Hope, Optimism, Stress, and Social Support in Parents of Children with Intellectual Disabilities

Josephine Estelle Cooke
University of Southern Mississippi

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HOPE, OPTIMISM, STRESS, AND SOCIAL SUPPORT IN PARENTS OF CHILDREN WITH INTELLECTUAL DISABILITIES

by

Josephine Estelle Cooke

Abstract of a Dissertation
Submitted to the Graduate School
of The University of Southern Mississippi
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy

August 2010
ABSTRACT

HOPE, OPTIMISM, STRESS, AND SOCIAL SUPPORT IN PARENTS OF CHILDREN WITH INTELLECTUAL DISABILITIES

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Josephine Estelle Cooke

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Hope, optimism, and social support have been shown to be important protective factors for parents of children with intellectual disabilities, and these factors have been shown to have important relationships with parenting behaviors. Hope and optimism have not been studied as possible predictive variables for parenting behaviors for this population, and the interactions of these three variables with parenting behaviors have not been examined with this population. Stress has been shown to relate to positive and negative parenting behaviors (Abidin, 1995), and high levels of stress are correlated with a perception of low levels of social support. No studies have examined the relationships between hope and optimism and stress as these relate to parenting behaviors, and no studies have examined social support in relation to hope, optimism and stress among parents of children with mental retardation (Kashdan et al., 2002). This study explored the relationships among hope, optimism, social support and parenting behaviors as well as hope, optimism, stress and parenting behaviors while controlling for social support in a sample of caregivers of children with intellectual disabilities. It was hypothesized that hope and optimism will moderate the relationship between social support and parenting behaviors and that hope and optimism will moderate the relationship between stress and
parenting behaviors when controlling for social support. Neither hope nor optimism moderated the relationship between social support and positive parenting behaviors. In the current study social support and hope were found to predict positive parenting behaviors in caregivers of children with intellectual deficits. Optimism was not found to predict a significant amount of the variance in positive parenting behaviors. Neither hope nor optimism moderated the relationship between stress and negative behaviors when controlling for social support. Stress was found to predict positive but not negative parenting behaviors when controlling for social support. The results of this study have important implications for clinical practice and future research. Social support and hope may be considered factors protective against negative outcomes in the lives of caregivers of children with intellectual deficits. Mental health clinicians may assist in increasing positive parenting behaviors in caregivers of children with intellectual deficits by providing programs that would increase caregivers’ experience of social support and hope. The impact of stress on positive parenting behaviors that was evident in this study may also indicate that programs that decrease stress in parents can lead to more positive parenting behaviors.
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Approved:

Dr. Bonnie Nicholson
Director

Dr. Tammy Barry

Dr. Heather Sterling-Turner

Dr. Emily Bullock

Dr. Susan A. Siltanen
Dean of the Graduate School

August 2010
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CHAPTER I
INTRODUCTION AND LITERATURE REVIEW

The American Association on Intellectual and Developmental Disabilities (formerly the American Association for Mental Retardation) defines mental retardation as: “a disability characterized by significant limitations both in intellectual functioning and in adaptive behavior as expressed in conceptual, social, and practical adaptive skills. This disability originates before age 18” (“The Definition of Mental Retardation,” 2007).

Most agencies dealing with individuals with cognitive deficits diagnose mental retardation using the criteria found in the Diagnostic and Statistical Manual of Mental Disorders, fourth edition, Text Revised (DSM-IV-TR) (American Psychological Association, 1994), which indicates that an individual with mental retardation shows sub-average intelligence (with an IQ equivalent obtained by standardized and individually administered assessment of less than 70), has significant deficits in at least two areas of adaptive functioning, and that these characteristics must have begun before the age of 18. It is difficult to estimate the prevalence rate of mental retardation in the United States due to ever-changing definitions and criteria, sampling methods, and between-state/agency criteria for diagnosis. Some numbers have estimated the prevalence of mental retardation in the United States to be between .9% of the population and 2.5% (Biasini, Grupe, Huffman, & Bray, 1999).

In 2007, the American Association on Intellectual and Developmental Disabilities (formerly the American Association for Mental Retardation) changed its
name in keeping with the sentiment that intellectual disability was a term preferred over mental retardation ("FAQ on Intellectual Disabilities," 2007). For the purposes of this paper, the term mental retardation will only be used when specifically referencing a diagnosis. In other areas the term intellectual disability will be used.

Having a child with an intellectual disability poses stress to the child’s entire family and challenges the family’s resources, changing the way the family members see themselves and relate to each other (McCubbin & Patterson, 1983; Patterson & Garwick, 1994). Research has suggested that factors that contribute to poor maternal well-being, such as depression, stress, and anxiety, are more prevalent in mothers of children with intellectual disabilities than in the general population (Baker, Blacher, Crnic, & Edelbrook, 2002; Blacher, Shapiro, Lopez, Diaz, & Fusco, 1997; Dumas, Wolf, Fisman, & Culligam, 1991; Emerson, 2003; Glidden & Schoolcraft, 2003; Hastings, 2003; Hoare, Harris, Jackson, & Kerley, 1998; Olsson & Hwang, 2001; Saloviita, Itälinna, & Leinonen, 2003; Veisson, 1999). Caregivers and families of children with intellectual disabilities must face the struggles every family faces as well as those adjustments unique to caring for a child with an intellectual disability (Werth & Oseroff, 1987), which include greater challenges in caregiving, more health problems than children who are typically developing, and greater feelings of isolation and restriction than other families (Quine & Pahl, 1985; Roach, Ormond, & Barratt, 1999; Valentine, McDermott, & Anderson, 1998). Difficulties posed to the parents and families of children with intellectual deficits can bring anxiety, are related to overprotective and rigid parenting styles (Lardieri, Blacher, & Swanson, 2000), and can lower a family’s level of coherence (Margalit & Heiman, 1986). Other family
members can be neglected, leading to less emphasis on the personal growth of other children in the family (Margalit & Heiman, 1986). Finances can be a greater strain for this population, and these caregivers have to struggle more with coordination between various agencies (Freedman & Boyer, 2000).

Most early research on families of children with intellectual disabilities examined the negative effects that having a child with an intellectual disability can have on parents, such as depression, stress, and poor maternal well-being. Gath (1977) and Tew, Payne, and Lawrence (1974) reported greater stress and higher rates of divorce for parents of children with intellectual disabilities. Several researchers reported higher rates of depression among parents of children with intellectual disabilities (Beckman, 1991; Blacher, Shapiro, Lopez, Diaz, & Fusco, 1997; Cummings, Bayley, & Rie, 1966). Shearn and Todd (2000) reported findings that suggested parents of children with intellectual disabilities struggled with feelings of isolation and lack of fulfillment due to difficulties balancing work and parenting roles.

The negative effects of having a child with an intellectual disability can have an impact on the family as a whole as well. Many studies have shown that having a child with an intellectual disability has a negative effect on spousal relationships (Bristol, Gallagher, & Schopler, 1988; Friedrich & Friedrich, 1981; Friedrich, Wilturner, & Cohen, 1985; Gath & Gumley, 1984), and that levels of support spouses give each other are lower for parents of children with intellectual disabilities (Bristol et al., 1988). Faber (1959) examined the stress on siblings of children with intellectual disabilities.
disabilities and found that self-reported stress was greater for these siblings than for those siblings of children developing typically.

These increased challenges of parenting a child with an intellectual disability can affect parents’ well-being. According to several studies, behavioral problems may be a greater source of stress for a parent than the actual presence of cognitive deficits or developmental delays (Baker et al., 2002, 2003; Hastings 2003; Olsson & Hwang, 2001; Saloviita et al., 2003). This stress may impact the way parents interact with their children. Mothers experiencing more stress, such as stress caused by children with behavioral problems, interact less with their developmentally delayed children (Wheeler, Hatton, Reichardt, & Bailey, 2007). The child’s behavior may impact parent-child interactions, and may be a greater factor influencing parent-child interaction for those with intellectual disabilities than for children developing typically.

When an individual or family thrives and succeeds despite risk factors in their path, it is said that they have demonstrated resilience (Grant, Ramcharan, & Goward, 2003). It is unclear, however, what specific factors contribute to resilience. The essence of resilience is the result of positive outcomes despite risk factors. Hope, optimism, and social support for parents have been shown to be related to positive parenting behaviors and positive outcomes for children. Social support (Green, Furrer, & McAllister, 2007; Nitz, Ketterlinus, & Brandt, 1995), hope (Kashdan et al., 2002), and optimism (Jones, Forehand, Brody, & Armistead, 2002) have been shown to be correlated with positive parenting behaviors. Although the connection between social support and parenting has been established, it is less clear how hope and
optimism contribute to parenting behaviors, and this study intends to explore how hope and optimism impact the relationships between social support and parenting as well as stress and parenting.

The purpose of this study was to examine the role of hope and optimism in predicting social support for parents of children with intellectual disabilities and how these factors influence stress and parenting behaviors. Very few studies have examined the relationships between hope and optimism and stress as they relate to parenting behaviors, and no studies have examined social support in relation to hope, optimism, and stress among parents of children with intellectual disabilities. Hope, optimism, and social support have been shown to be important protective factors for parents of children with intellectual disabilities (Kashdan et al., 2002), and these factors have been shown to have important relationships with parenting behaviors. However, hope and optimism have not been studied as possible predictive variables for social support for this population, and the interactions of these three variables with parenting behaviors have not been examined with this population. This study intended to address this gap in the literature. Understanding the relationships among these variables may provide information about creating programs to increase positive parenting behaviors and decrease negative parenting behaviors in parents of children with cognitive disabilities.

Determining factors that would increase positive parenting behaviors and reduce negative behaviors may be important in helping parents care for their children at home rather than having children admitted to an institution in order to cope with problematic behaviors. Parental behaviors have been associated with problematic...
externalizing behaviors in children, and these behaviors have been found to be the most prevalent causes cited for admission to inpatient care for these children. It was estimated that in 2002, on average, an inpatient resident at a public institution cost the state $125,746 and that this cost is rising. Home and Community Based Services funded by Medicaid cost about $37,816 in 2002 (Stancliffe, Lakin, Shea, Prouty, & Coucovanis, 2005). The high costs of inpatient treatment would indicate that increasing factors of resilience in parents of children with intellectual deficits could be of financial benefit to states that fund inpatient services for children with intellectual deficits. The following will review the literature on the predictors of parenting children with intellectual disabilities, including stress, child behavior problems, and maternal well-being. Of interest are those protective factors which contribute to positive outcomes and reduced stress. The research on the importance of social support as a protective factor will be explored. Next, the literature review will include a discussion of the research on hope and optimism as additional potential protective factors.

Parenting a Child with an Intellectual Disability

*Parenting Behaviors*

Parenting behaviors have a strong influence on the developmental outcome of a child. Positive parenting behaviors such as warmth, responsiveness, and positive interactions have been associated with children’s social competence, emotional understanding, positive emotionality, prosocial behavior, and self-esteem (Boyum & Parke, 1995; Bronstein, Clauson, Stoll, & Abrams, 1993; Cassidy, Parke, Butkovsky, & Braungart, 1992; Halberstadt, Crisp, & Eaton, 1999). Parental behaviors have been
shown to be an important protective factor for children with intellectual disabilities in that parental behaviors can influence child behaviors, and more positive parental behaviors can lead to fewer behavior problems and more positive outcomes for these children. Because of the importance of parental behaviors for children with intellectual disabilities it is important to know what factors influence parental behaviors. It is important to explore and understand child behavior problems of children with intellectual disabilities, as these behavior problems can influence parental behaviors.

Maternal encouraging behaviors were shown to be associated with greater achievements in expressive and receptive language development and more mature play, suggesting an important link between parental behaviors and child cognitive development (Tamis-LeMonda & Bornstein, 1989). Maternal responsive behaviors have been shown to be associated with earlier achievement of language milestones and better language proficiency in children (McCathern, Warren, & Yoder, 1996; Yoder & Warren, 1998). Bornstein and Tamis-Lemonda (1989) found that infants whose mothers were more responsive had higher scores on the *Weschler Preschool and Primary Scale of Intelligence* later in childhood. Scaffolding, which describes behavior in which parents use questions to stimulate their child’s thoughts, link objects to locations for their child, categorize objects, relate current experiences to past experiences for their child, and express emotions while offering a reason for the emotion, has also been linked to children’s mental development, vocabulary development (Stevens, Blake, Vitale, & MacDonald, 1998), increased school readiness, and increased problem-solving skills (Freund, 1990). Parental scaffolding
behaviors have also been shown to be related to increased independence, as well as
social and cognitive functioning in children (Smith, Landry, & Swark, 2000).

Niccols and Feldman (2006) conducted a study of two and three-year-olds at
risk for developmental delay. They found an inverse relationship between the level of
sensitivity displayed in maternal behaviors and their children’s externalizing
behavior. Maternal displays of sensitivity were positively correlated with appropriate
behaviors. According to their observations, the researchers concluded that maternal
behavior such as sensitivity can reduce behavior problems in children with
developmental delay, acting as a protective factor against child behavior problems.
Supportive parental reactions to children’s negative emotions are associated with
children’s use of constructive coping strategies (Eisenberg & Fabes, 1994). Maternal
responsiveness has been related to better development of social skills and greater
resilience to emotional problems in children in several studies (Calkins, Smith, Gill,
& Johnson, 1998; Goldberg, Lojkasek, Gartner, & Corter, 1989; Kochanska, Forman,
& Coy, 1999; Landry, Smith, Miller-Loncar, & Swark, 1997).

Marfo (1992) examined how directive mothers are with their children (termed
maternal directiveness) with intellectual disabilities, suggesting that being directive
was important for positive outcomes in these children. In this study, the mothers of
children with intellectual disabilities often combined directiveness and warmth,
sensitivity, and elaborativeness. Directiveness was associated with high mutuality
between mother and child while intrusiveness was inversely related. Mothers of
children who had more severe intellectual disabilities tended to be more directive.
Further support for the idea that parental behaviors influence child behaviors can be seen in studies which show that training that improves positive parenting behaviors reduces child behavior problems (Kazdin, 1987). Also, Paczkowski and Baker (2007) found that behavior problems in children tend to decrease when parents use more supportive parenting behaviors. Children with intellectual disabilities had a greater increase in behavioral problems than children without intellectual disabilities when parents exhibited higher levels of non-supportive parenting behaviors, confirming a greater impact of parenting behaviors on children at risk.

Poor parenting is related to poor child adjustment as well as to both parental stress and child behavior problems (Deater-Deckard & Scarr, 1996; Jackson, 2000). Authoritarian child-rearing practices were shown to be related to greater child behavior problems and lower levels of child adjustment in a sample of 77 young children (Heller, Baker, Henker, & Hinshaw, 1996). Non-supportive parental reactions have been shown to be associated with low levels of children’s emotional and social competence (Eisenberg, Cumberland, & Spinrad, 1998). Unresponsive and directive behaviors in which mothers are inattentive to the object or activity the child is focused on seem to have a negative influence on a child’s development of independence, social skills, and initiative in children who are developing typically (Landry, Smith, Swark, & Miller-Loncar, 2000).

Studies have shown that mothers of children with developmental delay, when compared to mothers of children developing typically, tend to exhibit more negative parenting behaviors such as being overly directive, negative, critical, and hostile (Beck, Daley, Hastings, & Stevenson, 2004; Floyd, Harter, & Costigan, 2004). Crnic
and Greenberg (1987) suggest that parenting behaviors may have an even greater impact on child behaviors for children with intellectual disabilities because the child’s ability to reason and cope may be lower than that of a child developing typically. Parenting a child with an intellectual disability has been associated with increased stress on the family, and on parents specifically. Mothers may interact with children who have intellectual disabilities in a different way than with children developing typically. Beck, Daley, Hastings, and Stevenson (2004) looked at dimensions of parenting, expressed emotion, self-efficacy and parental satisfaction among 33 parents of children with intellectual disabilities. Findings indicated that mothers expressed more negative emotions towards their children with intellectual disabilities than toward their children without intellectual disabilities. Results also suggested that parental feelings of self-efficacy and satisfaction and the severity of child behavior problems were associated with emotional expression, suggesting that parent-child interactions were related to child behavior problems.

How well a parent responds to and handles behavior problems may influence the course of those behavior problems (Blader, 2006). Negative parenting behaviors can exacerbate child behavior problems (Bank, Forgatch, Patterson, & Fetrow, 1993; Rhule, McMahon, & Spieker, 2004). There have been studies that show a link between certain maternal behaviors and childhood behavior problems for young children (Beck, Daley, Hastings & Stevenson, 2004; Bohlin & Hagekull, 2000; Deater-Deckard & Petrill, 2004; Floyd, Harter, & Costigan, 2004; Lieberman, Padan-Belkin, & Harel, 1995; Rose-Krasnor, Rubin, Booth, & Coplan, 1996; Rothbaum & Weisz, 1994; Shaw, Keenan, & Vondra, 1994) and adolescents (Barnes, 1990;
Baumrind, 1991; Kazdin, 1987; Patterson, 1982). Harsh discipline and parenting behaviors have been shown to be strongly associated with child behavior problems (Morrell & Murray, 2003). Parental expressions of anger have been suggested to affect antisocial behaviors in children (Vuchinich, Bank, & Patterson, 1992). Hostility has been shown to exacerbate behavior problems in children (Patterson, 1982). Poor parenting behaviors and negative parent-child interactions have been shown in longitudinal studies to have negative effects on the conduct of children for years as they grow from childhood to adolescence (Frick et al., 1992; Haapasalo & Tremblay, 1994). Harsh and inconsistent discipline and low warmth and involvement have been implicated in several studies as being correlated with child behavior problems (Frick, 1994; Shaw, Gilliom, Ingoldsby, & Nagin, 2003; Stormshak, Bierman, McMahon, & Lengua, 2000).

Although studies have examined how parenting behaviors impacts child outcomes, few of these studies examined how parenting behaviors impact child outcomes in children with intellectual disabilities. The current study expanded on this literature by examining factors that may impact parenting behaviors for children with intellectual disabilities.

*Child Behavior Problems*

When children are born with or later present symptoms of intellectual disabilities, parents must adjust their expectations of what their child will be capable of and accept an ambiguous future. They may need to accept that their child will not develop like children typically do, and their child may behave in different ways than what they would expect from a typically developing child. As children with
intellectual disabilities age, many present challenging behaviors such as hyperactivity and conduct problems (Baker, Heller, & Henker, 2000; Daley & Weismer, 2003). Estimates have suggested that between 1.91% to 12% of the population of those with intellectual disabilities also exhibit challenging behaviors. Prevalence rates of challenging behaviors do change depending on the types of behaviors being classified as challenging as well as the setting in which the individual is being examined (Lowe et al., 2007). Baker et al. (2002) suggested that children with intellectual disabilities are three times more likely to have clinically significant behavior problems than those children without delays.

Child behaviors beyond conduct problems can impact parent-child interactions. It may be more difficult for a mother to respond to a child with an intellectual disability because the child may not be responsive to the mother (Hirose & Barnard, 1997; Marfo, 1992; Marfo et al., 1998). The ability for a parent to display positive parenting behaviors may be impacted by the nature of the child’s disability and associated behaviors. Children with autism that is co-morbid with intellectual disabilities, for example, may not be as responsive to warmth and positive parenting as a child with Down Syndrome. It may be more difficult for a mother to respond to children with intellectual disabilities because the children themselves are not responsive or have behavioral and/or emotional disturbances (Marfo, 1992; Marfo, Dedrick, & Barbour, 1998). In a study by Wheeler, Hatton, Reichardt, and Bailey (2007), it was suggested that mothers experiencing more stress, such as stress caused by children with behavioral problems, resulted in mothers interacting less with their children with intellectual disabilities.
Abbeduto et al. (2004) specifically looked at well-being in mothers of adolescents with three different diagnoses: autism, Fragile X syndrome, and Down Syndrome. These researchers found that mothers of adolescents with Fragile X syndrome showed lower levels of well-being than mothers of adolescents with Down Syndrome, but higher levels than mothers of adolescents with autistic disorder. This may be due to the more challenging behaviors seen in Fragile X syndrome in relation to the behaviors seen in Down Syndrome and Autism in relation to Fragile X syndrome. Children with Down Syndrome tend to exhibit fewer behavior problems and more reciprocal behaviors than children with other diagnoses.

In a study by Wishart and Johnston (1990), mothers of children with Down Syndrome tended to rate their children positively as being especially affectionate, sociable, and loveable. Children with Down Syndrome tend to display fewer behavior problems than other children with intellectual disabilities or developmental delays, (Dykens & Kasari, 1997; Gath & Gumley, 1986; Stores, Sortes, Fellows, & Buckley, 1998). Parents of children with Down Syndrome also tend to report lower levels of stress (Holroyd & McArthur, 1976; Kasari & Sigman, 1997). Ricci and Hodapp (2003) studied 30 fathers of children with Down Syndrome and 20 fathers of children with other types of developmental disabilities and intellectual disabilities. The researchers found that parents rated their children with Down Syndrome as having more positive personality characteristics than did parents of children with other types of intellectual disabilities. The findings of these studies suggest that the more severe the behavior problems, the greater the impact will be on maternal well-being, and the
greater impact this added stress will have on parenting behaviors and parent-child interactions.

Several studies suggest that child behaviors influence parental behaviors (Blader, 2006; Sameroff, 1975). Bell and Chapman (1986) suggest that behavior problems in children elicit a reaction from parents and that these reactions can in turn influence children’s behaviors. There have been some studies that show a reciprocal relationship between certain parental behaviors and adolescent behaviors (Chen, Liu, & Li, 2000; Kerr & Stattin, 2003; Laird, Pettit, Bates, & Dodge, 2003; Stice & Barrera, 1995). The severity, regularity, and persistence of behavior problems may introduce so much stress to a parent that he or she may lose the ability to respond effectively and positively to a child, thus perpetuating the problems (Huh, Tristan, Wade, & Stice, 2006). Blader (2006) uses the term “mutual antagonism” (p. 1133) to describe the interaction between child behavior problems and parental reactions and behaviors. Stress caused by child behavior problems evokes negative parenting behaviors or reactions which perpetuate negative behaviors from the child. Blader suggests that a breakdown in the parent-child relationship occurs in which hostility and detachment is ubiquitous.

Regardless of a child’s ability to adapt to his or her surroundings, care for his or her own needs, and communicate with others, having a child with an intellectual disability who is exhibiting behavior problems is stressful (Seltzer & Krauss, 1989). Behavioral problems contribute to more parental stress than do the specific and inimitable demands of a child with low adaptive functioning (Baker et al., 2002; Blacher et al., 1997; Hodapp, Dykens, & Masino, 1997; Konstantareas & Homatidis,
Because child behavior problems are a stronger predictor of parental stress, it is important to know what affects, and can reduce, behavior problems for these children so that parental stress can be reduced. As we will see, fewer child behavior problems can contribute to positive outcomes for caregivers, and in this way can be protective factors for caregivers as well. The prevalence of clinically significant behavior problems in children with intellectual disabilities greatly impacts parental experiences of stress (Floyd & Gallagher, 1997; Hayden & Goldman, 1996; Jackson, 2000; Maes, Broekman, Dosen, & Nauts, 2003). The relationship between parental stress and child behavior problems is likely to be cyclical, as child behavior problems contribute to parental stress, which in turn leads to poor parenting behaviors associated with child behavior problems.

**Parenting Stress**

Much of the literature on parenting children with intellectual disabilities focuses on maternal stress. Anthony et al. (2005) suggested that parental stress is the difficulty that results from the demands of being a parent; this difficulty has an impact on the parent’s behavior and well-being, and also impacts the child adjustment. Parents of children with intellectual disabilities report higher levels of stress than parents of children developing typically (Hastings, 2002; Hastings & Beck, 2004), and parental stress has consistently been shown to be an important predictor of parenting behaviors (Abidin, 1995). High levels of parental stress have been found to be associated with high rates of substance abuse, poor coping, anger, avoidance
behaviors, and a view that one has less social support available (Brown & Pacini, 1989; Mash & Johnston, 1983; Pelham et al., 1998).

Adaptive behavior in children with intellectual disabilities, such as how well a child cares for him- or herself, interacts with others, and communicates, can impact parental stress. Seltzer and Krauss (1989) found that mothers of children with lower levels of adaptive functioning report higher levels of stress; however, child behaviors impact parental stress in parents of children with intellectual disabilities even when controlling for the adaptive functioning of the child. Weekes, MacLean, and Berger (2005) found in their study that mothers reported more stress than fathers reported, and mothers experiencing stress reported feeling less capable of handling everyday demands than mothers who were not as highly stressed (McDowell, Saylor, Taylor, Boyce, & Stokes, 1995; Webster-Stratton, 1990) suggesting lower self-efficacy among mothers experiencing stress, particularly for those mothers of younger children.

Mothers of children with intellectual disabilities tend to report that their children’s behaviors cause them stress (Freeman, Perry, & Factor, 1991). Different diagnoses of children can lead to various levels of distress for mothers; for example, mothers of children with autism tend to report higher levels of stress and distress than mothers of children with other diagnoses co-morbid with intellectual disabilities (Abbeduto et al., 2004; Olsson & Hwang, 2001; Singer, 2006). Severity of the disability has been associated with greater stress but also increased social service support. Social service support resulted in decreases in stress and pessimism among mothers of children with intellectual disabilities (Honig & Winger, 1997). In a study
by Herring, Gray, Taffe, Sweeney, and Einfeld (2006), child behavior problems were shown to account for more variance in maternal stress than the reported severity of the child’s disability. According to several researchers, behavioral problems may be a greater source of stress for a parent than retardation or developmental delays (Baker et al., 2002, 2003; Hastings 2003; Olsson & Hwang, 2001; Saloviita et al., 2003).

Parenting stress has a negative effect on parenting behaviors (Abidin, 1995; Deater-Deckard & Scarr, 1996). If parents are stressed and see their child as difficult, they may respond to their children with behaviors lacking in warmth and responsiveness towards that child. They also have inconsistent discipline that is either lax or harsh, and they have developmentally inappropriate expectations for their child (Crawford & Manassis, 2001; Crnic & Greenberg, 1987; Karrass, VanDeventer, & Braungart-Riker, 2003; Pinderhughes, Dodge, Bates, Pettit, & Zelli, 2000; Rodriguez & Green, 1997).

When children are seen by their parents to have behavior problems, parental behaviors may be more greatly affected by parental stress. Research has found a correlation between parental stress and parenting behaviors, as well as between behavioral expectations, nurturance by parents, and discipline strategies (Briggs-Gowan, Carter, Moye, & McCue, 2001; Pinderhughes et al., 2000; Quittner, Glueckauf, & Jackson, 1990; Rodgers, 1998). Parents who describe their interactions with their children as “lacking in pleasure and positive reinforcement” and as “difficult” have higher levels of stress than parents who described their interactions with their children in more positive ways (Jackson & Huang, 1998; Ostberg & Hagekull, 2000). If stress affects parenting behaviors and parenting behaviors affects
child behaviors, this may be cyclical. It is thought that maternal well-being and parental stress influences maternal behaviors as well as child behaviors (Wheeler, Hatton, Reichardt, & Bailey, 2007). In short, when a parent is stressed, he or she is less likely to engage in positive parenting behaviors (Baker et al., 2003), and when a parent sees their child as having behavior problems, their stress levels increase along with negative parenting behaviors.

In support of the idea that the relationship between child behaviors and parental stress may be cyclical, Orsmond, Seltzer, Krauss, and Hong (2003) examined the directional effects of changes in maternal stress and child behavior problems in a sample of 193 adults with intellectual disabilities living with their mothers. Data were collected over a six year period. Results of their study suggested that, over time, behavior problems increase maternal stress while at the same time increases in maternal stress led to increases in behavior problems. It may be that maternal stress impacts parental behaviors, which influence behaviors that in turn contribute to maternal stress (Orsmond, Seltzer, Krauss, & Hong, 2003). Parental stress contributes to poor outcomes (Abidin, 1995), and children with intellectual disabilities are at even greater risk for more negative outcomes due to this stress (Hastings 2002; Hastings & Beck, 2004). Rutter and Quinton (1984) implicate stress as the most vital mediating variable between mental health of parents and behavior problems in children.

Studies indicate that child behavior problems increase parental stress and that increased stress, in turn, increases child behavior problems. Child behavior problems are correlated with greater levels of parental stress (Baker & Heller, 1996), more negative parenting behaviors (Heller, Baker, Henker, & Hinshaw, 1996) and less
positive parent-child interactions (Campbell, Ewing, Breaux, & Szumowski, 1986; Richman, Miller, & LeVine, 1992). The current study sought to expand the literature addressing strengths of caregivers of children with intellectual disabilities and to better understand the relationship between parenting behaviors, parenting stress, and factors of resilience interact. Understanding these relationships may assist in developing programs that increase factors that support positive behaviors, thus reducing child behavior problems and parental stress, leading to better outcomes for children.

Much of the research in the area of children with disabilities, particularly intellectual disabilities, has examined weaknesses, problems, and vulnerabilities of the individual with the disability and his or her family rather than the strengths of those individuals and families. Although having a child with an intellectual disability poses unique stresses to the family and poses certain risks for poor outcomes, many families and parents report positive aspects of their experience. Although having a child with an intellectual disability is a risk factor for negative parenting behaviors, and having a child that displays disruptive behaviors contributes to high levels of parental stress (Biederman, Faraone, Keenan, Steingard, & Tsuang, 1991; Pelham et al., 1998), not all parents of these children report either of these negative effects (Kashdan et al., 2002). It is important to discover what protective factors distinguish those parents who have negative outcomes and effects and those who do not. This study sought to examine factors of resilience in order to determine if these factors provide a buffer against the negative effects of stress, decrease negative behaviors, or if these factors contribute to positive behaviors in caregivers.
Protective Factors

Recent researchers have focused on positive aspects of the parental experience in an attempt to identify those factors that might predict which parents of children with intellectual disabilities show resilience, adapting well and having positive outcomes, and which parents of similar children will not (Crnic, Friedrich, & Greenberg, 1983; McCubbin & Patterson, 1983; Patterson, 1988; Seligman & Darling, 1997). Additional research is needed to identify protective factors that explain why some families suffer, some families cope well, and other families thrive with the introduction of a child with an intellectual disability (Dykens, 2006).

Although it is true that individuals with an intellectual disability and their families are at risk for adverse consequences when exposed to certain situations or events, it is also true that many individuals with an intellectual disability and their families possess strengths that allow them to recover and adapt to these same situations or events (Greenbaum & Auerbach, 1998). This ability to recover and adapt to situations despite adversity in those situations is called resilience (Masten, Best, & Garmezy, 1990). There is evidence that families, particularly mothers, go through an initial period of “shock” associated with the arrival of a child with an intellectual disability, but that a period of remarkable adjustment, coping, and resilience follows (Mahoney, O’Sullivan, & Robinson, 1992).

Some family members report that there are benefits to having a family member with an intellectual disability, such as positive personal and familial transformations, increased adaptability, and newfound strengths and abilities. These family members often see life as more valuable and richer because of the individual
with an intellectual disability. Some of the positive aspects of having a child with a disability as listed by parents include personal growth; additional opportunities such as teaching, advocating, and leading groups; acquisition of positive traits such as strength and patience, and enhancement of spirituality; stronger relationships among friends and family, improved attitudes; and a more positive perspective (Scorgie & Sobsey, 2000). In a study conducted by Behr (1988) of over 1,000 families with children who had disabilities, common factors reported by family members of individuals with intellectual disabilities included: that the child with a disability was a source of love and happiness, that he or she fostered strength and a sense of cooperation within the family unit, that individual family members experienced personal growth and a sense of pride, that the child with a disability was a source of learning and provided growth-spurring challenges, and that the family members had a sense of purpose as a result of caring for the child. Additional research by Stainton and Besser (1998) found additional reports of positive aspects of caring for a child with a disability such as enhanced spirituality, enhanced tolerance and understanding, and a positive influence on the family and community. Skinner, Bailey, Correa, and Rodriguez (1998) found that Latino mothers of children with developmental disabilities found meaning in their lives through caring for their children and believed that they were better mothers for having cared for their child. Parents reported that they believed their families were stronger, more patient, compassionate and appreciative because one of their children had intellectual disabilities (Abbott & Meredith, 1986).
Resilience

Resilience is an important factor in positive psychology and involves one’s ability to learn from negative situations (Crnic, Friedrich, & Greenberg, 1983) as well as the reduction of poor outcomes or the enhancement of positive outcomes despite risk factors (Rutter, 1987). Risk factors are characteristics of either a situation or individual that increase the chances of poor outcome. The impact of these risk factors is moderated by mechanisms that produce vulnerability or protection (Luthar & Zigler, 1991). The interaction of risk factors and protective factors determines outcome and explains resilience (Rutter, 1987; Tebes & Irish, 2000). Research on resilience within ecological and developmental contexts primarily attempts to identify those factors that help some families cope positively and emerge from adverse situations more robust than other families (Hawley & DeHaan, 1996; Walsh, 1996).

Identifying what protective factors create the distinction between individuals who succeed and achieve despite adversity and those who do not can assist in creating effective intervention programs for families (Masten & Coatsworth, 1998). There is some controversy in the literature regarding what specific factors create resiliency in an individual (Patterson, 2002). In fact, being exposed to adverse or disruptive conditions may actually have the positive effect of strengthening resilience by offering an individual challenges that create opportunities for growth (Greenbaum & Auerback, 1998). Poehlmann, Clements, Abeduto, and Farsad (2005) recognize an important gap in the literature: the positive coping strategies families use to respond and adapt to having a family member diagnosed with an intellectual disability.
Having a child with an intellectual disability creates stress to the child’s entire family as a unit and challenges the family’s resources, changing the way the family members see themselves and relate to each other (McCubbin & Patterson, 1983; Patterson & Garwick, 1994). Despite these challenges, both parents and children are often able to avoid conflict and maintain the same level of negative exchange (fighting, non-supportive verbalizations, and negative tones in exchanges) as families without a child with a disability (Floyd & Phillippe, 1993; Stoneman, Brody, & Burke, 1989). According to Kauffman, Grunebaum, Cohler, and Gamer (1979) and Werner (1989), some children show an enhanced ability to adapt when adverse family situations require increased role demands on family members. Families generally find positive and effective ways of coping with the difficult behaviors children with developmental delays and/or intellectual disabilities pose, and these families tend to be considerably resilient (Turnbull et al., 1993).

Resilience is neither the absence of challenges nor the overcoming or bouncing back from challenges unchanged or unscathed. Resilience involves learning from and growing from adversity (Margalit & Kleitman, 2006). Receiving a diagnosis of a child’s intellectual disability can be an emotional event for his or her entire family. These emotions can often be similar to bereavement as the parents (and sometimes siblings) grieve for the child they hoped for (Blacher, 1984; Burden & Thomas, 1986; Shonkoff, Hauser-Cram, Krauss, & Upshur, 1992; Trout, 1983; Waisbren, 1980). Poehlmann, Clements, Abbeduto, and Farsad (2005) examined the process mothers go through in adapting to a diagnosis of Fragile X or Down Syndrome (two of the most common genetic causes for intellectual disabilities).
Coping mechanisms reported to help the families adjust with the diagnosis included actively seeking support from friends and family, actively seeking services, accepting the diagnosis, and integrating the child and his/her abilities into the family structure. These researchers found that families typically show both grief and resourcefulness in the adjustment process.

It is common, as seen in the Poehlmann et al. (2005) study, for negative and stressful experiences to co-occur with positive events and experiences (Hastings & Taunt, 2002), leading to learning and growth. Many families may choose to see receiving a diagnosis as positive (e.g., as an answer to a question, as offering a clear path of intervention) and in this way learn and grow from the situation. Some researchers have labeled this interaction of positive and negative in families with a child with a disability as resilient disruption (Costigan, Floyd, Harter, & McClintick, 1997; Poehlmann et al., 2005).

Costigan et al. (1997) proposed a resilient disruption model of family adaptation to a child with an intellectual disability. A family is disrupted by the demands of a child with an intellectual disability as parents have to attend to so many behavior problems and special needs of the child with the disability. These demands mean that parents must spend less time in active coping behaviors and positive parenting behaviors. Also, because the needs of the child with an intellectual disability are so high, siblings are often less assertive and less involved in family problem solving than in families without a child with an intellectual disability. In dysfunctional families, there is often evidence of coercive control strategies. In families with children with intellectual disabilities, there is often an attempt to avoid
such control tactics. Resilient families seem to be able to maintain positive relationships and supportive emotional expression. Families with children with intellectual disabilities show evidence of more disruption than families without, but also more resilience in that they often are able to avoid negative interactions and maintain positive expression and interaction. Resilience is also evident in the way children and parents adjust their roles to accommodate the demands of a child with special needs and/or behavioral problems. Research also indicates that parent-child relationships are more resilient in families with children who have intellectual disabilities than in families with children developing typically, possibly because of the greater number of challenges that provide these families greater opportunities for growth than are present with families whose children are developing typically (Poehlmann et al., 2005).

Costigan et al. (1997) examined the resilient disruption model in 165 families, all of which had a child with an intellectual disability, and compared these families to 52 families without children with intellectual disabilities. Parents of children with intellectual disabilities exhibited more directive behaviors than did parents of children developing typically, which is common and appropriate for this population. Single mothers of children with intellectual disabilities showed less interaction such as discussion, give-and-take of ideas, and contribution of ideas and opinions among family members in solving family problems than in the sample of parents of children with children developing typically, suggesting that there is greater disruption for single mothers of children with intellectual disabilities than for two-parent households of children with intellectual disabilities. Children with intellectual disabilities were
less involved in active problem solving behaviors than were children developing typically. However, siblings in both families of children with intellectual disabilities and families of children developing typically exhibited similar behaviors, and a lack of disruptive behavior was observed in the siblings of children with intellectual disabilities, showing signs of resilience for these families. Although the family coping process is disrupted by this stressor because of greater demands due to the needs and behavior problems posed by the child with an intellectual disability, resilience is evident in the family’s ability to avoid negative parenting and interacting styles.

Most of the literature that deals with resilience and intellectual disabilities looks at the resilience of an individual with an intellectual disability and views the family as a protective factor that enhances resilience in that individual (Grant, Ramcharan, & Goward, 2003). Although scant, there has been some examination of resilience specifically in families and parents with a child who has an intellectual disability. Beavers, Hampson, Hulgus, and Beavers (1986) found in their study of 40 families’ self reports that how well a family is organized can be an indicator of the level of adaptation that a family shows. Families who recognized the needs of the child with an intellectual disability while also acknowledging the needs and opinions of the other family members were found to be the best adapted. Balancing the needs of the child with the disability and the needs of the child or children without a disability was also important. Having activities that the family members were involved in seemed to help the family in adapting. Having a clear diagnosis and information about that diagnosis was important in family adaptation, as was positive contact with other family members. Competent families seemed to become more
cohesive, using multiple approaches to coping and respecting different viewpoints. These families were able to have a sense of pride in the belief that they were a good family that took care of the child with a disability. A focus on the present as well as on small achievements was also important.

Other researchers have examined characteristics of families and individuals in search of protective factors that create resilience. Beavers et al., (1986) found that in families of children with intellectual disabilities certain characteristics distinguished healthy and competent families from families who were less so. These characteristics included: parental partnership with equal power between mother and father, a balance of needs between the child with an intellectual disability and the child or children without, and a clear diagnosis as well as information about that diagnosis for the child with an intellectual disability. An easy temperament seems to be an individual characteristic that may allow a person with an intellectual disability to be resilient in that they are not as easily discouraged as someone with a less easy temperament. It is unclear as to whether there is a comparable easy temperament of the family that would have the same effect for a family. A feeling of mastery or locus of control also enhances family resilience (Werner & Smith, 1992).

Patterson (2002) suggested that how family members adjust to stressful situations (like having a member with an intellectual disability) is impacted by how the family appraises that situation (how stressful each family member views the situation, both in daily living and overall), the resources they have (access to agencies and special services as well as familial and social support), and the responses they use (active coping strategies and collaboration, for example). Good communication can
be helpful, as well as effective communication and problem solving. For children with intellectual disabilities, positive outcomes related to behavior, social adjustment, and academic performance are enhanced by family routines (Boyce, Jensen, James, & Peacock, 1983; Turnbull & Ruef, 1996), particularly in families facing stresses, because routines help maintain stability, feelings of security, and togetherness (Jensen, James, Boyce, & Hartnett, 1983).

A study by Margalit and Kleitman (2006), showed a relationship between resilience and confidence, increased family support, and decreased stress. Mothers who reported feeling satisfied and feeling that the early intervention program in which their child with special needs was enrolled was helpful and informative experienced lower levels of stress than mothers that did not have such an experience. Again, social and familial support was found to be important in reducing stress and to be related to increased resilience.

In a study by Heiman (2002), resilience was examined in families with children with disabilities. There was a great deal of frustration and dissatisfaction expressed among parents who had to make changes in their social life because of the birth of a child with an intellectual disability. Some parents tried to keep the routines they had established in their life before the birth of their child with an intellectual disability. Most parents indicated that belief in the future of the child, optimism, and realistic views of the disability coupled with acceptance of the disability were important factors in resilience. Some parents noted the importance of seeing the child with the disability as an integral part of the family rather than separate from the family. Other factors that emerged in this study as important for family resilience
were open communication with family, friends, and professionals; positive bonds between parents and supports; and educational, therapeutic, and psychological support for all the family members.

Feelings of self-efficacy are important factors in family resilience; that is, it is important to believe in one’s strength and ability to promote change (Margalit & Kleitman, 2006). Paczkowski and Baker (2007) suggested that parental self-efficacy can have an impact on child behaviors for children with intellectual disabilities.

Parental self-efficacy involves a parent’s belief in how well he or she can perform the duties associated with parenting. Parents with low self-efficacy tend to have children with more behavior problems (Coleman & Karraker, 2003; Day, Factor, & Szkiba-Day, 1994). Coleman and Karraker (2003) also found that self-efficacy was related to greater affection and less negativity displayed by the child towards the parent. Parents lower in self-efficacy are more likely to abuse their child (Mash & Johnston, 1983). Also, parents lower in self-efficacy tend to use more negative parenting behaviors such as coercion with children (Bondy & Mash, 1999), and harsher, inconsistent and permissive discipline styles (Sanders & Woolley, 2005). Parental warmth, sensitivity, responsiveness, and active coping are associated with higher self-efficacy (Stifter & Bono, 1998; Teti & Gelfand, 1991).

Calzada, Eyberg, Rich, and Querido (2004) and Melnyk et al. (2004) conducted research that suggested advantages of programs that increase parents’ belief in their parenting abilities. It is important that mothers experience feelings of self-efficacy in order for those mothers to be resilient. In this research, Calzada et al. (2004) and Melnyk et al. (2004) emphasized the need to empower parents and carry
out direct intervention with the children. Doing something active such as seeking support through an agency, volunteer group, or special education system seems to strengthen resilience according to these studies. Drawing support from the extended as well as immediate family may also help parents to feel a sense of control, maintain routines, and strengthen resilience (Heiman, 2002).

It is unclear in these studies how parenting behaviors impact the resilience of these families, and it is also not discussed how resilience in these families impact parenting behaviors. It would be intuitive that there would be an interaction between factors of resilience, stress reduction, and parenting behaviors, but studies that examine resilience in this population have not examine these interactions. One factor of resilience that has been examined for its impact on parental stress and parenting behaviors is social support. Social support may be a direct and indirect factor in resilience. Parents of children with intellectual disabilities experiencing stress are vulnerable to becoming socially isolated, depressed, and having relationship conflicts (Keller & Honig, 2004; Margalit, Leyser, Ankonina, & Avraham, 1991). Because of this vulnerability, it is important to examine ways to increase social support in this population so caregivers of children with intellectual disabilities can benefit from this protective factor.

**Social Support.** Social support, the availability of people an individual can rely upon for support (Sarason, Levine, Basham, & Sarason, 1983), seems to be an important protective factor influencing positive outcomes for parents of children with intellectual disabilities. Social support can be conceived of in two different ways: functional social support which involves emotional/social support and has been
shown to be a stronger predictor in health outcomes (Blazer, 1982) and more strongly associated with adjustment (Billings & Moos, 1981; Helgeson & Cohen, 1996; Porritt, 1979) or instrumental or structural support which involves services, information, and practical forms of support (Trunzo & Pinto, 2003). Those who perceive themselves as having high levels of support from others have better physical health outcomes, mental health outcomes, and longer lives than those who do not perceive themselves to have support from others (Cutrona & Russell, 1990; Hobfoll & Stephens, 1990).

It has been suggested through research that social support networks buffer against stress (Cobb, 1976; Cohen & Syme, 1985). High levels of social support have been related to decreased symptoms of post traumatic stress disorder (Andrykowski, Cordova, McGrath, Sloan, & Kanady, 2000). Perceived social support has also been shown to mediate stress (Dunst & Trivette, 1986; Gallagher, Beckman, & Cross, 1983). Cohen and Wills (1985) reviewed numerous studies examining the impact of social support and stress and found evidence through examination of the statistical analyses used in the studies for a buffering model in which social support acted as a buffer against stress. They also found evidence to suggest that those individuals with larger and stronger social support networks reacted with less stress to stressful situations.

Dunst, Trivette, and Hamby (1994) found that those parents of children with intellectual disabilities who perceived high levels of social support had lower levels of stress than parents who did not have high levels of perceived social support. Dunst and Trivette (1986), in their study of mothers with children who have intellectual
disabilities, found that parents with less familial support had more roles to play (maternal role accumulation) and exhibited less responsive and engaging (facilitating) or imposing (initiating) parenting behaviors. This is presumably due to lack of opportunity because of greater responsibilities and demands elsewhere. Another source of social support that can be essential in a family’s ability to reduce stress and adapt can be extended family, particularly grandparents. Having these family members in a supportive role can offer a great deal of emotional assistance (Seligman & Darling, 1997).

The support parents receive and perceive may also greatly influence parental behaviors towards children with intellectual disabilities. In a study by Dunst, Trivette, and Cross (1986), 137 parents of children with various disabilities, including many with intellectual disabilities, high levels of social support were associated with lower levels of stress. Although professional support reduces maternal reports of stress (Honig & Winger, 1997), social support also plays an important role in a sense of security, decrease in feelings of isolation, and an increase in positive affect, and these factors serve to increase well-being (Cohen, Gottlieb, & Underwood, 2000). Partner support is also important in protecting parents of children with intellectual disabilities from the effects of stress (Kazak & Marvin, 1984). Those families with greater social support reported experiencing less feelings of burden (Heller & Factor, 1993) and having higher overall family functioning (Lustig, 1999).

The diagnosis of a child with intellectual disabilities or developmental delays has been shown to impact levels of social support. Wiess (2002) assessed 120 mothers including 40 mothers of children with autism, 40 mothers of children with
intellectual disabilities, and 40 mothers of children developing typically and found that the mothers of children with autism reported the most negative effects of stress including depression, followed by the mothers of children with intellectual disabilities. Perceived social support was lower for parents of children with autism than for parents of children with diagnoses of mental retardation. In all the groups, perceived spousal support was related to more positive feelings and fewer somatic symptoms. This study also highlighted the concept that perceived support may be more important than actual support.

Higher levels of social support have been shown to be correlated with lower levels of stress. Margalit and Kleitman (2006) found in their study of 70 mothers of children with intellectual disabilities that mothers who reported perceiving high levels of family and social support reported lower levels of stress. Horton and Wallander (2001) also studied mothers of children with intellectual disabilities and other disabilities and found that social support contributed to lower levels of maternal distress in this population. Crnic (1990) as well as Crnic et al. (1983) also recognized the importance of social support for families of children with intellectual disabilities. These researchers suggested that social support relieved some of the stress that is typical among parents of children with a disability, and that this relief in turn resulted in better developmental outcomes for the child with an intellectual disability.

Other researchers have echoed the importance of social support for both individuals with intellectual disabilities and their families (Bromley & Blacher, 1991; Rosen & Burchard, 1990). Ben-Zur, Duvdevany, and Lury (2005), using various questionnaire measures administered in an interview format, examined a sample of
100 mothers, 50 of whom had children with intellectual disabilities living at home with them and 50 of whom had children with intellectual disabilities living in out-of-home placements. They found that in both groups social support and high levels of mental health were positively correlated, and social support was negatively correlated with stress. The results suggested that social support can reduce parental stress. These findings have been supported by other studies as well (Dunst, Leet, & Trivette, 1988; Rimmerman, Treves, & Duvdevany, 1999).

Social support is seen by mothers as a vital form of assistance (Chen & Tang, 1997). As part of a longitudinal study of children with intellectual disabilities in the Netherlands, Douma, Dekker, and Koot (2006) examined 745 children. Of the parents of these children, 289 reported that their children had emotional and/or behavioral problems. Approximately 88% of the parents reported needing support, specifically social support, and those parents whose children were seen to have emotional and/or behavioral problems reported needing the most support. In another longitudinal study, Hansen-Cram, Warfield, Shonkoff, and Krauss (2001) found that social support predicted well-being and reduced stress in mothers of children with intellectual disabilities.

Social support for parents may be impacted by child behavior problems. Mothers of children with Down Syndrome, which may present with concurrent diagnosis of mental retardation but few behavioral problems have been shown to report lower levels of stress (Kasari & Sigman, 1997), higher levels of social support (Hansen-Cram et al., 2001; Shonkoff, Hauser-Cram, Krauss & Upshur, 1992), and also that their children have easier temperaments and fewer behavior problems, than
do mothers of children with other developmental or intellectual disabilities (Kasari & Sigman, 1997; Pueschel, 1996; Seltzer, Krauss, Orsmond, & Vestal, 2000). Mothers of children with autism as a primary diagnosis, which typically presents with many behavior problems, reported having less support than mothers of children with intellectual disabilities as a primary diagnosis. They also reported having more negative views of their children than other mothers of children with intellectual disabilities (Donovan, 1988). Mothers of children with Fragile X syndrome, which typically presents with fewer behavior problems than autism but with more behavioral problems than Down Syndrome, reported more perceived social support than mothers of children with autism, but less than mothers of children with Down Syndrome (Abbeduto et al., 2004). Children with Fragile X display more maladaptive behaviors than do children with Down Syndrome (Hagerman, 1999; Keysor & Mazzocco, 2002).

Rimmerman and Muraver (2001) found that mothers of adult children with intellectual disabilities reported having less social support than did mothers of typically developing children. Having a child with behavior problems can cause isolation from other people. As social support is a protective factor against lack of perceived well-being for parents, it is an important factor adding to resilience. Because mothers of children with intellectual disabilities are at greater risk for poor outcomes, poor well-being, and engaging in poor parenting, social support may be more important for these mothers than for mothers of children developing typically.

Social support has been shown to mediate stress as well as another factor of interest in positive psychology: optimism. In a study of 69 breast cancer survivors in
a one-year longitudinal study, social support mediated the relationship between optimism and distress. The researchers suggested that those higher in optimism have greater sources of social support because it is easier to provide support to someone with a positive outlook. The mediating relationship of social support between stress and optimism has been shown to be true also in victims of trauma (Dougall, Hyman, Hayward, McFeeley, & Baum, 2001; Sherman & Walls, 1995).

Dunst and Trivette (1986) found that positive styles of interaction involving more communication, active behaviors, and play between mothers and their children with intellectual disabilities were related to age, socioeconomic status, education, social support, and satisfaction with support. Greater passivity was related to increased maternal role demands. Dunst et al. (1989) found that mothers of a lower socioeconomic class tended to have little social support and little intrafamilial role sharing and used more directive and coercive styles. Satisfaction with support was related to facilitative and engaging styles of interaction.

It is unclear whether social support enhances well-being in an individual overall regardless of the circumstances of that person or if social support acts as a buffer only for those experiencing stress (Cohen & Wills, 1985). Horton and Wallander (2001) found that social support was negatively related to stress in mothers of children with chronic disabilities. Analysis of the results of this study indicate that social support had a direct effect on the distress level of these mothers, but also acted to indirectly reduce distress by increasing yet another factor of interest in positive psychology literature: hope.
Hope and Optimism. Two other protective factors associated with resilience are hope and optimism. Snyder and colleagues stated that hope consists of goal-directed thought, with two components: agency and pathways thinking (Snyder et al., 1991a). Human behaviors are motivated by goals, and in order to achieve goals people must develop paths to accomplish them (pathways thinking) and produce the drive to use these paths (agency thinking) (Lopez, Snyder, & Pedrotti, 2003). The more paths one can conceive of to obtain desired goals, the higher one will be in hope. Additionally, when one path to goal attainment is obstructed, those that are high in hope are able to construct alternative ways to achieve the same goal (Snyder et al., 2000).

In addition to goals and pathways to achieving these goals, hope involves agency thinking: the person’s perceived abilities to achieve these goals and move along the pathways they have produced. Those with high agency thought are able to reroute themselves down alternative pathways when initial pathways are blocked. One must possess both confidence and motivation, both pathways and agency thought, in order to be considered high in hope. Pathways and agency thinking join together to produce and facilitate goal-directed behavior (Snyder et al., 2000). Both agency and pathways thinking are reciprocal and additive in that the more one believes he or she can achieve his/her goal, the more ways or paths he/she will be able to create to obtain those goals; creating more paths to obtain one’s goals will result in a higher belief that he/she can achieve those goals (Snyder et al., 1991a).

Those with higher hope react to life situations with more agency and pathways responses; that is, they create more pathways and more ways in which to move along
those pathways than those lower in hope. Those with higher hope have been shown to have more goals and confront more difficult tasks than those with lower levels of hope, but do not tend to see these goals as more difficult. Hope remains stable over time and is global in that a hopeful person is hopeful across all domains of life (Snyder et al., 1991a).

Hope has been correlated with many positive outcomes. In a six-year longitudinal study, hope was measured in freshman entering college. It was found that high levels of hope predicted higher grade point averages and higher likelihood of graduating. This effect remained when participants’ entrance examination scores were controlled for (Snyder et al., 2002). Similar relationships between academic achievement and hope have been found in other studies (Chang, 1998; Snyder, 1999; Snyder et al., 1991a). Hope has also been negatively correlated with psychological problems and positively correlated with well-being (Cheavens, Feldman, Gum, Michael, & Snyder, 2006), positive health-related coping (Irving, Snyder & Crowson, 1998), and adjustment to health problems (Barnum, Snyder, Rapoff, Mani, & Thompson, 1998). Higher levels of hope have also been correlated with better athletic performance (Curry, Snyder, Cook, Ruby, & Rehm, 1997). There have been interventions based on Hope Theory that show that increases in hope through group intervention leads to lower levels of depression (Klausner et al., 1998).

In a sample of 29 adolescent burn victims, hope and social support were found to be correlated with psychosocial adjustment (Barnum et al., 1998). In this population hope was negatively correlated with total behavior problems and social support was negatively correlated with externalizing behavior problems. Social
support and hope were related to self-esteem. Higher hope was related to higher levels of perceived social support.

Although some research has utilized the terms hope and optimism synonymously, the two are different concepts (Bruininks & Malle, 2005). Scheier and Carver (1985) described optimism as a relatively stable personality trait that is characterized by the belief that the future will be positive. As in Hope Theory, Scheier and Carver (1985) suggested that all human behavior is goal-directed. Optimism is one’s beliefs about the outcome of these goal-directed behaviors (Snyder, Irving, & Anderson, 1991), and is directly concerned with the confidence one has, or optimism one has, that goals will be obtained (Carver & Scheier, 2002, 2003). Theories of optimism have many similarities to Hope Theory, and optimism has been shown to be conceptually related to hope (Snyder, 1994). Specifically, both theories emphasize goals and outcomes as important, and both are based on the assumption that behavior is motivated by goals (Snyder, Rand, & Sigmon, 2002). Theories of optimism, unlike hope theory, do not address the origins of pathways or agency thinking, but focus on the expectations of individuals (Scheier & Carver, 1985). In short, optimism addresses the belief one has that goals will be achieved and hope addresses how those goals will be achieved and also motivates one to pursue those goals. Hope involves the ability to create paths to achieving goals and the motivation to follow those paths; optimism involves the belief that those goals will be achieved. Hope is more about action in motion and optimism is about belief in the future. Bryant and Cvengros (2004) stated that hope has to do with self-efficacy and optimism involves positive reappraisal of predicted outcomes.
Seligman (1991) suggested that optimism is goal-related in that optimistic people attempt to avoid negative outcomes and strive towards positive and desired outcomes. Scheier and Carver (1985) defined optimism as the expectation that positive outcomes will come about. Optimistic people believe that they will be able to take actions that will ensure these outcomes. When obstacles or blockages to goal-attainment occur, those individuals high in optimism tend to experience less distress and more confidence in approaching these situations and will persist despite obstacles because they believe they will succeed (Carver & Scheier, 2002).

Positive emotions, subjective well-being, and other benefits have been positively correlated with optimism. Higher levels of optimism were found to be associated with lower levels of depression in women after the birth of a child (Carver & Gaines, 1987). Optimism has been found to be related to better psychological well-being in parents of children with various psychological disorders. In this group, optimism was also correlated positively with better mental and physical health in these parents (Greenberg, Seltzer, Krauss, Chou, & Hong, 2004). Bain et al. (2003) found that higher reports of quality of life in the elderly were positively correlated with optimism. Researchers in Finland found optimism to be related to improvements in functioning following different treatment programs for lower back pain (Härkäpä, Järvikoski, & Esterlander, 1996). In a 2003 study also conducted in Finland, Mäkikangas and Kinnunen found that optimism acted as a buffer against emotional exhaustion and mental distress in employees. Optimism has been correlated with positive health benefits and health outcomes, higher quality of life, and lower reactive blood pressure levels (Anderson, 1996; King, Rowe, Kimble, &
Zerwic, 1998; Miller, Manne, Taylor, Keates, & Dougherty, 1996; Sheperd, Maroto, & Pbert, 1996; Sumi, 1997). In cancer patients, higher levels of optimism have been related to lower rates of depression and anxiety (Bjorck, Hopp, & Jones, 1999). Optimism was found to be positively related to well-being and negatively related to distress in a study by Miller, Manne, Taylor, Keates, and Dougherty (1996) and Carver et al. (1993). Optimism was also found to be negatively correlated with stress in an African-American college student population (Baldwin, Chambliss, & Towler, 2003), students adjusting to law school (Segerstrom, Taylor, Kemeny, & Fahey, 1998), patients awaiting surgery (Carver et al., 1993), and those being exposed to SCUD missile attacks (Zeidner & Hammer, 1992). Epping-Jordan et al., (1999) found that low levels of optimism were associated with higher levels of anxiety and depression in a six-month follow-up for cancer patients. Optimism has also been associated with academic, military, job-related, athletic, and political success (Peterson, 2000).

Those high in optimism reported higher levels of social support (Park & Folkman, 1997). In a two year examination of caregivers of loved ones with AIDS and their psychological resources, Park and Folkman (1997) found that high levels of social support correlated with high levels of optimism. Brissette, Scheier, and Carver (2002) posited that having high levels of optimism actually elicits social support, as optimists are more well-liked (Carver, Kus, & Scheier, as cited in Brissette, Scheier, & Carver, 2002), have more long-lasting friendships (Geers, Reilly, & Dember, as cited in Brissette et al., 2002) and reported that when stress increases, so does social support (Dougall, Hyman, Hayward, McFeeleu, & Baum, as cited in Brissette et al.,
Fontaine and Seal (1997) found that satisfaction with the availability of social support and level of optimism was positively correlated among 101 adult women. Sarason, Sarason, and Pierce (1990) supported an interactional model of social support, suggesting that people elicit or diminish social support by the ways in which they present themselves. Brisette et al. (2002) found that social support and optimism both contributed to higher levels of adjustment in college freshman. In a group of end-stage renal disease patients, Symister and Friend (2003) found that social support was correlated with self-esteem, optimism, and decreased depression.

Dougall, Hyman, Hayward, McFeeley, and Baum (2001) examined optimism, social support, and post traumatic stress in 159 adult rescue and recovery workers following their work at an airplane crash site at 2, 6, 9, and 12 months after the event. Optimism, social support, and stress were measured, and higher levels of optimism were correlated with lower levels of stress, higher levels of positive coping, and higher levels of available social support. These researchers suggested that optimism impacts stress directly as well as indirectly by increasing social support which reduces stress and is thus a factor of resilience. Similar relationships among optimism, stress, and social support will be investigated in the current study.

There are many reasons that optimism may contribute to creating resilience in an individual. Optimists tend to see events as more positive than do those who are not optimistic (Sheier & Carver, 1985). They also tend not to give up as easily when attempting a task because they have greater belief that they will succeed (Armor & Taylor, 1998). Optimistic people tend to give explanations for negative events or situations that are external, unstable (that is, explanations that are not necessarily
consistent across time), and specific (Buchanan & Seligman, 1995). Optimists tend to give forth greater effort in goal-directed behaviors (Curry, Snyder, Cook, Ruby, & Rehm, 1997; Hong, Chiu, Dweck, Lin, & Wan, 1999) and have more health-oriented behaviors (Folkman, Lazurus, Gruen, & DeLongis, 1986; Snyder et al., 1991b).

Shogren, Lopez, Wehmeyer, Little, and Pressgrove (2006) examined the relationship between hope, optimism, locus-of-control, self-determination, and life satisfaction in adolescents with and without intellectual disabilities. Hope and optimism predicted life satisfaction for both groups, and hope, optimism, locus-of-control, and self-determination were strongly related in both groups. Many studies have looked at hope in different areas such as test performance (Snyder, 1999), school achievement in adults and children (Snyder, McDermott, Cook, & Rapoff, 1997; Snyder et al., 1991a), athletic performance (Curry, Snyder, Cook, Ruby, & Rehm, 1997), positive outcomes for children (Snyder, Lopez, Shorey, Rand, & Feldman, 2003), problem solving skills and positive psychological health (Snyder et al., 1991b), positive responses to stress (Barnum et al., 1998), recovery from depression (Klausner et al., 1998) and other areas. Research has found that hope is correlated with positive emotions (Snyder, 1998; Snyder et al., 1991b), as well as with self-worth (Snyder et al., 1997; Snyder et al., 1996). Hope has also been studied in its relationship to health. Several studies have correlated high hope with health benefits (Snyder et al., 1991b), healthy behaviors (Irving, Snyder, & Crowson, 1998), and positive coping with health problems (Drach-Zahavy & Somech, 2002). Positive coping strategies in general have been linked in studies to high levels of hope (Snyder et al., 1996). Lower levels of hope have been found to correlate with higher levels of
anxiety (Snyder, 1999). The literature related to positive psychology is continuing to proliferate; however, little research examines the role of hope and optimism in parents of children with disabilities.

Hope, Optimism and Parenting. As hope and optimism are important factors for parents, it is surprising that so few studies have looked at hope and optimism as it relates specifically to parenting. In a qualitative study, Pratt, Norris, van de Hoef, and Arnold (2001) gathered stories from parents about their adolescent children and examined these stories for optimism and hope. More positive parenting behaviors were related to higher levels of optimism and hope. Those parents whose narratives contained more optimism reported using less harsh punishment and granting more appropriate autonomy to their children, suggesting that those parents with higher levels of optimism and hope utilized more positive parenting behaviors.

Kashdan et al. (2002) studied 252 parents of children diagnosed with disruptive behavior disorders, engaging in high levels of externalizing behavior problems similar to those which might be found in children with intellectual disabilities. Hope was examined as a resiliency factor among this group using the Hope Scale (Snyder et al., 1991a). Hope was found to be positively correlated with positive parenting behaviors such as warmth, disciplinary warmth, nurturance, affection, praise, prosocial behaviors, and shared decision-making with the child, positive family environment, and parental psychological well-being.

Horton and Wallander (2001) found in their study of 111 mothers of children with a physical disability that hope has both a direct effect on the mother, in that it enhances well-being, and also a moderating effect in that hope offers a buffer against
stress. Horton and Wallander found that higher levels of hope and social support were associated with lower levels of distress.

Hope was established as a resiliency factor in 75 mothers of young children with type 1 diabetes. In this study, hope was shown to have an inverse relationship with anxiety, as those with high levels of hope had lower levels of anxiety than did those mothers with lower levels of hope, suggesting hope is a protective factor against stress in mothers of children with chronic conditions (Mednic et al., 2007).

Jones, Forehand, Brody, and Armistead (2002) examined the relationship between maternal optimism and parenting behaviors, specifically monitoring and parent-child relationship quality, among 141 African American single mothers. Optimism was correlated with positive parenting behaviors, suggesting that optimism predicts positive parenting behaviors. This relationship was not mediated by maternal depression.

Hope, goals, and agency are important for parents raising children with intellectual disabilities. Meeting the daily challenges posed by this task requires the setting of and working toward goals. Those parents who have a greater sense of agency and more pathways to meeting goals seem to be able to adjust better than those who do not (Horton & Wallander, 2001), thus adding to their resilience. Hope also motivates behavior (Averill, Catlin, & Chan, 1990) and therefore may motivate parents to take actions to aid their children with disabilities.

Kashdan et al. (2002) suggested that hope is important in parenting children because it involves cognitive and behavioral flexibility in response to problems, as well as one’s belief that goals can be achieved. Parents with high levels of hope are
able to find many ways to obtain their goals, and are able to pursue their goals despite obstacles. When parents are faced with obstacles (such as child behavior problems) to reaching daily goals, multiple ways to obtain these goals can be generated in hopeful parents without being deterred by child behavior problems. This may also increase self-efficacy which is vital in parenting difficult children as well.

Social support has also been shown to be important for parents of children with intellectual disabilities. It is possible that those higher in optimism find it easier to elicit social support from those around them (which has been discussed as important for parents experiencing stress) because people tend to respond more positively to those high in optimism than to those who have more pessimistic outlooks (Carver, Kus, & Sheier, 1994). It may be easier for optimists to attract others who will support them. Those high in optimism have been shown to have higher levels of social support (Park & Folkman, 1997), and tend to have increases in social support when experiencing stress (Dougall et al., 2001).

Snyder (2000) proposed that hope is vital in being able to face challenging situations, and would therefore be an important factor in resilience and in parenting. Those high in optimism and hope use more positive coping strategies, and this is also important for parents (Pratt et al., 2001). Hope is related to well-being (Snyder, 1994) which was shown earlier to be vital in parenting. Optimistic people are healthier and use their optimism to facilitate positive coping and problem-solving (Fredrickson, 2001). Hope has been associated with effective coping in the face of stress and has also been associated with a sense of control. Those high in hope tend to focus on successes rather than failures throughout their goal pursuits (Snyder et al., 1991b).
Those high in both hope and optimism tend to be more persistent in difficult tasks, possibly because they have higher expectation of success.

**Purpose of the Study**

Hope and optimism have been positively correlated with social support (Barnum et al., 1998; Brissette et al., 2002; Dougall et al., 2001; Fontaine & Seal, 1997; Park & Folkman, 1997). Likewise, these three factors have been correlated negatively with stress (Baldwin, Chambliss, & Towler, 2003; Barnum et al., 1998; Bjorck, Hopp, & Jones, 1999; Carver et al., 1993; Cohen & Wills, 1985, Dougall et al., 2001; Dunst & Trivette, 1986; Horton & Wallander, 2001; Miller et al., 1996, Snyder, 1999; Thompson, 2002; Zeidner & Hammer 1992) and positively with positive parenting behaviors (Dunst, Trivette, & Cross, 1986; Horton & Wallander, 2001; Jones et al., 2002; Kashdan et al., 2002; Pratt et al., 2001).

Stress has been negatively correlated with positive parenting behaviors (Abidin, 1995; Anthony et al., 2005; Crawford & Manassis, 2001; Crnic & Greenberg, 1987; Deater-Deckard & Scarr, 1996; Karass et al, 2003; Pinderhughe et al, 2000; Rodriguez & Green, 1997). Surprisingly few studies, however, have examined the role of stress in predicting positive or negative parenting behaviors among parents of children with intellectual disabilities (Wheeler, Hatton, Reichardt, & Bailey, 2007). Also, very few studies have examined hope and optimism in parents of children with intellectual disabilities (Horton & Wallander, 2001; Jones et al., 2002; Kashdan et al., 2002; Pratt et al., 2001), and no study has looked at hope and optimism as possible predictors for social support and positive parenting behaviors in parents of children with intellectual disabilities. Also, no study to date has shown how
these three factors reduce stress in parents of children with intellectual disabilities, or if these factors would serve as a buffer against stress and improve parenting behaviors among parents of children with intellectual disabilities. This study addresses these gaps in the literature.

The following research questions were explored in the current study:

1a. Does hope moderate the relationship between social support and positive parenting?

1b. Does optimism moderate the relationship between social support and positive parenting?

2a. Does hope moderate the relationship between social support and negative parenting?

2b. Does optimism moderate the relationship between social support and negative parenting?

3a. Does hope moderate the relationship between stress and positive parenting when controlling for social support?

3b. Does optimism moderate the relationship between stress and positive parenting when controlling for social support?

4a. Does hope moderate the relationship between stress and negative parenting when controlling for social support?

4b. Does optimism moderate the relationship between stress and negative parenting when controlling for social support?
CHAPTER II

METHOD

Participants

A total of 675 research packets were distributed through Special Education departments in the Mississippi public school system, support groups to parents of children with cognitive disabilities, and the North Mississippi Regional Center in Oxford, Mississippi. One hundred and eighteen research packets were returned. Of those 118 packets, 5 were not included in the final analyses because the child did not meet the diagnostic criteria for mental retardation. Two additional packets were not included in the final data because the questionnaires were incomplete with only the first measure completed for one of the packets and only the first measure and part of the second measure completed for the second measure. One additional packet was not used because the child fell outside of the specified ages of 5 to 18. Of the 675 research packets distributed, 110 research packets were utilized as a final sample.

The majority of parents were mothers (83.6%) with a mean caregiver age of 38.96 years (SD = 8.26). The majority of participants were either Caucasian, 56.4% (n=62), Black, 40% (n=44), Asian, .9% (n=1), or identified as “Other,” .95 (n=1). Two participants chose not to disclose their ethnicity. During the analysis, participants were categorizes as either Caucasian, 56.4% (n=62), or Non-white 43.6% (n=48). Of the 110 participants 32.7% (n=36) reported they did not work outside their home and 63.6% (n=70) reported they were employed outside of their home (4 did not respond). Of the participants, 20% (n=22) reported an annual income of less than $10,000, 16.4% (n=18) reported an income of $10,000 - $20,000, 13.6% (n=15)
reported an income of $20,000 - $30,000, 12.7% ($n=14$) reported an income of $30,000 - $40,000, 30.9% ($n=34$) reported an income of more than $40,000. Parents were asked to report on one child with a developmental disability. The majority of children (61.8% $n=68$) were boys; children identified had a mean age of 11.39 ($SD = 3.80$, range = 5-18). It was reported that of the 110 children in the sample, 18.2% ($n=20$) had a diagnosis of Autism, 8.2% ($n=9$) had a diagnosis of Cerebral Palsy, 11.8% ($n=13$) had a diagnosis of Down Syndrome, 20% ($n=22$) had a diagnosis of Attention Deficit/Hyperactivity Disorder, 7.3% ($n=8$) had a diagnosis of either hearing or visual impairment, 6.4 ($n=6$) had a diagnosis of with Oppositional Defiant Disorder or Conduct Disorder, and 21.8% ($n=24$) had a diagnosis other than these. Of the children in the sample, 23.6% ($n=26$) were reported to be diagnosed with Mild Mental Retardation, 36.4% ($n=40$) were diagnosed with Moderate Mental Retardation, 19.1% ($n=21$) were diagnosed with Severe Mental Retardation, 3.6% ($n=4$) were diagnosed with Profound Mental Retardation, and 15.5% ($n=17$) reported that the level of mental retardation was unknown. See Table 1 for further demographic information.

Table 1

<table>
<thead>
<tr>
<th>Demographic Characteristics of Participants (N = 110)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demographics</td>
</tr>
<tr>
<td>Caregiver</td>
</tr>
<tr>
<td>Mother</td>
</tr>
<tr>
<td>Father</td>
</tr>
<tr>
<td>Other</td>
</tr>
<tr>
<td>Ethnicity</td>
</tr>
<tr>
<td>--------------</td>
</tr>
<tr>
<td>White</td>
</tr>
<tr>
<td>Black</td>
</tr>
<tr>
<td>Asian</td>
</tr>
<tr>
<td>Other</td>
</tr>
<tr>
<td>Employed</td>
</tr>
<tr>
<td>Not Employed</td>
</tr>
<tr>
<td>Annual Income</td>
</tr>
<tr>
<td>$0-10,000</td>
</tr>
<tr>
<td>10,000-20,000</td>
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<tr>
<td>20,000-30,000</td>
</tr>
<tr>
<td>30,000-40,000</td>
</tr>
<tr>
<td>40,000+</td>
</tr>
<tr>
<td>Marital Status</td>
</tr>
<tr>
<td>Married</td>
</tr>
<tr>
<td>Not Married</td>
</tr>
<tr>
<td>Caregiver Education</td>
</tr>
<tr>
<td>Did not graduate high school</td>
</tr>
<tr>
<td>Graduated high school</td>
</tr>
<tr>
<td>Graduated college</td>
</tr>
<tr>
<td>Completed graduate school</td>
</tr>
<tr>
<td>Completed professional school</td>
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Table 1 (continued).

<table>
<thead>
<tr>
<th>Gender of Child</th>
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<th>%</th>
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</thead>
<tbody>
<tr>
<td>Male</td>
<td>68</td>
<td>61.8</td>
</tr>
<tr>
<td>Female</td>
<td>42</td>
<td>38.2</td>
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</table>

Diagnosis of child

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<th>Diagnosis</th>
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<tbody>
<tr>
<td>Autism</td>
<td>20</td>
<td>18.2</td>
</tr>
<tr>
<td>Cerebral Palsy</td>
<td>9</td>
<td>8.2</td>
</tr>
<tr>
<td>Down Syndrome</td>
<td>13</td>
<td>11.8</td>
</tr>
<tr>
<td>Hearing or Visual Impairment</td>
<td>8</td>
<td>7.3</td>
</tr>
<tr>
<td>Attention Deficit/Hyperactivity Disorder</td>
<td>22</td>
<td>20</td>
</tr>
<tr>
<td>Oppositional Defiant Disorder or Conduct Disorder</td>
<td>6</td>
<td>6.4</td>
</tr>
<tr>
<td>Other</td>
<td>24</td>
<td>21.8</td>
</tr>
</tbody>
</table>

Severity of disability

<table>
<thead>
<tr>
<th>Severity of disability</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mild</td>
<td>26</td>
<td>23.6</td>
</tr>
<tr>
<td>Moderate</td>
<td>40</td>
<td>36.4</td>
</tr>
<tr>
<td>Severe</td>
<td>21</td>
<td>19.1</td>
</tr>
<tr>
<td>Profound</td>
<td>4</td>
<td>3.6</td>
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<tr>
<td>Unknown</td>
<td>17</td>
<td>15.5</td>
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Ambulation

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<tr>
<th>Ambulation</th>
<th>n</th>
<th>%</th>
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</thead>
<tbody>
<tr>
<td>Child is in a wheelchair</td>
<td>13</td>
<td>11.8</td>
</tr>
<tr>
<td>Child uses assistance to walk</td>
<td>3</td>
<td>2.7</td>
</tr>
<tr>
<td>Child can walk alone</td>
<td>92</td>
<td>83.6</td>
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</table>

Communication
Table 1 (continued).

<table>
<thead>
<tr>
<th>Communication</th>
<th>n</th>
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</thead>
<tbody>
<tr>
<td>Child communicates through talking</td>
<td>67</td>
<td>60.9</td>
</tr>
<tr>
<td>Child uses only a few words</td>
<td>21</td>
<td>19.1</td>
</tr>
<tr>
<td>Child does not talk</td>
<td>18</td>
<td>16.4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caregiver age</td>
<td>38.96</td>
<td>8.26</td>
</tr>
<tr>
<td>Number of children</td>
<td>2.53</td>
<td>1.30</td>
</tr>
<tr>
<td>Child age</td>
<td>11.39</td>
<td>3.80</td>
</tr>
<tr>
<td>Years since diagnosed</td>
<td>6.75</td>
<td>5.18</td>
</tr>
<tr>
<td>Years services have been received</td>
<td>6.81</td>
<td>4.67</td>
</tr>
</tbody>
</table>

Instruments

Consenting participants in the study received a packet of research materials. Each research packet contained a cover letter to potential participants (Appendix A) that explained the purpose of the study and how to complete the packets, how to enter a drawing for the $20 gift card for Wal-Mart, and how to return them to the researcher. Participants were asked to complete all questionnaires in the packet, which took approximately 30 to 45 minutes. Each packet contained 2 consent forms which included a brief explanation and purpose of the study as well as contact information for the primary investigator and the supervisor. One consent form was marked for participants to keep and one was marked for return with the rest of the research materials. In each research packet was a postcard that the participants were
invited to complete with their contact information that would be entered into a monthly drawing for a $20 gift card to Wal-Mart. To ensure confidentiality of the participants, when returned with the packets, these postcards were separated from the research materials and placed into an envelope with other postcards that were returned in that month. At the end of each month of data collection, one postcard was drawn and that person was sent a $20 Wal-Mart gift card.

Each participant completed a *Demographic Questionnaire* (Appendix B), including caregiver age, relationship to child, ethnicity, highest level of education attained, marital status, employment status, annual income, number of children, child age, support services, number of years child has received services, diagnosis of child, number of years child has been diagnosed, level of severity of mental retardation diagnosis, ambulation of child, and communication of child. When completing the demographic questionnaire and other study instruments, the participants were instructed to focus on one child between the ages of 5 and 18 who has a diagnosis of mental retardation.

*Hope Scale (HS; Snyder, et al., 1991a)*

The Hope Scale is a 12-item, self-report measure of an individual’s dispositional state involving self-efficacy and strategic goal-orientation (Snyder et al., 2003). This scale consists of two subscales: Hope Pathways, or one’s ability to generate paths to obtain goals, and Agency, one’s belief that one can initiate and sustain effort towards reaching goals. Only the Total score was used in the current study. For this study the Hope Scale yielded a Cronbach’s alpha coefficient of .91. Individual participant mean substitutions using means from each subscale were made
for subjects with 10% or less missing item responses. A total of six mean substitutions were made for the Hope Scale.

Roesch and Vaughn (2006) examined the factorial validity of the Hope Scale in a multiethnic sample of 1031 college students, 50.7% of whom were white. No significant differences were found in the factor analysis of the Hope Scale in this sample, suggesting that the factor structure of the Hope Scale was robust in minority samples and that the structure was similar for Caucasians and minorities. In addition, no gender differences were found in the factor structure of the Hope Scale in this sample. Abdel-Khalek and Snyder (2007) demonstrated concurrent validation as well as internal and test-retest reliabilities of an Arabic translation of the Hope Scale in a sample of Kuwaiti college students. This study also confirmed the two components of the scale: pathways and agency. Kato and Snyder (2005) established the reliability and validity of a Japanese version of the Hope Scale within a sample of 113 undergraduate Japanese students, and found test-retest reliability coefficients ranged from .81 to .84. Babyak, Snyder, and Yoshinobu (1993) conducted a confirmatory factor analysis of the Hope Scale using a large sample of 2753 college students and found that two factors, an agency factor and a pathways factor, emerged. When analysis was conducted to search for possible gender differences, no differences were found. Steed (2002) also conducted a confirmatory factor analysis that yielded two factors of the Hope Scale. Steed found that the Hope Scale was correlated with the Life Orientation Test (Cronbach’s alpha = .62).

*Life Orientation Test-Revised (LOT-R; Scheier, Carver, & Bridges, 1994)*
Optimism was assessed using the LOT-R, a 10-item, self-report measure consisting of six items to assess for optimism. Three of these are framed positively and three are framed negatively and reverse scored. Four filler items are not used in scoring. Participants were asked to rate their agreement with items presented on a scale of 0 (strongly disagree) to 4 (strongly agree). Possible scores range from 0 to 24, with higher scores indicating greater optimism. Internal consistency reliability was reported to be .82 (Scheier, Carver, & Bridges, 1994). For this study the LOT-R yielded a Cronbach’s alpha coefficient of .75. Individual participant mean substitutions using means from each subscale were made for subjects with 10% or less missing item responses. A total of 5 mean substitutions were made for the LOT-R.

The Life Orientation Test (LOT, Scheier & Carver, 1985) was originally developed by Scheier and Carver (1985) as a tool to predict health and treatment outcomes as it is believed that optimists are more likely to have better outcomes (Steed, 2002). This initial version had 12 items, four positively-worded items, four negatively-worded items, and four filler items. The LOT-R was created in 1994 by removing two of the items suspected through various studies to be assessing a third variable of coping (Marshall & Lang, 1990; Robbins, Spence, & Clark, 1991; Smith, Pope, Rhodewalt, & Poulton, 1989). One additional positively-worded item was added and one of the negatively-worded items was deleted to make the number of items in each subscale equal.

Norms for the LOT-R were established using two independent samples: one of college students and another of patients waiting to undergo heart surgery.
Correlations with the original LOT were high (in the .90s). The test-retest reliability of the LOT-R over four trials were .68 over 4 months, .60 over 12 months, .56 over 24 months, and .79 over 28 months (Scheier & Carver, 1985).

*Multidimensional Scale of Perceived Social Support (MSPSS; Zimet, Dahlem, Zimet & Farley, 1988)*

Participants completed the MSPSS, an 8-item self-report measure which is designed to assess one’s perception of social support, as well as the adequacy of that support, and consists of 12 items that yield three factors: (a) perceived social support from friends, (b) perceived social support from family, and (c) perceived social support from significant other. Each item asks the participant to rate their agreement with the statements provided on a 7-point Likert-type scale, (1) Very Strongly Disagree to (7) Very Strongly Agree. Summing the items yields a total quantitative measure of perceived social support. This total score was used in the analyses. For this study the MSPSS yielded a Cronbach’s alpha coefficient of .95. Individual participant mean substitutions using means from each subscale were made for subjects with 10% or less missing item responses. A total of 4 mean substitutions were made for the MSPSS.

The scale was developed by administering 24 items being considered for the MSPSS and the Hopkins Symptom Checklist (HSCL; Derogatis, Lipman, Rickels, Uhlenhuth, & Covi, 1974), which is a symptom checklist to 275 undergraduate university students. The symptom checklist was used to assess depression and anxiety because of the strong inverse relationship established in the literature of these factors with social support. After factor analysis, items that were shown to not clearly and
specifically address perceived social support were omitted and 12 items remained. Analysis confirmed the subscale groupings, showing them to tap three separate dimensions of social support. Cronbach’s alpha for each subscale as well as for the total scale are as follows: Significant Other, .91, Family, .87, and Friend, .85, and total scale, .88. Only the total scale score is being used in the current study.

*Alabama Parenting Questionnaire (APQ; Frick, 1991)*

Parenting behaviors were assessed using the APQ, a 42-item self-report measure designed to measure parenting behaviors. There are five parenting constructs assessed on a five-point Likert scale from (1) Never to (5) Always that asks parents to rate how often each of the behaviors described in the item occurs typically in the home: parental involvement, positive parenting, poor supervision or monitoring, inconsistent discipline, and corporal punishment. Although there are child, parent, and telephone interview rating forms for the APQ, only the parent rating form was used in this study.

For the purposes of this study, two composite scores have been calculated from the five subscales: a Positive Parenting composite (APQ – Positive) and a Negative Parenting composite (APQ – Negative). This is achieved by obtaining z-scores for all five scales then obtaining sums for the two positive subscales (positive parenting and involvement) yielding a Positive Parenting composite. Sums are obtained from the three negative subscales (inconsistent discipline, corporal punishment, and poor monitoring) yielding a Negative Parenting composite. Other studies have utilized this procedure for creating composite scores (Barry, Frick, & Grafeman, 2008; Frick, Kimonis, Dandreaux, & Farell, 2003).
For this study, the APQ yielded a Cronbach’s alpha coefficient for the Positive Parenting Composite of .86 and for the Negative Parenting composite of .85. Individual participant mean substitutions using means from each subscale were made for subjects with 10% or less missing item responses. A total of 34 mean substitutions were made for the APQ. Participants were given the option of endorsing “Not Applicable” as a response for each question of the APQ as some of the questions may be difficult to apply to a young child or to a child with severe disabilities. The answers marked as “Not Applicable” were coded as 0. A total of 570 questions were responded to with “Not Applicable,” which is 8.10% of the total number of responses from all participants on this measure.

Initially, the APQ’s reliability and validity were tested in a sample of primary caregivers of 160 children aged 6 to 13 referred to a clinic for children with behavioral problems (Shelton, Frick, & Wooten, 1996). No studies as yet have used this measure to assess parenting behaviors in parents of children with mental retardation. Some of the items may have been difficult for caregivers to answer due to either the young age of the child or the severity of their disability. This concern has not been addressed in other studies.

Parenting Stress Index – Short Form (PSI-SF; Abidin, 1995)

Parenting stress was measured using the PSI-SF, which is a 36-item version of the original Parenting Stress Index (PSI) which measures stress related specifically to parenting. The PSI-SF has three subscales: Parental Distress; that is, how much stress a parent is experiencing due to personal factors such as depression, partner conflict, restrictions that result from the responsibility of raising a child; Parent-Child
Dysfunctional Interaction, which indicates dissatisfaction of a parent with their child and their interactions with their child, and Difficult Child, which is a measure of a parent’s perceptions of how well their child can control his or her behavior. Each scale has 12 items rated on a 5-point Likert scale from (1) Strongly Agree to (5) Strongly Disagree. All items were reverse-scored so that low scores on the PSI-SF would indicate low stress and high scores would indicate high stress. Only the Total Stress score was used in this study.

For the current study, the PSI-SF total score yielded a Cronbach’s alpha coefficient of .95. Individual participant mean substitutions using means from each subscale were made for subjects with 10% or less missing item responses. A total of 34 mean substitutions were made for the PSI-SF.

The PSI-SF was developed through a series of factor analyses of the PSI (Reitman, Currier, & Stickle, 2002). Several studies have supported the reliability and validity of the PSI-SF. Reitman et al., (2002) used the PSI-SF with a sample of 196 mothers of children ages three to five in a Head Start program. These mothers were of low-income and predominantly minority status. Internal consistencies of each of the subscales and the total scale were: Parental Distress, .88; Parent-Child Dysfunction Interaction, .88; Difficult Child, .89; and Total Stress, .95. Macias, Roberts, Saylor, & Fussell (2006) found the PSI-SF to be a reliable measure among parents of children with various physical disabilities and behavior problems.

Procedure

The study was reviewed and received University Institutional Review Board (IRB) approval prior to beginning data collection, and IRB approval was maintained
throughout the study (Appendix C). Permission was obtained from the special education director for the state of Mississippi to contact each of the special education supervisors for each county in Mississippi about recruiting participants through their schools. Each of the special education supervisors were contacted and those who responded were asked to distribute packets through the special education classes in their county and to send the packets returned by parents who chose to participate in a postage-paid envelope. Parents who brought their children to be evaluated through North Mississippi Regional Center Diagnostic Services in Oxford, Mississippi were also invited to participate and those who chose to do so were given a packet with a postage-paid envelope to take with them. Families or caregivers bring individuals to Diagnostic Services for an evaluation to determine the presence of a mental retardation and eligibility for services through the North Mississippi Regional Center. This center is an intermediate care facility for the mentally retarded (ICF/MR) and services 23 counties in northern Mississippi.

Research Questions and Hypotheses

1a. Does hope moderate the relationship between social support and positive parenting?

1a. An interaction between social support and hope will be predictive of positive parenting behaviors such that low social support combined with high levels of hope will be related to positive parenting.

1b. Does optimism moderate the relationship between social support and positive parenting?
1b. An interaction between social support and optimism will be predictive of positive parenting behaviors such that low social support combined with high levels of optimism will be related to positive parenting.

2a. Does hope moderate the relationship between social support and negative parenting?

2a. An interaction between social support and hope will be predictive of negative parenting behaviors such that low social support combined with high levels of hope will be related to negative parenting.

2b. Does optimism moderate the relationship between social support and negative parenting?

2b. An interaction between social support and optimism will be predictive of negative parenting behaviors such that low social support combined with high levels of optimism will be related to negative parenting.

3a. Does hope moderate the relationship between stress and positive parenting when controlling for social support?

3a. When social support is controlled for, an interaction between parenting stress and hope will be predictive of positive parenting behaviors such that high parenting stress combined with high levels of hope will be related to positive parenting.
3b. Does optimism moderate the relationship between stress and positive parenting when controlling for social support?

3b. When social support is controlled for, an interaction between parenting stress and optimism will be predictive of positive parenting behaviors such that high parenting stress combined with high levels of optimism will be related to positive parenting.

4a. Does hope moderate the relationship between stress and negative parenting when controlling for social support?

4a. When social support is controlled for, an interaction between parenting stress and hope will be predictive of negative parenting behaviors such that high parenting stress combined with high levels of hope will be related to negative parenting.

4b. Does optimism moderate the relationship between stress and negative parenting when controlling for social support?

4b. When social support is controlled for, an interaction between parenting stress and optimism will be predictive of negative parenting behaviors such that high parenting stress combined with high levels of optimism will be related to negative parenting.
CHAPTER III  
RESULTS  
Preliminary Analyses

The range of scores, means, and standard deviations for all instruments are listed in Table 2. Sample means were within one standard deviation of those reported in other studies (Brouwer, Meijer, Weekers, & Baneke, 2008; Dadds, Maujean, & Fraser, 2003; Elgar, Waschbusch, Dadds, & Sigvaldason, 2007; Hawley, Ward, Magnay, & Long, 2003; Zimet et al., 1988, 1990), with the exception of the Poor Monitoring and Corporal Punishment subscales of the APQ which were found to be more than one standard deviation higher in this sample (Dadds et al., 2003; Elgar et al., 2007). Scores on these subscales were used to create the negative parenting composite score, and only this composite and the positive parenting composite score were used in the analyses for this study.

Table 2
Means, Standard Deviations, and Ranges for all Variables

<table>
<thead>
<tr>
<th>Instrument</th>
<th>M</th>
<th>SD</th>
<th>Range</th>
<th>Possible Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>HS</td>
<td>49.05</td>
<td>11.36</td>
<td>8.00 - 64.00</td>
<td>8.00 - 64.00</td>
</tr>
<tr>
<td>LOT-R</td>
<td>20.18</td>
<td>5.31</td>
<td>7.00 - 30.00</td>
<td>6.00 - 30.00</td>
</tr>
<tr>
<td>MSPSS</td>
<td>62.08</td>
<td>18.09</td>
<td>12.00 - 84.00</td>
<td>12.00 - 84.00</td>
</tr>
<tr>
<td>APQ</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parent Involvement</td>
<td>35.35</td>
<td>9.88</td>
<td>7.00 – 50.00</td>
<td>7.00 - 50.00</td>
</tr>
<tr>
<td>Positive Parenting</td>
<td>25.84</td>
<td>3.93</td>
<td>12.00 - 30.00</td>
<td>6.00 - 30.00</td>
</tr>
<tr>
<td>Inconsistent Discipline</td>
<td>22.12</td>
<td>5.20</td>
<td>11.00 - 36.00</td>
<td>6.00 - 30.00</td>
</tr>
</tbody>
</table>
Note. HS – Hope Scale, LOT-R = Life Orientation Test – Revised, MSPSS = Multidimensional Scale of Perceived Social Support, APQ = Alabama Parenting Questionnaire, PSI-SF = Parenting Stress Index.

Skewness and Kurtosis for all scores obtained for the analyses of this study’s hypotheses were within acceptable limits, with the exception of HS which had positive kurtosis (3.00). While the kurtosis mentioned violates one of the assumptions of multiple linear regression, the analysis is generally considered to be robust to this violation. The analyses proceeded without adjustments.

To examine assumptions of regression, a plot of SRESID (the Studentized residual) against *ZPRED (the standardized predicted values of the dependent variable) was analyzed to determine whether the homoscedasticity assumption had been met. Plots inferred that the residuals at each level of the predictor variables had similar variances. All collinearity statistics were within the desired range and did not indicate multicollinearity. Matrix scatterplots of all variables were examined for implication of linearity. No violations of the multiple regression assumptions were
detected. All variables were tested for normality and all assumptions were met without violation.

A series of bivariate correlations were performed to determine the extent to which demographic variables (age of caregiver, age of child, ethnicity, income, number of children, length of services, and length of having had a diagnosis) were significantly related to the study variables. Correlations did not exceed .80; therefore no demographic variables were used as covariates in further analysis (see Table 3). Additionally, a series of bivariate correlations were calculated to determine the extent to which reported diagnoses of the child was significantly related to parenting behaviors. Diagnoses were dummy coded, and due to the low number of diagnoses reported in some categories, some diagnoses were combined into a single category. Visual and hearing impairment were combined into one category (Visual/Hearing Impairment) as were Oppositional Defiant Disorder and Conduct Disorder (ODD/Conduct Disorder). Correlations did not exceed .80; therefore no diagnoses were used as covariates in further analysis (see Table 3).

Table 3

*Correlations between Demographic Variables and Scores on Instruments*

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>HS</th>
<th>LOT-R</th>
<th>MSPSS</th>
<th>APQ-Positive</th>
<th>APQ-Negative</th>
<th>PSI-SF</th>
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</thead>
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<td>Caregiver’s Age</td>
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<td>.08</td>
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<td>.11</td>
<td>-.14</td>
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<td>-.16</td>
<td>.05</td>
<td>-.12</td>
<td>-.25*</td>
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<tr>
<td>Income</td>
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<td>.14</td>
<td>.27**</td>
<td>.14</td>
<td>.15</td>
<td>-.11</td>
<td></td>
</tr>
<tr>
<td>Years of Diagnosis</td>
<td>.14</td>
<td>.15</td>
<td>.09</td>
<td>-.03</td>
<td>.04</td>
<td>-.22*</td>
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</table>
Table 3 (continued).

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>HS</th>
<th>LOT-R</th>
<th>MSPSS</th>
<th>APQ-Positive</th>
<th>APQ-Negative</th>
<th>PSI-SF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time of Services</td>
<td></td>
<td>.19*</td>
<td>.07</td>
<td>.16</td>
<td>-.02</td>
<td>.07</td>
<td>-.09</td>
</tr>
<tr>
<td>Autism</td>
<td>20</td>
<td>.11</td>
<td>.22*</td>
<td>.13</td>
<td>.10</td>
<td>.14</td>
<td>-.04</td>
</tr>
<tr>
<td>Cerebral Palsy</td>
<td>13</td>
<td>-.03</td>
<td>.02</td>
<td>-.04</td>
<td>-.33**</td>
<td>.07</td>
<td>-.06</td>
</tr>
<tr>
<td>Down Syndrome</td>
<td>9</td>
<td>.18</td>
<td>.32**</td>
<td>.17</td>
<td>.08</td>
<td>.17</td>
<td>-.16</td>
</tr>
<tr>
<td>ADHD</td>
<td>22</td>
<td>-.13</td>
<td>-.13</td>
<td>-.09</td>
<td>.06</td>
<td>-.05</td>
<td>.24*</td>
</tr>
<tr>
<td>Seizure Disorder/Epilepsy</td>
<td>22</td>
<td>-.04</td>
<td>-.02</td>
<td>-.13</td>
<td>-.20*</td>
<td>.14</td>
<td>.05</td>
</tr>
<tr>
<td>Other Diagnoses</td>
<td>24</td>
<td>.10</td>
<td>-.02</td>
<td>.07</td>
<td>.09</td>
<td>.09</td>
<td>-.02</td>
</tr>
<tr>
<td>Hearing/Visual Impairment</td>
<td>8</td>
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<td>.03</td>
<td>-.12</td>
<td>-.17</td>
<td>.05</td>
<td>.04</td>
</tr>
<tr>
<td>ODD/Conduct Disorder</td>
<td>7</td>
<td>-.07</td>
<td>-.02</td>
<td>.03</td>
<td>-.11</td>
<td>.09</td>
<td>.24*</td>
</tr>
</tbody>
</table>

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

Note. HS = Hope Scale, LOT-R = Life orientation Test – Revised, MSPSS = Multidimensional Scale of Perceived Social Support, APQ = Alabama Parenting Questionnaire, PSI-SF = Parenting Stress Index.

Intercorrelations between the variables of interest are provided in Table 4. Results indicated that HS was positively related to LOT-R ($p<.001$), MSPSS ($p<.001$), APQ-Positive ($p<.001$), and negatively related to PSI-SF ($p<.001$). LOT-R was positively related to MSPSS ($p=.005$), APQ-Negative ($p=.042$), and negatively
related to PSI-SF ($p=.000$). APQ-Positive was negatively related to PSI-SF ($p<.001$), as was APQ-Negative ($p=.019$).

Table 4

*Intercorrelations among Variables*

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. HS</td>
<td>1</td>
<td>.34**</td>
<td>.46**</td>
<td>.38**</td>
<td>.09</td>
<td>- .38**</td>
</tr>
<tr>
<td>2. LOT-R</td>
<td>1</td>
<td>.27**</td>
<td>.17</td>
<td>.19*</td>
<td>- .46**</td>
<td></td>
</tr>
<tr>
<td>3. MSPSS</td>
<td>1</td>
<td>.27**</td>
<td>.13</td>
<td>- .39**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. APQ-Positive</td>
<td>1</td>
<td>- .13</td>
<td>- .40**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. APQ-Negative</td>
<td>1</td>
<td>- .25*</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. PSI-SF</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

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

*Note. HS = Hope Scale, LOT-R – Life Orientation Test – Revised, MSPSS = Multidimensional Scale of Perceived Social Support, APQ – Alabama Parenting Questionnaire, PSI-SF = Parenting Stress Index – Short Form.*

**Primary Analyses**

*Hypothesis 1a*

Hierarchical multiple regression was used to explore the hypothesis that hope, as measured by the HS, moderated the relationship between social support, as measured by the MSPSS, and positive parenting behaviors, as measured by the APQ-Positive. Scores on the HS and the MSPSS were centered based on recommendations by Frazier et al. (2004), and product terms were calculated, which represented the interaction between the predictor (MSPSS) and the moderator (HS). Variables were entered into the regression in three steps: Step 1 included MSPSS as a predictor of
APQ-Positive, Step 2 added HS, and Step 3 added the product term (HS x MSPSS) as a predictor of APQ-Positive. A statistically significant change at Step 3 is considered evidence of a moderation effect (Baron & Kenny, 1986; Frazier et al., 2004). Results found a significant main effect for MSPSS accounting for 7.1% of the variance in APQ-Positive, $R = .27$, $R^2 = .07$, $F(1,108) = 8.30$, $p < .05$ in Step 1. The addition of HS in Step 2 accounted for 8.3% of the variance in APQ-Positive which is a significant change in the prediction, $R = .39$, $R^2 = .16$, $\Delta R^2 = .08$, $\Delta F(1,107) = 10.53$, $p < .01$. Step 3 was non-significant, $R = .40$, $R^2 = .16$, $\Delta R^2 = .01$, $\Delta F(1,106) = 0.62$, $p > .05$ (see Table 5).

Table 5

<table>
<thead>
<tr>
<th>Variables</th>
<th>B</th>
<th>$\beta$</th>
<th>$R^2$</th>
<th>$\Delta R^2$</th>
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<tr>
<td>Step 1</td>
<td></td>
<td>0.07**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MSPSS</td>
<td>0.03*</td>
<td>0.27*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 2</td>
<td></td>
<td>0.16***</td>
<td>0.08**</td>
<td></td>
</tr>
<tr>
<td>MSPSS</td>
<td>0.01</td>
<td>0.12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HS</td>
<td>0.05**</td>
<td>0.33**</td>
<td></td>
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<tr>
<td>Step 3</td>
<td></td>
<td>0.16***</td>
<td>0.01</td>
<td></td>
</tr>
<tr>
<td>MSPSS</td>
<td>-0.01</td>
<td>-0.12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HS</td>
<td>0.06**</td>
<td>0.37**</td>
<td></td>
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<tr>
<td>HS x MSPSS</td>
<td>0.00</td>
<td>0.23</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p < .05, **p < .01, ***p < .001

*Note. MSPSS = Multidimensional Scale of Perceived Social Support, HS = Hope Scale.

Hypothesis 1b
Hierarchical multiple regression was used to explore the hypothesis that optimism, as measured by the LOT-R, moderated the relationship between social support, as measured by the MSPSS, and positive parenting behaviors, as measured by the APQ-Positive. Scores on the LOT-R and the MSPSS were centered based on recommendations by Frazier et al. (2004), and product terms were calculated, which represented the interaction between the predictor (MSPSS) and the moderator (LOT-R). Variables were entered into the regression in three steps: Step 1 included MSPSS as a predictor of APQ-Positive, Step 2 added LOT-R scores, and Step 3 included the product term (LOT-R x MSPSS) as a predictor of APQ-Positive. A statistically significant change at Step 3 is considered evidence of a moderation effect (Baron & Kenny, 1986; Frazier et al., 2004). Results found a significant main effect for MSPSS accounting for 7.1% of the variance in APQ-Positive, R=.27, R^2=.07, F(1,108)=8.30, p<.05 in Step 1. The addition of LOT-R in Step 2 did not account for a significant change in the prediction, R=.29, R^2=.08, ΔR^2=.01, ΔF(1,107)=1.15, p>.05. Step 3 was non-significant, R=.30, R^2=.09, ΔR^2=.01, ΔF(1,106)=1.25, p>.05 (see Table 6).

Table 6

<table>
<thead>
<tr>
<th>Variables</th>
<th>B</th>
<th>β</th>
<th>R^2</th>
<th>ΔR^2</th>
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<td>Step 1</td>
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<td></td>
</tr>
<tr>
<td>MSPSS</td>
<td>0.03*</td>
<td>0.27*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 2</td>
<td></td>
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Table 6 (continued).

<table>
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<tr>
<td>LOT-R</td>
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</tr>
<tr>
<td>Step 3</td>
<td>0.09*</td>
<td>0.01</td>
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</tr>
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<tr>
<td>LOT-R x MSPSS</td>
<td>-0.00</td>
<td>-0.11</td>
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</tbody>
</table>

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

Note. MSPSS = Multidimensional Scale of Perceived Social Support, LOT-R = Life Orientation Test – Revised.

**Hypothesis 2a**

Hierarchical multiple regression was used to explore the hypothesis that hope, as measured by the HS, moderated the relationship between social support, as measured by the MSPSS, and negative parenting behaviors, as measured by the APQ-Negative. Scores on the HS and the MSPSS were centered based on recommendations by Frazier et al. (2004), and product terms were calculated, which represented the interaction between the predictor (MSPSS) and the moderator (HS). Variables were entered into the regression in three steps: Step 1 included social support as a predictor of APQ-Negative, Step 2 added HS, and Step 3 included the product term (HS x MSPSS) as a predictor of APQ-Negative. A statistically significant change at Step 3 is considered evidence of a moderation effect (Baron & Kenny, 1986; Frazier et al., 2004). Results found that there was not a significant main effect for MSPSS on APQ-Negative, $R=.13, R^2=.02, F(1,108)=1.77, p>.05$ in Step 1. The addition of HS in Step 2 did not account for a significant change in the
prediction, $R=.13, R^2=.02, \Delta R^2=.00, \Delta F(1,107)=.16, p>.05$. Step 3 was non-significant, $R=.14, R^2=.02, \Delta R^2=.00, \Delta F(1,106)=.15, p>.05$ (see Table 7).

Table 7

**Standardized Beta Coefficients and Change in R-Squares for the Associations among Social Support, Hope, and Negative Parenting**

<table>
<thead>
<tr>
<th>Variables</th>
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<th>$\Delta R^2$</th>
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</thead>
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*Note. MSPSS = Multidimensional Scale of Perceived Social Support, HS = Hope Scale.*

**Hypothesis 2b**

Hierarchical multiple regression was used to explore the hypothesis that optimism, as measured by the LOT-R, moderated the relationship between social support, as measured by the MSPSS, and negative parenting behaviors, as measured by the APQ-Negative. Scores on the LOT-R and the MSPSS were centered based on recommendations by Frazier et al. (2004), and product terms were calculated, which represented the interaction between the predictor (MSPSS) and the moderator (LOT-
R). Variables were entered into the regression in three steps: Step 1 included MSPSS as a predictor of APQ-Negative, Step 2 added LOT-R scores, and Step 3 included the product term (LOT-R x MSPSS) as a predictor of APQ-Negative. A statistically significant change at Step 3 is considered evidence of a moderation effect (Baron & Kenny, 1986; Frazier et al., 2004). Results found that there was not a significant main effect for MSPSS in APQ-Negative, $R=.13, R^2=.02, F(1,108)=1.77, p>.05$ in Step 1. The addition of LOT-R in Step 2 did not account for a additional amount of the variance in APQ-Negative, $R=.21, R^2=.04, \Delta R^2=.03, \Delta F(1,107)=3.10, p>.05$. Step 3 was non-significant, $R=.21, R^2=.05, \Delta R^2=.00, \Delta F(1,106)=0.22, p>.05$ (see Table 8).

Table 8

*Standardized Beta Coefficients and Change in R-Squares for the Associations among Social Support, Optimism, and Negative Parenting*

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</table>
Table 8 (continued).

Note. MSPSS = Multidimensional Scale of Perceived Social Support, LOT-R = Life Orientation Test – Revised.

**Hypothesis 3a**

Hierarchical multiple regression was used to explore the hypothesis that hope, as measured by the HS, moderated the relationship between parenting stress, as measured by the PSI-SF, and positive parenting behaviors, as measured by the APQ-Positive, when controlling for social support, as measured by the MSPSS. Scores on the HS and the PSI-SF were centered based on recommendations by Frazier et al. (2004), and product terms were calculated, which represented the interaction between the predictor (PSI-SF) and the moderator (HS). Variables were entered into the regression in four steps: in the first step MSPSS was entered; Step 2 included PSI-SF scores, Step 3 added HS as an additional predictor of APQ-Positive, and Step 4 included the product term (HS x PSI-SF) as a predictor of APQ-Positive. A statistically significant change at Step 4 is considered evidence of a moderation effect (Baron & Kenny, 1986; Frazier et al., 2004). Results found a significant main effect for MSPSS accounting for 8.0% of the variance in APQ-Positive, R=.28, R²=.08, F(1,85)=7.27, p<.01 in the first step. In the second step, the addition of PSI-SF was found to account for an additional 10.2% of the variance in APQ-Positive when controlling for MSPSS, R=.43, R²=.18, ΔR²=.10, ΔF(1,84)=10.48, p<.01 in Step 2. The addition of HS in Step 3 accounted for an additional 4.0% of the variance in APQ-Positive when controlling for MSPSS, R=.47, R²=.22, ΔR²=.04, ΔF(1,83)=4.53, p<.05. Step 4 was non-significant, R=.47, R²=.22, ΔR²=.00, ΔF(1,82)=0.00, p>.05 (see Table 9).
Table 9

*Standardized Beta Coefficients and Change in R-Squares for the Associations among Parenting Stress, Hope, and Positive Parenting When Controlling for Social Support*

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<tr>
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<td>-0.29**</td>
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*p<.05, **p<.01, ***p<.001

Note. MSPSS = Multidimensional Scale of Perceived Social Support, PSI-SF = Parenting Stress Index – Short Form, HS = Hope Scale.

Hypothesis 3b

Hierarchical multiple regression was used to explore the hypothesis that optimism, as measured by the LOT-R, moderated the relationship between parenting
stress, as measured by the PSI-SF, and positive parenting behaviors, as measured by the APQ-Positive when controlling for MSPSS, as measured by the MSPSS. Scores on the LOT-R and the PSI-SF were centered based on recommendations by Frazier et al. (2004), and product terms were calculated which represented the interaction between the predictor (PSI-SF) and the moderator (LOT-R). Variables were entered into the regression in four steps: in the first step MSPSS was entered; Step 2 added PSI-SF scores, Step 3 added LOT-R as an additional predictor of APQ-Positive, and Step 4 included the product term (LOT-R x PSI-SF) as a predictor of APQ-Positive. A statistically significant change at Step 4 is considered evidence of a moderation effect (Baron & Kenny, 1986; Frazier et al., 2004). Results found a significant main effect for MSPSS on APQ-Positive accounting for 7.0% of the variance, R=.27, $R^2=.07$, $F(1,107)=8.06$, $p<.05$, in Step 1. In Step 2, results showed a significant main effect for PSI-SF on APQ-Positive accounting for an additional 9.3% of the variance in APQ-Positive when controlling for MSPSS, $R=.40$, $R^2=.16$, $\Delta R^2=.09$, $\Delta F(1,106)=11.72$, $p<.01$. The addition of LOT-R in Step 3 did not account for a significant amount of the variance in APQ-Positive when controlling for MSPSS, $R=.40$, $R^2=.16$, $\Delta R^2=.00$, $\Delta F(1,105)=.02$, $p>.05$. Step 4 was non-significant, $R=.41$, $R^2=.17$, $\Delta R^2=.01$, $\Delta F(1,104)=1.11$, $p>.05$ (see Table 10).

Table 10

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*Standardized Beta Coefficients and Change in R-Squares for the Associations among Parenting Stress, Optimism, and Positive Parenting When Controlling for Social Support*
Table 10 (continued).

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

Note. MSPSS = Multidimensional Scale of Perceived Social Support, LOT-R = Life Orientation Test – Revised, PSI- SF = Parenting Stress Index – Short Form.

Hypothesis 4a

Hierarchical multiple regression was used to explore the hypothesis that hope, as measured by the HS, moderated the relationship between parenting stress, as measured by the PSI-SF, and negative parenting behaviors, as measured by the APQ-Negative, when controlling for social support, as measured by the MSPSS. Scores on
the HS and the PSI-SF were centered based on recommendations by Frazier et al. (2004), and product terms were calculated which represented the interaction between the predictor (PSI-SF) and the moderator (HS). Variables were entered into the regression in four steps: in the first step MSPSS was entered; Step 2 added PSI-SF scores, Step 3 added HS, and Step 4 included the product term (HS x PSI-SF) as a predictor of APQ-Negative. A statistically significant change at Step 4 is considered evidence of a moderation effect (Baron & Kenny, 1986; Frazier et al., 2004). Results found that there was not a significant main effect for MSPSS on APQ-Negative, \( R = 0.11 \), \( R^2 = 0.01 \), \( F(1,85) = 0.97, p > .05 \), in Step 1. Results found a significant main effect for PSI-SF accounting for 6.3% of the variance in APQ-Negative when controlling for MSPSS, \( R = 0.25 \), \( R^2 = 0.06 \), \( \Delta R^2 = 0.05 \), \( \Delta F(1,84) = 4.64, p < .05 \), in Step 2. The addition of HS in Step 3 did not account for a significant amount of additional variance, \( R = 0.25 \), \( R^2 = 0.06 \), \( \Delta R^2 = 0.00 \), \( \Delta F(1,83) = 0.01, p > .05 \). Step 4 was not significant, \( R = 0.26 \), \( R^2 = 0.07 \), \( \Delta R^2 = 0.00 \), \( \Delta F(1,82) = 0.16, p > .05 \) (see Table 11).

Table 11

*Standardized Beta Coefficients and Change in R-Squares for the Associations among Parenting Stress, Hope, and Negative Parenting When Controlling for Social Support*

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Table 11 (continued).

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*p<.05

Note. MSPSS = Multidimensional Scale of Perceived Social Support, PSI-SF = Parenting Stress Index – Short Form, HS = Hope Scale.

Hypothesis 4b

Hierarchical multiple regression was used to explore the hypothesis that optimism, as measured by the LOT-R, moderated the relationship between parenting stress, as measured by the PSI-SF, and negative parenting behaviors, as measured by the APQ-Negative when controlling for social support, as measured by the MSPSS. Scores on the LOT-R and the PSI-SF were centered based on recommendations by Frazier et al. (2004), and product terms were calculated which represented the interaction between the predictor (PSI-SF) and the moderator (LOT-R). Variables were entered into the regression in four steps: in the first step MSPSS was entered; Step 2 added PSI-SF scores, Step 3 added LOT-R, and Step 4 included the product
term (LOT-R x PSI-SF) as a predictor of APQ-Negative. A statistically significant change at Step 4 is considered evidence of a moderation effect (Baron & Kenny, 1986; Frazier et al., 2004). Results found that there was not a main effect for MSPSS on APQ-Negative, $R=.11$, $R^2=.01$, $F(1,85)=0.97$, $p>.05$. In Step 2, results found a significant main effect for PSI-SF in APQ-Negative accounting for 6.3% of the variance in APQ-Negative when controlling for MSPSS, $R=.25$, $R^2=.06$, $\Delta R^2=.05$, $\Delta F(1,84)=4.64$, $p<.05$. The addition of LOT-R in Step 3 did not account for a significant addition in the prediction of variance, $R=.30$, $R^2=.09$, $\Delta R^2=.03$, $\Delta F(1,83)=2.32$, $p>.05$. Step 4 was non-significant, $R=.31$, $R^2=.10$, $\Delta R^2=.01$, $\Delta F(1,82)=0.77$, $p>.05$ (see Table 12).

Table 12

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*\( p < .05 \)

*Note.* LOT-R = Life Orientation test – Revised, MSPSS = Multidimensional Scale of Perceived Social Support, PSI-SF = Parenting Stress Index – Short Form.
CHAPTER IV
DISCUSSION

The purpose of this project was to investigate the influence of hope and optimism on stress and parenting behaviors in parents/caregivers of children with intellectual disabilities. There were two main sets of hypotheses in the current study. First, it was hypothesized that hope and optimism would moderate the relationships between social support and parenting behaviors. Results indicated that neither hope nor optimism moderated relationships between social support and parenting behaviors. Social support and hope did emerge as significant predictors of positive parenting, but were not predictive of negative parenting. Second, it was predicted that hope and optimism would moderate the relationships between stress and parenting behaviors, after controlling for social support. Results indicated that neither hope nor optimism moderated the relationship between parenting stress and parenting behaviors after controlling for social support. Parenting stress and hope emerged as significant predictors of positive parenting behaviors when controlling for social support, but were not predictive of negative parenting. Results did not support optimism as a predictor of parenting. In sum, social support, hope, and parenting stress are good predictors of positive parenting behaviors. None of the variables of interest were significant predictors of negative parenting behaviors and no moderation was found in any of the hypotheses.

In the first set of hypotheses, hope and optimism were predicted to moderate the relationship between social support and positive parenting. The combination of hope and social support accounted for 16% of the variance in positive parenting.
Hope emerged as a significant, unique predictor of positive parenting explaining 8.3% of the variance. The combination of social support and optimism did not significantly predict positive parenting behaviors. Neither hope nor optimism moderated the relationship between social support and positive parenting behaviors in this study.

Previous research has not examined the role of hope in predicting parenting behaviors specifically. In the current study, hope was found to significantly predict an additional 8.3% of the variance in positive parenting behaviors beyond that predicted by social support. This is a noteworthy finding. While previous research has demonstrated that social support is an important predictor of positive parenting behaviors (Dunst & Trivette, 1985; Green, Furrer, & McAllister, 2007; Nitz, Ketterlinus, & Brandt, 1995), hope significantly added to the prediction of positive parenting behaviors beyond social support. Hope offers another factor to consider when designing programs intended to increase positive parenting behaviors in caregivers.

Another interesting finding was that optimism did not contribute any variance to the prediction of positive parenting behaviors and was not correlated with positive parenting behaviors. It seems apparent that hope and optimism are factors of resilience that are, in fact, very different constructs. In the current study, optimism surprisingly did not. In hypothesis 1b optimism was not a significant predictor of parenting behaviors. This is not consistent with previous literature wherein optimism has been correlated with positive parenting behaviors (Jones et al., 2002). Other studies have found that those high in social support tend to be high in levels of optimism (Brissette
et al., 2002; Park & Folkman, 1997), and that those higher in optimism may be more able to elicit social support (Carver et al., 1994), accounting for the strong correlation between the two in the current study as well as in previous studies (Mathews & Cook, 2009). Optimism is different from hope in that it is more future-oriented thinking, involving one’s belief that things will work out in the end (Bryant & Cvengros, 2004). It may be that because the parents of children with intellectual disabilities often have demands that require their immediate attention and their state is such that their expectations about the future are less salient. This would possibly explain the lack of relationship between optimism and positive parenting behaviors.

In the second pair of hypotheses, hope and optimism were predicted to moderate the relationship between social support and negative parenting. The hypotheses that hope and optimism would moderate the relationship between social support and negative parenting behaviors were not supported in this study. Hope, optimism, and social support were not found to have a significant relationship with negative parenting behaviors. The lack of a relationship between social support and negative parenting behaviors is consistent with findings in studies by Aunos, Feldman, and Goupil (2008), Lyons, Henly, and Schuerman (2005), and Torquati (2002) in which social support was not associated with negative parenting behaviors. The present study, as well as past research, seems to suggest that caregivers with less social support do not necessarily engage in more negative parenting behaviors. Hope and optimism have not been studied in previous research with relation to negative parenting behaviors.
Because social support is likely to be correlated with parental stress and parenting behavior, social support was controlled for in hypotheses three and four. Mothers of adult children with intellectual deficits have been found to report less social support than mothers of children without intellectual deficits (Rimmerman & Muraver, 2001). Several studies have found social support to be negatively correlated with parental stress (Dunst et al., 1988; Rimmerman et al., 1999) and positively correlated with positive parenting behaviors (Green et al., 2007; Marra et al., 2009).

Hypotheses 3a and 3b predicted that hope and optimism would moderate the relationship between parental stress and positive parenting behaviors when controlling for social support. Results did not support either hypothesis; hope and optimism did not moderate the relationship between stress and parenting behaviors.

There were some important results that were identified with these variables. The combination of social support, parenting stress, and hope predicted 22% of the variance in positive parenting. A main effect was found for social support and positive parenting accounting for 8% of the variance in positive parenting behaviors. Social support and parenting stress accounted for an additional 18% of the variance beyond social support. The combination of parenting stress and optimism also predicted positive parenting when controlling for social support, accounting for 16% of the variance. In both sets of analyses parenting stress emerged as a significant predictor of positive parenting such that increased levels of parenting stress were negatively related to positive parenting. These results are consistent with previous literature (Crawford & Manassis, 2001; Crnic & Greenberg, 1987; Karrass et al.,
Hope emerged as a significant predictor of positive parenting behaviors when controlling for social support. Hope remained a significant unique predictor even with the addition of parenting stress in the model. This is noteworthy because previous research has not examined the predictive relationships associated with the combination of hope and parenting stress on positive parenting behavior. Given that previous research has found a strong association between parenting stress and parenting behaviors (Abidin, 1995; Deater-Deckard & Scarr, 1996; Orsmond, Seltzer, Krauss, & Hong, 2003), the addition of hope to this prediction is a new and important finding. Hope has been found, in the current study and in past research, to be correlated with positive parenting behaviors (Horton and Wallander, 2001; Kashdan et al., 2002).

Hypotheses 4a and 4b predicted that hope and optimism would moderate the relationship between parental stress and negative parenting behaviors when controlling for social support. Neither hope nor optimism emerged as moderating variables between parenting stress and parenting behaviors when controlling for social support. Surprisingly, parenting stress was correlated with the Negative Parenting Composite such that more stress was correlated with less negative parenting. This is not consistent with previous literature (Crawford & Manassis, 2001; Crnic & Greenberg, 1987; Karrass et al., 2003; Pinderhugues et al., 2000; Rodriguez & Green, 1997). It is possible that as a caregiver’s demands increase and
they experience more stress they interact less all together with their children, positively and negatively.

The relationship between social support and positive parenting behaviors found in this study is consistent with results found in previous research studies (Crnic et al., 1984; Green, Furrer, & McAllister, 2007; Marra et al., 2009; Mason et al., 1994; McLoyd, 1990; Taylor & Roberts, 1995; Weinraub & Wolf, 1983). It seems that having social support increases a caregiver’s ability to interact positively with their child, perhaps due to having less stress. Having social support may mean there are more people around to assist with child rearing. It may also be that social support provides much needed outlets for stress relief through socializing. If social support offers assistance of relatives and friends to caregivers in child-rearing, caregivers with more support may have more time and energy to allocate to positive interactions with their children. Those high in hope seem even more able to engage in positive behaviors.

As previously discussed, previous research has focused on examining factors that contribute to negative parenting behaviors while not paying as much attention to factors of resilience that lead to positive parenting behaviors in caregivers. Although the findings of this study with regard to negative parenting behaviors were not significant, the results with regard to positive parenting behaviors were noteworthy. In particular, it was found that social support and hope were related to positive parenting behaviors, as was parenting stress. The relationship between parenting stress and positive parenting behaviors remained significant when social support was controlled for, and the relationship between hope and positive parenting behaviors
remained significant when social support and parenting stress were held constant. Understanding the relationships among these factors, particularly as they predict positive parenting, can be useful in informing programs that support caregivers of children with intellectual deficits to engaging in positive parenting behaviors.

Optimism did not emerge as a significant predictor of either positive or negative parenting behaviors beyond parenting stress when controlling for social support. In previous research social support has been shown to buffer against the impact of stress on parenting behaviors (Dougall et al., 2001). It is possible that controlling for social support in the current study reduced the impact of optimism on parenting behaviors. It is surprising that hope but not optimism emerged as a significant predictor of positive parenting, but this further supports the conceptualization of hope and optimism as very different constructs.

Limitations of the Current Study

The present study has limitations that should be taken into consideration when interpreting the results. First, participants were gathered through a convenience sample of caregivers of children either presented to a facility for diagnostic assessments, or of children in special education classes in the Mississippi public school system. Caregivers that received a packet had the choice to not participate in the study, so there may be a self-selection bias in this sample. This would be evident in the low return rate as a total of 675 research packets were distributed and only 118 were returned, a return rate of 17.5%. No information is available regarding those individuals who chose not to participate in this study, but it is possible that those who chose to participate were drawn to the study because of factors related to hope,
optimism, stress, or parenting behaviors. It is possible that caregivers struggling with issues of stress or negative parenting behaviors or who are feeling less hopeful or optimistic would be less likely to participate in the study because they would not wish to acknowledge these struggles. These caregivers may also have had a tendency to over-report their strengths or under-report their struggles in an effort to present themselves positively. There is a possibility that there was a response bias wherein parents experiencing stress under-reported negative parenting behaviors, which would explain the relationship between high parenting stress and less negative parenting behaviors found in the results of this study. Although it is unclear if there was a response-bias, it is important to note that individuals may have been different in some way from those who chose not to participate. Knowing in what ways, if any, participants differed from those who chose not to participate the potential to be less cautious in generalizing the findings would improve.

The diversity of the sample resembles the ethnic make-up of Mississippi, but as it does not closely resemble the make-up of the United States, generalizing these findings to other demographic groups should be done with caution. Also, there was a clear overrepresentation of mothers (82.6%) in the study, which may limit generalizability to other caregivers. Some of the questions on the Alabama Parenting Questionnaire may have been difficult for some parents of children with intellectual disabilities to answer. For this reason a “not applicable” option was added. While this option was utilized relatively rarely (<10% of the total responses), it is difficult to know how this may have impacted the results. It is possible that APQ total scores would have been higher if this option did not exist. It is possible that negative
parenting behaviors may have been different had this option not been available, and this may have contributed to the lack of prediction in negative parenting in the current study.

The MSPSS, which measures only perceived social support, was used to measure social support in this study. Other researchers have suggested that this may be a narrow view and that social support is a multidimensional concept involving such factors as actual social support, access to and availability of social support, the quality of the relationships one has, and the size and the interconnectedness of one’s network (Carver & Scheier, 2002; Tucker & Johnson, 1989). Utilizing measures that gather information about these other facets of social support may have provided more information about the types of social support that contribute to the other factors examined in this study.

**Directions for Future Research**

Only one previous study (Kashdan et al., 2002) has examined hope as a resilience factor in the prediction of parenting behaviors. In this study hope predicted a significant amount of the variance in positive parenting behaviors, even when controlling for social support. Hope has been described as a construct that involves two factors: the ability to find several different pathways to reach goals (pathways), and one’s belief in his or her ability to reach goals (agency). It may be useful to look at the two factors of hope (agency and pathways thinking) described by Snyder et al. (1991a), to determine which is more important in predicting positive parenting behaviors. Understanding which factor of hope predicts more of the variance in positive parenting behaviors could be useful in informing the development of
programs designed to increase hope in caregivers. If pathways emerged, for example, as a more important variable in predicting positive parenting behaviors, programs could target caregivers’ abilities to develop multiple strategies to reaching goals. If agency was shown to be more important as a predictor of positive parenting, caregivers’ self-efficacy could be targeted.

This study only examined one dimension of social support: perceived social support. This study did not examine any of the subscales to determine which areas of caregivers’ social support was most salient (friends, family, or significant other), and this may be of interest in future research as it may indicate which arena of social support is most helpful in predicting parenting behaviors. As mentioned, other researchers (Carver & Scheier, 2002; Tucker & Johnson, 1989) have suggested that social support involves many factors such as actual social support, access to and availability of social support, the quality of the relationships one has, the size and the interconnectedness of one’s network, and these aspects of social support may be important to include in future research to determine which aspect of social support is most important in predicting parenting behaviors.

In the present study hope and optimism were hypothesized to be moderating variables in the relationship between social support and parenting behaviors and stress and parenting behaviors. This was based on research on hope and optimism as factors of resilience providing valuable coping resources as well as buffers against stress. Neither hope nor optimism emerged as moderating variables in the relationship between social support and parenting behaviors. Neither hope nor optimism emerged as moderating variables in the relationship between parenting stress and negative
parenting behaviors when controlling for social support. Future research may examine coping skills, communication skills, flexibility, access to community resources, or other factors of resilience as moderating variables to provide information about what factors could be targeted in support programs for parents.

There was not a predictive relationship in this current study between social support and negative parenting or between stress and negative parenting. It would be important in the future to examine factors that contribute to negative parenting behaviors so that the impact of these factors can be targeted to help reduce the occurrence of negative parenting behaviors. It may be helpful to examine the possibility that social support moderates the relationship between stress and negative parenting behaviors, or that stress is a mediator between social support and negative parenting behaviors.

The results of this study indicated that hope is a predicting factor in positive parenting behaviors. Future research may look at the effectiveness of programs designed to increase hope in caregivers. Including a sample of caregivers of children without intellectual disabilities to use as a comparison group to caregivers of children with intellectual deficits may provide important information about how factors are more or less salient for one group versus another and what factors, if any, are more important for caregivers of children with intellectual deficits.

Practical Implications

This study’s findings have implications for community services organizations serving parents of children with intellectual disabilities, public school system special education coordinators, and mental health clinicians working with parents of children
with intellectual deficits. First, given that social support and hope emerged as significant predictors of positive parenting behaviors, these factors may be considered factors protective against negative outcomes in the lives of caregivers of children with intellectual deficits. Mental health clinicians may assist in increasing positive parenting behaviors in caregivers of children with intellectual deficits by providing programs that would increase caregivers’ experience of social support and hope. It may also be of benefit for mental health clinicians to identify caregivers low in hope as this may indicate problems in other areas and may also indicate that they are vulnerable to engaging in negative parenting behaviors. The impact of stress on positive and negative parenting behaviors that was evident in this study may also indicate that programs that decrease stress in parents can lead to more positive parenting behaviors as well as increase the likelihood that caregivers can continue to care for these children in a home setting rather than seeking assistance from an institutional setting.

Community support programs for caregivers of children with intellectual deficits may also benefit from the findings in this study. Programs that increase support networks and time with family and friends for these caregivers may increase positive parenting behaviors as well as decrease stress for these caregivers. Past literature does not explore the effectiveness of programs intended to increase social support and/or decrease stress in caregivers. It may be important to explore the outcomes of existing programs in these arenas as well as explore the development of programs specifically targeted toward these factors.
Finally, public school special education programs should be aware of the findings related to the potential relationship between hope, social support, and parenting stress when considering parenting behaviors. Positive parenting behavior is a potential protective factor in the lives of at-risk children (Yoshikawa, 1994) and harsh parenting is a potential risk factor (Qi & Kaiser, 2003). These parenting behaviors also impact child externalizing behaviors which may have implications for child outcomes at school (Bender et al., 2007; Frick, 1994; Gardner, Shaw, Dishion, Burton, & Supplee, 2007; Mulvaney & Mebert, 2007). Teachers and school administrators are in a position to create networks among caregivers of children in the special education program at their school and may also act as supports for these caregivers. Teachers and school administrators may also discuss with caregivers what resources are available in the community or personally for the caregivers that may increase hope, social support, and/or decrease stress. Programs may be instituted through the school system for parents that have the potential of decreasing stress and/or increasing positive behaviors that will impact child behaviors in school. Programs may wish to consider hope in particular as a potential variable that may buffer against stress for parents and increase positive parenting behaviors for this population. Programs designed to increase hope would want to consider to what extent caregivers believe they can find many ways to reach goals and how much they believe in their abilities to reach goals and attempt to increase those aspects of the caregivers’ experience. Child behavior problems may be an important aspect of the caregivers’ experience to consider as child behavior problems tend to be positively correlated with parenting stress and parenting stress tends to be correlated with
negative parenting behaviors. It may be important for caregivers to learn more ways to reach their goals of coping effectively with their child’s behavior.

Conclusion

In the current study social support, hope, and parenting stress were found to predict positive parenting behaviors in caregivers of children with intellectual deficits. Optimism was not found to predict a significant amount of the variance in positive parenting behaviors. Stress was found to predict positive parenting behaviors when controlling for social support and hope was found to predict positive parenting behavior when social support and parenting stress were held constant. Parenting stress was found to be related to negative parenting behaviors such that higher levels of parenting stress were related to lower levels of negative parenting behaviors. Neither hope nor optimism moderated the relationship between social support and positive parenting behaviors or between stress and positive parenting behaviors when controlling for social support. The findings of this study, as well as previous research, indicate that it is important to understand more fully what factors of resilience contribute to the relationships between social support, stress, and parenting behaviors for this population. This is particularly important as parenting behaviors can have important implications for child outcomes, particularly behavior problems (Bender et al., 2007; Frick, 1994; Gardner et al., 2007; Mulvaney & Mebert, 2007).
Dear parent or caregiver:

My name is Josie Cooke and I am a doctoral candidate at The University of Southern Mississippi and an associate psychologist at North Mississippi Regional Center. I am currently conducting a study which intends to examine predictors of parenting in parents of children with intellectual disabilities. I hope you consider helping with this important research.

You will be asked to complete a packet of questionnaires. Please do not put your name on the questionnaires. Completing the questionnaires will take approximately 30-45 minutes. If you have questions while completing the questionnaires, please contact me via the contact information provided at the end of this letter or in the consent form.

Participation in this project is completely voluntary, and you may stop filling out the questionnaires at any time. This project and its consent form have been reviewed by the Institutional Review Board of The University of Southern Mississippi which ensures that research projects involving human subjects follow federal regulations. This project and its consent form have also been reviewed and approved by the North Mississippi Regional Center Research Committee.

Participation in this study will help expand the knowledge available about protective factors and parenting for parents and caregivers of children with intellectual disabilities. It is hoped that the results of this study will help service providers to offer additional services designed to give more support to these parents and caregivers. Each month, those who return a completed a packet during that month will have their name entered into a drawing to win a $25 gift certificate. The drawing will take place on the last Friday of each month, and the winner will be notified by telephone.

Questions concerning the research should be directed to Josie Cooke, M.S. at 662-513-7730 or Bonnie Nicholson, Ph.D. at 601-266-4598. Any questions or concerns about your rights as a research subject should be directed to the Chair of the Institutional Review Board, The University of Southern Mississippi, 118 College Drive #5147, Hattiesburg, MS 39406-0001, (601) 266-6820.

Thank you in advance for your participation. Your help is greatly appreciated.

Sincerely,

Josie Cooke, M.S.
APPENDIX B

DEMOGRAPHICS QUESTIONNAIRE

Packet to be completed by only one caregiver please

Child’s Date of Birth: ____________
Gender: _____ Boy _____ Girl
The person completing this form is:
_____ Mother  _____ Father  _____ Other: (please specify) _____

Your Age: _____ Your Race/Ethnicity: _____ Black  _____ White
_____ Hispanic  _____ Asian
_____ Native American (Indian)  _____ Other (specify) ________

Your number of years of education: (please circle last grade completed)

<6  7  8  9  10  11  12  13  14  15  16  17+
Graduated  High School  Graduated  College  Completed Graduate  School  Completed Professional  School

Marital Status: _____ Never married/ living alone  _____ Divorced/ separated
______ Never married/ living with someone  _____ Widowed
______ Married
If divorced, are you the child(ren)’s primary guardian? _____ Yes  _____ No
If no, indicate the number of hours you spend weekly with your child(ren):
____________

Current Employment: (please describe job title & place of work)
Mother: ______________________________________________________________
Father: ______________________________________________________________
Other caregiver: _______________________________________________________

Annual Income: _____ less than $10,000  _____ $10-$20,000
_____ $20-$30,000  _____ $30-$40,000  _____ $40,000+

Number of children: ____________

HAS YOUR CHILD BEEN DIAGNOSED WITH INTELLECTUAL DISABILITIES (MENTAL RETARDATION)? (circle one)  YES  NO
By whom? ____________________  At what age? _______________
What support services are your receiving for your child(ren)(please circle all that apply):

Speech therapy   Occupational therapy   Physical therapy
Respite/home attendant care   Special Education
Other (please explain): _____________________________________________

How many years has your child been receiving these services?
________________________________________

Does your child currently have any diagnosis other than intellectual disabilities (please circle all that apply, and/or write in additional)

Autism   PDD   Cerebral Palsy   Down Syndrome
Deaf/hearing impaired   Blind/Vision impaired
Attention Deficit/Hyperactivity Disorder (ADHD)   Seizure Disorder
Oppositional Defiant Disorder (ODD)   Conduct Disorder (CD)
Other (please explain): _______________________________

Please circle the level (if any) of your child’s Intellectual disabilities:

MILD     MODERATE     SEVERE     PROFOUND
UNKNOWN

My child (please circle): is in a wheelchair   uses assistance to walk
   can walk alone

My child (please circle): communicates through talking
   only has a few words   does not talk
APPENDIX C

INSTITUTIONAL REVIEW BOARD APPROVAL

THE UNIVERSITY OF SOUTHERN MISSISSIPPI

118 College Drive #5147
Hattiesburg, MS 39406-0001
Tel: 601.266.6820
Fax: 601.266.5509
www.usm.edu/irb

Institutional Review Board

HUMAN SUBJECTS PROTECTION REVIEW COMMITTEE
NOTICE OF COMMITTEE ACTION

The project has been reviewed by The University of Southern Mississippi Human Subjects Protection Review Committee in accordance with Federal Drug Administration regulations (21 CFR 21, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the "Adverse Effect Report Form".
- If approved, the maximum period of approval is limited to twelve months.

Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: 28060205
PROJECT TITLE: Hope, Optimism, Stress and Social Support in Parents of Children With Mental Retardation
PROPOSED PROJECT DATES: 08/01/07 to 08/01/09
PROJECT TYPE: Dissertation or Thesis
PRINCIPAL INVESTIGATORS: Josephine E. Cooke
COLLEGE/DIVISION: College of Education & Psychology
DEPARTMENT: Counseling Psychology
FUNDING AGENCY: N/A
HSPRC COMMITTEE ACTION: Expedited Review Approval
PERIOD OF APPROVAL: 06/16/08 to 06/15/09

[Signature]
Lawrence A. Hosman, Ph.D.
HSPRC Chair

6-16-08 Date
REFERENCES


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