

Relationship satisfaction and mental health of parents of children with autism: A  
comparison of autism, ADHD, and normative children

Jessica Tarabek

Thesis submitted to the faculty of the Virginia Polytechnic Institute and State  
University in partial fulfillment of the requirements for the degree of

Master of Science  
In  
Human Development

Andrea Wittenborn  
Angela Hubner  
Linda Allen-Benton

February 2, 2011  
Falls Church, VA

Keywords: Autism, mental health, relationship satisfaction

Relationship satisfaction and mental health of parents of children with autism: A comparison of autism, ADHD, and normative children

Jessica Tarabek

Abstract

This research compares the relationship satisfaction and mental health of parents of children diagnosed with Autism or Autism Spectrum Disorders (ASD) to parents of children with Attention Deficit Hyperactivity Disorder (ADHD) or Attention Deficit Disorder (ADD) and parents of normative children. The analytical sample was obtained from the 2007 National Survey of Children's Health, and ANOVA statistical procedures were used to analyze the data. Results indicate that significant differences exist in relationship satisfaction and mental health between mothers of children with Autism or ASD and mothers of either children with ADHD or ADD or normative children. No significant differences were found between fathers. Implications for clinicians working with this population, as well as suggestions for future research are discussed.

## ACKNOWLEDGEMENTS

There are several individuals who gave me the support and encouragement necessary to complete this work. First, I would like to thank my committee chair, Dr. Andrea Wittenborn, for her support and guidance throughout this process. This project would not have been completed without her. I would like to express my appreciation for my committee members, Dr. Angela Huebner and Linda Allen-Benton, for their valuable input and encouragement. Finally, I want to thank my family, friends, classmates, and colleagues, who each provided the endless support, encouragement, and laughter necessary to complete this part of my journey.

## TABLE OF CONTENTS

<b>ABSTRACT</b>	<b>ii</b>
<b>ACKNOWLEDGMENTS</b>	<b>iii</b>
<b>TABLE OF CONTENTS</b>	<b>iv</b>
<b>LIST OF TABLES</b>	<b>vi</b>
<b>CHAPTER 1: Introduction</b>	<b>1</b>
Statement of the Problem	1
Significance	1
Rationale	5
Purpose of Present Study	6
Research Questions	6
<b>CHAPTER 2: Literature Review</b>	<b>8</b>
Mothers of Children Diagnosed on the Autistic Spectrum	8
Psychological Distress and Social Support	8
Mothers and Fathers of Children Diagnosed with Autism	10
Relationship Satisfaction in Mothers and Fathers of Children Diagnosed with Autism	14
Relationship Satisfaction of Mothers	14
Relationship Satisfaction of both Parents	14
Research Measuring both Psychological Functioning and Relationship Satisfaction	16
Summary	17
<b>CHAPTER 3: Methods</b>	<b>19</b>

Participants	19
Procedure	22
Measures	24
Analysis	25
<b>CHAPTER 4: Results</b>	<b>29</b>
Univariate Analysis	29
Correlational Analysis	31
ANOVA	32
Summary of Findings	33
<b>CHAPTER 5: Discussion</b>	<b>40</b>
Strengths	42
Limitations	43
Clinical Implications	44
Future Research	46
Conclusion	46
<b>References</b>	<b>48</b>

**LIST OF TABLES**

Table 1: Demographic Characteristics of Mothers	27
Table 2: Demographic Characteristics of Fathers	28
Table 3: Univariate Statistics for Maternal Mental Health, Maternal Relationship Satisfaction, Paternal Mental Health, and Paternal Relationship Satisfaction	30
Table 4: Correlations	35
Table 5: Means, SD, and Ranges of Mothers of Children with Autism or ASD, Mothers of Children with ADHD or ADD, and Mothers of Normative Children	37
Table 6: Means, SD, and Ranges of Fathers of Children with Autism or ASD, Fathers of Children with ADHD or ADD, and Fathers of Normative Children	38
Table 7: ANOVA	39

## CHAPTER 1: INTRODUCTION

### Statement of the Problem

Autism is a devastating developmental condition that affects 1 in 166 children (Chakrabarti & Fombonne, 2001). This disorder is characterized by behavior problems, language deficiencies, and marked social unresponsiveness (Holroyd & McArthur, 1976). The maladaptive behavior of a child alone has been reported to elevate the level of marital conflict between his or her parents (Westerman & Schonholtz, 1993), and parents of children with disabilities are slightly more likely to divorce than parents without children with disabilities (Brobst, Clopton, & Hendrick, 2009). When a child receives a diagnosis of a developmental disability, it can be a devastating blow to any parent; however it has been reported that parents with children on the Autistic spectrum are more likely to experience high chronic levels of stress, as well as more marital distress (Blackledge & Hayes, 2006; Sanders & Morgan, 1997). In addition, parents of children with Autism report greater conflicts with non-disabled children and more problems with family integration (Gray & Holden, 1992). Finally, parents of children with Autism often feel frustrated, anxious, pessimistic, and have high rates of depressive and anxiety disorders (Blackledge & Hayes, 2006; Sharpley, Bitsika, & Efremidis, 1997; Yirmiya & Shaked, 2005). While there have been various studies examining how parents of children with Autism cope, little attention has been given to if and how marital relationship satisfaction is affected.

### Significance

#### *Stressful situations*

The causes of Autism are not clear, and there is no known cure. Maladaptive behaviors that characterize Autism include obsessive behaviors, tantrums, and self-injurious behavior- which can increase the stress that parents experience (Gray & Holden, 1992). Parenting stress in

families where there are children with disabilities has been reported to be higher than in families with children without disabilities, especially stress related to the temperament of the children (Kersh, Hedvat, Hauser-Cram, & Warfield, 2006). In addition to these disruptive behaviors, few centers have historically specialized in the identification and treatment of Autism and other pervasive developmental disorders (Konstantareas, 1990), and many parents struggle to obtain proper services for their child (Myers, Mackintosh, & Goin-Kochel, 2009). This can lead to a delay in the grieving process, which prohibits effective coping until the experience has been processed at a later date (Norton & Drew, 1994). In one example, a mother that was concerned her child was exhibiting classic symptoms of Autism was told that her child probably had a problem with his hearing. It took several more consultations before she reached a health care professional that could adequately diagnose and give pertinent treatment information about the disorder so she could begin to cope (Maurice, 1993).

Upon receiving the diagnosis, many parents report feeling fear, shock, isolation, and uncertainty (Whitaker, 2002). Since previous findings have suggested that the life satisfaction of parents is directly influenced by what parents do to cope with their child's atypical development, clinicians should be aware of how emotionally and financially taxing the process of obtaining a diagnosis can be in order to better understand their experiences (Milgram & Atzil, 1988). Finally, normative life cycle transitions can be times of increased stress on the family, as these are times when anxiety about the future of their child is increased (Harris, 1986). Clearly, there are many situations in which parents of children diagnosed with Autism may experience various degrees of stress.



### *Stigmatization*

Not only are parents of children with Autism experiencing personal strains, they also have to contend with the stigmatization associated with the disorder (Sanders & Morgan, 1997). Formal psychoanalytic notions assigned blame to parents, specifically mothers, for their children's condition. Pathology in the early mother-child relationship was thought to be the cause of Autism, and the term refrigerator mother was coined to describe mothers of children with Autism (Gombosi, 1998). While this notion has been discredited, the effects of it are still felt today. For example, mothers of children with Autism are more likely than mothers of normative children to blame themselves for their children's disorder (Rodrigue, Morgan, & Geffken, 1990), and some parents report extended family members blaming them for their children's disorders (Myers et al., 2009). Parents must also contend with the ignorance of many other parents when they leave their homes. Other parents often witness the maladaptive behavior of the child with Autism and simply decide that the child is unruly, without considering that the tantrums might be due to a developmental problem (Norton & Drew, 1994). Parents of children with Autism frequently report that others give them unwanted advice about parenting, such as suggestions that they should physically hit their children when faced with behavioral issues (Farrugia, 2009). This stigma can be seen even in the mental health field, where some schools of thought consider the child's pathology to be caused by dysfunctional patterns in the family (Konstantareas, 1990).

### *Life changes*

One of the more stressful adjustments parents of children diagnosed with Autism have to make is the restructuring of daily life around the needs of the child. As one parent explained, "our entire lives revolve around autism now" (Myers et al., 2009; p. 679). Some parents report

feeling their days are devoted to therapies for the child. Intensive behavioral therapy can help children with Autism gain the skills necessary to achieve a higher level of functioning (Hillman, 2006). While this intensive behavioral therapy has been empirically shown to benefit children with Autism, it can be very expensive. Although some states have identified this form of therapy as a basic entitlement for children with Autism (Mulick & Butter, 2002), estimates show that fewer than ten percent of children actually receive the treatment they need (Ruble, Heflinger, Renfrow, & Saunders, 2005). Other forms of treatment, such as changes in diet and biomedical remedies, can lead to even more financial strain. Although social support has been consistently found as an important mediator in stress management, many parents of children diagnosed with Autism struggle to find time to see their friends (Altiere & von Kluge, 2009). Parents report loss of friendships because their friends were not able to relate to having a child diagnosed with Autism and the struggles implicit in that diagnosis. Finally, parents report having to alter their daily routines in order to accommodate their child, to the point of avoiding going out to stores to avoid disrupting the child (Myers et al., 2009).

#### *Stress on Marital Relationship*

Though few studies have been conducted on marital satisfaction of parents of children who have been diagnosed with Autism, there are a few tentative findings. In addition to all the aforementioned stress, parents of children diagnosed on the Autistic Spectrum face the added difficulty of trying to find time for both their children and their partners, which can cause added strain on the couple's relationship (Brobst et al., 2009; Myers et al., 2009). Some couples report arguing more about the child diagnosed with Autism, and that fathers avoid coming home (Myers et al., 2009). These factors can lead to decreased relationship satisfaction in couples compared to parents of normative children (Brobst et al., 2009) and mothers of children with

Down syndrome (Rodrigue, et al., 1990). It is important to note that conflicting research exists that has found parents of children with Autism report similar levels of relationship satisfaction as normative samples of married couples (Koegel, Schreibman, O'Neil, & Burke, 1983).

### **Rationale**

Research on the difficulties faced by parents of children with Autism is still rather new and limited. Many previous studies have focused on the potential for symptomology in these individuals (e.g. Gray, 2002; Bitsika & Sharpley, 2004), often concentrating on the symptomology of the mother, excluding data on the father (Altiere & von Kluge, 2009). In addition, a majority of the studies attempt to offer comparisons of parents of children with Autism to other groups of parents of children with various diagnosed disabilities. Many of these studies are impacted by methodological issues such as potential colluding between parents, and relatively small sample sizes (e.g. Brobst et al., 2009; Hastings et al., 2005; Rodrigue et al., 1990), which limits the ability of the results to be generalized. Even those studies with larger sample sizes have been limited by samples consisting of localized participants (e.g. Sharpley et al., 1997; Weiss, 2002). Even less attention has been paid to the impact that having a child diagnosed with an Autism Spectrum Disorder can have on the parent's relationship (Brobst et al., 2009). Since marital quality is reported to have an impact on child behavioral problems, psychological disorders, and peer relationships (Kersh et. al, 2006), it seems prudent to methodically examine the relationship satisfaction of parents of children with Autism.

Through utilizing a large, randomized sample from the 2007 National Survey of Child Health, this study aims to contribute research to the field through comparing mental health and relationship satisfaction in mothers and fathers of children diagnosed with Autism or ASD to mothers and father of children with ADHD or ADD and normative children. To the researcher's

knowledge, this is the first study to utilize nationwide data in the United States to compare parents of children diagnosed with Autism or Autism Spectrum Disorder (ASD), parents of children diagnosed with Attention Deficit Hyperactivity Disorder (ADHD) or Attention Deficit Disorder (ADD), and parents of normative children. The group of parents of normative children was chosen to serve as a control group. A comparison of parents of children diagnosed with Autism to parents of children diagnosed with ADHD was chosen because though parents of both groups likely experience stigmatization and stress due to their children's behavioral problems, ADHD is viewed by many to be a treatable condition, while Autism is not.

### **Purpose of the Present Study**

The purpose of this study was to compare the relationship satisfaction and mental health of both mothers and fathers of children with Autism or ASD to two comparison groups. The first comparison group will be mothers and fathers of children without any known disabilities. The second comparison group will be mothers and fathers of children diagnosed with ADHD or ADD.

### **Research Questions**

The present study answers several questions. Research questions include:

1. Do differences exist in mental health scores of mothers of children currently diagnosed with Autism or ASD, ADHD or ADD, and normative children?
2. Do differences exist in mental health scores between fathers of children currently diagnosed with Autism or ASD, ADHD or ADD, and normative children?
3. Do differences exist in relationship satisfaction between mothers of children currently diagnosed with Autism or ASD, ADHD or ADD, and normative children?

4. Do differences exist in relationship satisfaction between fathers of children currently diagnosed with Autism or ASD, ADHD or ADD, and normative children?

## CHAPTER 2: LITERATURE REVIEW

While there is not an overwhelming amount of research on the parents of children that have been diagnosed with Autism, what does exist can be grouped into several categories. One line of research attempts to examine the psychological functioning of mothers with children that have been diagnosed on the Autistic Spectrum, usually in the context of examining the impact of social support. There has also been some research focusing on the psychological functioning of parents. These two groups of research usually focus on comparisons between these parents and parents of children with other types of developmental disabilities. Finally, recent research has begun to study relationship satisfaction and marital quality of parents of children diagnosed on the Autism Spectrum. Additional research has been done of the stress and coping strategies of parents of children with Autism, but a review of this literature is beyond the scope of the current work.

### **Mothers of Children Diagnosed on the Autistic Spectrum**

#### *Psychological Distress and Social Support*

Gill and Harris (1991) measured the psychological distress of 60 mothers of children diagnosed with Autism to examine the effects of social support and hardiness. Researchers found a significant negative correlation between mothers who perceived adequate available social support and depressive symptoms, indicating that those mothers who had the most perceived support had the fewest depressive symptoms. Additionally, researchers found that mothers who perceived available social support had significantly fewer somatic issues than those with less perceived support. Researchers also found hardiness, the personality attribute characterized by commitment, challenge, and control that allows some people to remain healthy after being under great stress, to be a strong predictor of depressive symptoms of somatic

complaints. Participants exhibiting more hardiness were less likely to report depression and somatic complaints.

Weiss (formerly Harris) expanded on her previous research in 2002, comparing 40 mothers of children with Autism, 40 mothers of children with mental retardation, and 40 mothers of normative children. There were no significant differences between groups in terms of age (child or mother), education, or income. Children in the Autism and mental retardation group had been diagnosed using the DSM-III-R prior to participation in the study, and all children were between two and seven years old. The researcher found significant differences in depression, anxiety, somatic symptoms, emotional exhaustion, depersonalization, and feelings of personal accomplishment, with mothers of children with Autism reporting higher scores than mothers of children with mental retardation and normative children. Mothers of children with Autism were more depressed than mothers of children with mental retardation and normative children. Anxiety was best predicted by emotional exhaustion, degree of depressive symptoms, and degree to which participants viewed events as challenges. Somatic symptoms were best predicted by marital adjustment, accomplishment in parenting, educational achievement, and occupational status. Weiss concluded that mothers of children with Autism report more negative effects of stress than the other two maternal groups. Weiss suggested that the marital unit could be an important source of support and should be researched.

Bromley, Hare, Davison, and Emerson (2004) examined the psychological distress of 68 mothers with children diagnosed with Autistic Spectrum Disorders (ASDs) in the United Kingdom. The researchers interviewed the 68 mothers caring for 71 children with ASDs. The researchers found that over half (59%) of mothers showed marked psychological distress. Researchers explored potential associations between family characteristics, support, and level of

distress. The researchers found no significant association between variables such as age, gender, ethnicity, severity of disability, or relationship status to the psychological well-being of the mothers. However, researchers did find that the amount of family support was negatively correlated with mother's psychological well-being; specifically that greater family support correlated with fewer mental health symptoms. Researchers also found that distress was associated with high levels of behavior problems. The researchers concluded that based on the significant relationship between mothers' distress and family support, family-based interventions that aimed to increase support could be useful in decreasing maternal distress.

### **Mothers and Fathers of Children Diagnosed with Autism**

Piven et al. (1991) examined the lifetime risk of psychiatric disorders in 81 parents of 42 children with Autism and 34 parents of 18 children with Down syndrome. There were no significant differences between the groups regarding age, level of education, occupation, and IQ. The researchers determined that 23.5% of parents of children with Autism reported at least one episode of generalized anxiety disorder, panic disorder, or phobic disorder, and 27% of these parents reported at least one episode of major depressive disorder. Parents of children with Autism were significantly more at risk for the lifetime prevalence of an anxiety disorder than parents of children with Down syndrome.

Dumas and her colleagues (1991) published a similar work that compared parenting stress, child behavioral problems, and dysphoria in parents of children with Autism ( $n = 30$ ), Down syndrome ( $n = 30$ ), behavioral disorders ( $n = 30$ ), and normative children ( $n = 60$ ). The research sample consisted of parents of 150 children, 149 mothers and 123 fathers, and all children lived at home with at least one biological parent. Groups were matched based on gender and age. Dumas et al. found that mothers and fathers of children with Autism and



behavior disorders perceived themselves as experiencing significantly more stress in parenting roles than the other two groups. The researchers also noted that mothers of children with Autism and behavior disorders rated themselves as mildly depressed, and that younger mothers of children with Autism reported more dysphoria than mothers of other groups. The researchers found no significant differences in level of dysphoria between the four groups of fathers.

Gray and Holden (1992) continued to expand the study of parents of children diagnosed with Autism, focusing on the psycho-social well being of 172 Australian parents. Consistent with previous research, Gray and Holden found that mothers reported significantly more depression and anxiety than fathers. The researchers determined that social support was the best predictor of parents' anxiety and depression, with decreased social support predicting increased psychological issues. Parents that had higher levels of depression also had children who had earlier onset of Autism.

Sharpley, Bitsika, and Efemidis (1997) expanded on the previous research by examining the effect gender, age of child, age of the onset of Autism, parental health, perceived support from family members, and perception of understanding from family members about the child's Autism had on parental anxiety and depression, daily stress, confidence in dealing with crisis, and frequency of being "stretched beyond their limits" (p.19). Two hundred nineteen parents participated and children were between 3 and 33 years old, with a majority (75%) being less than nine years old. Results showed that 81.9% of participants felt they were sometimes stretched beyond their limit, and half of the participants reported their daily stress as high or very high. Results revealed that 41.8% of participants scored in the moderately anxious range, while another 18.6% and 9.1% were highly and severely anxious, respectively. Scores indicated that 13.2% of participants reported scores of moderate depression, and additional 5.9% reported

symptoms in the severe depression category. Mothers were significantly more anxious and depressed than fathers. Participants that reported suffering themselves from an illness or disability reported significantly higher anxiety, depression, and daily levels of parenting stress. While researchers found no significant effects on the parental well-being based on the relationship of family members offering support, the researchers did find that perceived awareness and understanding of the child's disability resulted in significantly lower anxiety and depression. The researchers noted that the impact of perceived understanding of the child's diagnosis by family members offering support should be studied further, and suggested family training as a means of increasing parental well-being.

Expanding upon their earlier work with parents of children diagnosed with Autism, Bitsika and Sharpley (2004) sampled 107 parents from the Gold Coast in Australia. The researchers examined the potential effects of age of child, age of diagnosis, gender of parent, presence and understanding of social support network, and parental illness on parental well-being. The researchers found that children's attendance at a specialized school significantly reduced daily parenting stress. The majority of parents indicated they sometimes felt stressed beyond their limits as a result of their children's behaviors. Results indicated a high prevalence of anxiety and depression within the sample. Access to family members who could help with child care was associated to non-significant levels of anxiety, depression, and daily levels of stress from parenting. In addition, parents of children with ASD without an illness or disability themselves has significantly lower levels of depression, anxiety, and stress. The researchers noted that a major limitation of their study was the lack of generalizability due to the mostly female, localized sample.

Hastings et al. (2005) expanded on his previous research from 2003 examining the possible relationship between parent, partner, and child variables in 48 families of children diagnosed with Autism. The researchers examined differences between mothers' and fathers' mental health, stress, and positive perceptions. Mothers in this sample reported significantly more depressive symptoms and positive perceptions than fathers. The researchers next explored associations between adaptive behavior scores, severity of Autism, behavior problems, and mothers' and fathers' well-being. The researchers discovered positive correlations between mothers' ratings of behavior and their anxiety, depression, and stress. In addition, the researchers found that fathers' ratings of their child's behavior was positively correlated with both their own and their partner's stress. The results indicated that child behavior problems were a significant positive predictor of mothers' stress, as was fathers' depression. Mothers' depression significantly predicted both paternal stress and positive perceptions. Based on these results, the researchers suggested that the fact that the depression of their partner was a positive predictor of stress may indicate a disruption in marital support.

Yirmiya and Shaked (2005) performed a meta-analysis to explore the existing literature on psychiatric disorders in parents of children with Autism. In the meta-analysis, parents of children with Autism reported more psychiatric difficulties than parents of normative children, parents of children with Down syndrome, and parents of children diagnosed with MR. However, parents of children with Autism reported significantly fewer psychiatric difficulties than parents of children with learning disabilities and psychiatric disorders. Yirmiya and Shaked also found that the lower functioning the child with Autism, the more psychiatric difficulties reported by parents. The researchers suggested that mothers of children with Autism should be compared to mothers of other groups of children, as should fathers.

## **Relationship Satisfaction in Mothers and Fathers of Children Diagnosed with Autism**

### *Relationship Satisfaction of Mothers*

In a 1990 quantitative study, Rodrigue, Morgan, and Geffken compared 20 mothers of children with Autism, 20 mothers of children with Down syndrome, and 20 mothers of children that were considered to be developmentally normal. While the focus of this study was coping strategies, the researchers also examined relationship satisfaction. The researchers noted that mothers of children diagnosed with Autism reported less marital satisfaction than mothers of the other two groups, with mothers of girls diagnosed with Autism reporting less satisfaction than mothers of normally developing girls. In a more detailed analysis of the child's impact on the family, mothers of children with Autism and Down syndrome reported significantly more disruption of planning, caretaker burden, and family burden than mothers of normative children. The researchers acknowledged that their results in regards to marital satisfaction conflicted with previous research indicating parents of children diagnosed with Autism had similar levels of marital satisfaction as the general population. The researchers suggest this might be due to differences in the samples (age of child, treatment of child, and occupation of mothers), or previous marital conflict before the child was diagnosed.

### *Relationship Satisfaction of both Parents*

One of the first studies to examine the quality of relationships in parents of children who had been diagnosed with Autism was Koegel et al.'s 1983 study. The researchers' intention was to challenge the notion that parents' personalities contributed to their children's Autism, through comparing participants' scores on the MMPI and measures of family functioning against established normative data. Forty-nine parents of 26 children diagnosed with Autism were

included in the study. Findings suggested that there was no basis for suggesting that parents of children of Autism were to blame for their child's disorder. In addition, measures of relationship satisfaction indicated that compared to happily married couples, parents of children with Autism had similar levels of relationship satisfaction.

Dunn et al. (2001) examined relationship problems as a potential negative outcome variable in their examination of the relationship between stressors, social support, locus of control, coping styles, and negative outcomes in parents of children diagnosed as having Autism. Data from 39 mothers and 19 fathers was included in this study. Spousal relationship problems were significantly predicted by increased escape-avoidance, less positive appraisal, and decreased social support. The researchers concluded that measured stressors in this study were not direct predictors of negative outcomes, but were moderated by coping styles and social support, such that less use of distancing and decreased social support was related to a greater probability that stressors would correspond to social isolation.

Higgins, Bailey, and Pearce (2005) surveyed 52 parents of children diagnosed with Autism Spectrum Disorders (ASD) in Australia to examine the relationship between ASD, family functioning, marital satisfaction, self-esteem, and coping strategies. The 52 parents surveyed represented 58 children with ASD, as some had multiple children with ASD in their families. Fifty-nine percent of the children had been diagnosed with high-functioning ASD (including Asperger syndrome), 29% had been diagnosed as having low-functioning ASD, and information about the severity of Autism was not included for 12% of the children. Marital happiness ratings were compared with a norm group from Norton's 1983 survey of 407 American couples, and the mean rating ( $M = 6.1$ ,  $SD = 2.3$ ) was slightly lower than the comparison group ( $M = 7.7$ ,  $SD = 1.8$ ). Forty-one percent of participants reported physical,

emotional, financial, or marital relationship stress. The researchers noted the limitations of this study included small sample size, homogeneity of the sample, the fact the parents in this sample were receiving government support, and self-reports desirous of presenting a positive social image of themselves and their families.

A recent study by Brobst, Clopton, and Hendrick (2009) compared stressor and relational variables in 25 couples of children diagnosed with Autism Spectrum Disorders (ASD) and 20 couples with normative children in Texas. There were no significant differences between groups based on demographic variables. The researchers analyzed the intensity and number of child behavioral problems, parenting stress, relationship satisfaction, total and spousal social support, respect for partner, and commitment. Results indicated that parents of children diagnosed with ASD reported significantly lower relationship satisfaction than parents of children without developmental disabilities, and that parents with high levels of support reported significantly higher relationship satisfaction than parents who reported lower levels of support. Parental stress of mothers of children with ASD was significantly negatively correlated with relationship satisfaction, spousal support, and commitment. Parental stress in fathers of children with ASD was significantly negatively correlated to total social support. Finally, the researchers found that respect for partner was a significant predictor of relationship satisfaction for both groups. Researchers noted that their study had several limitations, namely the homogenous, limited sample, reliance on self-report measures, and the fact that certain tests combined partners' scores.

#### *Research Measuring both Psychological Functioning and Relationship Satisfaction*

One of the only studies measuring both psychological functioning and relationship satisfaction in parents of children diagnosed with Autism was done by Lee in 2009. Specifically,

the researcher examined the coping differences between mothers and fathers of children diagnosed with High Functioning Autism Spectrum Disorders (HFASDs) compared to parents of non-disabled children along the variables of depression, anxiety, and marital adjustment. Participants in this study were 48 parents (24 couples) of children with HFASDs. The researchers defined HFASDs as children with a diagnosis of high functioning autism, Asperger's Disorder, or pervasive developmental disorder not otherwise specified. Parents of children in the HFASD group were significantly more likely to be depressed and anxious than parents in the control group. Parents in the HFASD group had significantly lower scores on relationship satisfaction. However, for both groups, the total and subscale scores did not reach clinically significant levels of marital distress. The researcher noted that her study was limited by a convenience sample of well-educated and financially stable parents, unequal comparison groups, and small sample size.

### *Summary*

In summary, research has indicated that mothers of children diagnosed with Autism experience marked psychological distress (Bromley et al., 2004), and more mental health symptoms than compared to mothers of children diagnosed with mental retardation, Down syndrome, or normative children (Dumas et al., 1991; Weiss, 2002). Research on mothers and fathers of children diagnosed with Autism has yielded conflicting results. In some studies, both mothers and fathers have reported more mental health issues than parents of children with Down syndrome or normative children (e.g. Piven et al., 1991). In others, only mothers have reported significantly more mental health symptoms compared to other mothers (e.g. Dumas et al., 1991). Still other researchers have compared mothers of children with Autism to fathers of children with Autism, and have found that mothers experience significantly more mental health issues (e.g.

Gray & Holden, 1992; Sharpley et al., 1997). In addition, research has indicated that social support seems to be an important variable in mental health, with increased support correlating with fewer psychological issues (e.g. Harris & Gill, 1991; Brobst et al., 2009). Finally, previous research on relationship satisfaction in parents of children diagnosed with Autism has been inconclusive. One body of research has suggested that both mothers and fathers of children diagnosed with Autism experience lower marital satisfaction compared to parents of children with Down syndrome or parents of normative children (e.g. Rodrigue et al, 1990; Brobst et al., 2009), while some research has found no significant differences in relationship satisfaction between parents of children with Autism and norm groups (e.g. Higgins et al., 2005).



### CHAPTER 3: METHODS

The data analyzed in this study was obtained from the 2007 National Survey of Children's Health (NSCH), which was collected between April 2007 and June 2008 (Blumberg et al., 2009). More detailed information about the methodology and purpose of this data collection can be located in the forthcoming publication by Blumberg and colleagues. The first National Survey of Children's Health was administered in 2003. The purpose of this survey was to collect data that could be used to estimate prevalence for indicators of children's emotional, physical, and behavioral health, at both national and state levels. The research team also collected data about children's parents, families, and neighborhoods in order to generate suggestions for policy makers and advocates.

#### *Participants*

Participants in 2007 NSCH were recruited through the State and Local Area Telephone Survey (SLAITS), which is a program developed by the National Center for Health Statistics for health related data collections on both national and state levels (Blumberg et al., 2009). Households with children aged 0-17 in all 50 states and the District of Columbia were dialed at random. In families with more than one child, one child was randomly selected to be the subject of the interview. A total of 91,642 (90,557 completed and 1,085 partially completed national surveys were completed by a parent or guardian of the child over the age of 18 who could knowledgably answer questions about the child's health. 67,388 surveys were completed by mothers (73.5% of the total sample) and 18,759 were completed by fathers (20.5% of the total sample). The remainder of the surveys were completed by a grandparent, aunt or uncle, brother or sister, other guardian, or those who chose not to answer the question. In all states, between

1,725 and 1,932 surveys were collected. Overall response rate of the NSCH was 46.7% at the national level.

The analytic sample used in the present study consisted of a total of 38,763 mothers and 12,453 fathers. There were 1,414 mothers of children currently diagnosed with Attention Deficit Hyperactivity Disorder (ADHD) or Attention Deficit Disorder (ADD), 177 mothers of children currently diagnosed with Autism or Autism Spectrum Disorder (ASD), and 37,172 mothers of children with no current mental health conditions. The sample of fathers included 377 fathers of children currently diagnosed with ADHD or ADD, 73 fathers of children currently diagnosed with Autism or ASD, and 12,003 fathers of children with no current mental health conditions.

In terms of demographics by group (see Table 1 and Table 2), the majority of mothers of children currently diagnosed with Autism were non-Hispanic White (80.8%;  $n = 143$ ), 7.3% ( $n = 13$ ) were Hispanic, 5.6% ( $n = 10$ ) were non-Hispanic Black, and 6.2% ( $n = 11$ ) identified themselves as multi-racial or other. Likewise, the majority of mothers of children currently diagnosed with ADHD or ADD were also non-Hispanic White (83.7%;  $n = 1,184$ ), 6.3% ( $n = 89$ ) were Hispanic, 3.5% ( $n = 49$ ) were non-Hispanic Black, and 5.5% ( $n = 79$ ) identified themselves as multi-racial or other. Mothers of children with no current mental health conditions were again mostly non-Hispanic White (75.9%;  $n = 28,232$ ), while 11% ( $n = 4,085$ ) identified themselves as Hispanic, 4.8% ( $n = 1,773$ ) were non-Hispanic Black, and 7.3% ( $n = 2,730$ ) identified themselves as multi-racial or other.

The majority of fathers of children currently diagnosed with Autism or ASD were also non-Hispanic White (74.0%;  $n = 54$ ), 13.7% ( $n = 10$ ) were Hispanic, 5.5% ( $n = 4$ ) were non-Hispanic Black, and 5.4% ( $n = 4$ ) identified themselves as multi-racial or other. Fathers of

children currently diagnosed with ADHD or ADD were non-Hispanic White (82.8%;  $n = 312$ ), while the remaining identified themselves as Hispanic (7.2%;  $n = 27$ ), multi-racial or other (7.5%;  $n = 28$ ), or non-Hispanic Black 1.3% ( $n = 5$ ). Finally, of fathers of children with no current mental health conditions, 71.7% ( $n = 8,604$ ) were non-Hispanic White, 10.2% ( $n = 1,227$ ) were Hispanic, 11.5% ( $n = 1,385$ ) identified themselves as multi-racial or other, and 5.0% ( $n = 595$ ) were non-Hispanic Black.

The children of mothers in the Autism or ASD group were 83.6% ( $n = 148$ ) male, 16.4% ( $n = 29$ ) were female, and they had a mean age of 8.55. Children of mothers in the ADHD or ADD group had a mean age of 12.67, and 70.7% ( $n = 1,000$ ) were male and 29.2% ( $n = 413$ ) were female. The children of mothers in the no current mental health conditions group had an average age of 9.59, and 50.5% ( $n = 18,770$ ) were male and 49.4% ( $n = 18,357$ ) were female.

The children of fathers in the Autism or ASD group had a mean age of 8.96, and 90.4% ( $n = 66$ ) were male, while 9.6% ( $n = 7$ ) were female. The children of fathers in the ADHD or ADD group had a mean age of 12.44, and 70.0% ( $n = 264$ ) were male and 30.0% ( $n = 113$ ) were female. The children of fathers in the no current mental health conditions group had a mean age of 9.82, and 50.9% ( $n = 6,107$ ) were male and 48.9% ( $n = 5,875$ ) were female.

In terms of education, the majority of mothers in the Autism or ASD group had completed schooling past high school (81.4%;  $n = 144$ ), while 16.9% ( $n = 30$ ) had completed either 12 years of school or graduated high school, and 1.1% ( $n = 2$ ) had completed less than high school. Likewise, the majority of mothers in the ADHD or ADD group had completed at least some college (76.7%;  $n = 1,085$ ), while 18.6% ( $n = 263$ ) had completed either 12 years of school or graduated high school, and 4.3% ( $n = 61$ ) had completed less than high school. In the no current mental health condition group, 77.4% ( $n = 28,640$ ) had completed at least some

college, 16.4% ( $n = 6,096$ ) had completed with 12 years of school or graduated high school, and 6.0% ( $n = 2,219$ ) had completed less than high school.

The majority of fathers in the Autism or ASD group had completed some additional schooling after high school (82.2%;  $n = 60$ ), while 13.7% ( $n = 10$ ) had completed 12 years of school or graduated high school, and 2.7% ( $n = 2$ ) had completed less than high school. Of fathers in the ADHD or ADD group, 78.5% ( $n = 296$ ) had completed some additional schooling after high school, 17.8% ( $n = 67$ ) had completed either 12 years of school or graduated high school, and 3.2% ( $n = 12$ ) completed less than high school. The majority of fathers in the no current mental health condition group had completed additional schooling after high school (79.5%;  $n = 9,548$ ), while 15.3% ( $n = 1,835$ ) had completed either 12 years of school or high school, and 4.4% ( $n = 526$ ) had completed less than high school.

### *Procedure*

The NSCH was conducted in conjunction with the Center for Disease Control and Prevention's National Immunization Survey (NIS) (Blumberg et al, in preparation). As previously noted, households were selected at random using the SLAITS module. This program used the sampling frame of NIS, which uses random-digit-dialing to contact over 1 million households each year (excluding cellular phone banks). In order to produce the goal sample size of 1,700 completed interviews in each state, researchers randomly selected telephone numbers generated from the NIS collections. A second portion of telephone numbers was flagged to be part of NIS survey of immunizations for teenagers (NIS-Teen). A third sample of telephone numbers was flagged for the NSCH sample. Sampled phone numbers were categorized as: 1) NIS-only, 2) NIS and NIS-Teen, 3) NIS and NSCH, or 4) NIS, NIS-Teen, and NSCH. Researchers made an effort to flag as few households as possible to be screened for all three

surveys. In nine states where the NIS sample was not large enough to meet the researchers' goal of 1,700 completed surveys, an additional sample was. This sample was categorized as a NSCH-only sample. With the exception of the NSCH-only sample, all households were screened for the presence of an NIS age child (19-35 months) or teen. NIS interviews were attempted if there was an NIS child, and then interviewers moved on to the NSCH during the same call. This procedure was modified during the first quarter of calling, where participants could not be screened after the completion of the NIS, as the NSCH was still being finalized. A randomized subsample of these initially selected participants was called at a later time to be interviewed for NSCH.

In order to decrease non-response, letters were sent to households that had been randomly selected to complete the survey whenever possible (58.8% of the total numbers dialed by researchers). This letter contained information about the purpose of the survey, who was conducting the survey, frequently asked questions, confidentiality, and the time frame in which participants could expect to hear from researchers. A toll-free number was also provided for additional questions, or for those who wanted to participate in the survey immediately. Of those who participated, 8,822 cases called the toll-free line, and 2,395 of those were eligible to complete the survey.

Data were collected by a team of trained interviewers. Upon contacting a household from the desired sample, the interviewer asked to speak with a parent or guardian over 18 years of age who knew about the health of the selected child. Of those contacted, 2,843 households did not have an identified adult over the age of 18, and were not eligible to complete the survey. Once the participant identified him or herself to the interviewer, the respondent was given information about the survey, explained his or her rights as a survey participant, and assured of

participant confidentiality. Verbal consent was obtained and documented in the dataset. Eligible participants were also told they would receive a \$10 or \$15 monetary incentive payment for their time.

The researchers planned for potential language barriers, and administered the NSCH in both English and Spanish. They also identified four other probable languages that interviewers could encounter: Mandarin, Cantonese, Vietnamese, and Korean. In the event that a participant indicated he or she needed an interview to be conducted in a different language, the case was placed in a separate cue where a specially trained interviewer would complete the interview in the desired language. Twenty-one thousand, eight hundred fifty-three telephone numbers were placed in the Spanish queue during data collection. Only 7,923 households had eligible children, and of these, 4,828 completed the interviews. Four hundred sixteen households were identified as needing to have the interview conducted in one of the available Asian languages. Of these households, 167 completed the survey.

### *Measures*

Eight domains were included on the 2003 NSCH questionnaire: 1) child and family demographics, 2) physical and mental health status, 3) health insurance, 4) health care utilization and access to health care, 5) medical home, 6) family functioning, 7) parents' health, and 8) neighborhood characteristics. The questionnaire also addressed age-specific issues through the use of age-specific modules. Additional items were added to the 2007 NSCH questionnaire to address developmental screening, current prevalence of 16 conditions, exposure to smoke, school engagement, and neighborhood amenities. The finalized 2007 NSCH questionnaire was divided into 11 sections: 1) age-eligibility screening and demographic characteristics, 2) health and functional status, 3) health insurance coverage, 4) health care access and utilization, 5) medical

home, 6) early childhood (0-5 years), 7) middle childhood and adolescence (6-17 years), 8) family functioning, 9) parental health, 10) neighborhood characteristics, 11) additional demographic characteristics.

The present study examined items related to family functioning (relationship satisfaction) and parental mental health. The specific items used in this current study were the following two Likert scaled questions asked of both mothers and fathers: “Would you say that, in general, your mental and emotional health is excellent, very good, good, fair, or poor” and “Would you say your relationship is completely happy, very happy, fairly happy, or not too happy?” A score of one on the mental health study indicated a response of excellent, while a score of five indicated a response of poor. Likewise, a score of one on the relationship satisfaction question represented a response of completely happy, while a score of four represented a response of not too happy.

### *Analysis*

One of the criticisms of the scant research done on parents of children with Autism is the lack of consistency in comparisons (Yirmiya & Shaked, 2005). Following the suggestions of Yirmiya and Shaked (2005), the current analysis focused on comparisons across samples, instead of focusing solely on differences in gender within parents of children with Autism. The researcher hypothesized that there would be a difference in mental health and relationship satisfaction between mothers of a child currently diagnosed with Autism or ASD and mothers of a child without any reported current mental health conditions and mothers with a child who currently has ADHD or ADD. This comparison was chosen because both disorders can be mild to severe, unpredictable, and can be hard to explain in a public setting, which can lead to feelings of stigmatization. However, ADHD and ADD can be treated with medication, while Autism and ASD cannot, which might lead parents of children with Autism or ASD to experience more

stress. Since behavioral episodes have been found to be stressful for parents of children of Autism (Hastings et al., 2005), it will enhance the literature to explore similarities and differences between a disorder characterized by similar episodes. A one-way ANOVA was used to test these hypotheses.

In addition, relatively little research has been conducted on fathers of children with Autism (Altiere & von Klige, 2009; Hastings et al., 2005). A second set of hypotheses stated that there would be a difference in mental health and relationship satisfaction between fathers of a child currently diagnosed with Autism or ASD and fathers with a child without any current mental health conditions and fathers of a child with ADHD or ADD. Again, one-way ANOVA tested these hypotheses.

In order to decrease the number of potential confounds, the present researcher narrowed the original sample to include only biological or adoptive parents who were currently married. Participants were excluded if they reported they didn't know if their child experienced any mental health conditions. Participants were also excluded if the selected child had at one time been diagnosed with one of the mental health conditions, but did not have a current diagnosis. The present researcher then divided the sample into mothers and fathers to insure that mental health scores for each parent were reported by that parent, and not the partner's perception of their partners' mental health. In order to create a control group, the researcher collapsed the multiple mental health categories into a single no current mental health conditions category. The researcher then created an additional independent variable called child diagnosis, which included parents of children currently diagnosed with Autism or ASD, parents of children currently diagnosed with ADHD or ADD, and parents of children with no current mental health conditions.



Table 1

*Demographic Characteristics of Mothers (N = 38,763) by Group*

	Autism/ASD	ADHD/ADD	Normative
	<i>N</i> (%)	<i>N</i> (%)	<i>N</i> (%)
<b>Race/ethnicity</b>			
Hispanic	13 (7.3%)	89 (6.3%)	4085 (11.0%)
White, non-Hispanic	143 (80.8%)	1184 (83.7%)	28232 (75.9%)
Black, non-Hispanic	10 (5.6%)	49 (3.5%)	1773 (4.8%)
Multi-racial, non-Hispanic	6 (3.4%)	43 (3.0%)	1313 (3.5%)
Other, non-Hispanic	5 (2.8%)	36 (2.5%)	1417 (3.8%)
<b>Gender of Child</b>			
Male	148 (83.6%)	1000 (70.7%)	18770 (50.5%)
Female	29 (16.4%)	413 (29.2%)	18357 (49.4%)
<b>Grade of School Completed</b>			
Less than high school	2 (1.1%)	61 (4.3%)	2219 (6.0%)
12 years/high school	30 (16.9%)	263 (18.6%)	6096 (16.4%)
More than high school	144 (81.4%)	1085 (76.7%)	28640 (77.0%)

Table 2

*Demographic Characteristics of Fathers (N = 12,453) by Group*

	Autism/ASD	ADHD/ADD	Normative
	<i>N</i> (%)	<i>N</i> (%)	<i>N</i> (%)
<b>Race/ethnicity</b>			
Hispanic	10 (13.7%)	27 (7.2%)	1227 (10.2%)
White, non-Hispanic	54 (74.0%)	312 (82.8%)	8604 (71.7%)
Black, non-Hispanic	4 (5.5%)	5 (1.3%)	595 (5.0%)
Multi-racial, non-Hispanic	2 (2.7%)	18 (4.8%)	601 (5.0%)
Other, non-Hispanic	2 (2.7%)	10 (2.7%)	784 (6.5%)
<b>Gender of Child</b>			
Male	66 (90.4%)	264 (70.0%)	6107 (50.9%)
Female	7 (9.6%)	113(30.0%)	5875 (48.9%)
<b>Grade of School Completed</b>			
Less than high school	2 (2.7%)	12 (3.2%)	526 (4.4%)
12 years/high school	10 (13.7%)	67 (17.8%)	1835 (15.3%)
More than high school	60 (82.2%)	296 (78.5%)	9548 (79.5%)

## CHAPTER 4: RESULTS

Analysis of variance tests (ANOVA) assume normality, homogeneity of variance, and independence of cases. Using SPSS, the researcher ran univariate analyses to determine if the data met the assumptions of ANOVA. The researcher also completed correlational analyses to examine whether any relationships existed between the dependent variables (mental health and relationship satisfaction). The researcher conducted a series of one-way ANOVA tests to examine the hypothesis that current diagnosis of child would have an impact on mental health and relationship satisfaction. Finally, the researcher ran a series of planned comparisons in order to determine where, if any, differences between groups existed.

### *Univariate Analysis*

The researcher utilized histograms and Brown-Forsythe test to determine if the data were normally distributed and if homogeneity of variance between groups were equal. Independence of cases was established by the procedure, which called for only one parent from each home randomly selected to be interviewed. Results of the univariate analysis are reported in Table 3. Data for both mothers and fathers appeared to be positively skewed in both dependent variables. In addition, data showed positive Kurtosis, especially for relationship satisfaction, which indicated the data were not normally distributed. Results of the Brown- Forsythe test were significant for mothers in both mental health ( $F = 27.55; p < .001$ ) and relationship satisfaction ( $F = 15.26, p < .001$ ), indicating that variances were heterogeneous. Given the large sample size in this study, ANOVA is thought to be robust to this violation. However, procedures that did not assume equal variances were assumed.

Table 3

*Univariate Statistics for Maternal Mental Health, Maternal Relationship Satisfaction, Paternal Mental Health, and Paternal Relationship Satisfaction*

	<i>N</i>	Minimum	Maximum	Mean	<i>SD</i>	Skewness	Kurtosis
Maternal Mental Health	38730	1	7	1.87	.83	.86	1.06
Maternal Relationship Satisfaction	38751	1	7	1.83	.81	1.65	7.09
Paternal Mental Health	12435	1	7	1.75	.81	1.15	2.27
Paternal Relationship Satisfaction	12447	1	7	1.86	.84	1.92	8.69

### *Correlational Analysis*

Correlational analyses were conducted in order to assess the relationship between parental mental health and relationship satisfaction (see Table 4). For mothers' mental health, there was no significant relationship between mothers of children with Autism and mothers of children with ADHD ( $r = -.09, p = .06$ ). However, there were significant negative associations between mental health scores of mothers of children with Autism and mothers of normative children ( $r = -.07, p < .001$ ), as well as mothers of children with ADHD and mothers of normative children ( $r = -.19, p < .001$ ). This means that higher mental health scores for one group were related to lower scores for the other condition. For fathers' mental health, a significant correlation was not found for fathers of children with Autism and ADHD ( $r = -.00, p = .54$ ). Again, there were significant negative relationships between mental health scores of fathers of children with Autism and fathers of normative children ( $r = -.02, p < .001$ ), and fathers of children with ADHD and fathers of normative children ( $r = -.04, p < .001$ ). This means that higher mental health scores for one group of fathers was related to lower scores in the other group and vice versa.

For relationship satisfaction of mothers, a significant correlation was not present between mothers of children with Autism and mothers of children with ADHD ( $r = -.01, p = .06$ ). There were significant negative relationships between mothers of children with Autism and mothers of normative children ( $r = -.07, p < .001$ ), and between mothers of children with ADHD and mothers of normative children ( $r = -.19, p < .001$ ). Results of relationship satisfaction for fathers were similar. There was no significant correlation between relationship satisfaction scores of fathers of children with Autism and fathers of children with ADHD ( $r = -.00, p = .54$ ). There were significant associations between relationship satisfaction scores for both fathers of children

with Autism and fathers of normative children ( $r = -.02, p < .001$ ) and fathers of children with ADHD and fathers of normative children ( $r = -.04, p < .001$ ).

### *ANOVA*

Means are reported in Table 5 and Table 6. Results from the one way analysis of variance tests (ANOVA) are reported in Table 7. The researcher first tested the hypothesis that there would be a difference in mental health scores between mothers of children currently diagnosed with Autism or ASD, mothers of children currently diagnosed with ADHD or ADD, and mothers of normative children. A one way ANOVA revealed a significant difference ( $F(2, 38730) = 31.49, p < .001$ ) in the three groups of mothers in reported mental health status. The Brown-Forsythe test ( $F = 27.55; p < .001$ ) indicated that variance between groups were different; therefore, the researcher assumed the variances were heterogeneous. A planned comparison test revealed there was a significant difference ( $t(2) = 3.74, p < .001$ ) in reported mental health scores between mothers of children currently diagnosed with Autism or ASD ( $M = 2.25, SD = .93$ ) and mothers of children currently diagnosed with ADHD or ADD ( $M = 1.98, SD = .84$ ). Likewise, there was a significant difference ( $t(2) = -5.53, p < .001$ ) between mothers of children currently diagnosed with Autism ( $M = 2.25, SD = .93$ ) and mothers of children with no current mental health conditions ( $M = 1.87, SD = .83$ ).

Next, the researcher tested the hypothesis that there would be a difference in relationship satisfaction of mothers based on child diagnosis. An additional one way ANOVA revealed a significant main effect ( $F(2, 38751) = 17.07, p < .001$ ) between the three groups of mothers on relationship satisfaction scores. Results of the Brown-Forsythe test were significant ( $F = 15.26, p < .001$ ), so again, equal variances were not assumed. The first planned comparison revealed a trend towards significance ( $t(2) = 1.49, p = .10$ ) between mothers of children currently

diagnosed with Autism or ASD ( $M = 2.04, SD = .91$ ) and mothers of children currently diagnosed with ADHD or ADD ( $M = 1.93, SD = .80$ ). A second planned comparison revealed a significant difference ( $t(2) = -3.08, p < .001$ ) between mothers of children currently diagnosed with Autism or ASD ( $M = 2.04, SD = .91$ ) and mothers of children with no current mental health conditions ( $M = 1.83, SD = .81$ ).

The researcher then tested the hypotheses related to fathers, starting with the belief that there would be a significant difference between mental health scores of fathers based on child diagnosis. A one way ANOVA revealed no significant differences ( $F(2, 12435) = 1.13, p = .32$ ) in mental health scores between the three groups of fathers. Since the main effect was not significant, the planned comparisons were not completed.

Finally, the researcher tested the hypothesis that there would be a difference in relationship satisfaction in fathers based on child diagnosis. A one way ANOVA revealed no significant differences ( $F(2, 12447) = .53, p = .59$ ) in relationship satisfaction between the three groups of fathers. Thus, the planned comparisons were not completed.

### *Summary of Findings*

Results indicated that mothers of children currently diagnosed with Autism had significantly lower mental health and relationship satisfaction scores than mothers of children currently diagnosed with ADHD or ADD and mothers of children with no current mental health issues. These findings conditionally confirmed the current researcher's first set of hypotheses; namely, that differences exist between mothers of children with Autism or ASD and the other two groups. Findings also indicated that there were no significant differences in mental health or relationship satisfaction scores between fathers of children currently diagnosed with Autism or

ASD and fathers of children currently diagnosed with ADHD or ADD and fathers of children with no current mental health conditions.



Table 4

*Correlations*

Variables	1	2	3	4	5	6	7	8	9	10	11	12
1. FMHA	-											
2. MMHA	-.00	-										
3. FMHADHD	-.00	-.00	-									
4. MMHADHD	-.01	-.01	-.01*	-								
5. FMHND	-.02*	-.03*	-.04*	-.08*	-							
6. MMHND	-.04*	-.07*	-.10*	-.19*	-.61*	-						
7. FRSA	.93*	-.00	-.00	-.01	-.02*	-.04*	-					
8. MRSA	-.00	.89*	-.00	-.01	-.03*	-.07*	-.00	-				
9. FRSADHD	-.00	-.00	.91*	-.01*	-.04*	-.10*	-.00	-.00	-			
10. MRSADHD	-.01	-.01	-.01*	.90*	-.08*	-.19*	-.01	-.01	-.01	-		
11. FRSND	-.02*	-.03*	-.04*	-.08*	.86*	-.61*	-.02*	-.03*	-.04*	-.08*	-	
12. MRSND	-.04*	-.07*	-.10*	-.19*	-.61*	.72*	-.04*	-.07*	-.10*	-.19*	-.61*	-

Note. FMHA = Autistic fathers' mental health, MMHA = Autistic mothers' mental health, FMADHD = ADHD fathers' mental health, MMHADHD = ADHD fathers' mental health, FMHND = No diagnosis fathers' mental health, MMHND =

No diagnosis mothers' mental health, FRSA = Autistic fathers' relationship satisfaction, MRSA = Autistic mothers' relationship satisfaction, FRSADHD = ADHD fathers' relationship satisfaction, MRSADHD = ADHD mothers' relationship satisfaction, FRSND = No diagnosis fathers' relationship satisfaction, and MRSND = No diagnosis mothers' relationship satisfaction

\* $p < .001$

Table 5

*Means, SD, and Ranges of Mothers of Children with Autism or ASD (n = 177), Mothers of Children with ADHD or ADD (n = 1,413), and Mothers of Normative Children (n = 37,161)*

	<b>Autism/ASD</b>			<b>ADHD/ADD</b>			<b>Normative</b>		
	<i>M</i>	<i>SD</i>	Range	<i>M</i>	<i>SD</i>	Range	<i>M</i>	<i>SD</i>	Range
Mental Health	2.25	.93	1-5	1.98	.84	1-7	1.87	.83	1-7
Relationship Satisfaction	2.04	.91	1-7	1.93	.80	1-7	1.83	.81	1-7

Table 6

*Means, SD, and Ranges of Fathers of Children with Autism or ASD (n = 73), Fathers of Children with ADHD or ADD (n = 377), and Fathers of Normative Children (n = 11,997)*

	<b>Autism/ASD</b>			<b>ADHD/ADD</b>			<b>Normative</b>		
	<i>M</i>	<i>SD</i>	Range	<i>M</i>	<i>SD</i>	Range	<i>M</i>	<i>SD</i>	Range
Mental Health	1.82	.77	1-4	1.80	.81	1-7	1.74	.81	1-7
Relationship Satisfaction	1.95	.86	1-4	1.88	.83	1-7	1.86	.84	1-7

Table 7

*Results from one way ANOVA tests*

	Mothers				Fathers			
	<i>SS</i>	<i>df</i>	<i>F</i>	<i>p</i>	<i>SS</i>	<i>df</i>	<i>F</i>	<i>p</i>
Mental Health	43.06	2	31.49	.00*	1.46	2	1.13	.32
Relationship Satisfaction	22.41	2	17.07	.00*	.76	2	.53	.59

\* $p < .001$

## CHAPTER 5: DISCUSSION

The current study compared mental health and relationship satisfaction in both mothers and fathers of children with Autism or ASD, ADHD or ADD, and normative children. The researcher hypothesized there would be a difference in mental health scores between mothers of children with Autism or ASD, mothers of children with ADHD or ADD, and mothers of normative children. Additionally, the researcher hypothesized there would be a difference in mental health scores between fathers of children with Autism or ASD, ADHD or ADD, and normative children. Thirdly, the researcher hypothesized there would be a difference in relationship satisfaction between mothers of children with Autism or ASD, mothers of children with ADHD or ADD, and mothers of normative children. Finally, the research hypothesized there would be a difference in relationship satisfaction between fathers of children diagnosed with Autism or ASD, ADHD or ADHD, and normative children.

The hypothesis that there would be a difference between the groups of mothers in mental health scores was supported. There were significant differences between mothers of children currently diagnosed with Autism and both mothers of children currently diagnosed with ADHD or ADD and mothers of children with no current mental health conditions. Mental health ratings were significantly lower in mothers of children with Autism or ASD. This finding is in line with previous research (e.g. Weiss, 2002), though few comparisons have been done between mothers of children diagnosed with ADHD or ADD and mothers of children diagnosed with Autism. Previous research has revealed that mothers of children with Autism experience more mental health symptoms than mothers of children with MR or normative children, especially anxiety and depression (e.g. Weiss, 2002).

The second hypothesis, that there would be a difference between the groups of fathers in mental health scores was not supported. There were no significant differences in mental health scores between fathers of children diagnosed with Autism or ASD and either fathers of children with ADHD or ADD, or fathers of normative children. This finding was relatively surprising given studies such as Piven et al. (1991) and Lee (2009) that found differences in mental health between fathers of children diagnosed with Autism and comparison groups. Perhaps this departure from the existing literature was due in part to the relatively small sample size of fathers of children with Autism in this study, or the presence of other children with special needs in the home, which is something that could not be determined in the current dataset.

Results revealed that groups of mothers differed significantly in their relationship satisfaction, which supported the third hypothesis. Mothers of children currently diagnosed with Autism or ASD tended to have less relationship satisfaction than mothers of children currently diagnosed with ADHD or ADD, and significantly less relationship satisfaction than mothers of children with no current mental health conditions. This finding was consistent with previous research, such as Rodrigue and colleagues (1991), who found that mothers of children with Autism reported significantly less relationship satisfaction than mothers of children with Down syndrome and mothers of developmentally normal children.

Contrary to the final hypothesis, there were no differences between fathers of children currently diagnosed with Autism or ASD and the other two groups of fathers. The lack of significant findings in regards to the relationship satisfaction scores is somewhat surprising, given studies like Lee (2009) that indicated parents of children with Autism have lower relationship satisfaction. However, other studies (e.g. Koegel et al., 1983) that have combined

mother and father scores have found that parents of children with Autism experience similar levels of relationship satisfaction as parents of normative children.

There are several potential reasons for this departure from existing literature. As previously discussed, because there was no way to know if there were other children in the home with mental health problems, it's possible that the results could have been affected by the presence of other special needs children in the home of participants who had been placed in the no mental health conditions group. Very little research has been done solely examining the relationship satisfaction or mental health of fathers of children with Autism, which might account for some of the conflict in the literature. Finally, social support was not taken into account in this current study. It is possible that the fathers of children with Autism in this sample were receiving more social support, which as previous researchers (e.g. Brobst et al., 2009) have reported, could have increased their relationship satisfaction and decreased their mental health complaints.

### *Strengths*

The current study was strengthened by the use of a nationally representative sample. The findings of previous research have generally been restricted to localized, small samples. In addition, parents were not able to corroborate their responses. Instead of grouping mothers and fathers together and then making a comparison to other groups of parents, this study compared samples of mothers and samples of fathers. This provides more clarity in the research, as gender is removed as a potential confound. The researcher also narrowed the sample to include only children who currently had particular diagnoses, to limit additional confounds that may have been caused by a change in diagnosis status.



### *Limitations*

Though the findings do indicate there may be significant differences between the groups of mothers of children with Autism, several limitations of the present study should be taken into account. As this was a secondary data set, the present research was limited to the measures and information that was available. For example, in order to protect the confidentiality of participants, the original researchers collapsed several different questions into one variable. For this reason, the present research was unable to exclude adoptive parents or married parents who might currently be separated from the current sample, which might have affected the results. Additionally, there was no way of knowing if mental health was affected by a pre-existing condition, or what the level of marital satisfaction was before the diagnosis of Autism. Likewise, the current researcher was limited to using mental health and relationship satisfaction measures which each consisted of only one question. In addition, the answers for this 2007 NCHS were completed for one selected child in the house hold. Therefore, there is no way of knowing if there were any other children in the home who might have received mental health diagnoses, including Autism or ADHD.

In addition, the majority of the sample was Caucasian, highly educated, and well above the poverty level, which means the findings cannot be generalized to other racial groups or income levels. The financial status of the participants might also have affected the results, as those parents with more resources to treat mental health conditions might experience less stress, which might in turn influence mental health and relationship satisfaction. The survey was completed by phone, which automatically excluded any participants without access to a phone. There was also less data on fathers, which could have affected the results. The current researcher chose to limit the present study to married, biological or adoptive mothers and fathers of children

with Autism. Results can therefore not be generalized to step-parents or same sex parents. Despite the large original sample, when potential confounds were eliminated, the sample for mothers and fathers of children diagnosed with Autism of ASD ended up being smaller than anticipated ( $n = 177$  and  $n = 73$ , respectively). While this is a large enough sample to produce a reasonable amount of power, it should be taken into account when addressing the generalizability of the results.

As with many studies, the nature of self-reports should be acknowledged. It is possible that participants might have wanted to appear more mentally healthy or happy in their relationship, and there is no way of knowing how accurate the reports were. There also is some self-selection bias that should be taken into account, as participants were allowed to refuse to participate in completing the survey. Finally, interviewing only one parent from each household means that the family picture is incomplete. The present researcher can only examine one half of the relationship in each case.

It should also be noted that although there were significant differences in mothers' scores, the mean of all groups indicated that mothers considered their mental health to be at least very good, and reported their relationships were at least very happy. Perhaps one reason for such a finding is because those who were unhappy in their relationships were more likely to have divorced or it's also possible that parents whose lives were most chaotic might have chosen not to participate in this study. Such possibilities could account for the positive skew in the data and may have affected the results.

### *Clinical Implications*

While the statistically significant differences in the current study did not appear clinically significant, as other studies have found, clinicians should remain aware of the potential for

additional mental health problems and lower marital relationship satisfaction in mothers of children diagnosed with Autism. However, this was not the case for fathers. Previous research suggests that fathers of children diagnosed with Autism may cope by spending more time away from the home (Myers et al., 2009). This may protect fathers from experiencing some stressful situations. Perhaps mothers experience an even greater caretaking burden as a result of their spouses' coping strategies. Since social support has been highlighted as an important factor in maternal mental health (e.g. Brobst et al., 2009), the fathers who cope with a diagnosis of Autism by distancing or avoiding might contribute to more perceived mental health issues and less relationship satisfaction in their wives.

While the results did not indicate there was a significant difference between fathers of children diagnosed with Autism and other fathers, clinicians should be aware of this potential for more mental health issues and lowered relationship satisfaction in these fathers as well. While it is possible that fathers experience fewer symptoms because they are not usually the primary caretakers, it may also be possible that fathers could be underreporting their symptoms. Regardless, it would be important to speak with both parents about how they support one another, as perceived support could increase relationship satisfaction and decrease mental health symptoms. Though parents' scores did not reach clinically distressed levels, changes in mental health symptoms and relationship satisfaction might be a contributing factor to other problems clients could be having and should be taken into account. Finally, it would be important for clinicians to explore the impact of a diagnosis of Autism or ASD on both the mental or emotional health of parents, as well as their relationship satisfaction.

### *Future Research*

The current research highlights some gaps in knowledge and the need for future research on parents of children diagnosed with Autism. Future studies should use large, national samples to increase power in the findings. Researchers interested in studying this population should also attempt to survey a more racially diverse population, and should attempt to engage more participants from the lower and middle classes. This research should also attempt to study mental/emotional health and relationships satisfaction of mothers and fathers of children diagnosed with Autism using reputed measures that would provide more in-depth data. Future researchers should also attempt to better understand the experiences of fathers of children diagnosed with Autism. While this study did not garner any significant results in the sample of fathers, more studies are needed to determine if differences in mental health and relationship satisfaction exist. Collecting longitudinal data would also be a worthwhile line of research, as it could offer a more complete picture of the relationship and mental health over time of parents of children diagnosed with Autism. Clearly, further research is necessary on this population to provide the most beneficial mental health services.

### *Conclusion*

Autism is a life altering diagnosis for a parent to receive, as previous research on the stress parents face has shown. However, very little research has been conducted to examine the impact raising a child with Autism has on a couple's relationship. This study compared the mental health and relationship satisfaction of mothers and fathers of children currently diagnosed with Autism or ASD to parents of children currently diagnosed with ADD or ADHD or with no current mental health issues. Results revealed significantly lower mental health and relationship satisfaction scores reported by mothers of children with Autism or ASD. Contrary to the

researcher's hypothesis, however, there were no significant differences between fathers of children currently diagnosed with Autism or ASD and fathers of children currently diagnosed with ADHD or ADD or no current mental health conditions. Clinicians working with this population should be aware of the potential for more mental health issues and lower relationship satisfaction, as has been found in previous studies, , which could affect the couple's relationship and maternal sense of well-being. Future research on this population should utilize a more diverse sample, reputed measures, and longitudinal data to add to the literature on mothers and fathers of children diagnosed with Autism.

## References

- Altiere, M. J., & von Kluge, S. (2009). Family functioning and coping behaviors in parents of children with autism. *Journal of Child and Family Studies, 18*, 83-92.
- Bitsika, V., & Sharpley, C.F. (2004). Stress, anxiety, and depression among parents of children with autism spectrum disorder. *Australian Journal of Guidance and Counseling, 14*(2), 151-161.
- Blackledge, J. T. & Hayes, S. C. (2006). Using acceptance and commitment training in the support of parents with children diagnosed with Autism. *Child & Family Behavior Therapy, 28*(1), 1-18.
- Blumberg, S. J., Foster, E. B., Fraiser, A. M., Satorius, J., Skalland, B. J., Nysse-Carris, K. L., et al. (2009). Design and operations of the national survey of children's health, 2007. Manuscript in preparation.
- Brobst, J. B., Clopton, J. R., & Hendrick, S. S. (2009). Parenting children with autism spectrum disorders: The couple's relationship. *Focus on Autism and Other Developmental Disabilities, 24*(1), 38-49.
- Bromley, J., Hare, D. J., Davison, K., & Emerson, E. (2004). Mothers supporting children with autistic spectrum disorders: Social support, mental health status and satisfaction with services. *Autism, 8*(4), 409-423.
- Chakrabarti, S., & Fombonne, E. (2001). Pervasive developmental disorders in preschool children. *Journal of the American Medical Association, 285*(24), 3093-3099.
- Dumas, J. E., Wolf, L.C., Fisman, S. N., & Culligan, A. (1991). Parenting stress, child behavior problems, and dysphoria in parents of children with autism, down syndrome, behavior disorders, and normal development. *Exceptionality, 2*, 97-110.

- Dunn, M. E., Burbine, T., Bowers, C. A., & Tantleff-Dunn, S. (2001). Moderators of stress in parents of children with Autism. *Community Mental Health Journal, 37*(1), 39-52.
- Farrugia, D. (2009). Exploring stigma: Medical knowledge and the stigmatization of parents of children diagnosed with autism spectrum disorder. *Sociology of Health and Illness, 31*(7), 1011-1027.
- Gill, M. J., & Harris, S. L. (1991). Hardiness and social support as predictors of psychological discomfort in mothers of children with Autism. *Journal of Autism and Developmental Disorders, 21*(4), 407-416.
- Gombosi, P. G. (1998). Parents of autistic children: Some thoughts about trauma, dislocation, and tragedy. *The Psychoanalytic Study of the Child, 53*, 254-275.
- Gray, D. E., & Holden, W. J. (1992). Psycho-social well-being among the parents of children with Autism. *Australia and New Zealand Journal of Developmental Disabilities, 18*(2), 83-93.
- Harris, S. L. (1986). Families of children with Autism: Issues for the behavioral therapist. *The Behavior Therapist, 9*(9), 175-177.
- Hastings, R. P., Kovshoff, H., Ward, N. J., degli Espinosa, F., Brown, T., & Remington, B. (2005). Systems analysis of stress and positive perceptions in mothers and fathers of pre-school children with autism. *Journal of Autism and Developmental Disorders, 35*(5), 635-644.
- Higgins, D. J., Bailey, S. R., & Pearce, J. C. (2005). Factors associated with functioning style and coping strategies of families with a child with an Autism Spectrum Disorder. *Autism, 9*(2), 125-137.
- Hillman, J. (2006). Supporting and treating families with children on the autistic spectrum: The

- unique role of the generalist psychologist. *Psychotherapy: Theory, Research, Practice, Training*, 43(3), 349-358.
- Holroyd, J., & McArthur, D. (1976). Mental retardation and stress on the parents: A contrast between Down's Syndrome and childhood Autism. *American Journal of Mental Deficiency*, 80, 431-436.
- Kersh, J, Hedvat, T.T., Hauser-Cram, P, & Warfield, M.E. (2006). The contribution of marital quality to the well-being of parents of children with developmental disabilities. *Journal of Intellectual Disability Research*, 50(12), 883-893.
- Koegel, R. L., Schreibman, L., O'Neil, R. E., & Burke, J. C. (1983). The personality and family-interaction characteristics of parents of autistic children. *Journal of Consulting and Clinical Psychology*, 51(5), 683-692.
- Konstantareas, M. M. (1990). A psychoeducational model for working with families of autistic children. *Journal of Marital and Family Therapy*, 16(1), 59-70.
- Lee, G. K. (2009). Parents of children with high functioning autism: How well do they cope and adjust? *Journal of Developmental and Physical Disabilities*, 21(2), 93-114.
- Maurice, Catherine (1993). *Let me hear your voice: A family's triumph over autism*. New York, NY: Random Publishing House.
- Milgram, N. A. & Atzil, M. (1988). Parenting stress in raising autistic children. *Journal of Autism and Developmental Disorders*, 18(3), 415-424.
- Mulick, J. A., & Butter, E. M. (2002). Educational advocacy for children with autism. *Behavioral Interventions*, 17, 54-74.
- Myers, B. J., Maackintosh, V. H., & Goin-Kochel, R. P. (2009). "My greatest joy and greatest heart ache:" Parents' own words on how having a child in the autism spectrum has



- affected their lives and their families' lives. *Research in Autism Spectrum Disorders*, 3, 670-684.
- Norton, P. & Drew, C. (1994). Autism and potential family stressors. *The American Journal of Family Therapy*, 22(1), 67-76.
- Norton, R. (1983). Measuring marital quality: A critical look at the dependent variable. *Journal of Marriage and the Family*, 45, 141-151.
- Piven, J., Chase, G., Lamda, R., & Wzorek, M. (1991). Psychiatric disorders in the parents of autistic individuals. *Journal of the American Academy of Child and Adolescent Psychiatry*, 30, 471-478.
- Rodrigue, J. R., Morgan, S. B., & Geffken, G. (1990). Families of autistic children: Psychological functioning of mothers. *Journal of Clinical Child Psychology*, 19(4), 371-379.
- Ruble, L. A., Heflinger, C. A., Renfrew, J. W., & Saunders, R. C. (2005). Access and service use by children with autism spectrum disorders in Medicaid managed care. *Journal of Autism and Developmental Disorders*, 35, 3-13.
- Sanders, J. L. & Morgan, S. B. (1997). Family stress and adjustment as perceived by parents of children with autism or down syndrome: Implications for intervention. *Child & Family Behavior Therapy*, 19(4), 15-32.
- Sharpley, C. F., Bitsika, V., & Efremidis, B. (1997). Influence of gender, parental health, and perceived expertise of assistance upon stress, anxiety, and depression among parents of children with Autism. *Journal of Intellectual & Developmental Disability*, 22(1), 19-28.
- Weiss, M. J. (2002). Hardiness and social support as predictors of stress in mothers of typical children, children with autism, and children with mental retardation. *Autism* 6(1), 115-

130.

Westerman, M. A., & Schonholtz, J. (1993). Marital adjustment, joint parental support in a triadic problem-solving task and child behavior problems. *Journal of Clinical Child Psychology, 22*, 97-106.

Whitaker, P. (2002). Supporting families of preschool children with autism: What parents want and what helps. *Autism, 6*(4), 411-426.

Yirmiya, N., & Shaked, M. (2005). Psychiatric disorders in parents of children with autism: A meta-analysis. *Journal of Child Psychology and Psychiatry, 46*(1), 69-83.