffer. Lee et al. (2006) found that increased maternal support buffered the effects of the mother's depressive symptoms on the preschool child's behavior, but had no effect if she was severely depressed and Black et al. (2002) found that the role of the grandparent in buffering the child was not beneficial in protecting the preschool child from the effects of maternal depression. Social supports buffer on caregiver depressive symptoms was examined in this study as it related to the caregivers' appraisals of their children's behaviors and level of risk of having a child with a behavioral problem. Social support did not buffer the effects of depression on the caregivers' appraisals or level of risk of having children with behavioral problems. This finding could be due to the fact that depressive symptoms did not play an important role in appraisals of behavior or level of risk, in this study. Perceived daily stress and comfort in parenting were the main factors associated with the caregivers' appraisals of children's behaviors. As the participants, in this study, were primarily African American factors related to social support's buffer on daily stress needs to be researched further. It is possible that social support may buffer the effects of perceived daily stress on the caregivers' appraisals and level of risk of having children with behavioral problems.

Limitations of the Study

There were several limitations of this study. Power analysis indicated that 117 participants were needed and that goal was achieved, but there were several participants that did not fully complete all of the surveys. This made the sample size vary between the research questions and was a limitation of the study.

Research questions 1-3 were completed with 116 participants while research questions 4-7 were completed with 102 participants. Other studies that have examined the family factors that influence appraisals of behavior and risk of behavioral problems have varied in number from 200 in Nachshen and Minnes study of normal and developmentally delayed children, to 47 mother-child dyads in the 2005 study of mothers and their children with Asperger Syndrome (Nachshen & Minnes, 2005; Pakenham et al., 2005). For the research questions that examined female caregiver factors that influence appraisal, level of risk and social supports buffering effect on depression, the 102 participants that completed all the surveys and had data that could be used was more than the 53 mothers and their children in Calzada et al., (2004) study on depression and child behavior but lower than Cunningham & Boyle's 2002 study on parenting confidence and Weissman et al. (2006) study on depressed mothers and their children.

Another limitation was using only one rater, the female caregiver, to review the children's behaviors. Since children's behaviors were a major factor in the study, using a third party to rate their behaviors (such as a teacher or independent observer) would have added additional reliability to the female caregivers' ratings of their children's behaviors. The results of this study also need to be interpreted with caution because the sample was

not representative of the general population. It was a small sample of 117 primarily African American female participants from a rural county in Georgia.

Recruitment of participants for this study was not difficult. Of the 117 participants that were recruited, 88 were done on the first day within three hours and a second recruitment was done one month later and took only 2 hours. It is possible that the Early Learning Center's association with Georgia College may have played a role in how the participant's felt about being in the study and may have resulted in social desirability and informant bias influencing the results. This study was also cross-sectional in nature which means no causality can be inferred.

Strengths of the Study

This study was unique in several ways. Though unexpected, it is one of the few, if not the only study, that used primarily rural, low-income, African American female caregivers of preschool children to determine factors that are related to distortion and appraisals in caregiver ratings of preschooler's behavior and level of risk of having children with behavioral problems. It also unique in that it used a model to explain family vulnerability as it relates to child behavior and African American families. This study was also different in that it included a measure of perceived daily stress along with a measure of depression.

Implications for Practice

Several implications for nursing practice can be derived from the findings of this study. Vulnerability of the family, in this study, was related to family hardiness and family cohesiveness. Implementing measures to help strengthen families may decrease

the behavioral problems that occur in the preschool child. These measures could be performed in the preschools and undertaken through nursing or social services.

Perceived daily stress and parenting confidence played major roles in the appraisals of children's behaviors by the female caregivers. Including a measure of caregiver daily stress in the evaluation of a child's behavior may help the provider gain insight into other factors that may be occurring in the family. Additionally, interventions to reduce caregiver stress may help to reduce the number of preschool children appraised as having a behavioral problem. Nurses and pediatric health care providers can easily work on ways to increase the caregiver's comfort with parenting by simply doing a thorough anticipatory guidance session during well child exams. This extra attention and care may be able to change how the caregiver views her child's behaviors. Participating in group support sessions may also help the caregiver relieve stress, increase hardiness and cohesiveness within the family, and serve as means to increase social support for the caregiver.

Implications for Theory Building

The Resiliency Model of Family Stress, Coping and Adaptation only partially explained the caregiver and family factors that are associated with the female caregiver's appraisals of their children's behaviors and the level of risk of having children with behavioral problems. Further research is needed to develop a model that can better explain how these factors affect the appraisal of behavioral problems especially as it applies to different ethnic groups. Additionally, research needs to be done into how the factors involved interact with each other to increase the level of risk of children having behavioral problems.

Future Research

Results of this study have suggested many additional areas of needed research. Findings in this study do emphasize the importance of family factors (hardiness and cohesiveness) on young children's behaviors. Additional research is needed into how these factors affect the young child's behavior. The preschool child's educational and daycare issues needs further investigation as they may also place the child at greater risk of having a behavioral problem.

Race proved to be a major factor in the increased risk of having a behavioral problem. Additional research is needed into why this occurs and what factors place the Caucasian child at greater risk of having a behavioral problem or, alternately, what factors prevent the African American child from being identified as having behavioral problems. Research is also needed into the socioeconomic differences that may place children at higher risk and how global stress and parenting comfort can impact perceptions of behavior and level of risk of having children with behavioral problems.

Depression in this study was not as important a factor as daily stress. Further research is needed into the African American's mental and physical health as it relates to depression and stress. Research is needed into disparities that may exist in access to mental health services and the identification of problems. Increasing knowledge in parents with a low level of confidence may assist in increasing positive parenting and appraisals of behavior and research is needed in this area. Investigation into the role of social supports buffer on global stress is needed to determine if greater social support buffers the effect of stress on appraisals of behavior and level of risk of children having behavioral problems. Further research is needed into what causes a caregiver to have a

distorted view of her child's behavior and, lastly, prevention and intervention research is needed. Exploring protective family factors, such as group counseling and educational activities, may be able to prevent some of the effects of stress and decreased comfort in parenting on how the caregiver appraises her child's behavior.

Conclusion

This study adds to the body of literature that explores the family and individual caregiver factors that are associated with the appraisals of children's behaviors, the extent to which the appraisal may be distorted and the children's level of risk of having a behavioral problem. Vulnerability of the family was associated with a higher risk of having children with behavioral problems. Additionally, vulnerability of the family was not associated with distortion in child behavior ratings or in how the behavior was appraised by the caregiver. The caregiver's appraisal was associated with her daily stress level and her comfort with parenting. Finally, Caucasian Americans had the highest risk of having a child with behavioral problems.

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Appendix A: Consent Form for Participants

Georgia State University
Byrdine F. Lewis College of Nursing

Informed Consent

Title: Factors Influencing Female Caregivers' Appraisals of Their Preschoolers' Behaviors

Principal Investigator: Myra Carmon, EdD, CPNP, RN
Student Principal Investigator: Sallie Coke, MSN, CPNP, CFNP
Research Assistant: Penny Sherman, RN, BSN

I. Purpose:

You are invited to take part in a research study. The purpose of the study is to explore the family and personal factors that play a role in the caregiver's view of her preschool child's behavior. You are invited to take part because you are a caregiver of a preschool aged child. A total of 120 female caregivers will be asked to take part in this study. Taking part in this study will require one hour of your time to complete the forms.

II. Procedures:

If you decide to participate, you will need to fill out a few surveys. You may fill out the surveys now or you may fill them out later and return them to the preschool. It should take you less than one hour to complete the questions. You will only need to fill out the questionnaires once. Upon completion of the surveys, you will be given a $5 gift-card to Wal-mart and some educational materials.

III. Risks:

Some of the study questions deal with stress and depression. There is the possibility that taking part in this study may cause you to become upset. If you would like to stop answering the questions, you can at any time. If you are upset, you will be asked to talk with your medical provider about these feelings. If you do not have a provider, a list of doctors can be given to you or you can go to Oconee Regional Hospital. Payment for these services will not be provided by the researchers. Should one of the surveys show that there may be a problem (for example high levels of stress in you or a behavior problem in your child) you will be notified and sent to your doctor or the school's social services.

Please note: the researchers will abide by their legal obligation to report any suspicion of abuse or neglect toward your preschool child.

IV. Benefits:

Taking part in this study may not help you. We hope to gain information about the things that can sway a caregiver's view of her child. Learning about these things can help society develop interventions to may assist the caregiver and her child.

V. Voluntary Participation and Withdrawal:

Taking part in this study is voluntary. You do not have to be in this study. If you decide to be in the study and change your mind, you have the right to drop out at any time. You may skip questions or stop participating at any time. Whatever you decide, you will not lose any benefits to which you are otherwise entitled.

VI. Confidentiality:

We will keep your information private to the extent allowed by law. Only Dr. Myra Carmon and Sallie Coke will have access to the information you give us. This information may be shared with the people who make sure the study is done correctly (GSU Institutional Review Board, the Office for Human Research Protection (OHRP)). We will use a number rather than your name on all records and only the principle investigators will have access to the list that matches names with numbers. All information will be stored separate from the survey questions. It will be kept under lock and key at the investigator's office in a file cabinet. Your name and other facts that might point to you will not appear when we present this study or publish its results. The findings will be summarized and reported in group form. You will not be identified personally.

VII. Contact Persons:

Contact Dr. Myra Carmon at 404-651-3164 (mcarmon@gsu.edu) and Sallie Coke at (sallie.coke@gcsu.edu) if you have questions about this study. If you have questions or concerns about your rights as a participant in this research study, you may contact Susan Vogtner in the Office of Research Integrity at 404-413-3513 or svogtner1@gsu.edu.

VIII. Copy of Consent Form to Subject:

We will give you a copy of this consent form to keep.
If you are willing to volunteer for this research, please sign below.

_____ _____
Participant Date

_____ _____
Principal Investigator or Researcher Obtaining Consent Date

Appendix B: Demographic Information, Comfort in Parenting, and Appraisal of Behavior.

John D. and Catherine T. MacArthur
Research Network on Socioeconomic Status and Health

Sociodemographic Questionnaire

The MacArthur Network on SES and Health has developed a sociodemographic questionnaire which is currently being used in a number of network sponsored projects. The instrument begins with subjective social status questions developed by the network; (see *MacArthur Subjective Social Status Scale* in the Psychosocial Notebook). The remaining questions assess educational attainment, occupational status, income and assets. Ideally, all questions would be used; if a subset must be selected, items 1, 2, 3, 4, 6b and 6c, 7 and 9 are recommended.

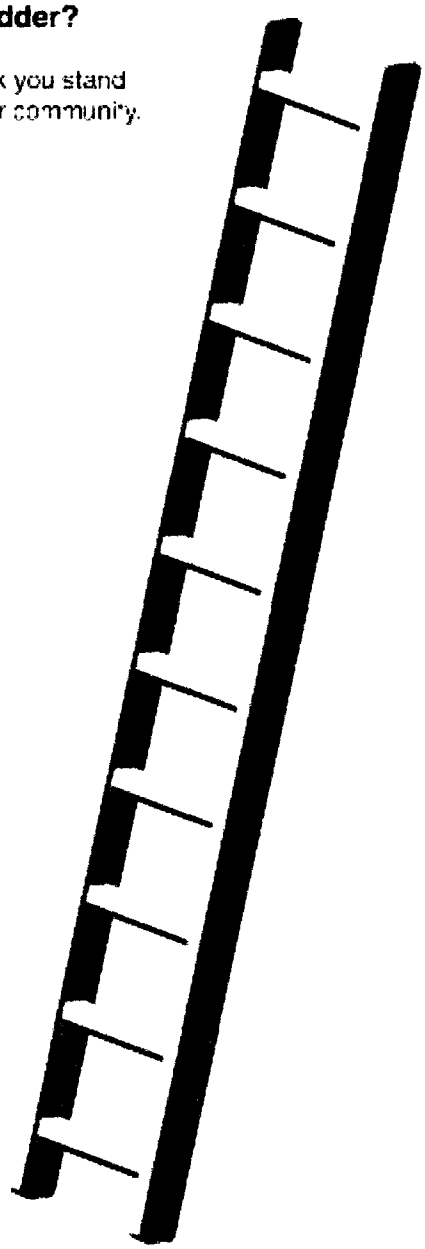
Question 1.

Think of this ladder as representing where people stand in their communities.

People define community in different ways; please define it in whatever way is most meaningful to you. At the **top** of the ladder are the people who have the highest standing in their community. At the **bottom** are the people who have the lowest standing in their community

Where would you place yourself on this ladder?

Please place a large "**X**" on the rung where you think you stand at this time in your life relative to other people in your community.



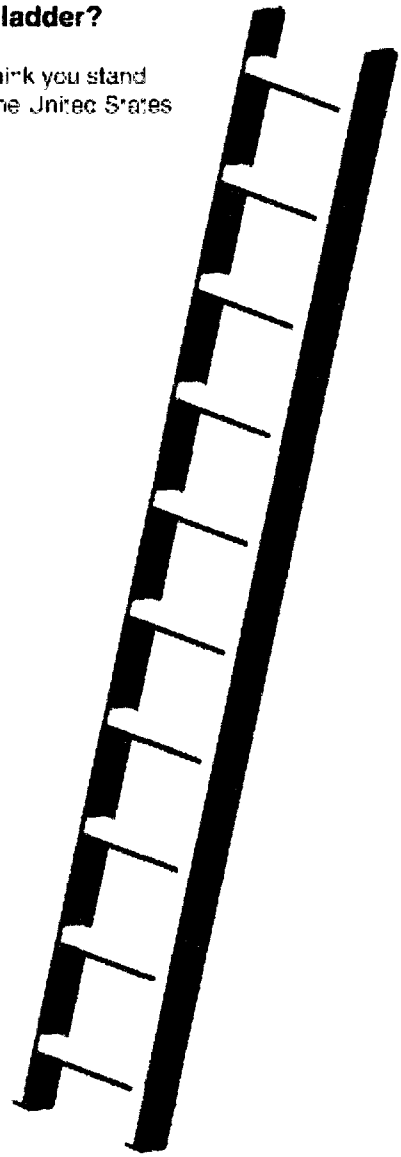
Question 2.

Think of this ladder as representing where people stand in the United States.

At the **top** of the ladder are the people who are the best off – those who have the most money, the most education and the most respected jobs. At the **bottom** are the people who are the worst off – who have the least money, least education and the least respected jobs or no job. The higher up you are on this ladder, the closer you are to the people at the very top; the lower you are, the closer you are to the people at the very bottom.

Where would you place yourself on this ladder?

Please place a large "**X**" on the rung where you think you stand at this time in your life, relative to other people in the United States.



Question 3. What is the highest grade (or year) of regular school you have completed? (Check one.)

Elementary School	High School	College	Graduate School
01____	09____	13_____	17_____
02____	10____	14_____	18_____
03____	11____	15_____	19_____
04____	12____	16_____	20+____
05____			
06____			
07____			
08____			

Question 4. What is the highest degree you earned?

_____High school diploma or equivalency (GED)
_____Associate degree (junior college)
_____Bachelor's degree
_____Master's degree
_____Doctorate
_____Professional (MD, JD, DDS, etc.)
_____Other specify
_____None of the above (less than high school)

Question 5. Which of the following best describes your current main daily activities and/or responsibilities?

_____Working full time
_____Working part-time
_____Unemployed or laid off
_____Looking for work
_____Keeping house or raising children full-time
_____Retired

Question 6. With regard to your current or most recent job activity:

a. In what kind of business or industry do (did) you work?

_____
(For example: hospital, newspaper publishing, mail order house, auto engine manufacturing, breakfast cereal manufacturing.)

b. What kind of work do (did) you do? (Job Title):

_____
(For example: registered nurse, personnel manager, supervisor of order department, gasoline engine assembler, grinder operator.

c. How much did you earn, before taxes and other deductions, during the past 12 months?
_____Less than $5,000
_____$5,000 through $11,999
_____$12,000 through $15,999
_____$16,000 through $24,999
_____$25,000 through $34,999
_____$35,000 through $49,999
_____$50,000 through $74,999
_____$75,000 through $99,999
_____$100,000 and greater
_____Don't know
_____No response

Question 7. How many people are currently living in your household, including yourself?

_____Number of people
_____Of these people, how many are children?
_____Of these people, how many are adults?
_____Of the adults, how many bring income into the household?

Question 8. Is the home where you live:

_____Owned or being bought by you (or someone in the household)?
_____Rented for money?
_____Occupied without payment of money or rent?
_____Other (specify)_____

[Some might try to get a "market value" estimate of the value of owned homes and an estimate of how much principal was outstanding on the mortgage.]

Question 9. Which of these categories best describes your total combined family income for the past 12 months? This should include income (before taxes) from all sources, wages, rent from properties, social security, disability and/or veteran's benefits, unemployment benefits, workman's compensation, help from relatives (including child payments and alimony), and so on.

_____Less than $5,000
_____$5,000 through $11,999
_____$12,000 through $15,999
_____$16,000 through $24,999
_____$25,000 through $34,999
_____$35,000 through $49,999
_____$50,000 through $74,999
_____$75,000 through $99,999
_____$100,000 and greater
_____Don't know
_____No response

Question 10. If you lost all your current source(s) of household income (your paycheck, public assistance, or other forms of income), how long could you continue to live at your current address and standard of living?

_____ Less than 1 month
_____ 1 to 2 months
_____ 3 to 6 months
_____ 7 to 12 months
_____ More than 1 year

Question 11. Suppose you needed money quickly, and you cashed in all of your (and your spouse's) checking and savings accounts, and any stocks and bonds. If you added up what you would get, about how much would this amount to?

_____Less than $500
_____$500 to $4,999
_____$5,000 to $9,999
_____$10,000 to $19,999
_____$20,000 to $49,999
_____$50,000 to $99,999
_____$100,000 to $199,999
_____$200,000 to $499,999
_____$500,000 and greater
_____Don't know
_____No response

If you now subtracted out any debt that you have (credit card debt, unpaid loans including car loans, home mortgage), about how much would you have left?

_____Less than $500
_____$500 to $4,999
_____$5,000 to $9,999
_____$10,000 to $19,999
_____$20,000 to $49,999
_____$50,000 to $99,999
_____$100,000 to $199,999
_____$200,000 to $499,999
_____$500,000 and greater
_____Don't know
_____No response

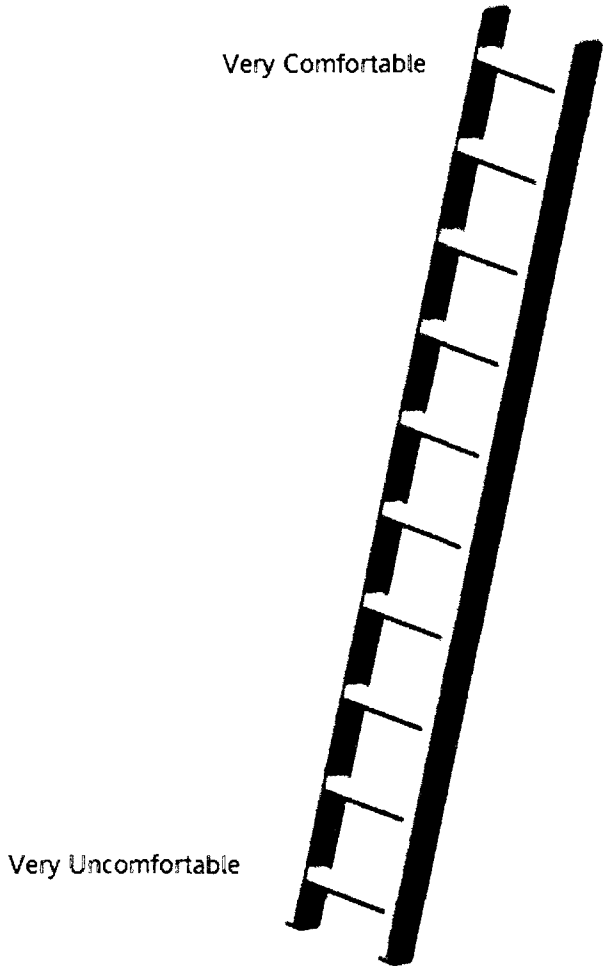
The following three questions were created for this study.

Question 12.

Think of this ladder as representing where you stand compared to other people who care for preschool children.

At the **top** of the ladder are people who are very comfortable parenting preschool children. At the **bottom** of the ladder are people who are very uncomfortable parenting preschool children.

What is your level of comfort in parenting a preschool child?



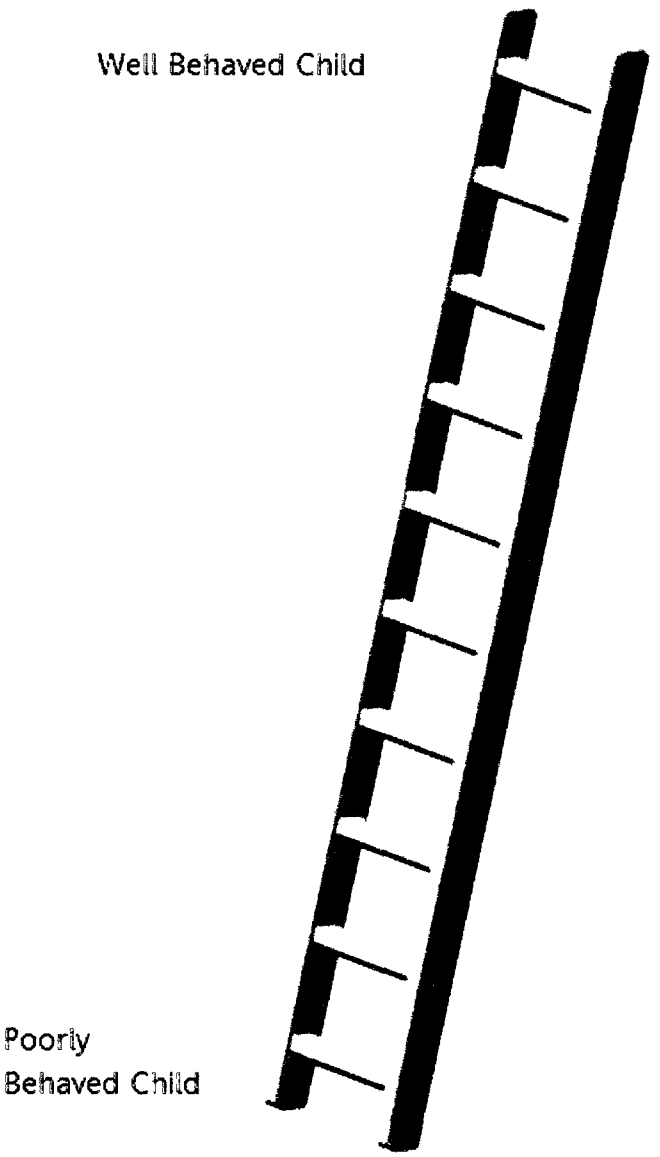
Question 13.

Think of this ladder as representing <u>your child's behavior</u> compared to other preschool children.

At the **top** of the ladder are very well behaved preschool aged children. At the **bottom** of the ladder are very disruptive, poorly behaved preschool children.

On this ladder, where does your child belong?

Place a large "X" on the rung where you think your child belongs.



Question 14.

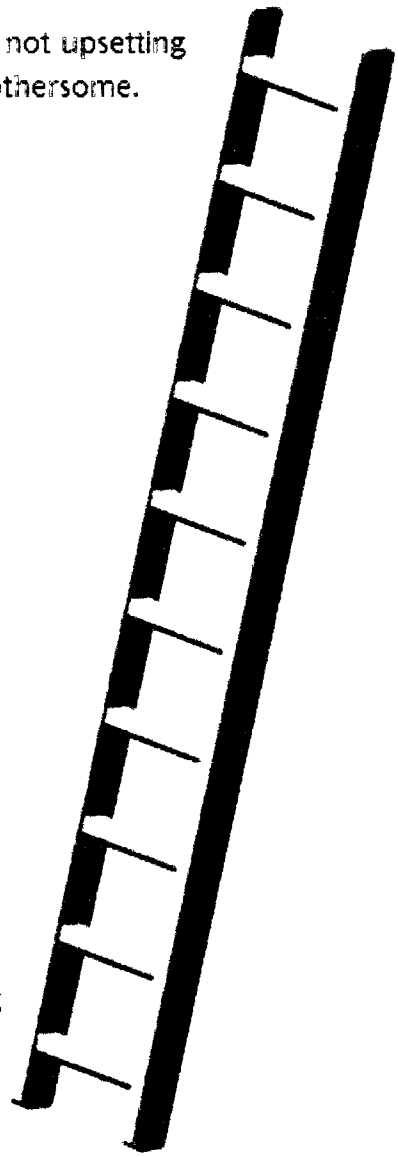
Think of this ladder as representing how much your preschool child's behavior upsets or bothers you.

At the **top** of the ladder means your child's behavior is not upsetting and does not bother you at all. At the **bottom** of the ladder means you child's behavior really upsets you and bothers you very much.

On this ladder, where does your thoughts about your child's behavior belong?

Place a large "X" on the rung where your thoughts about your child belong.

Behavior is not upsetting and not bothersome.



Behavior is very upsetting and bothersome.

Question 15: What is your current marital status?

- o Divorced
- o Living with another
- o Married
- o Separated
- o Single
- o Widowed

Question 16: How would you classify yourself?

- o Asian/Pacific Islander
- o African American
- o Caucasian/White, non-Hispanic
- o Hispanic
- o Native American
- o Multiracial
- o Other: _____

Question 17:

What is your age?

_____

Do you smoke? Yes or No

How often do you drink alcoholic beverages?

- o I do not drink
- o Occasionally (less than once a week)
- o Only on weekends
- o Several times a week
- o Daily

If you do drink, how much do you usually drink at one time?

_____

Question 18: Have you ever been diagnosed with depression? Yes or No

If yes:

Did you take any medication to help you with the depression? Yes or No

How long ago were you diagnosed with depression? _____

Question 19: Has your preschool child been diagnosed with a behavioral or emotional problem? Yes or No **If yes, please indicate type:** (Check all that apply) o Pervasive Developmental Disorder o Autism Spectrum Disorder o Asperger Syndrome o Depression o Bipolar Disorder o Anxiety Disorders o Phobias o ADD/ADHD o Conduct Disorder o Obsessive Compulsive Disorder o Oppositional Defiant Disorder o Other:_____ _	**Question 20: Do you have any other children?** Yes or No **If you have other children, have they been diagnosed with a behavioral or emotional problem?** Yes or No **If yes, please indicate type:** (Check all that apply) o Pervasive Developmental Disorder o Autism Spectrum Disorder o Asperger Syndrome o Depression o Bipolar Disorder o Anxiety Disorders o Phobias o ADD/ADHD o Conduct Disorder o Obsessive Compulsive Disorder o Oppositional Defiant Disorder o Other:_____ _

Appendix C: Family Hardiness Index

Family Hardiness Index

Hamilton McCubbin

Directions: Please read each statement below and decide to what degree each describes your family. Is the statement **False** (0), **Mostly False** (1), **Mostly True** (2), or **True** (3) about your family? Circle a number 0 to 3 to match your feelings about each statement. Please respond to each and every statement.

In our family...	False	Mostly False	Mostly True	True
1. Trouble results from mistakes we make	0	1	2	3
2. It is not wise to plan ahead and hope because things do not turn out anyway.	0	1	2	3
3. Our work and efforts are not appreciated no matter how hard we try and work.	0	1	2	3
4. In the long run, the bad things that happen to us are balanced by the good things that happen.	0	1	2	3
5. We have a sense of being strong even when we face big problems.	0	1	2	3
6. Many times I feel I can trust that even in difficult times things will work out.	0	1	2	3
7. While we don't always agree, we can count on each other to stand by us in times of need.	0	1	2	3
8. We do not feel we can survive if another problems his us.	0	1	2	3
9. We believe that things will work out for the better if we work together as a family.	0	1	2	3
10. Life seems dull and meaningless.	0	1	2	3
11. We strive together and help each other no matter what.	0	1	2	3
12. When our family plans activities we try new and exciting things.	0	1	2	3

13. We listen to each others' problems, hurts, and fears.	0	1	2	3
14. We tend to do the same things over and over…it's boring.	0	1	2	3
15. We seem to encourage each other to try new things and experiences.	0	1	2	3
16. It is better to stay at home than go out and do things with others.	0	1	2	3
17. Being active and learning new things are encouraged.	0	1	2	3
18. We work together to solve problems.	0	1	2	3
19. Most of the unhappy things that happen are due to bad luck.	0	1	2	3
20. We realize our lives are controlled by accidents and luck.	0	1	2	3

Appendix D: Family Coping Coherence Index

Family Coping Coherence Index

Hamilton I. McCubbin

Directions: Decide to what degree you either agree or disagree with each statement about your family. 0 = Strongly Disagree, 4 = Strongly Agree.

When we face problems or difficulties in our family we cope by:	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. Accepting stressful events as a fact of life.	0	1	2	3	4
2. Accepting that difficulties occur unexpectedly.	0	1	2	3	4
3. Defining the family problem in a more positive way so that we do not become too discouraged.	0	1	2	3	4
4. Having faith in God.	0	1	2	3	4

Appendix E: Perceived Stress Scale

Instructions: The questions in this scale ask you about your feelings and thoughts during the last month. In each case, please indicate with a check how often you felt or thought a certain way.

1. In the last month, how often have you been upset because of something that happened unexpectedly?
___0=never ___1=almost never ___2=sometimes ___3=fairly often ___4=very often

2. In the last month, how often have you felt that you were unable to control the important things in your life?
___0=never ___1=almost never ___2=sometimes ___3=fairly often ___4=very often

3. In the last month, how often have you felt nervous and "stressed"?
___0=never ___1=almost never ___2=sometimes ___3=fairly often ___4=very often

4. In the last month, how often have you felt confident about your ability to handle your personal problems?
___0=never ___1=almost never ___2=sometimes ___3=fairly often ___4=very often

5. In the last month, how often have you felt that things were going your way?
___0=never ___1=almost never ___2=sometimes ___3=fairly often ___4=very often

6. In the last month, how often have you found that you could not cope with all the things that you had to do?
___0=never ___1=almost never ___2=sometimes ___3=fairly often ___4=very often

7. In the last month, how often have you been able to control irritations in your life?
___0=never ___1=almost never ___2=sometimes ___3=fairly often ___4=very often

8. In the last month, how often have you felt that you were on top of things?
___0=never ___1=almost never ___2=sometimes ___3=fairly often ___4=very often

9. In the last month, how often have you been angered because of things that were outside of your control?
___0=never ___1=almost never ___2=sometimes ___3=fairly often ___4=very often

10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?

___0=never ___1=almost never ___2=sometimes ___3=fairly often ___4=very often

Appendix F: Center for Epidemiological Studies Depression Scale

	Rarely or none of the time (less than 1 day)	**Some or a little of the time (1-2 days)**	**Occasionally or a moderate amount of the time (3-4 days)**	**Most or all of the time (5-7 days)**
During the past week:	0	1	2	3
1) I was bothered by things that usually don't bother me	0	1	2	3
2) I did not feel like eating; my appetite was poor	0	1	2	3
3) I felt that I could not shake off the blues even with help from my family and friends	0	1	2	3
4) I felt that I was just as good as other people	0	1	2	3
5) I had trouble keeping my mind on what I was doing	0	1	2	3
6) I felt depressed	0	1	2	3
7) I felt that everything I did was an effort	0	1	2	3
8) I felt hopeful about the future	0	1	2	3
9) I thought my life had been a failure	0	1	2	3
10) I felt fearful	0	1	2	3
11) My sleep was restless	0	1	2	3
12) I was happy	0	1	2	3
13) I talked less than usual	0	1	2	3
14) I felt lonely	0	1	2	3
15) People were unfriendly	0	1	2	3
16) I enjoyed life	0	1	2	3
17) I had crying spells	0	1	2	3
18) I felt sad	0	1	2	3
19) I felt that people disliked me	0	1	2	3
20) I could not get "going"	0	1	2	3