

RELATIONSHIP BETWEEN STRESS, MARITAL SATISFACTION,
AND BEHAVIOR PROBLEMS OF PARENTS
RAISING A CHILD WITH AUTISM

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By
Panhia Amy Lo
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CERTIFICATION OF APPROVAL

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Panhia Amy Lo

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Dr. Harold W. K. Stanislaw
Professor of Psychology

Date

Dr. Kurt Baker
Professor of Psychology

Date

Dr. Rosanne Roy
Professor of Child Development

Date

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DEDICATION

This thesis is dedicated to:

My husband for his unconditional love and encouragement throughout the process of completing this thesis. Thank you for always standing by my side and supporting me when I need it the most. I love you, Paul.

My family, especially my wonderful parents for their love and support. You all mean the world to me. Thank you for always believing in me and providing constant encouragement.

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ABSTRACT

Families raising a child with Autism Spectrum Disorder (ASD) are more likely to report child behavior problems, experience higher levels of stress, and have lower marital satisfaction. The purpose of this study was to examine the relationships between stress and marital satisfaction of parents of children with ASD and parents of typically developing children. Also, the study examined whether the child's behavior problem influenced higher stress levels and lower marital satisfaction. Participants completed the Parenting Stress Index-Fourth Edition, Short Form, Kansas Marital Satisfaction Scale, and the Gilliam Autism Rating Scale: Third Edition. The results indicated that mothers of children with ASD reported higher levels of parenting stress than fathers of children with ASD and parents of typically developing children. However, marital satisfaction did not differ between the mothers and fathers of children with ASD or parents of typically developing children. Problem behavior was associated with parenting stress; however, it was not associated with marital satisfaction. The current study provided information that may assist professionals in supporting parents raising a child with ASD. Recommendations for future study and implications of the present study were discussed.

CHAPTER I

INTRODUCTION

Autism Spectrum Disorder (ASD)

According to the *Diagnostic and Statistical Manual, Fifth Edition (DSM-5)*, Autism Spectrum Disorder (ASD) is classified as a neurodevelopmental disorder that is present in early childhood development and may continue to affect the individual throughout his or her lifespan (Shattuck & Grosse, 2007). Areas impacted by ASD are social, occupation and other areas of the individual's daily life and functions (American Psychiatric Association [APA], 2013). The areas in which individuals with ASD are impacted in are social communication/interaction, and restricted/repetitive patterns of behavior, interests, and activities. Deficits may include specific difficulties in such areas as understanding social-emotional reciprocity, identifying nonverbal gestures and cues when communicating, and developing and maintaining relationships (APA, 2013). In addition to social deficits, individuals may also engage in repetitive motor movements (e.g., hand flapping, lining up toys, echolalia, idiosyncratic phrases), experience inflexibilities with routines and transitions (e.g., greeting rituals, rigid thinking patterns, taking the same route, eating the same food), have limited interests (e.g., fixated on unusual objects, perseverative interests), and sensory concerns (e.g., excessive smelling touching of specific objects, adverse response to specific sounds or textures, pain tolerance; APA, 2013).

Individuals with ASD may share similar symptoms; however, the impact of the disorder on the individual's characteristic traits and level of functioning varies (Centers for Disease Control [CDC], 2012). The severity is determined by describing the individuals' current symptoms of social communication and restricted, repetitive behaviors (APA, 2013). Since the revision of the *Diagnostic and Statistical Manual, Fourth Edition, Text Revision (DSM-4-TR)*, the *DSM-5*, the severity is now specified by levels (Level 1 to Level 3) rather than labeling the individual's character traits and functioning as mild, moderate, or severe (APA, 2013). Based on the *DSM-5*, the severity levels may vary in context and can change over time (APA, 2013).

Data and Statistics

“ASD has been reported to be a lifelong developmental disability” as defined in the *DSM-5* (CDC, 2012). In the CDC 2012 report, it was reported that ASD was significantly more prevalent in boys (1:54) than girls (1:252) and that boys were 4.6 times more likely to be identified with ASD than girls. In more recent reports, boys were 4.5 times more likely to be identified with ASD than girls (Christensen et al., 2016; Wingate et al., 2014). These findings suggest that ASD continues to be more prevalent in boys than in girls.

In 2012, ASD was reported to occur across all levels of race, ethnicity, and socioeconomic status (CDC, 2012). In 2014, it was reported that Caucasian (non-Hispanic) children were 1.3 times more likely to be identified with ASD than African American (non-Hispanic) and Asian/Pacific Islander children (Wingate et al., 2014). In addition, Caucasian children are also 1.5 times more likely to be identified with

ASD when compared to Hispanic children, and African American and Asian-Pacific Islander children were 1.1 times more likely to be identified as ASD than Hispanic children. Christensen et al. (2016) reported that Caucasian children were 1.2 times more likely to be identified with ASD than African American children, 1.4 times more likely than Asian/Pacific Islander children, and 1.5 more times than Hispanic children (Christensen et al., 2016). African American (1.3 times) and Asian/Pacific Islander (1.1 times) were more likely to be identified with ASD than Hispanic children (Christensen et al., 2016). The reduced incidence for Hispanic children suggests that there may be a lack of or delay in services.

In addition to the general rise in children identified and diagnosed with ASD, Boyle et al. (2011) reported the ASD population as having a significantly higher increase in prevalence rate over time compared to other developmental disabilities during the period of 2006 to 2008. More specifically, ASD showed a fourfold increase from 1997 to 2011 of 0.19% to 0.74%. In 2006, 1 in 110 children were diagnosed with ASD. One in 88 children were diagnosed with ASD in 2012 (CDC, 2012), and the current rate is 1 in 68 of all children, and 1 in 42 among boys (Christensen et al., 2016).

The increase in prevalence rates is not fully understood, and a number of factors are thought to be responsible. As the professional and lay communities have become better informed about early detection (based on the child's current developmental and functional levels and behaviors), there have been significant increases in awareness in the mental health and medical for ASD. Well-designed

instruments, such as the Modified Checklist for Autism in Toddlers, Revised with Follow-Up, and the Screening Tool for Autism in Toddlers and Young Children, are being utilized by professionals to identify children who may be at risk of ASD (Dumont-Mathieu & Fein, 2005; Stone, Coonrod, & Ousley, 2000). Along with screening tools, specific diagnostic criteria may have also likely contributed to the diagnosis that is more accurate as well as more individuals receiving an ASD diagnosis.

Etiology

Currently, there is an assumption that ASD is a heterogeneous disorder with multiple causes (Bailey, Philips, & Rutter, 1996). Epidemiological studies have shown no substantial evidence that ASD is correlated and associated with immigration status, socioeconomic status, ethnicity, mercury poisoning, or medical vaccination (Mugno, Ruta, Mazzone, & D'Arrigo, 2007). However, research has suggested strong support for genetic factors as contributors to the risk of ASD (Muhle, Trentacoste, & Rapin, 2004). Jorde et al. (1991) reported that ASD has a 4.5% higher recurrence risk in siblings compared to the general population. In a study by Cohen et al. (2005), the concordance rate for monozygotic twins was 64%, while the concordance rate of dizygotic twins was only 9%. With these findings, however, recent studies continue to attempt, without success, to identify a specific gene or set of genes that may lead to the cause autism.

The study by Cohen et al. (2005) took a pragmatic approach in working to identify and propose a specific genetic disorder in autism. Their research focused

upon 13 genetic disorders that have been consistently associated with ASD when comparing their behavioral phenotypes (fragile x, tuberous, sclerosis, Angelman syndrome, duplication of 15q11-q13, Down's syndrome, San Filippo syndrome, MECP2 related disorders, phenylketonuria, Cohen syndrome, and Smith-Lemlo-Opitz syndrome). Of the 13 genetic disorders that were analyzed, five were chromosomal disorders and eight were single-gene disorders. They concluded that the complex behavioral phenotypes of ASD create difficulty when attempting to single out a specific gene for its connection with the development of the disorder. The study outcomes suggest future researchers take a multidisciplinary approach to systematically assess and determine different subtypes (e.g., genotypes) of ASD prior to genetic studies (Cohen et al., 2005). As this research field develops, it is hoped that a link between genetics and autism will be identified.

Effects of ASD on Families

As the prevalence of ASD increases, without a cure and with only a limited understanding of its etiology, research has begun to focus on the parenting stress associated with raising a child with ASD. Parenting stress is an inevitable and dynamic phenomenon that affects parenting. Lazarus and Folkman (1984) define stress as “a relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being” (p. 19). Lazarus and Folkman view the relationship between the person and environment as dynamic and reciprocal. Their definition of stress considers the individual characteristics and the environmental factors, and how they influence the

person-environment relationship. Abidin (2012) defined parenting stress as the relationship between parental factors, child factors, and the interactions between the parent and child.

Research has reported that parents who are raising a child with a developmental disability or medical illness experience significantly higher levels of stress than parents raising a typically developing child (Fisman & Wolf, 1991). Similarly, Baker, Blacher, Crnic, and Edelbrock (2002) reported that parents raising children with a developmental disability experience higher levels of stress than parents of typically developing children and report higher rates of problem behaviors. This phenomenon is often seen with parents of children with ASD. Children diagnosed with ASD may experience deficits in different areas of development that may induce stress in parents (e.g., language development, gross motor development, and atypical social behaviors). In addition, transitions occur across the lifespan of the child diagnosed with ASD that affects the family dynamics and the parent's health and well-being.

Epel et al. (2004) demonstrated a link between chronic stresses, risk factors for cardiovascular disease, and poor immune functioning based on the shortening of telomeres. Telomeres are DNA proteins that cap and protect the end of the chromosome during replication. In general, as people age, the lengths of the telomeres shorten and risk of disease increases. Their study examined the stress levels and telomere lengths of pre-menopausal women raising healthy children and women raising a chronically ill child. They reported caregivers of chronically ill

children perceived significantly higher levels of stress than caregivers of healthy children. In addition, the women raising a chronically ill child had significantly shorter telomere lengths than women raising a healthy child. The study suggested stress can potentially promote the early onset of age-related diseases for caregivers raising a child with a chronic illness due to the shortening of telomeres.

In general, raising a child can be a stressful time for parents. Pisula (2011) viewed parenting stress as a “complex set of non-specific, persistent, and significant challenges associated with one of the parents’ most important roles” (p. 87). A number of studies have well documented the stress experienced by parents of children diagnosed with ASD. This is an essential area of research because stress can affect a person’s health, well-being, relationship, and ability to appropriately care for their child (Abbeduto et al., 2004; Epel et al., 2004; Hastings, 2003).

Benson (2006) reported that parents raising a child with ASD had serious psychological distress, specifically higher levels of depression. Abbeduto et al. (2004) reported mothers of children with ASD displayed lower levels of psychological well-being than parents of children with Down syndrome and fragile X syndrome. In addition, mothers reported higher levels of depressive symptoms than the comparison groups (Abbeduto et al., 2004). Hamlyn-Wright, Draghi-Lorenz, and Ellis (2007) demonstrated parents of children with ASD reported significantly higher rates of depression and anxiety when compared to parents of Down’s syndrome children. As the literature develops in the area of stress and mental health concerns, it would be important for other professionals to be aware of the various types of

stressors parents of children with ASD experience. Also, as the research of stress in parents of ASD children develops, it is hoped that other professionals may become more aware of the different dynamics that occur with raising a child with ASD.

CHAPTER II

LITERATURE REVIEW

Stressors Associated with Raising a Child with ASD

Raising a child with ASD involves many different stages and transitions, from formal evaluations (diagnosis), pre-treatment, treatment, and post-treatment. Many of these transitions may bring stress to the parents because these stages are different from what is typical. Many adjustments have to be made, and parents may face difficulty.

Family Adjustment

The developmental family life cycle for parents raising children with ASD may differ substantially from what is typical. Parents are not prepared to raise a child with a developmental disability, or in this case, a child with autism. Raising a child with ASD may bring stress to the family system.

Carter and McGoldrick (1988) identified eight stages of the family life cycle that are observed in an average nuclear family unit. The stages include leaving the home, commitment to the couple relationship, learning to live together, parenting the first child, living with the adolescent, departure of the child, retirement, and old age. Carter and McGoldrick's model does not suggest that families will transition through the stages in a systematic order or one stage at a time, but that these stages can simultaneously occur.

What is suggested in relation to the family life cycle (or system) is the likelihood that certain stages may not occur. For example, an adult with ASD may not be given the opportunity to leave home, but instead continues to live at home with his or her parents. The transition of the departure of the child may not occur as well. Furthermore, retirement may not be an option for parents who continue to care for their child with ASD into their old age. Along with the stages of the family life cycle, additional factors may continue to contribute to stress.

Obtaining a Formal Diagnosis

Often, ASD may go undetected and undiagnosed until after the child has entered school. Currently, there are no specific biological markers to aid in early detection. Individuals with ASD also do not present any significant or key physical features that will identify the diagnosis (CDC, 2012). The primary care physicians and professionals inquire about the child's current levels of functioning and developmental milestones and observe the child's behavior (CDC). Although the initial evaluation determines the current levels of functioning and gives an insight into the possibility that the child may be at risk of ASD, the diagnostic process may not take place until the child is older. Until the formal evaluation determines the ASD diagnosis, it is difficult to determine whether the diagnosis is due to another developmental disability, a medical illness, or exclusively ASD because of the number of deficits and behavioral symptoms a person may present. Symptoms of ASD have been detected in children as early as 12-18 months (Osterling, Dawson & Munson, 2002). Unfortunately, this is not the case for most. On average, diagnosis is

not often confirmed until the child is approximately 5 or 6 years of age (Howlin & Moore, 1997).

Siklos and Kerns (2007) demonstrated that parents expressed stress over the process of obtaining the most accurate and correct diagnosis for their child. The study reported that on average families saw five professionals over a span of 2 years, 8 months before they received a confirmed and official diagnosis (Siklos & Kerns, 2007). Once families receive a formal diagnosis, gaining access to resources can be another challenge that families face.

Access to Resources, Intervention, and Treatment

A study by Mulligan, Steel, MacCullough, and Nicholas (2010) reported parents wanted more concise and comprehensible information about autism, concrete steps after diagnosis, and additional resources parents can access. Once a child is diagnosed with ASD, parents take on the role of determining the next steps and the best treatment for their child with autism. Applied Behavior Analysis (ABA) has often been the next resource parents are recommended to seek. Early Intensive Behavioral Intervention (EIBI), a type of ABA service focused on helping children, has shown to improve intellectual and adaptive functioning, maladaptive behaviors, and pervasive symptoms (Eikeseth, Klintwall, Jahr, & Karlsson, 2012). Other domains in which participation in ABA services may help improve are cognitive skills, gross motor skills, fine motor skills, social skills, verbal and nonverbal language, and play skills (Lovaas, 1987).

Despite a variety of services for children with ASD, parents are unaware of the different types of services that are available. Parents report they became aware of early intervention programs through other parents of children diagnosed with autism, books, professionals, and the internet (Tzanakaki et al., 2012). Other parents report they were not aware of or knew anything about ABA programs but have been informed about speech and language therapy, play therapy, and special education services (Tzanakaki et al.). In other cases, resources may not be readily accessible.

When effective treatment has been found, commitment is required from the family members, especially the parents. Treatment programs require a specific number of intervention hours, depending on the type of program in which a child is enrolled (Baird, Cass, & Slonims, 2003). Whether intervention is a home-based or school-based treatment, children with ASD can spend as much as 25-40 hours per week engaged in the intervention (Baird et al.). Parental involvement in treatment and educational programs is typically recognized and expected by treatment providers (Baird et al.). This can cause stress for parents, as they have to adjust their schedule to fit with their child's treatment schedule. Additionally, Eikeseth, Steel, MacCulloch, and Nicholas (2010) reported parents experiencing difficulty finding and understanding information about ABA due to the technical terms that are used. Parents have reported not having time to themselves because of the multiple demands that are required (Fletcher, Markoulakis, & Bryden, 2012). As parents make adjustments in their daily life schedule, other areas of their lives may become affected.

Financial Concerns

Financial concerns can become a significant stressor and burden for parents once they have decided on the type of intervention and treatment in which their child will be enrolled. It is estimated that ASD costs society about \$35 billion in direct and indirect costs (Ganz, 2007). The estimated total cost of raising a child with ASD is about \$3.2 million per individual with ASD (Ganz). The expenses are not limited to medical and nonmedical costs, but also treatment costs.

Fletcher et al. (2012) conducted a qualitative study that examined the cost of caring for a child with ASD through interviews with mothers who were primary caregivers. Mothers reported the most difficulty in funding the child's treatment, which often came from out-of-pocket sources. A child's restrictive diet and repairs of the home also influenced the costs. In addition, some mothers reported inability to sustain jobs, so they made it a priority to be the primary caregiver for their child while the fathers worked full-time. Other mothers reported working a full-time or part-time job, along with the fathers, to be able to contribute financially to the treatment. In addition to financial concerns for the child with ASD, there was a concern for other children in the home. Mothers expressed concern about not being able to save any funds for their typically developing child to attend college. Mothers also expressed feelings of stress about the overall financial costs, as well as family and marital relationships.

Increased and Prolong Demand of Care

As stated above, ASD is a lifelong disorder that requires parents or caregivers to be significantly involved in the child's life (Shattuck & Grosse, 2007). Due to the different types of behaviors and deficits that a child with ASD may present, parents may be forced to assume the additional pressure to take on more responsibilities than they can manage. In some cases, the responsibilities of caring for a child with ASD are often distributed across each family member, including typically developing siblings (Dillenburger, Keenan, Doherty, Byrne, & Gallagher, 2010).

One study has suggested that raising a child with ASD contributes to elevated stress due to the high levels of care required within a parent's routine (Montes & Halterman, 2008). In addition, parents are often concerned about what will happen when they are no longer able to care for their children as they age (Gray, 2002). Some parents begin looking for respite care homes, while others may continue to care for their child into old age. Some families may even suggest the idea of their siblings taking on the responsibility when they are no longer able to care for their ASD child. These responsibilities and associated stress can be experienced across all family members, including the siblings.

Quality of Life

A child with ASD can force the family to design or change their daily routine to accommodate the child (Kheir et al., 2012). For example, mothers have reported that they are not able to go shopping because of the intensity of the child's behavior when they leave the home (Mugno et al., 2007). Furthermore, as the majority of the

time and attention is focused on the child with autism, the quality of life for each family member becomes a concern. Indeed, parents of children with ASD have a lower quality of life when compared to parents of children with cerebral palsy, mental retardation, and typically developing children (Mugno et al., 2007). Parents have also reported feelings of inability to have access to extracurricular activities and leisure because of the care demands related to having a child with ASD (Meadan, Halle, & Ebata, 2010).

A qualitative study conducted by Meirsschaut, Roeyers, and Warreyn (2010) focused primarily on maternal experiences of raising a child with autism. The mothers in this study reported that raising a child with ASD changed the family's "whole life." They also reported career changes, inability to work, limited leisure time, and feelings of incompetence (Mugno et al., 2007). Mothers of children with ASD reported significantly lower employment rates than mothers of typically developing children (Gau et al., 2012). Fathers, on the other hand, did not report any significant differences. Studies have demonstrated that families with a child with ASD reported decreased family cohesion, increased somatic symptoms, burnout, and increased psychological distress (Weiss, 2002).

Along with raising a child with autism, some parents may be raising typically developing children. Research suggests family members spend less time together as a whole and less time engaged in leisure. Brobst, Clopton, and Hendrick (2009) reported parents spend less time together, as well as less time with their typically developing children. Barak-Levy, Goldstein, and Weinstock (2010) reported that

typically developing siblings had lower participation in extracurricular activities and lower school performance. The literature suggested parents did not have the time to enroll their typically developing children in activities, were limited in finances necessary for participation, were unable to provide transportation, and were not able to spend quality time with their typically developing child (Fletcher et al., 2012; Mugno et al., 2007). A study reported typically developing siblings experience feelings of loneliness and depression (Meadan et al., 2010). Another study reported siblings experiencing feelings of neglect, unfair treatment, resentment, guilt, and fear (Dillenburger et al., 2010).

Although a number of studies have reported families experiencing adverse outcomes of raising a child with ASD, other studies have demonstrated having a child with ASD brings the opposite experience. A study by Hastings et al. (2005) suggested that not all families or family members will have the same experiences. Mugno et al. (2007) also reported raising a child with ASD enriched the family. Parents felt their families became closer (Gardiner & Iarocci, 2012; Kayfitz et al., 2010).

Behavior Problem of Children with ASD

Although there are multiple studies that compare parenting stress and different stressors, the main contributor of stress has been consistently correlated to the severity of the diagnosis and the behavior problems of ASD (Hastings et al., 2005; Hastings & Johnson, 2001; Meadan et al., 2010; Osborne & Reed, 2009; Pisula, 2011; Weiss, 2002; Yamada et al., 2007). It is essential to understand this relationship

between stress and the child's behavior to identify coping strategies for parents of children with autism.

Behavior Problems

A consistent predictor of parental stress is the child's behavioral symptoms. Dumas, Wolf, Fisman, and Culligan (1991) conducted a study to measure parenting stress, child behavior problems, and dysphoria. The study reported that parents of children with ASD and parents of children with behavior disorders experience significantly higher levels of parenting stress than parents of typically developing children and parents of children with Down's syndrome. In addition to this, mothers of children with ASD and behavior disorders reported significantly and clinically higher levels of dysphoria than the two comparison groups (Dumas et al., 1991). The study demonstrated that parents raising a child with behavioral difficulties experienced higher stress.

A study by Osborne and Reed (2009) examined the interactions between parenting stress and the behavior problems in children with ASD in two 9-10 month studies. The first study included younger children, and the second study included children with a wide range of ages. The results indicated that high levels of parenting stress were associated with child behavior problems. However, higher levels of parenting stress were associated with greater severity of the diagnosis with parents of younger children with an ASD diagnosis.

Stigma

Parents are often subjected to social stigmas due to the false impressions of parental control over their children with ASD (Gray, 1993). Children with ASD may display socially inappropriate behaviors (e.g., temper tantrums, lack of communication, lack of social responsiveness, aggressiveness, and self-injurious behaviors; Fletcher et al., 2012; Pugliesi, 1987). Parents reported feelings of parental incompetence, additional concerns about their child's behavior, and the child's disruptive behaviors (Mugno et al., 2007). As stated above, children diagnosed with ASD do not have a key or significant features that distinguish the child from a typically developing child. Because of this, onlookers may misinterpret the child's behavior as socially inappropriate misconduct.

In a qualitative study conducted by Gray (1993), parents reported feeling stigmatized by their child's disorder. In addition, the study suggested that mothers reported feeling more stigmatized than fathers. Gray suggested this may be due to the role and responsibilities mothers take on as the primary caregiver and feeling responsible for their child's autism.

Because of the stigmatization, different areas of the parents' lives were also affected. The main areas that parents reported were the most impacted were their social interactions and relationships. Parents reported feeling isolated from the outside world and had limited attendance at social events, (Mugno et al., 2007). Fletcher et al. (2012) reported mothers experiencing lack of friendships and social relationships because of their child's behaviors, and misunderstandings from other

parents about their parenting capabilities in public. Parents also have expressed concerns about restrictions on parental and family activities (Dillenburger et al., 2010).

Parenting Stress and Gender Differences

Parental stress in a couple is a phenomenon between two individuals, usually the relationship between a mother and father. Bodenmann, Pihet, and Kayser (2006) called this dyadic stress. Dyadic stress is a “stressful event or encounter that always concerns both partners, either directly when both partners are confronted by the same stressful event or when the stress originates inside the couple, or indirectly when the stress of one partner spills over to the close relationship and affects both partners” (Randall & Bodenmann, 2009, p. 106).

Research on parents raising a child with developmental disabilities has demonstrated that parents experience higher levels of stress when compared to parents of typically developing children. Parents of ASD children have reported experiencing the highest levels of stress (Fisman & Wolf, 1991; Meadan et al., 2010), with mothers experiencing higher levels of stress than fathers (Meadan et al.). The argument for higher maternal stress is that mothers, traditionally, take the primary role in caring for the child diagnosed with ASD and directly experience the different stressors, whereas fathers are less likely to experience them more indirectly.

Fathers' Response to Stress

There have been a limited number of studies assessing the father's response to stress. The research has indicated mixed results. Hastings et al. (2005) reported that

mothers and fathers experience similar stress levels, but the source of stress is different for both parents. Hastings (2003) reported that stress was not associated with the intensity of the child's behavior, but that paternal stress was associated with the partner's depression (Hastings et al., 2005). However, Herring et al. (2006) reported that fathers of children with ASD experienced less stress, depression, and anxiety than mothers. Additional research is needed to gain a better understanding of how fathers of children with ASD experience stress.

Mothers' Response to Stress

There have been many studies measuring maternal parenting stress. Mothers typically take more responsibility in caring for and meeting the needs of the child with ASD (Gray, 2003). The research indicates that mothers have reported significantly higher levels of stress than fathers (Hastings et al., 2005; Meadan et al., 2010). In addition, mothers have reported higher rates of stress than mothers raising a child with Down's syndrome and mothers of a child with fragile X syndrome (Abbeduto et al., 2004; Estes et al., 2009). Fletcher et al. (2012) reported that mothers who were the primary caregiver experienced high levels of stress and expressed strained marital relationships.

ASD and Marital Satisfaction

Marital satisfaction is critical for happiness within a marital relationship. Santamaria, Cuzzocrea, Gugliandolo, and Larcan (2012) described marital satisfaction as a coping mechanism that aids the couple in adapting to stressful events.

Additionally, they reported that higher marital satisfaction had been reported to be related to lower levels of depression.

There has been limited research on the effects of parenting stress on marital satisfaction with parents of children with autism. Higgins, Bailey, and Pearce (2005) reported that mothers and fathers raising a child with ASD had low levels of marital happiness when compared to the parent of typically developing children. Santamaria et al. (2012) conducted a study that measured the couple's marital satisfaction. Fifty married couples participated in the study. Of the 50 married couples, 30 couples had a child with a disability and 20 had children with no disability. Overall, 10 couples were parents of high functioning autistic children, 8 were parents of low-functioning autistic children, 12 couples were parents of children with Down's syndrome, and 20 couples had a child with no disability. The study reported that parents of children with ASD reported significantly lower marital satisfaction than parents of children with Down's syndrome and no disability.

Studies have compared marital satisfaction between parents raising a child with developmental disabilities and parents raising a typically developing child; however, there has been limited research on comparing exclusively mothers and fathers raising a child with autism. Mothers and fathers have reported differences in marital satisfaction and experiences. Fisman and Wolf (1991) reported that mothers and fathers experienced parenting stress and decreased marital satisfaction, along with less time spent together when compared to parents raising a typically developing or developmentally delayed child. In addition to the research, mothers reported

experiencing significantly lower scores on intimacy. This may be that the mothers take the primary role of caring for the child, and increase their responsibilities within the home. Overall, marital satisfaction is an important component in a marital relationship because it helps in facilitating positive interactions between the parents, maintaining family stability, and adaptive coping behaviors.

Impact of the Child Behavior Problem on Parenting Stress and Marital Satisfaction

There is a limited amount of research focused on the impact of the behavior problem on parenting stress and marital satisfaction. Brobst et al. (2009) conducted research that compared parents of children with ASD and parents of typically developing children. They compared the child's behavior problems, marital satisfaction, social support, respect towards their partner, and commitment. The study included 25 couples with a child diagnosed with autism, Asperger syndrome, or Pervasive Developmental Disorder, Not Otherwise Specified, and 20 couples whose children did not have a developmental disability. The results indicated that parents raising a child with ASD reported higher parenting stress, more child behavior problems, lower marital satisfaction, and lower social support than couples who had no child with developmental disorders. The two groups did not differ, in respect, towards their partner and commitment to the relationship.

Question and Hypotheses

This study investigated the following questions and hypotheses:

Question 1: Do mothers and fathers of children with ASD differ in their response to parenting stress compared to mothers and fathers of typically developing children?

Hypothesis 1: It was expected that mothers of children with ASD would report higher levels of stress than fathers of children with ASD and parents of typically developing children, as indicated by a significantly higher score on the Parenting Stress Index, Fourth Edition, Short Form (PSI-4-SF). Given the lack of research on fathers, no prediction was made for their parenting stress.

Question 2: Do mothers and fathers of children with ASD differ in their response to marital satisfaction compared to mothers and fathers of typically developing children?

Hypothesis 2: It was predicted that mothers of children with ASD would report lower levels of marital satisfaction than fathers of children with ASD and parents of typically developing children as indicated by a significantly lower score on the Kansas Marital Satisfaction Scale (KMSS). A prediction was not made for fathers due to the lack of research.

Question 3: For children with ASD, does the intensity of the child's behavior explain the negative relationship between parenting stress and marital satisfaction?

Hypothesis 3: The intensity of the ASD child's behavior will predict the relationship between higher parenting stress and lower marital satisfaction.

CHAPTER III

METHODS

Participants

The participants were recruited through fliers that were distributed at a child development center and an autism treatment center. The participants were parents of typically developing children and parents of children diagnosed with ASD, as specified in the *DSM-5* (APA, 2013). A total of 40 participants (20 mothers and 20 fathers) were recruited from a variety of sources. The current research did not require both parents of a child to take part in the current study. The mothers in the sample ranged in age from 21 to 54 years ($M = 30.45$; $SD = 7.17$), and the fathers in the sample ranged in age from 27 to 44 years ($M = 35.20$; $SD = 5.16$).

Table 1

Means and Standard Deviations of Participant Ages (in Years)

Gender	ASD Child		Typically developing child	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Father (Male)	37.30	4.57	33.10	5.04
Mothers (Female)	32.90	8.67	28.00	4.47

Parents of typically developing children ages 2 to 14 years ($M = 6.45$; $SD = 4.03$) were included in the study, as were parents of children with ASD ages 2 to 15 years ($M = 5.80$; $SD = 3.43$). It was reported that of the children with ASD, 40% participated in a previous intervention, and 60% were participating in a current intervention. See Table 2 for additional participant characteristics.

Table 2
Number of Participants with Each Characteristic

Characteristic	ASD Child	Typically developing child
Gender		
Father (Male)	10 (50%)	10 (50%)
Mothers (Female)	10 (50%)	10 (50%)
Number of Parents in Household		
One	4 (20%)	2 (10%)
Two	16 (80%)	18 (90%)
Ethnicity		
Caucasian	7 (35%)	5 (25%)
Hispanic	6 (30%)	4 (20%)
African American	1 (5%)	11 (55%)
Asian/Pacific Islander	6 (30%)	0 (0%)
Education Level		
Less than HS	0 (0%)	1 (5%)
High School	6 (30%)	7 (35%)
Some College	5 (25%)	9 (45%)
Bachelor's Degree	7 (35%)	2 (10%)
Master's Degree	2 (10%)	1 (5%)
Primary Caregiver		
Mother	17 (85%)	12 (60%)
Father	1 (5%)	2 (10%)
Both	0 (0%)	6 (30%)
Other	2 (10%)	0 (0%)

Materials

The participants were given an envelope with the following documents and instruments. An informed consent form (see Appendix A) was utilized to obtain consent to participate in the study. A demographic questionnaire (see Appendix B) was utilized to obtain additional information from the participants. The items

inquired about the participant's gender, age, ethnicity, level of education, the age of the child, whether the child had an ASD diagnosis, whether the child participated in an EIBI program, and the child's primary caregiver. Three instruments were utilized, as described below.

Parenting Stress Index, Fourth Edition, Short Form (PSI-4-SF)

The PSI-4-SF is a 36-item that is derived from the 101-item Parenting Stress Index (Abidin, 2012). The purpose of the PSI-4-SF is to identify stress in parents of children between the ages of 0 to 12 years. The responses include SA = "Strongly Agree," A = "Agree," NS = "Not Sure," D = "Disagree," and SD = "Strong disagree" to indicate the parent's response to the statement. The items are divided into three domains: Parental Stress (PD), Parent-Child Dysfunctional Interaction (P-CDI), and Difficult Child (DC), which combine to form the Total Stress scale. The items are rated on a scale from 1 to 5. Higher scores indicate greater levels stress. Scores in the 90th percentile on the Total Stress scale are considered to be in the clinically significant range (Abidin). The reported internal consistency of the PSI-4-SF score is excellent (Cronbach's $\alpha = 0.95$, Abidin).

Kansas Marital Satisfaction Scale (KMSS)

The KMSS is a 3-item measure (Schumm et al., 1983). The KMSS is utilized to assess marital satisfaction. The items are rated on a 7-point Likert scale (1 = extremely dissatisfied to 7 = extremely satisfied). Higher scores indicate marital satisfaction, while lower scores indicate marital dissatisfaction. The cutoff score for the KMSS is 17, indicating that the individual has marital satisfaction and scores

lower than 17 indicate marital distress (Crane, Middleton, & Bean, 2000). Schumm et al. reported that the internal consistency is high (Cronbach's $\alpha = 0.84$ to 0.98).

Gilliam Autism Rating Scale, Third Edition (GARS-3)

The GARS-3 is a 58-item measure that is utilized as “norm-referenced screening instrument that is designed to identify individuals ages 3 through 22 years of age who have severe behavioral problems that may be indicative of autism” (Gilliam, 2014, p. 2). The GARS-3 is an attempt to assist professionals in identifying and diagnosing individuals who may be on the ASD spectrum. It reflects the diagnostic features of ASD in the *DSM-5* (APA, 2013; Gilliam, 2014).

In the GARS-3, items are divided into six subscales that are related to ASD: Restricted/Repetitive Behaviors (RB), Social Interaction (SI), Social Communication (SC), Emotional Response (ER), Cognitive Style (CS), and Maladaptive Speech (MS). The items in the Restricted/Repetitive Behavior subscale describe stereotyped behaviors, fixed interests, routines, or rituals. Items in the Social Interaction subscale measure social behaviors (e.g., initiating conversations, interest in others). The Social Communication measures how the individual responds to social situations, the understanding of the social interaction, and communicating (e.g., understanding jokes, understanding social cues, understanding the consequence of his/her actions). The Emotional Response subscale measures the individuals' emotional response to situations (e.g., when routines change, extreme reactions). The Cognitive Style subscale measures idiosyncratic fixated interests, cognitive abilities, and characteristics (e.g., talking about a single subject excessively). Lastly, the

Maladaptive Speech subscale measures deficits in verbal communication (e.g., repeating words or phrases, speaks with flat affect).

The raw scores for each of the subscales were then converted into a scaled score (Gilliam, 2014). The total scaled score of the six subscales forms the intensity of the child's behavior. The total scaled scores between 55 and 70 are considered Level 1, scaled scores between 71 and 100 are considered Level 2, and scaled scores equal to or greater than 101 are considered Level 3 (Gilliam). The internal reliability is .90 for RB, .94 for SI, .89 for SC, .90 for ER, .86 for CS, .79 for MS, and .93 for the total test (Gilliam).

At the end of the survey, the debriefing form (see Appendix F) was available for the participants.

Procedures

Recruitment through Autism Treatment Programs

The Letter of Intent of Recruitment (Appendix H) was given to the program director to obtain permission to recruiting participants for the study. The researcher provided information about the study via the Recruitment Fliers for Parent of Children with Autism (Appendix G). Upon the director's approval, the program director returned the Letter of Approval of Recruitment (Appendix I), which states the EIBI program gave the researcher permission to recruit and begin data collection. The researcher then distributed a flyer that had information relating to the study and contact information if they were interested in participating. A total of 50 test materials were distributed. Of participants who reported raising a typically

developing child, 71% of the test materials were returned. Test materials distributed to participants raising a child with ASD had a 91% return rate.

Participants who expressed interest in participating in the study were mailed the test materials. The main envelope contained the Instruction Form (Appendix K), a sealable envelope for the completed surveys, two copies of the Informed Consent (Appendix A), the Demographic Questionnaire (Appendix B), the Parenting Stress Index, Fourth Edition, Short Form (PSI-4-SF; Appendix C), and the Kansas Marital Satisfaction Scale (KMSS; Appendix D). The Gilliam Autism Rating Scale, Third Edition (GARS-3; Appendix E) was also included within the main envelope for participants who have reported raising a child with autism. Lastly, the Debriefing Form (Appendix F) was enclosed in an additional envelope with instructions to open once the participant completed all the surveys. A separate pre-paid, sealable envelope was also included along with a Gift Card Drawing Form and Return Instruction (Appendix L).

The participants were prompted on the Instruction Form to sign the Informed Consent Form (Appendix A) before completing the surveys. An extra copy of the Informed Consent Form was provided for the participants to keep in their records. After the participant signed the consent form, the participant completed the following surveys: the Demographics Questionnaire (Appendix B), the PSI-4-SF (Appendix C), and then the KMSS (Appendix D). Lastly, participants who reported raising a child with ASD completed the GARS-3 (Appendix E). Once all the surveys were

completed, the participants opened the envelope containing the Debriefing Form (Appendix F).

If the participant was interested in participating in the gift card drawing, he or she completed the Gift Card Drawing Form and Return Instruction (Appendix L) and placed it into the separate, prepaid envelope to ensure confidentiality. During the drawing, the winning envelope was opened. Once the researcher confirmed that the chosen participant had returned the surveys, the participant was contacted via email. The gift card was then delivered to the participant. The remaining envelopes, along with the winning envelope, were disposed of securely.

Recruitment through Child Development Center

The researcher gave the program director the Letter of Intent of Recruitment (Appendix H) to obtain permission to recruiting participants for the study. The researcher provided information about the study through the Recruitment Fliers for Parent of Children with Typically Developing Children (Appendix G). Upon the director's approval, the program director returned the Letter of Approval of Recruitment (Appendix I) which stated that the Child Development Center gave the researcher permission to recruit and begin data collection. The researcher distributed a flyer to the potential participants that had information relating to the study and contact information.

Participants followed the same procedure described above. However, the participants who did not report having a child diagnosed did not complete the GARS-3 (Appendix E).

The participants who returned the surveys were given the opportunity to enter into a drawing for a gift card. The researcher provided the participants with a form where the participants entered an email address along with a pre-paid envelope (provided by the researcher). Participants were notified in the Instruction Form & Gift Card Drawing to mail the gift card envelope separately from the survey envelope to ensure confidentiality. Each packet (sent to the participants) was number coded. Once the researcher received the survey and envelope containing the gift card form, the researcher put the gift card form in a secure location. During the drawing, the winning envelope was opened. Following the opening of the winning envelope and contacting the participant, all envelopes, including the winning envelope, were disposed of securely.

Design

The study utilized two statistical designs to test the hypotheses. A factorial analysis of variance (ANOVA) tested Hypothesis 1 and Hypothesis 2. The independent variables for Hypotheses 1 and 2 were the gender of the participants and the ASD status of the children (parents raising a child with ASD or raising a typically developing child). The purpose of the study was to compare the means of parenting stress and marital satisfaction.

In addition, the study used a mediation analysis to test Hypothesis 3. The independent variables here were parenting stress and marital satisfaction. The purpose of the study was to determine whether the intensity of the child's behavior influences a negative relationship between parenting stress and marital satisfaction.

Hypotheses and Data Analysis Procedures

Data were collected from each participant and analyzed using SPSS. The following are the hypotheses and data analysis procedures that were performed:

1. Mothers of children with ASD were predicted to report significantly higher stress than fathers of children with ASD and parents of typically developing children, as indicated by a higher total stress score on the PSI-4-SF. A factorial ANOVA was utilized to compare the scores. The hypothesis was tested with $\alpha = .05$.
2. Mothers of children with ASD were predicted to report significantly lower marital satisfaction than fathers of children with ASD and parents of typically developing children, as indicated by a lower score on the KMSS. A factorial ANOVA was used to compare the scores. The hypothesis was tested with $\alpha = .05$.
3. The intensity of the child's behavior, as measured on the GARS-3, was predicted to explain the relationship between higher parenting stress scores, as indicated on the PSI-4-SF and lower marital satisfaction scores, as indicated on the KMSS. A mediation analysis was used to determine whether the intensity of the child's behavior played a significant role in the relationship between parenting stress and marital satisfaction.

CHAPTER IV

RESULTS

The current study examined parenting stress, marital satisfaction, and the intensity of the child's behavior. Data were analyzed utilizing SPSS. See Table 3 reports the mean and standard deviation scores for the three instruments.

Table 3
Mean and Standard Deviations of PSI-4-SF, KMSS, & GARS-3

Parent	Child	PSI-4-SF		KMSS		GARS-3	
		M	SD	M	SD	M	SD
Mothers	ASD	77.20	27.81	13.60	4.09	98.00	14.95
	TD	52.30	9.03	13.40	5.34	-	-
Fathers	ASD	56.50	7.95	13.00	6.09	89.40	6.75
	TD	52.90	10.56	14.00	5.50	-	-

Testing of Hypothesis 1

The first hypothesis stated that mothers of children with ASD would report higher levels of parenting stress than fathers of children with ASD. In addition, mothers of children with ASD would report higher levels of stress than fathers of children with ASD and parents of typically developing children as indicated by a significantly higher score on the PSI-4-SF.

A factorial ANOVA was conducted to compare the main effects of gender and the interaction effect between raising a child with ASD on parenting stress. The independent variables were the gender of the participant and whether the participant was raising a child with ASD. The dependent variable was parenting stress.

The results did not indicate a significant main effect of the gender of the participants, $F(1, 36) = 3.92, p = .55, \eta_p^2 = .098$. However, the results did indicate a significant main effect for raising a child with ASD, $F(1, 36) = 7.89, p < .05, \eta_p^2 = .180$, suggesting that parents raising a child with ASD reported higher levels of stress than parents raising a typically developing child. Tukey's method tested pair-wise comparisons since Levene's test of homogeneity was not significant, $F(3, 36) = 1.52, p = .23$.

Further investigation indicated that there was a significant interaction between gender and raising a child with ASD, $F(1, 36) = 4.41, p < .05, \eta_p^2 = .109$. As hypothesized, mothers of children with ASD reported significantly higher stress than fathers of children with ASD, mothers of typically developing children, and fathers of typically developing children. The three latter groups did not differ in self-reported parenting stress levels.

It is important to note that 40% of the mothers of children with ASD reported parenting stress scores that were in the clinically significant range (90th percentile, Gilliam, 2014). Fathers of children with ASD and parents of typically developing children, on the other hand, did not report any scores in the clinically significant range. Approximately 80% of mothers of children with ASD reported to be the primary caregiver, and 20% reported that a grandparent was the primary caregiver. Only 10% of fathers raising a child with ASD reported being the primary caregiver, while 90% reported that the mothers were the primary caregiver.

Testing of Hypothesis 2

The second hypothesis stated that mothers would report significantly lower marital satisfaction than fathers, as indicated by a lower marital satisfaction score on the KMSS. A factorial ANOVA was conducted to compare the main effects of gender and the interaction effect between raising a child with ASD on marital satisfaction. The independent variables were the gender of the participant and whether the participant was raising a child with ASD. The dependent variable was marital satisfaction.

The results did not indicate a significant main effect for the gender, $F(1, 36) = 0.0, p = 1.00, \eta_p^2 = .000$, raising a child with ASD, $F(1, 36) = .06, p = .81, \eta_p^2 = .002$, or a significant interaction between the two variables, $F(1, 36) = .13, p = .72, \eta_p^2 = .004$. Tukey's tests were used for pair-wise comparisons since Levene's test of homogeneity was not significant, $F(3,36) = .68, p = .57$. Mothers of children with ASD did not significantly differ from the fathers of children with ASD, or parents of typically developing children.

Overall, 30% of mothers of children with ASD reported being satisfied with their marriage, and 40% of fathers with ASD reported being satisfied with their marriage. Fathers of typically developing children reported to be 40% satisfied with their marriage, and mothers of typically developing children reported to be 20% satisfied with their marriage. The scores did not differ significantly between the four groups.

These results suggested that raising a child with autism did not influence marital satisfaction.

Testing of Hypothesis 3

The third hypothesis stated that the intensity of the child's behavior, as measured on the GARS-3, would explain the relationship between parenting stress scores, as indicated on the PSI-4-SF, and marital satisfaction scores, as indicated on the KMSS. A mediation analysis was used to investigate this hypothesis.

The results indicated that parenting stress was not associated with marital satisfaction, $\beta = .04$, $p = .46$, and that the intensity of the child's behavior did not show a significant relationship, $\beta = -.02$, $p = .79$, indicating that the child's behavior did not influence the relationship between higher parenting stress and lower marital satisfaction. Parenting stress was significantly related to the intensity of the child's behavior, $\beta = .30$, $p = .01$, but the intensity of the child's behavior was not significantly related to marital satisfaction, $\beta = .18$, $p = .12$, when controlling for parenting stress.

To further test whether the intensity of the child's behavior mediated the relationship between parenting stress and marital satisfaction, the bias-corrected and accelerated bootstrapping procedure for SPSS outlined by Preacher and Hayes (2004) was utilized. This analysis found that the indirect effect of the intensity of the child's behavior was not statistically significant, 90% CI [.002, .15]. The results suggested that parenting stress and marital satisfaction are not mediated by the intensity of the child's behavior.

Summary

A factorial ANOVA showed that there was a significant difference between mothers of children with ASD when comparing parenting stress levels to fathers of children with ASD, mothers of typically developing children, and fathers of typically developing children. There was no significant difference between mothers and fathers raising a typically developing child, respectively. A factorial ANOVA also revealed that there was no significant difference between the four groups when comparing the self-reported scores for marital satisfaction. In addition, a mediation analysis was conducted and results showed that there was a significant relationship between parenting stress and the intensity level of the child's behavior; however, the intensity of the ASD child's behavior did not explain the relationship between parenting stress and marital satisfaction.

CHAPTER V

DISCUSSION

Purpose of the Study

The purpose of this study was to examine the relationships of parenting stress, marital satisfaction, and the intensity of the child's behavior between parents of children raising a child with ASD and parents raising a typically developing child. The study also attempted to verify the levels of parenting stress and marital satisfaction, with a specific focus on the intensity of the child's behavior. Additionally, it was also hoped that this study would also contribute to the limited research involving the focus on including families in studies and to determine the impacts of raising a child with ASD.

The current study included three hypotheses that examined the parenting stress and marital satisfaction of mother and fathers of children with ASD and typically developing children. In addition, it compared mothers and fathers and examined if the relationship between parenting stress and marital satisfaction was mediated by the intensity of the child's behavior.

Parenting Stress

The data revealed that there was a significant difference between mothers of children with ASD and the three groups (fathers of children with ASD and parents of typically developing children). The results indicated that mothers of children with

ASD are more likely to experience higher levels of stress than fathers of children with ASD and parents of typically developing children.

These findings are similar to those found by Brobst et al. (2009) in that mothers of children with ASD reported experiencing higher levels of stress than fathers of children with ASD, and parents of children who did not have any developmental disabilities. Their study compared 25 couples of children diagnosed with ASD and 20 couples with children who did not have developmental disorders. Their results indicated that parents of children with ASD experienced more intense behaviors, higher levels of parenting stress, and lower satisfaction in their relationships (Brobst et al., 2009). Dumas et al. (1991) also found that mothers of children with autism experience higher levels of stress than fathers.

Fathers of children with ASD and parents of typically developing children did not report scores in the clinically significant range. On the other hand, mothers of children with ASD reported scores in the clinically significant range. In addition, a majority of the mothers of children with ASD reported being the primary caregiver. It would be important for researchers to continue to explore additional variables that may affect the stress levels of mothers and caregivers (e.g., parental role, the severity of the diagnosis, guilt, social support).

Marital Satisfaction

The results in the current study also revealed that there was no significant difference when comparing marital satisfaction between mothers of children with ASD and the other groups (fathers of children with ASD and parents of typically

developing children). There was also no significant difference between mother and fathers of typically developing children. The study concluded that parent of children with ASD and parent of typically developing children did not differ when comparing the marital satisfaction mean scores. The findings in the current study are not similar to other studies. Brobst et al. (2009) reported that parents of children with ASD reported lower marital satisfaction than parents of children without any developmental disability.

There are variables that may have influenced the reporting of marital satisfaction. The current study did not include parental dyads as in the study of Brobst et al. (2009). Another factor that may have influenced this was that the mothers and fathers of children with ASD were recruited from an autism treatment center. By having access to resources to address the child with ASD, the parents of children with ASD may have experienced more positive interactions with their children. Also, the KMSS is a 3-item questionnaire that examined solely marital satisfaction. Other variables of marital satisfaction were not examined (e.g., communication, conflict, time together, listening, sexual satisfaction, history of family distress), suggesting that a more comprehensive examination of marital satisfaction is recommended.

Intensity of the Child's Behavior

The current study aimed to identify the intensity of the child's behavior as having predictive value for the relationship between higher parenting stress and lower marital satisfaction. However, the results showed that there was no significant

correlation between parenting stress and marital satisfaction, or that the intensity of the child's behavior mediated a negative relationship between marital satisfaction and parenting stress. This finding differed from previous research (Brobst et al., 2009).

Despite the results, the analysis showed that significant relationship between parenting stress and the intensity of the child's behavior in parents of children with ASD. This finding was similar to the study by Dumas et al. (1991), who found that parents of children with ASD and parents of children with behavior problems experience higher levels of parenting stress.

Some variables that may have contributed to the difference in reporting are the number of participants. There were only 20 participants who reported having a child with ASD and 20 participants who reported having a typically developing child. As stated previously, the participants were recruited via fliers and through an autism treatment center, which may have limited the variability in participants. Due to recruitment from an autism treatment center, professionals may be addressing the problem behavior. It is possible that some parents may not have been experiencing high levels of intense behaviors in their children, or that the intensity of the behavior did not vary sufficiently in the sample.

Implications for Treatment

The goal of the study was to examine the relationships of parenting stress, marital satisfaction, and the intensity of the child's behavior between parents of children raising a child with ASD and parents raising a typically developing child. In addition, the current study aimed to contribute awareness for the need to continue

research about parenting stress, family dynamics, and the stressors related to raising a child with ASD.

This study demonstrated that mothers of children with ASD experienced more significant levels of stress than fathers of children with ASD and parents of typically developing children. In addition to this, a majority of mothers of ASD children reported being the primary caregiver. The study implies that it would be beneficial for mothers and caregivers of children with ASD to have access to information regarding stress management and information about effective communication for families raising a child with ASD. Not only can these resources help with self-regulation of stress, but it can also help with the family dynamic as well.

Recommendation for Future Research

The current study indicated the lack of significant difference between mothers and fathers of children with ASD when comparing marital satisfaction. This area should be explored to further determine the relationship between raising a child with ASD and marital satisfaction. The current study utilized the KMSS, which is a 3-item measure. Although the KMSS may be ideal for its ability to quickly assess marital satisfaction, variables that may be pertinent to marriage were not investigated. Additional areas of study should be explored to obtain a collective view of what areas of marital satisfaction are a concern for parents (e.g., communication, distress, listening, support, sexual satisfaction, etc.).

Additional research could focus obtaining a wider range of intensity of the child's behavior. The study only collected the intensity of the behavior of

participants raising a child with ASD. It would be beneficial to also obtain information regarding the intensity of the behavior for participants raising a typically developing child to compare the mean differences for the participating groups. In addition, it is recommended that future research could focus on obtaining a larger sample size and collecting data from participants with diverse backgrounds. Due to the lack of diversity within the groups, future studies could benefit by obtaining a greater diversity in the behavior intensity of children of ASD children.

The current study only examined participants who were married and are raising a child with ASD (and a typically developing child). In addition, it would be informative to explore the stress levels of parents raising a child with ASD, more specifically the primary caregivers of children with ASD. This can contribute to research that the primary caregivers who are raising a child with ASD experience higher levels of stress. It is also recommended that research could study couple dyads to obtain information regarding the dynamics of marital satisfaction in the family unit. In addition, it would be beneficial for researchers to explore the participant's job status, how long the participants work, or whether the participants are stay-at-home parents.

Summary

This study indicated that mothers of children with ASD experienced higher levels of stress than fathers of children with ASD and parents of typically developing children. However, the study did not indicate a significant difference in marital satisfaction when comparing mothers and fathers of children with ASD to parents of

typically developing children. The intensity of the child's behavior did not influence a negative relationship between high parenting stress and low marital satisfaction. However, there was a significant relationship between the intensity of the child's behavior and parenting stress, suggesting that as the intensity of the child's behavior increase, parenting stress also increases.

Mothers of children reported higher levels of stress than the other groups. These findings contribute to the current literature that reports that mothers of children with ASD experience more stress than fathers of children with ASD, along with parents of children without any disabilities. It is recommended that these areas continue to be explored. While research in ASD is expanding in areas of treatment, research on the effects of the family and the family system is continuing to grow as well. Continued research in these areas will help to provide the necessary information needed to understand the dynamics that families face when raising a child with ASD and raise awareness among providers of the need to address these stressors and concerns.

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APPENDICES

APPENDIX A

INFORMED CONSENT

1. This study will examine factors that are related to raising a child with and without autism. If you agree to participate, you will be asked to answer survey questions that relate to your levels of stress, marital satisfaction, and your child's behavior.
2. Refusal to participate in this study will involve no penalty. You may withdraw at any time without penalty. You may skip any questions you do not want to or are uncomfortable answering.
3. Participation in this research study does not guarantee any benefits to you. However, possible benefits include the fact that you may learn something about how research studies are conducted. You may also learn about this area of research. In addition, you will be entered into a drawing for a \$100 Visa gift card when you return your surveys.
4. You will be given additional information about the study after your participation is complete.
5. If you agree to participate in the study, it will take about 30 minutes to complete the survey.
6. All data from this study will be kept from inappropriate disclosure and will be accessible only to the researcher and her faculty advisor. The researcher is not interested in anyone's individual responses, only the average of everyone in the study.
7. The present research is designed to reduce the possibility of any negative experiences as a result of participation. Risks to participants are kept to a minimum. However, if your participation in this study causes you any concerns, anxiety, or distress, please contact the Family Advocate Department at Stanislaus County Behavioral Health at (209) 568-9844. If you are outside the Stanislaus County area, please contact your local community counselor/therapist to make an appointment to discuss your concerns.
8. This study is being conducted by psychology graduate student, Panhia Lo as partial fulfillment for her Master's Degree in Psychology. The faculty supervisor is Dr. Harold Stanislaw, Professor of Psychology, Department of Psychology, California State University, Stanislaus. If you have questions or

concerns about your participation in this study, you may contact the researcher at plo@csustan.edu or her faculty supervisor at hstanislaw@csustan.edu.

9. You may obtain information about the outcome of the study by contacting Panhia Lo or Dr. Harold Stanislaw in August 2017.
10. If you have any questions about your rights as a research participant, you may contact the Campus Compliance Officer at California State University, Stanislaus at IRBadmin@csustan.edu.
11. By signing below, you attest that you are 18 years old or older.
12. By signing below, you are indicating that you have freely consented to participate in this study.

PARTICIPANT'S SIGNATURE: _____ DATE: _____

APPENDIX B
DEMOGRAPHIC QUESTIONNAIRE

1. Gender
 Male Female

2. Age: _____

3. Ethnicity
 Non-Hispanic White or Euro-American
 American Indian/Native American
 Hispanic/Latino
 Asian
 Hawaiian/Pacific Islander
 African American
 Other _____

4. What is the highest level of education completed
 Less than high school Bachelor's degree
 High school (or equivalent) Master's degree
 Some college Doctoral degree

5. Do you have a child diagnosed with autism?
 Yes No (if no, skip Questions 7, 8, & 9)

6. (if yes to 6) What was the age of your child when he/she was diagnosed?

7. (if yes to 6) What is the current age of your child diagnosed with autism? ____

8. (if yes to 6) Is your child currently participating in an early intensive behavioral intervention/treatment (EIBI/EIBT)?
 Yes No

9. Who is the primary caregiver?
 Mother Father Other _____

APPENDIX C

PARENTING STRESS INDEX, FOURTH EDITION, SHORT FORM

Instructions

On the inside of this form, write your name, gender, date of birth, ethnic group, and marital status; today's date; and your child's name, gender, and date of birth. This questionnaire contains 36 statements.

Read each statement carefully. For each statement, please focus on the child you are most concerned about and circle the response that best represents your opinion. Answer all the questions about the same child.

Circle SA if you strongly agree with the statement

Circle A if you agree with the statement.

Circle NS if you are not sure.

Circle D if you disagree with the statement

Circle SD if you strongly disagree with the statement.

For example, if you sometimes enjoy going to the movies, you would circle A in response to the following statement:

I enjoy going to the movies SA A NS D SD

While you may not find a response that exactly states your feelings, please circle the response that comes closest to describing how you feel. Your first reaction to each question should be your answer.

Circle only one response for each statement, and respond to all statements. Do not erase! If you need to change an answer, mark an "X" through the incorrect answer and circle the correct response. For example:

I enjoy going to the movies SA A NS X SD

1. I often have the feeling I cannot handle things very well.

SA A NS D SD

2. I find myself giving up more of my life to meet my children's needs than I ever expected

SA A NS D SD

3. I feel trapped by my responsibilities as a parent.

SA A NS D SD

4. Since having this child, I have been unable to do new and different things.

SA A NS D SD

5. Since having a child, I feel that I am almost never able to do things that I like to do.

SA A NS D SD

6. I am unhappy with the last purchase of clothing I made for myself.

SA A NS D SD

7. There are quite a few things that bother me about my life.

SA A NS D SD

8. Having a child has caused more problems than I expected in my relationship with my spouse / parenting partner.

SA A NS D SD

9. I feel alone and without friends.

SA A NS D SD

10. When I go to a party, I usually expect not to enjoy myself.

SA A NS D SD

11. I am not as interested in people as I used to be.

SA A NS D SD

12. I don't enjoy things as I used to.

SA A NS D SD

13. My child rarely does things for me that make me feel good.

SA A NS D SD

14. When I do things for my child, I get the feeling that my efforts are not appreciated very much.

SA A NS D SD

15. My child smiles at me much less than I expected.

SA A NS D SD

16. Sometimes I feel my child doesn't like me and doesn't want to be close to me.

SA A NS D SD

17. My child is very emotional and gets upset easily.

SA A NS D SD

18. My child doesn't seem to learn as quickly as most children.

SA A NS D SD

19. My child doesn't seem to smile as much as most children.

SA A NS D SD

20. My child is not able to do as much as I expected.

SA A NS D SD

21. It takes a long time and it is very hard for my child to get used to new things.

SA A NS D SD

22. I feel that I am (Choose a response from the choices below):

A very good parent.

A better-than-average parent.

An average parent.

A person who has some trouble being a parent

Not very good at being a parent

23. I expected to have closer and warmer feelings for my child than I do and this bothers me.

SA A NS D SD

24. Sometimes my child does things that bother me just to be mean.

SA A NS D SD

25. My child seems to cry or fuss more often than most children.

SA A NS D SD

26. My child generally wakes up in a bad mood.

SA A NS D SD

27. I feel that my child is very moody and easily upset.

SA A NS D SD

28. Compared to the average child, my child has a great deal of difficulty in getting used to changes in schedules or changes around the home.

SA A NS D SD

29. My child reacts strongly when something happens that my child doesn't like.

SA A NS D SD

30. When playing, my child doesn't often giggle or laugh.

SA A NS D SD

31. My child's sleeping or eating schedule was much harder to establish than I expected.

SA A NS D SD

32. I have found that getting my child to do something or stop doing something is:

Much harder than I expected
 Somewhat harder than I expected
 About as hard as I expected
 Somewhat easier than I expected
 Much easier than I expected

33. Think carefully and count the number of things, which your child does that bother you. For example: dawdles, refuses to listen, overactive, cries, interrupts, fights, whines, etc. (Choose a response from the choices below.)

1-3
 4-5
 6-7
 8-9
 10+

34. There are some things that my child does that really bother me a lot.

SA A NS D SD

35. My child turned out to be more of a problem than I had expected.

SA A NS D SD

36. My child makes more demands on me than most children.

SA A NS D SD

APPENDIX D

KANSAS MARITAL SATISFACTION SCALE

Instructions: The following questions will ask about marriage satisfaction. Select the response that best indicates how much you agree with each statement with:

- 1 Extremely dissatisfied
- 2 Very dissatisfied
- 3 Somewhat dissatisfied
- 4 Mixed
- 5 Somewhat satisfied
- 6 Very satisfied
- 7 Extremely satisfied

1. How satisfied are you with your marriage?

- 1 Extremely dissatisfied
- 2 Very dissatisfied
- 3 Somewhat dissatisfied
- 4 Mixed
- 5 Somewhat satisfied
- 6 Very satisfied
- 7 Extremely satisfied

2. How satisfied are you with your husband/wife as a spouse?

- 1 Extremely dissatisfied
- 2 Very dissatisfied
- 3 Somewhat dissatisfied
- 4 Mixed
- 5 Somewhat satisfied
- 6 Very satisfied
- 7 Extremely satisfied

3. How satisfied are you with your relationship with your husband/wife?

- 1 Extremely dissatisfied
- 2 Very dissatisfied
- 3 Somewhat dissatisfied
- 4 Mixed
- 5 Somewhat satisfied

- 6 Very satisfied
- 7 Extremely satisfied

APPENDIX E

GILLIAM AUTISM RATING SCALE, THIRD EDITION

Directions:

On a scale of 0 to 3, rate the following items in terms of how adequately the item describes the individual's behavior. Circle the number that best describes your observations of the person's typical behavior under ordinary circumstances (i.e., in most places, with people with people he or she is familiar with, and in usual daily activities). Remember to rate every item. If you are uncertain about how an item, delay the rating and observe the person for a 6-hour period to determine your rating.

- 0 Not at all like the individual
- 1 Not so much like the individual
- 2 Somewhat like the individual
- 3 Very much like the individual

PLEASE RATE EVERY ITEM

Restricted/Repetitive Behavior Subscale

1. If left alone, the majority of the individual's time will be spent in repetitive or stereotyped behaviors.

- 0 Not at all like the individual
- 1 Not so much like the individual
- 2 Somewhat like the individual
- 3 Very much like the individual

2. Is preoccupied with specific stimuli that are abnormal in intensity.

- 0 Not at all like the individual
- 1 Not so much like the individual
- 2 Somewhat like the individual
- 3 Very much like the individual

3. Stares at hands, objects, or items in the environment for at least 5 seconds.

- 0 Not at all like the individual
- 1 Not so much like the individual
- 2 Somewhat like the individual

- 3 Very much like the individual
4. Flicks fingers rapidly in front of eyes for periods of 5 seconds or more.
- 0 Not at all like the individual
1 Not so much like the individual
2 Somewhat like the individual
3 Very much like the individual
5. Makes rapid lunging, darting movements when moving from place to place.
- 0 Not at all like the individual
1 Not so much like the individual
2 Somewhat like the individual
3 Very much like the individual
6. Flaps hands or fingers in front of face or at sides.
- 0 Not at all like the individual
1 Not so much like the individual
2 Somewhat like the individual
3 Very much like the individual
7. Makes high-pitched sounds (e.g., eee-eee-eee-eee) or other vocalization for self-stimulation.
- 0 Not at all like the individual
1 Not so much like the individual
2 Somewhat like the individual
3 Very much like the individual
8. Uses toys or objects inappropriately (e.g., spins cars, takes action toys apart).
- 0 Not at all like the individual
1 Not so much like the individual
2 Somewhat like the individual
3 Very much like the individual
9. Does certain things repetitively, ritualistically.
- 0 Not at all like the individual
1 Not so much like the individual

- 2 Somewhat like the individual
- 3 Very much like the individual

10. Engages in stereotyped behaviors when playing with toys or objects.

- 0 Not at all like the individual
- 1 Not so much like the individual
- 2 Somewhat like the individual
- 3 Very much like the individual

11. Repeats unintelligible sounds (babbling) over and over.

- 0 Not at all like the individual
- 1 Not so much like the individual
- 2 Somewhat like the individual
- 3 Very much like the individual

12. Shows unusual interest in sensory aspects of play materials, body parts or objects.

- 0 Not at all like the individual
- 1 Not so much like the individual
- 2 Somewhat like the individual
- 3 Very much like the individual

13. Displays ritualistic or compulsive behaviors.

- 0 Not at all like the individual
- 1 Not so much like the individual
- 2 Somewhat like the individual
- 3 Very much like the individual

Social Interaction Subscale

14. Does not initiate conversations with peers or others

- 0 Not at all like the individual
- 1 Not so much like the individual
- 2 Somewhat like the individual
- 3 Very much like the individual

15. Pays little or no attention to what peers are doing.

- 0 Not at all like the individual
- 1 Not so much like the individual
- 2 Somewhat like the individual
- 3 Very much like the individual

16. Fails to imitate other people in games or learning activities.

- 0 Not at all like the individual
- 1 Not so much like the individual
- 2 Somewhat like the individual
- 3 Very much like the individual

17. Doesn't follow other's gestures (cues) to look at something (e.g., when other person nods head, points, or uses other body language cues.)

- 0 Not at all like the individual
- 1 Not so much like the individual
- 2 Somewhat like the individual
- 3 Very much like the individual

18. Seems indifferent to other person's attention (doesn't try to get, maintain, or direct the other person's attention).

- 0 Not at all like the individual
- 1 Not so much like the individual
- 2 Somewhat like the individual
- 3 Very much like the individual

19. Show minimal expressed pleasure when interacting with others.

- 0 Not at all like the individual
- 1 Not so much like the individual
- 2 Somewhat like the individual
- 3 Very much like the individual

20. Displays little or no excitement in showing toys or objects to others.

- 0 Not at all like the individual
- 1 Not so much like the individual

- 2 Somewhat like the individual
- 3 Very much like the individual

21. Seems uninterested in pointing out things in the environment to others.

- 0 Not at all like the individual
- 1 Not so much like the individual
- 2 Somewhat like the individual
- 3 Very much like the individual

22. Seems unwilling or reluctant to get others to interact with him or her.

- 0 Not at all like the individual
- 1 Not so much like the individual
- 2 Somewhat like the individual
- 3 Very much like the individual

23. Shows minimal or no response when others attempt to interact with him or her.

- 0 Not at all like the individual
- 1 Not so much like the individual
- 2 Somewhat like the individual
- 3 Very much like the individual

24. Displays little or no reciprocal social communication (e.g., doesn't voluntarily say "bye-bye" in response to another person saying "bye-bye" to him or her).

- 0 Not at all like the individual
- 1 Not so much like the individual
- 2 Somewhat like the individual
- 3 Very much like the individual

25. Doesn't try to make friends with other people.

- 0 Not at all like the individual
- 1 Not so much like the individual
- 2 Somewhat like the individual
- 3 Very much like the individual

26. Fails to engage in creative, imaginative play.

- 0 Not at all like the individual
- 1 Not so much like the individual

- 2 Somewhat like the individual
- 3 Very much like the individual

27. Shows little or no interest in other people.

- 0 Not at all like the individual
- 1 Not so much like the individual
- 2 Somewhat like the individual
- 3 Very much like the individual

Social Communication Subscale

28. Responds inappropriately to humorous stimuli (e.g., doesn't laugh at jokes, cartoons, funny stories).

- 0 Not at all like the individual
- 1 Not so much like the individual
- 2 Somewhat like the individual
- 3 Very much like the individual

29. Has difficulty understanding jokes

- 0 Not at all like the individual
- 1 Not so much like the individual
- 2 Somewhat like the individual
- 3 Very much like the individual

30. Has difficulty understanding slang expressions.

- 0 Not at all like the individual
- 1 Not so much like the individual
- 2 Somewhat like the individual
- 3 Very much like the individual

31. Has difficulty identifying when someone is teasing.

- 0 Not at all like the individual
- 1 Not so much like the individual
- 2 Somewhat like the individual
- 3 Very much like the individual

32. Has difficulty understanding when he or she is being ridiculed.

- 0 Not at all like the individual

- 1 Not so much like the individual
2 Somewhat like the individual
3 Very much like the individual
33. Has difficulty understanding what causes people to dislike him or her.
- 0 Not at all like the individual
1 Not so much like the individual
2 Somewhat like the individual
3 Very much like the individual
34. Fails to predict probable consequences in social events.
- 0 Not at all like the individual
1 Not so much like the individual
2 Somewhat like the individual
3 Very much like the individual
35. Doesn't seem to understand that people have thoughts and feelings different from his or hers.
- 0 Not at all like the individual
1 Not so much like the individual
2 Somewhat like the individual
3 Very much like the individual
36. Doesn't seem to understand that the other person doesn't know something.
- 0 Not at all like the individual
1 Not so much like the individual
2 Somewhat like the individual
3 Very much like the individual

Emotional Responses Subscale

37. Needs an excessive amount of reassurance if things are changed or go wrong.
- 0 Not at all like the individual
1 Not so much like the individual
2 Somewhat like the individual
3 Very much like the individual
38. Becomes frustrated quickly when he or she cannot do something.
- 0 Not at all like the individual

- 1 Not so much like the individual
2 Somewhat like the individual
3 Very much like the individual
39. Temper tantrums when frustrated.
- 0 Not at all like the individual
1 Not so much like the individual
2 Somewhat like the individual
3 Very much like the individual
40. Becomes upset when routines are changed.
- 0 Not at all like the individual
1 Not so much like the individual
2 Somewhat like the individual
3 Very much like the individual
41. Responds negatively when given commands, requests, or directions.
- 0 Not at all like the individual
1 Not so much like the individual
2 Somewhat like the individual
3 Very much like the individual
42. Has extreme reactions (e.g., cries, screams, tantrums) in response to loud, unexpected noise.
- 0 Not at all like the individual
1 Not so much like the individual
2 Somewhat like the individual
3 Very much like the individual
43. Temper tantrums when doesn't get his or her way.
- 0 Not at all like the individual
1 Not so much like the individual
2 Somewhat like the individual
3 Very much like the individual
44. Temper tantrums when told to stop doing something he or she enjoys doing.
- 0 Not at all like the individual
1 Not so much like the individual

- 2 Somewhat like the individual
- 3 Very much like the individual

Is the individual mute?

_____ Yes _____ No

If your answer is Yes, do not complete the next two tests.

Cognitive Style Subscale

45. Uses exceptionally precise speech.

- 0 Not at all like the individual
- 1 Not so much like the individual
- 2 Somewhat like the individual
- 3 Very much like the individual

46. Attaches very concrete meanings to words.

- 0 Not at all like the individual
- 1 Not so much like the individual
- 2 Somewhat like the individual
- 3 Very much like the individual

47. Talks about a single subject excessively.

- 0 Not at all like the individual
- 1 Not so much like the individual
- 2 Somewhat like the individual
- 3 Very much like the individual

48. Displays superior knowledge or skill in specific subjects.

- 0 Not at all like the individual
- 1 Not so much like the individual
- 2 Somewhat like the individual
- 3 Very much like the individual

49. Displays excellent memory.

- 0 Not at all like the individual
- 1 Not so much like the individual
- 2 Somewhat like the individual

3 Very much like the individual

50. Shows an intense, obsessive interest in specific intellectual subjects.

0 Not at all like the individual
1 Not so much like the individual
2 Somewhat like the individual
3 Very much like the individual

51. Makes naïve remarks (unaware of reaction produced in others).

0 Not at all like the individual
1 Not so much like the individual
2 Somewhat like the individual
3 Very much like the individual

Maladaptive Speech Subscale

52. Repeats (echoes) words or phrases verbally or with signs.

0 Not at all like the individual
1 Not so much like the individual
2 Somewhat like the individual
3 Very much like the individual

53. Repeats words out of context (repeats words or phrases heard at an earlier time).

0 Not at all like the individual
1 Not so much like the individual
2 Somewhat like the individual
3 Very much like the individual

54. Speaks or signs with flat tone, affect.

0 Not at all like the individual
1 Not so much like the individual
2 Somewhat like the individual
3 Very much like the individual

55. Uses “yes” and “no” inappropriately. Says “yes” when asked if he or she wants and aversive stimulus or says “no” when asked if he or she wants a favorite toy or treat.

- 0 Not at all like the individual
- 1 Not so much like the individual
- 2 Somewhat like the individual
- 3 Very much like the individual

56. Uses “he” or “she” instead of “I” when referring to self.

- 0 Not at all like the individual
- 1 Not so much like the individual
- 2 Somewhat like the individual
- 3 Very much like the individual

57. Speech is abnormal in tone, volume, or rate.

- 0 Not at all like the individual
- 1 Not so much like the individual
- 2 Somewhat like the individual
- 3 Very much like the individual

58. Utters idiosyncratic words or phrases that have no meaning to others.

- 0 Not at all like the individual
- 1 Not so much like the individual
- 2 Somewhat like the individual
- 3 Very much like the individual

APPENDIX F

DEBRIEFING FORM

Thank you for participating in this study! I am interested in understanding the relationships between stress, marital satisfaction, and the impacts of raising a child with and without Autistic Disorder. Specifically, I am interested in seeing if the child's behavior is a predictor of parenting stress and marital satisfaction in parents of children with autism. Past research suggests that parents with children with behavior problems have affected stress levels and marital satisfaction. Furthermore, studies have found that parents of children with autism experience higher levels of stress and lower levels of marital satisfaction than parents raising a typically developing child. I predict that married individuals of children with autism will report higher levels of stress than married individuals of typically developing children. I also predict that married individuals of children with autism will report lower marital satisfaction than married individuals of typically developing children. In addition, I predict that the child's behavior will influence the relationship between marital satisfaction and parenting stress.

All the information collected in this study will be kept safe from inappropriate disclosure, and there will be no way of identifying your responses in the data archive. I am not interested in anyone's individual responses; rather, I want to look at the general patterns that emerge when all of the participants' responses are put together. I ask that you do not discuss the nature of the study with others who may later participate in it, as this could affect the validity of my research conclusions.

If you have any questions about the study or would like to learn about the results of the study, you may contact the researcher, Panhia Lo, at plo@csustan.edu or you may contact the faculty supervisor, Dr. Harold Stanislaw, at hstanislaw@csustan.edu. If you have questions about your rights as a research participant, you may contact the Campus Compliance Officer of CSU Stanislaus at IRBadmin@csustan.edu. If your participation in this study causes you any concerns, anxiety, or distress, please contact the Family Advocate Department at Stanislaus County Behavioral Health at (209) 568-9844. If you are outside the Stanislaus County area, please contact your local community counselor/therapist to make an appointment to discuss your concerns.

If you would like to learn more about this research topic, I suggest the following references:

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.

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: A Research Journal*, 2(2), 97-110.

APPENDIX G

RECRUITMENT FOR PARENT OF CHILDREN WITH AUTISM

Are you interested in participating in a research study about Parenting Stress, Marital Satisfaction, and Behavior Problems?

A Graduate Student at CSU Stanislaus is looking for participants!
Participants will be asked to answer survey questions about their experiences.

In order to participate in the research study, you must be:

- Over the age of 18
- Married
- Have a child diagnosed with Autism

Participants will be entered into a drawing for a chance to win a \$100 Gift Card!

**If you are interested in participating in the study,
you may contact Panhia Lo at plo@csustan.edu or
her Faculty Supervisor Harold Stanislaw at hstanislaw@csustan.edu.**

Thank you for your interest in the study!

(Date of IRB Approval of Flyer)

APPENDIX H

RECRUITMENT FOR PARENTS OF TYPICALLY DEVELOPING CHILDREN

Are you interested in participating in a research study about Parenting Stress, Marital Satisfaction, and Behavior Problems?

A Graduate student at CSU Stanislaus is looking for participants!
Participants will be asked to answer survey questions about their experiences.

In order to participate in the research study, you must be:

- Over the age of 18
- Married
- Have a child/children

Participants will be entered into a drawing for a chance to win a \$100 Gift Card!

If you are interested in participating in the study, you may contact Panhia Lo at plo@csustan.edu or her faculty supervisor Harold Stanislaw at hstanislaw@csustan.edu.

Thank you for your interest in the study!

(Date of IRB Approval of Flyer)

APPENDIX I

LETTER OF APPROVAL OF RECRUITMENT

Letter of Approval of Recruitment

I, _____, give permission to allow Panhia Lo
(Name of Director)

to recruit from _____.
(Name of Agency)

Signature _____ Date _____

(Date of IRB approval of letter)

APPENDIX J

LETTER OF INTENT OF RECRUITMENT

(Date)

(Name of Agency)

(Address)

(City, State, Zip)

Dear (Name of Program Director),

I am writing to let you know about an opportunity to participate in a research study about Autism. This study will be conducted by a Psychology Graduate Student, Panhia Lo as partial fulfillment for her Master's Degree in Psychology. The faculty supervisor is Dr. Harold Stanislaw, Professor of Psychology, Department of Psychology, California State University, Stanislaus.

The current study will compare marital satisfaction and parenting stress of married individuals of children with autism and married individuals of typically developing children. In addition, the study will examine the relationship between parenting stress, marital satisfaction, and the child's behavior. The study will involve completing surveys via paper and pen.

I am interested in recruiting married individuals from your agency for the current study. If you are interested in participating in this study and distributing information about this study, please contact the researcher for further information.

If you have questions or concerns about your participation in this study, you may contact the researcher at plo@csustan.edu or her faculty supervisor at hstanislaw@csustan.edu.

Thank you again for considering this research opportunity.

Sincerely,

Panhia Lo

(Date of IRB approval of letter)

APPENDIX K
INSTRUCTION FORM & GIFT CARD DRAWING

Dear Participant,

Before beginning the survey, I would like to take this opportunity to thank you for your participation in the study!

While completing the surveys, do your best to answer all the questions to your best ability and observation. Incomplete surveys will be omitted from the survey. If you and your spouse are both participating in this study, I ask that you do not discuss or compare your answers with each other, as this could affect the validity of my research conclusions.

Once you have completed all the surveys, please return the signed informed consent form and the completed surveys. Prepaid postage has been provided for your convenience. These documents are required to be returned:

- Informed consent
- Demographic Survey
- Parenting Stress Index, Fourth Edition, Short Form
- Gilliam Autism Rating Scale, Fourth Edition
- Kansas Marital Satisfaction Scale
- \$100 Visa Gift Card Drawing Form (optional)

Thank you for your participation in the study.

\$100 Visa Gift Card Drawing

If you would like to enter into the \$100 Visa Gift Card Drawing, please print your email address. The winner will be notified by the end of August through email. Please enclose the Gift Card Drawing form in the enclosed envelope labeled "Gift Card Drawing." Good luck!

Please cut here



I wish to enter the drawing.

(email address)