

The Relation Between Family Resources, Child Severity and Parenting Stress in Parents of
Young Children With Autism

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Abstract

This study examined the extent to which child severity and family resources are related to parenting stress in parents of 26 young children with autism. Bivariate correlations between family resources, autism severity, and parenting stress were conducted. Results revealed a significant negative correlation between parenting stress and family resources. A significant relation was also found between autism severity and child-focused aspects of parenting stress. Severity of autism symptoms was negatively correlated with total family resources. Importance of providing parents with appropriate therapies and supports is discussed.

The Relation Between Family Resources, Child Severity and Parenting Stress in Parents of Young Children With Autism

Autism spectrum disorders are a group of neurodevelopmental disorders characterized by a range of deficits in three core areas: social skills, communication skills, and the presence of stereotyped, repetitive behaviors (www.cdc.gov). Individuals on the autism spectrum have varying deficits ranging from quite severe cognitive disabilities to less severe impairments in social interactions. Recently, more and more children are being diagnosed with autism at an increasingly younger age. Currently, one in every 110 children in the United States is diagnosed with an autism spectrum disorder (www.cdc.gov).

The cause of autism spectrum disorders (ASD) is still relatively uncertain among researchers; however, most believe it is a combination of both a genetic susceptibility in addition to an environmental trigger that cause an individual to develop autism (Hertz-Picciotto et. al., 2006). Twin studies reveal a 60-96% concordance rate for identical (monozygotic) twins compared to a 2-8% concordance rate for fraternal (dizygotic) twins (www.cdc.gov). This increased rate for identical twins, siblings who share 100% of their genetic material, suggests that a genetic component exists in the development of an ASD. However, if the disorder is truly genetic in nature, a concordance rate closer to 100% would be expected. Therefore, it has been concluded that there is an environmental factor that, in addition to a genetic component, also contributes to the development of an autism spectrum disorder. Additionally, it remains unclear if the different disorders within the autism spectrum are a result of different genetic or brain abnormalities, or if they are different outcomes of the same biology (Lord et al., 2000).

Autism awareness is rapidly increasing throughout the country due, in part, to increased media reports as well as the increasing prevalence rates. Gurney et al., (2003) measured

prevalence rates of autism in Minnesota and concluded that increasing rates of autism are likely a result of previous under-diagnosis of the disorder instead of an epidemic. As the spectrum broadens, individuals are now more likely to receive a diagnosis of an autism spectrum disorder, whereas they would have previously received a different diagnosis, such as mental retardation, for example.

Children with ASD often exhibit certain behavioral characteristics that may be especially stressful for parents. For example, children with an autism spectrum disorder may display poor eye contact, have little interest in playing with other children, and may fail to engage in give-and-take activities with others. Furthermore, children with ASD struggle to interpret social cues from those around them and often have problems regulating and communicating their emotions with others (www.nimh.nih.gov). These characteristics may lead to increased stresses and frustrations for both the child and the parents.

Even parents of young typically developing children experience increased stress levels related to raising a child. While some of this parental stress may be functional and adaptive, excess amount of parental distress not only harms parents, but may also have lasting effects on the developing child. Boyd (2002) found that an increased level of parental stress predicts the development of depression in parents raising children of all abilities. Parental depression is also associated with child adjustment problems in typically developing children (Jacob & Johnson, 1997). Parents are vital to their children's course of development and parents struggling with psychological issues of their own likely have less time and energy to devote to their child's needs.

Parents raising a child with a developmental disability suffer from even higher levels of parenting stress than parents raising a typically developing child (Rodrigue, Morgan & Geffken,

1990; Raina et al., 2004; Murphy, Christian, Caplin, & Young, 2006). Parents of children with disabilities are not only more likely to experience distress but are also more likely to be depressed than parents of children without disabilities (Wolf, Noh, Fisman, & Speechley, 1989). According to Murphy et al. (2006), providing care to a child with disabilities can be a tremendous source of stress for caregivers that may have detrimental, lasting impacts on both their physical and mental health. Additionally, caregivers who provide most or all of the direct care for their child with disabilities have poorer health than caregivers who share the burden of care giving with others. A large portion of their stress is caused by uncertainty and anxiety about the future, especially with relation to their child with disabilities. Additionally, higher parenting stress is associated with poorer quality of parent-child interactions (Mahoney & Bella, 1998) and has also been shown to negatively affect the psychological health of children with disabilities (Kobe & Hammer, 1994).

Depending on the severity of their child's disorder, many parents are faced with unexpected life and even career changes upon the birth of a child with a disability or upon hearing a diagnosis of a disability in their child (Raina et al., 2004). Caregivers of a child with a developmental disability are oftentimes forced to assume an unexpected additional role of providing intensive, long-term care for their child. For example, parents of children with developmental disabilities assume the responsibility of not only in-home care but also coordinating appointments with various doctors, therapists, and educational resources. Consequently, they may feel like they must give up their previous lives in order to provide full-time, long-term care for their disabled child. This switch to a 'career of care giving' is unexpected and does not allow the same freedoms that other full-time jobs provide (Murphy et al., 2006). A 'career caregiver', unlike other occupations, is given little, if any, time off, there is

no future plan for retirement, and their career is not motivated by ambition. Instead, this occupation is directed by their child's delays and the interventions, therapies, other necessary supports the child requires (Raina et al., 2004).

In addition, parents raising a child with an autism spectrum disorder experience greater levels of parental stress than both parents raising children with other developmental disabilities as well as parents raising typically developing children (Wolf et al., 1989; Dumas et al., 1991; Sanders & Morgan, 1997; Hastings & Johnson, 2001; Bromley, Hare, Davison & Emerson, 2004). Importantly, Davis and Carter (2008) found that 39% of mothers of toddlers with an autism spectrum disorder reported clinically significant scores on a parenting stress parent-report measure and that more mothers than fathers reported depressive symptoms in the clinical range. These findings suggest that parents raising a child with autism may be at greater risk for developing seriously psychological conditions. Additionally, higher stress levels in parents may also negatively impact their child's development.

While high levels of parenting stress may cause a psychological burden on parents, parenting stress may also affect the development of the child with ASD. Families play a large role in the treatment of their child with autism and other developmental disabilities (Mahoney & Bella, 1998). Parents suffering from high stress levels may be unable to focus on providing the proper care for their child and instead must focus on caring for their own emotional wellbeing. Most researchers and clinicians agree that intensive early intervention is recommended to promote optimal outcomes for young children diagnosed with autism (Dawson & Osterling, 1997). However, interventions, especially those that are time-intensive and family-based, are not as effective when parenting stress is high (Osborne, McHugh, Saunders, & Reed, 2008). Furthermore, lower levels of parenting stress prior to beginning of an autism early intervention

treatment is one of the strongest predictors of success in that treatment program (Robbins, Dunlap, & Plienis, 1991).

It is unclear what specific feature, if any, of autism causes the greatest amount of stress for parents. There is vast disagreement in the research literature about which specific child characteristics cause the most stress for parents raising a child with ASD. For example, Bebko, Konstantareas, and Springer (1987) found that impairments in language abilities, cognitive abilities, social abilities, as well as overall autism severity were the greatest stressors for parents compared to other sensory issues, environmental changes, the child's ability to relate to objects, and visual information. Bromley et al. (2004), however, suggested that the increased levels of parenting stress in parents with a child with ASD was due to children exhibiting more challenging behaviors. Davis & Carter (2008) found that deficits in a child's social skills were the best predictor of stress in both mothers and fathers with a child with autism. Hastings, et al., (2005) suggests that higher levels of autism symptomatology, as measured through the Autism Behavior Checklist, were associated with higher reported parent stress. Hastings & Johnson (2001), agree that it is the severity of autism symptomatology, not specific characteristics, that cause increased stress levels for parents. Importantly,

Other causes of stress in parents raising a child with ASD are both the perceived and the actual availability of family resources. Family resources include income level, level of parental education, social supports, and time available to attend to the child's needs (Van Horn, Bellis, & Snyder, 2001). It has been well documented in the literature that the actual availability as well as the perceived availability of family resources effects family functioning and the ability of parents to provide care in families with typically developing children (Dunst, Leet, & Trivette, 1988). Specifically, research has shown that income levels of families (Crnic, Greenberg, Ragozin,

Robinson & Basham, 1983) are closely related to family functioning in families with children with developmental disabilities. Importantly, Herman and Thompson (1995) found that the severity of child characteristics in children with developmental disabilities negatively impacts the way in which parents perceive the effect their child has on time and family finances. However, they also found that parents with strong personal support networks rated the perceived availability of basic resources as more adequate. While parents rated basic resources as adequate to meet family demands, they rated money resources as less than adequate.

The purpose of this study was to replicate and extend the findings from Herman and Thompson (1995) to examine how family resources affect parenting stress in parents raising a young child with autism. It is especially important to examine the causes of parenting stress in parents raising a very young child with autism because more and more children are being diagnosed with autism at an increasingly younger age. It is unclear whether parents find raising older or younger children more stressful. Some studies suggest that mothers find older children somewhat more stressful than younger children (Bristol, 1983; Bebko, Konstantareas, & Springer, 1987); however, parents with younger children who have recently been diagnosed with autism also record higher levels of stress (Davis and Carter, 2008). Early diagnosis is important in order to being appropriate and most effective early intervention services for children on the spectrum and their families. Little research has examined parent stress and social support/family resources in families with very young children at risk for autism or recently diagnosed. Parents can be bombarded with information from media, family, friends, and neighbors and as a result may be subjected to increased levels of stress after a recent diagnosis. It is important to gain a greater understanding of the various causes of stress in parents raising a young child with autism

so that therapies and services can be target to mitigate these stresses and to allow a child an opportunity for optimal interventions and outcomes

This study examined the extent to which child factors (i.e., autism severity) and family factors (i.e., family resources) are related to parenting stress. While previous studies have examined potential causes of increased stress in parents raising child with autism, few have examined parents with very young children with autism. Furthermore, few studies have examined the relation between family resources and parenting stress in families with a young child with autism. Consistent with previous findings, we hypothesize that greater autism severity will be correlated with increased parenting stress. Furthermore, we hypothesize that the more parents perceive the availability of parenting resources, the lower their parenting stress will be. These findings may provide important information for understanding and working with caregivers to enhance family functioning as well as increase the effectiveness of specialized early interventions for both the child and family.

Method

Participants

A sample of 26 families (22 male children, 4 female children) of young children with autism aged 24-47 months was used for this study. 88.5% of our sample was white and 3.8% of our sample was black, 3.8% was Asian, and 3.8% identified their race as other. Data collected for this study were part of a larger study examining the development of motor imitation skills in children with autism spectrum disorders. Participants were recruited from local early intervention and preschool programs as well as private specialty service providers for children with autism. Families were paid \$40 for their visit. While data were collected at two evaluations, only data from the first evaluation were used for this study. Parents completed self-

report measures on-site while the child assessments were administered. Diagnoses of autism were made using the Autism Diagnostic Observation Schedule (ADOS; Lord et al., 1999) and the clinical judgment of a licensed clinical psychologist using DSM-IV criteria. Clinicians also completed the Childhood Autism Rating Scale (CARS) to rate severity of ASD symptomatology. Sample characteristics are presented in Table 1.

Measures

Child Assessments

The Autism Diagnostic Observation Scale-Generic (ADOS-G; Lord et al., 2000) is a semi-structured observational assessment of play, social interaction, and communicative skills that was designed as a diagnostic tool for identifying the presence of autism. Items are scored on a 3-point scale from 0 (no evidence of abnormality related to autism) to 2 (definite evidence). The ADOS-G is organized into four modules, which are distinguished by their appropriateness for use with individuals functioning at different developmental levels, ranging from nonverbal children to highly fluent adults. Each module provides a set of behavioral ratings and an algorithm that can be used for the diagnosis of autism. We used Modules 1 and 2 for the participants in this study and used the ADOS-G to identify children who met the eligibility criteria for inclusion in this study as well as to confirm an autism diagnosis.

The Mullen Scales of Early Learning (MSEL; Mullen, 1995) is a direct child assessment that measures cognitive functioning of children aged birth to 68 months through individually administered tasks. It consists of a gross motor scale as well as four cognitive scales that assess nonverbal problem solving, fine motor skills, receptive language, and expressive language. We administered only the four cognitive scales. The Mullen takes approximately 30 minutes to administer. The scores on the cognitive scales are combined into an overall developmental

composite score (Early Learning Composite) and were used as a measure of cognitive ability. The Mullen was used as a descriptive measure to understand the overall cognitive abilities and ranges present in our sample. Median internal reliability coefficients ranged from 0.75 to 0.83 (Mullen, 1995). Median test-retest coefficients for the cognitive scales ranged from 0.71 to 0.85.

The Childhood Autism Rating Scale (CARS; Schopler et al., 1988) is an observational measure of autism severity that includes 15 items with a rating scale of 1 to 4 for each item. Half points may be given on each item. Behaviors measured include: relating to people, body use, adaptation to change, listening response, and verbal communication. Scores on the CARS range from 15-60. A child who scores between 15-30 is considered non-autism while a child scoring between 30-36 is considered to be mildly to moderately autistic. Finally, a child scoring above a 36 is considered to be severely autistic. The CARS was completed by clinicians following the assessment and used as a measure of severity of autism symptomatology.

Parent Questionnaires

Parents were asked to complete a demographic questionnaire containing questions about their marital status, employment, income, education, number of children under five years living in the home, and frequency of child illnesses in one year. This measure was used to gain a greater understanding of socioeconomic status, education levels and other demographic variables represented in our sample. Information about parents' levels of education, occupation, sex, and marital status was used to calculate a Hollingshead prestige score (Hollingshead, 1975). Prestige scores range from 8 to 66 with higher scores representing higher social prestige, or membership in a higher socioeconomic group.

The Family Resource Scale (FRS; Dunst & Leet, 1987) is a parental report measure of the availability of family resources based on a five-point rating scale (1= resources were not at all adequate for the family; 2= seldom adequate; 3= sometimes adequate; 4= usually adequate; 5= almost always adequate). Four categories of resources are assessed: 1) time; 2) money; 3) basic needs; and 4) the child. The category of family resources related to time was assessed with items such as, “time to be by yourself” or “time to be with children”. The money category was assessed with items such as “money to save” and “money for family entertainment”. Basic needs resources were assessed with items such as “food for two meals a day” and “indoor plumbing/water”. Child resources were assessed through items such as “child care/daycare for your children” or “babysitting for your child(ren)”. The FRS was used to measure parents’ perceptions of the resources that may or may not be available to them. Alpha coefficients ranged from 0.92 to 0.97, and the stability coefficient for the total scale scores was 0.52 (Dunst & Leet, 1987).

The Parenting Stress Index – Short Form (PSI-SF; Abidin, 1990) is a 36-item parental report questionnaire that measures parenting stress in parents of children ages three months to 10 years. Parents rate their agreement with various statements about parenting feelings and experiences on a five-point scale (1= strongly agree; 5 = strongly disagree). The three subscales of this measure are: parental distress, parent-child dysfunctional interaction, and difficult child characteristics. The parental distress scale includes items relating to the parent’s feelings of being trapped in a parenting role such as, “Since having a child I feel that I am almost never able to do things I like to do.” The parent-child dysfunctional interaction scale assesses the nature of the relationship between the parent and child through items such as, “Sometimes my child does things that bother me just to be mean.” The difficult child characteristics scale assesses the way

parents perceive their child's behavior through items such as, "My child makes more demands on me than most children." A higher score on the PSI indicates higher stress levels. We used the total score on the PSI in our analyses. The scales have shown high internal consistency and adequate test-retest reliability and have been widely used.

Overview of Analyses

Pearson correlations were used to examine the relation between child factors (i.e., autism severity), family resources, and parenting stress. We examined our hypothesis that greater autism severity will be correlated with increased parenting stress through bivariate correlations between the CARS and the PSI-SF. We examined our second hypothesis -- that the more parents perceive the availability of parenting resources, the lower their parenting stress will be -- through bivariate correlations between the FRS and the PSI-SF.

Results

Relation between Autism Symptomatology and Parenting Stress. The first hypothesis was that greater autism severity would be correlated with increased parenting stress. Correlations between the CARS and the parental distress, parent-child interaction, and the difficult child characteristics subscales of the PSI-SF were examined. Significant correlations were found between the CARS and the following PSI subscales: parent-child interaction and difficult child characteristics. Correlations are presented in Table 2.

A significant correlation was found between autism severity and child-focused aspects of parenting stress, with higher child-related parenting stress levels in parents of children displaying greater levels of autism symptomatology (Figure 1). Specifically, more severe autism symptomatology was positively correlated with higher ratings on the parent-child dysfunctional interaction subscale on the PSI-SF ($r=.398; p<.05$). Greater autism severity on the CARS was

also positively correlated with higher scores in parental report of difficult child characteristics on the PSI-SF ($r=.424$; $p<.05$).

Relation between Family Resources and Parenting Stress. The second hypothesis was that the more parents perceive the availability of resources, the lower their parenting stress will be. Correlations between the four subscales (time, money, child, and basic resources) and the total score on the FRS and the three subscales (parental distress, parent-child interaction, and difficult child characteristics) and the total score of the PSI-SF were examined.

Results of bivariate correlations revealed a significant negative correlation between overall parenting stress and total family resources ($r = -.641$; $p<.001$) (Figure 2), with fewer resources being associated with higher parenting stress (Table 2). Specifically, higher total levels of parenting stress were associated with fewer resources in the areas of time ($r = -.665$; $p<.001$) and money ($r = -.611$; $p<.01$). However, total parenting stress scores were not associated with fewer child resources and fewer basic resources.

Time resources were negatively correlated with all three parenting stress subscales on the PSI-SF. Family resources related to time were significantly correlated with the parental distress subscale ($r = -.698$; $p<.001$), the parent-child dysfunctional interaction subscale ($r = -.472$; $p<.01$), and the difficult child characteristics subscale ($r = -.57$; $p<.01$) of the PSI-SF.

Additionally, money resources were negatively correlated with parental distress and difficult child characteristics, but not parent-child dysfunctional interaction, as measured on the PSI-SF. Parent report of fewer money resources was significantly correlated with higher levels of parental distress ($r = -.618$; $p<.01$) and difficult child characteristics ($r = -.555$; $p<.01$). Basic resources were negatively correlated with the difficult child characteristics subscale on the PSI-

SF ($r = -.437; p < .05$), but not with the other PSI-SF subscales. Finally, child resources, as measured on the FRS, were not significantly correlated with any of the three PSI-SF subscales.

Relation between Family Resources and Autism Symptomatology. Although not directly related to our original hypotheses, bivariate correlations were run between the four family resource subscales and the CARS in order to determine the relation between specific family resources and autism symptomatology. After finding significant associations between both family resources and autism symptomatology with parenting stress, we were interested in the relation between these two variables. Furthermore, Herman & Thompson (1995) found that the severity of a developmental disability negatively impacts how parents perceive the impact their child has on time and family finances. These correlations were conducted in order to extend the findings of Herman & Thompson (1995). Severity of autism symptoms was correlated with total family resources, with greater autism severity in children associated with lower overall resources for families. Specifically, both time and money resources from the FRS were negatively correlated with autism severity as measured on the CARS ($r = -.470; p < .05$). Additionally, fewer child resources ($r = -.648; p < .001$) and basic resources ($r = -.414; p < .05$) were both significantly correlated with greater autism symptomatology.

Discussion

The current study sought to examine the extent to which child factors (i.e., autism severity) and family factors (i.e., family resources) are related to parenting stress. We hypothesized that greater autism severity will be correlated with increased parenting stress. Furthermore, we hypothesized that the more parents perceive the availability of resources, the lower their parenting stress will be. Results of the study confirmed that greater autism severity is positively correlated with increased child-related parenting stress. This finding adds to the

literature by Herman and Thompson (1995) and has several implications for both children with autism and their parents.

High levels of parenting stress are related to the child's autism symptomatology and to the associated specific child characteristics, such as behavior problems (Lecavalier, Leone, & Wiltz, 2006). While we cannot infer directionality of this relation, it is in line with findings from several previous studies detailing sources of stress in parents of children with autism (Bebko, Konstantareas, & Springer, 1987; Bromley et al., 2004). For example, parents may be stressed about their inability to calm down their screaming child, who might be having difficulty transitioning between activities, oversensitive to noise, or insistent on certain routines. With regard to their child's deficits in social skills, they may be stressed about their child's disinterest in playing with other children, or their own difficulty connecting with their child.

Furthermore, increased parenting stress levels may be related to parents' concerns about their child's future. Parents with a child with more severe autism may experience greater stress about their child's developmental outcomes than a parent whose child displays less severe symptomatology. Stress may exist regarding the prospect of their child's inability to provide for him or herself in the future and parents may also worry about who will provide care for their child after they have passed away (Gabriels, Hill, Pierce, Rogers & Wehner, 2001).

Also, a child with a more severe autism presentation may require more intensive therapies relative to a child with less severe symptoms. These interventions, while often beneficial, may be a source of increased stress for parents, for several reasons. For example, children with a more severe autism presentation, specifically related to social skills, may not respond as quickly to intervention as a child with less severe autism presentation (Zachor & Itzchak, 2010). Stress may develop as parents question the effectiveness of the intervention and wonder if there is

anything that will be able to help their child. When parents see little or slow change as a result of intensive interventions, stress levels may increase further as the cost-benefit ratio skews toward investing more time and financial resources with few observable improvements in their child's diagnosis.

Our data also support our second hypothesis that fewer family resources perceived by parents would correlate with higher parenting stress. Overall scores on the Family Resource Scale were negatively correlated with overall scores on the Parenting Stress Index – Short Form. However, our results were only statistically significant for Time and Money resources, and not for Child or Basic resources.

Fewer perceived resources related to time were significantly correlated with parenting stress. Stresses related to time in parents raising a young child with autism may be due to the time spent traveling to and implementing various interventions and therapies. Parents raising a young child with autism juggle a myriad of interventions, therapies, and doctor's visits. Family members, especially parents, are strongly encouraged to participate in the intervention process, which can be very time-intensive (Woods & Wetherby, 2003). Additionally, parents with young children with autism are often encouraged to enroll their child in several simultaneous interventions in order to allow for their child's optimal developmental outcome. Oftentimes, families with a child with autism spend a great deal of time traveling long distances to meet with the proper physician or therapist for their child. Parents may also feel stress or pressure about not having enough time to implement all of the therapies that they want to. Additionally, children might need constant supervision from parents, restricting the amount of time parents have to spend by themselves or with spouses. All of these additional activities that parents with a child with autism are involved in may lead to their perception of fewer available time resources.

Parents' perceived availability of financial resources was also significantly correlated with parenting stress in our sample. Providing early interventions for a young child with autism can be very expensive. Oftentimes, insurance companies do not cover all of the therapies a parent wishes to provide for their child and parents must pay out of pocket. Additionally, the increased time demands of providing early interventions for parents may cause parents to choose to leave a job in order to be able to devote more time to their child's therapies. This switch to a "career caregiver" is usually unexpected and may cause families to readjust their finances in order to provide the best care to ensure optimal outcomes for their child (Raina et al., 2004).

Our findings suggest that the fewer resources parents perceive to be available related to time and money, the greater stress they will have. Furthermore, parents raising a child with greater autism severity face increased stress levels perhaps due to increased intervention or time demands. Indeed, secondary results from this study suggest that increased autism severity in children was significantly associated with lower family resources on the FRS.

Our results were not significant for the relation between parenting stress and the child resources subscale on the FRS, which assesses resources related to providing child or day care, money to buy special equipment or supplies for children, and babysitting. This may be because basic child resources are a lower priority for parents, compared to time and money resources that are drained in managing more autism-specific child needs that may not be captured in the child-related resource scale. We also did not find a significant relation between parenting stress and the basic resources subscale on the FRS, which assesses resources related to providing two meals a day, money to buy necessities, and enough clothes for family members. This result may be due to minimal variability in socioeconomic status in our sample. Most of the families in our sample were from middle to upper-middle class backgrounds. Our sample's mean Hollingshead prestige

score, our measure of socioeconomic status, was 49.98 out of a maximum of 66. Thus, most families in our sample were likely not struggling to provide basic needs for their family members due to their socioeconomic status.

While our results shed light on the factors associated with parenting stress in parents raising young children with autism, there were several limitations to our study. First, we relied on parental self-report of how they perceived their availability of family resources. In order to study the actual availability of these resources for families, a more direct-measure of resources could be used in future studies. It will be interesting to compare parents' perceived availability of resources with the actual availability of these resources and how this potential difference relates to parenting stress. More quantitative measures about how much resources these families actually have are necessary.

Another limitation of our study is the small sample size and the relative socioeconomic homogeneity of our participant families. Future studies should actively recruit families from various socioeconomic backgrounds in order to gain a more clear understanding of the causes of parenting stress for all parents raising young children with autism. It is possible that there is a different profile for the relation between parenting stress, family resources, and autism severity in families with different situations with regards to financial security or educational background.

Additionally, longitudinal studies should be developed in order to examine whether or not parent's perceptions of the availability of family resources changes with time. Perhaps family resources decrease over time leading to increased parent stress. On the other hand, parents may adjust to their child and his or her needs causing resource-related stress will decrease with time. There is some disagreement in the literature about how parenting stress changes as children and parents age. Bristol & Schopler (1983) found older children with autism

to be more stressful than younger children with autism for parents. More recently, however, Lounds, Seltzer, Greenberg, and Shattuck (2007), found that mothers are able to adapt to the needs of their child with autism over time. Their findings suggest that parenting an older child with autism may not necessarily be more stressful than parenting a younger child with autism. It is important to examine the way in which family resources effect these changes in stress patterns.

Following a larger, more diverse sample over time would allow for more accurate conclusions to be drawn about the causes of parenting stress in parents raising a child with autism. Further research must also examine the effects of parent age on parenting stress in parents raising a young child with autism. A longitudinal study of parenting stress in parents raising children with autism would also allow the examination of causal patterns instead of simply correlations. Our study looked at the relation between family resources, child severity, and parenting stress. We do not know if any of these variables cause another, we simply know that there is a relation between them. A longitudinal study design would also allow researchers to examine potential moderating effects on the relation between parenting stress, financial resources, autism severity, and perhaps other factors not measured in the current study (e.g. geographic location, other stressful life events, available social supports, and marital status).

Another limitation of our study is the lack of a control group. To improve our understanding of the relation between parenting stress, autism severity, and family resources, a control groups of parents with children with other developmental disabilities as well as parents with typically developing children should be included in future research to clarify whether the pattern of relations observed in the current study is specific to parents of children with autism. While previous research suggests that parents raising a child with autism have higher levels of stress than parents raising a child with another developmental disability (Wolf et al., 1989;

Dumas et al., 1991; Sanders & Morgan, 1997; Hastings & Johnson, 2001; Bromley, Hare, Davison & Emerson, 2004), it is important to examine how the availability, real and perceived, of family resources comes into play. Children with autism require different types of interventions than children with other disabilities (Sanders & Morgan 1997), which may cause different stresses in parents and different strains on family resources.

Further research is also necessary to examine potential protective and risk factors for parenting stress in families with a young child with autism. Some research has been done to study the protective factor of social supports; however, more research is needed to examine social supports as a protective factor of stress specifically in parents with a young child with autism (Bromley et al., 2004). Future research could also examine other characteristics of parents that could make them more susceptible to stress, such as predisposition toward anxiety or depression, other children in a family or stresses at work.

Our results have important implications for the development and implementation of interventions for families with children with autism. According to Osborne et al., (2008), early interventions are less effective when parenting stress is high. Therefore, it is critical that parents be provided with resources, referrals, and strategies for reducing and managing their own stress - not only for their own psychological and physical well being, but also for their child's developmental outcomes. . Increased levels of parenting stress observed in our sample provide further evidence for the necessity of providing not only therapies, but support to parents raising young children with autism. While great emphasis should be placed on providing proper interventions for children with autism, it is important to recognize the impact these interventions have on parenting stress. Interventions and therapies should be developed to provide parents

with the tools and supports they need to maintain their mental health in order to best provide for their child.

Also, further research should focus on individual stressors for both mothers and fathers, as our study included self-reports from a primary caregiver, which was always the mother. However, fathers also play active roles in raising their children and they may be experiencing increased levels of stress as well. Patterns of stresses in mothers and fathers may be different with regards to raising a young child with autism and the perceived availability of family resources (Gray, 2003). Similarly, due to different roles in the family, mothers and fathers may perceive their availability of resources in a different way, which may lead to different patterns of stress related to resources. Finally, further research must be conducted to examine the different patterns of stress in single, separated, or divorced parents raising a young child with autism.

Development of a more sensitive measure of parenting stress for parents raising a child with a disability would be useful. Parents raising a child with a disability have a different experience than parents raising a typically developing child. For example, parents with a child with autism must handle oftentimes a negative public reaction to their child and the related social stigma (Gray, 1993). Additionally, parents with especially young children with autism may experience increased feelings of grief and sorrow due to their child's diagnosis with autism (Benderix, Nordstrom, & Sivberg, 2006). A measure that accesses this different experience and the different types of stresses is necessary in order to conduct more accurate research in this field. While the PSI-SF is a valid measure for assessing parenting stress related to several factors, a tool that measures parenting stress specifically related to potential challenges of parenting a child with a disability could be useful for more accurately capturing sources of stress in this population and relating it to other factors.

In summary, the current study found significant relations between parenting stress and both family resource and severity or autism symptoms in parents of young children with autism, a majority of whom had clinically elevated levels of parental stress. These findings are important for the development of interventions and therapies targeted at parents raising young children with autism. The results of this study have important implications for the types of support families with a young child with autism require for both parental well-being and to improve child outcomes.

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Table 1

Sample Characteristics

Measure	Mean (sd)	Range
Chronological Age (months)	32.08 (6.08)	24 - 36
Mullen Scales of Early Learning (ELC)	58.27 (12.82)	48 - 101
CARS Total Score	35.17 (4.08)	27.5 - 44
Hollingshead Prestige Score (SES)	49.98 (12.7)	17-66

Table 2

Correlations Among Measures of Autism Symptomatology, Parenting Stress, and Family

Resources

		Parenting Stress Index Short Form				CARS
		Parental Distress	Parent-Child Interaction	Difficult Child Characteristics	PSI Total Score	Total Score
Family Resources Scale	Time Resources	-0.698***	-0.472**	-0.57**	-0.665***	-0.470*
	Money Resources	-0.618**	-0.412	-0.555**	-0.611**	-0.470*
	Child Resources	-0.231	-0.148	-0.368	-0.321	-0.648***
	Basic Resources	-0.035	-0.193	-0.437*	-0.284	-0.414*
	FRS Total Score	-0.656***	-0.443*	-0.565**	-0.641***	-0.520**
CARS	Total Score	.211	.398*	.424*	.384	

*p<.05

**p<.01

***p<.001

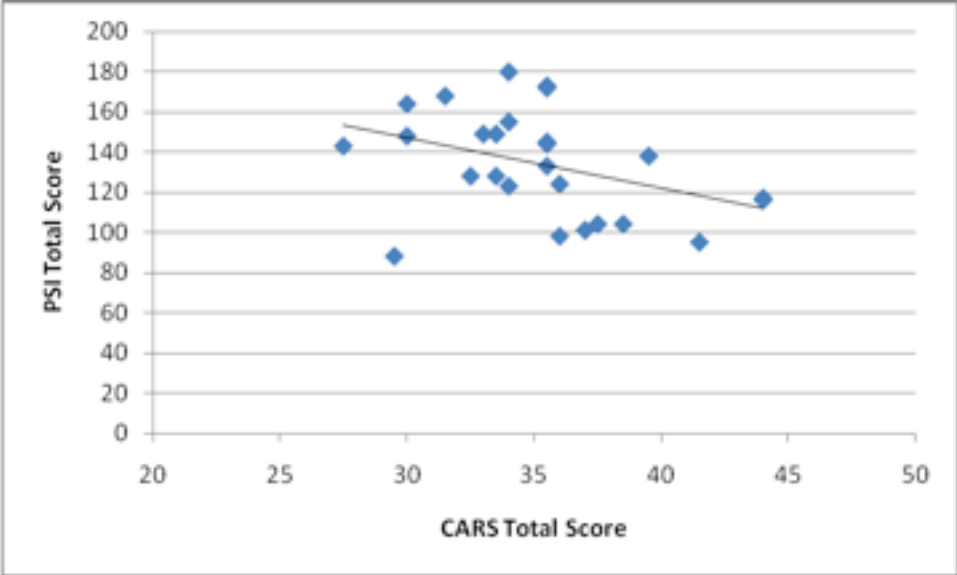


Figure 1. Relation between Autism Severity and Parenting Stress

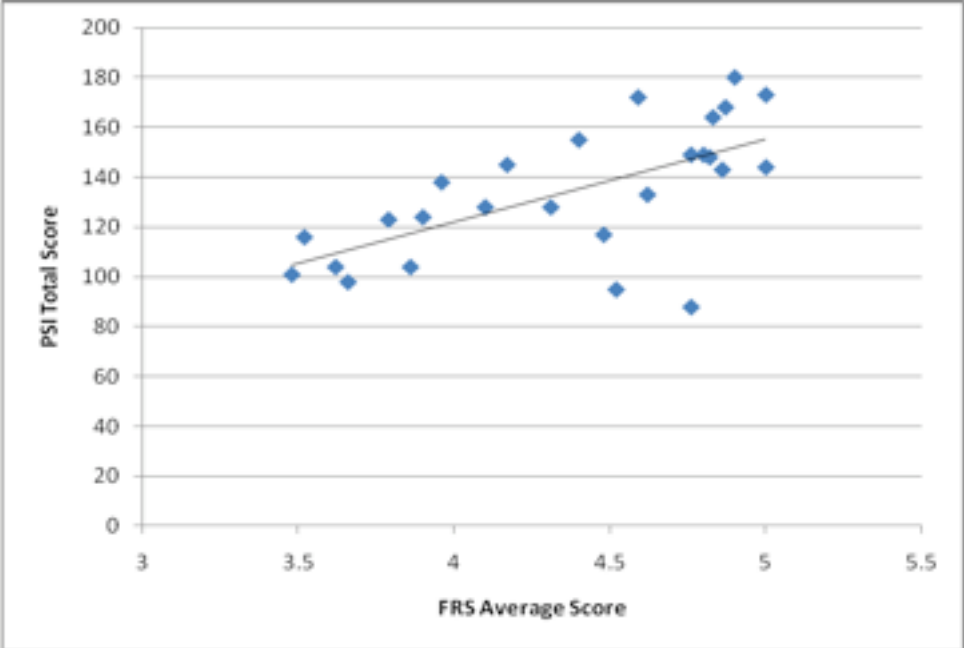


Figure 2. Relation between Family Resources and Parenting Stress

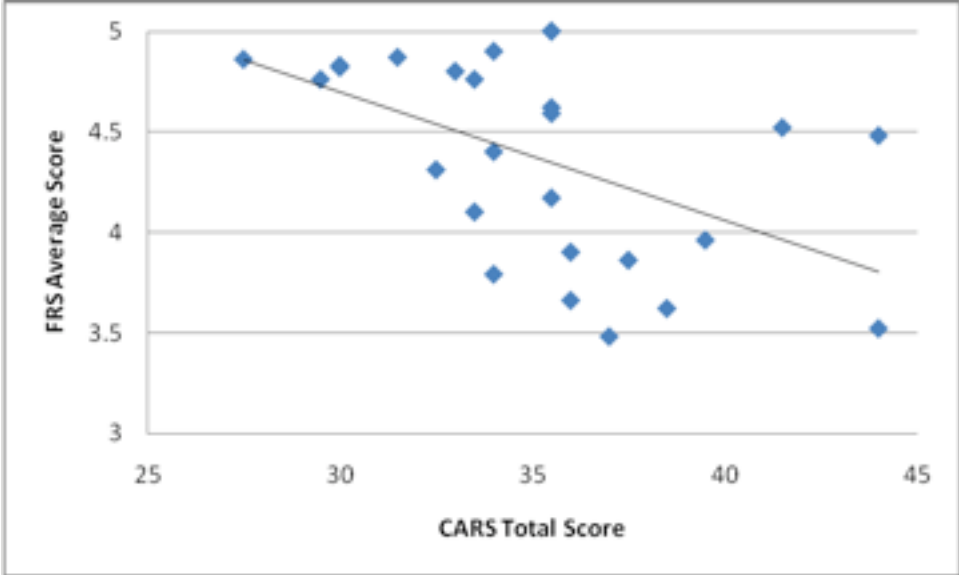


Figure 3. Relation Between Autism Severity and Family Resources