

PARENTAL FACTORS RELATED TO THE SUCCESSFUL EMPLOYMENT OF
ADULTS WITH AUTISM SPECTRUM DISORDER

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PARENTAL FACTORS RELATED TO THE SUCCESSFUL EMPLOYMENT OF
ADULTS WITH AUTISM SPECTRUM DISORDER

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ABSTRACT

PARENTAL FACTORS RELATED TO THE SUCCESSFUL EMPLOYMENT OF ADULTS WITH AUTISM SPECTRUM DISORDER

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This correlational study investigated the relationship between parental factors and the successful employment of adults, age 26 or older, diagnosed with Autism Spectrum Disorder (ASD) in the United States. An electronically distributed survey instrument was used to collect data regarding the parent's demographic, psychological, and behavioral factors. The results of point-biserial Pearson correlations found two moderate, positive correlations between the parent's positive expectations and both successful community employment without support and successful community employment in general. Recommendations include long-term training and support groups, opportunities to communicate with older parents and adults with ASD, and earlier connections to disability employment support agencies for parents of younger children with ASD.

Keywords: adults with ASD, employment, parent factors

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Chapter I

Introduction to the Study

The prevalence of Autism Spectrum Disorder (ASD) for children in the United States has more than doubled in the last fifteen years, rising 119.4% between 2000 and 2014 (Centers for Disease Control & Prevention [CDC], 2014). Based on this prevalence rate, today more than 3.5 million Americans live with ASD (CDC, 2014). In addition to the plethora of issues related to the care and education of children with ASD, research found that 35% of young adults with ASD had no job or postgraduate education after leaving high school (Shattuck et al., 2012). Just as concerning, these statistics are similar to those for all disabilities. The United States Department of Labor's Bureau of Labor Statistics (2016) reported that only 16.8% of individuals with disabilities were employed compared to 65% of individuals without disabilities. Despite these poor outcomes, Holwerda, Van der Klink, Groothoff, and Brouwer's (2012) review of ASD research found only one study focusing on employment as the primary outcome, the clear majority were descriptive in nature, and the number of participants were often very limited.

This chapter provides the background of the problem, the statement of the problem, the theoretical foundation, purpose of the study and research questions, the rationale and significance of the research, assumptions, limitations and delimitations, and definitions.

Background

To improve the employment outcomes of adults with ASD, a need exists to identify which specific parental factors influence their employment and, in the case of factors, which they can manipulate, what strategies parents can use to support their adult

child in their employment journey. Of the few studies that have been conducted on ASD and employment outcomes, most were conducted by a small group of related researchers from common institutions. For example, Carter, Austin, and Trainor's (2012) study represent one of the few that included parental factors, specific to ASD, as one of its studied dependent variables.

In terms of international studies, Kamio, Inada, and Koyama (2013) offered a unique perspective in that they looked at the quality of life and environmental factors in the South-East Asian culture of Japan. As one of the first studies that looked at longitudinal outcomes related to employment and individuals with ASD, Taylor and Mailick (2013) used long-term data to better understand the employability of adults as they age. Taylor, Henninger, and Mailick (2015) followed up their previous study with a deeper examination of the correlation between various demographic factors and the participation of adults with ASD in post-secondary education and employment. Lastly, Holwerda, Van der Klink, Groothoff, and Brouwer's (2012) literature review represented the first and most comprehensive systematic literature review to address the predictors for work participation in adults with ASD.

Problem Statement

Employment is a highly-desired outcome for students with disabilities after they complete their education (Levinson & Palmer, 2015). Like post-secondary education, this outcome is desired because it plays a significant role in developing a sense of self-efficacy and accomplishment, promoting psychological and physical well-being, enhancing overall quality of life, and providing the security of financial benefits to individuals with disabilities, including ASD (Levinson & Palmer, 2015). However,

getting and maintaining a job is more difficult for students and young adults with disabilities than those without disabilities (Hillier & Galizzi, 2014). Even more so for individuals diagnosed with ASD, as multiple studies noted that they were far less likely to be engaged in meaningful employment when compared to individuals with other disabilities including learning disabilities, speech impairments, Intellectual Disabilities (ID), and emotional disturbance (Chen, Sung, & Pi, 2015; Roux, Shattuck, Rast, Rava, & Anderson, 2015; Shattuck et al., 2012; Taylor & Seltzer, 2011).

Despite these concerning statistics, there has been very little research conducted on the predictive factors that may affect the employability of adults with ASD, particularly those related to individual's environment, such as parental factors. Through an extensive search of all accessible electronic databases and library holdings across four university systems, only twelve sources were located which even mentioned the parental factors related to an individual with ASD and their work participation (Blacher, Kraemer, & Howell, 2010; Carter, Austin, & Trainor, 2012; Chiang, Cheung, Li, & Tsai, 2013; Eaves & Ho, 2008; Holwerda, Van der Klink, Groothoff, & Brouwer, 2012; Kamio, Inada, Koyama, 2013; Kang, 2015; Krieger, Kinebanian, Proding, Heigl, 2012; McCabe & Wu, 2009; Smith, Greenberg, & Mailick, 2014; Taylor & Seltzer, 2011; Van Bourgondien, Dawkins, & Marcus, 2014). Of these twelve sources, most have a small sample size. In addition, all the studies which included behavioral factors used qualitative, interview data and many were conducted in other parts of the world which may have different job availability and provision of adult services (Holwerda et al., 2012; Kamio et al., 2013; Kang, 2015; Krieger et al., 2012; McCabe & Wu, 2009). The lack of large and diverse studies in this field of study continue to echo the need for more research

to better understand the relationship between parental factors and the employment of adults with ASD.

Finally, according to Roux, Shattuck, Rast, Rava, and Anderson (2015), the nationally representative data set (National Longitudinal Transition Study 2, 2003) used in much of the large scale and longitudinal ASD research in the United States is limited to only young adults, ages 13 to 25, receiving Special Education services, who were eligible under a primary diagnosis of ASD. They believed that this requirement excluded milder forms of the disability since many higher-functioning individuals with ASD were not served in Special Education. Given the age and classification limitations of the NLTS-2 study, they argue that our current knowledge base regarding the employment outcomes of older adults with ASD, especially those that are considered higher-functioning, virtually ends at the age of twenty-five (Roux et al., 2015).

Theoretical Foundation

This study uses the ecological system theory, developed by Bronfenbrenner (1979), to better understand how environmental factors related to their parents influence the successful employment outcomes of adults with ASD. Ecological system theory emphasizes that a system with multiple environments surround an individual and therefore cause reciprocal interactions between humans and the environment (Bronfenbrenner, 2005). According to Bronfenbrenner (1979), there are five different types of systems within ecological system theory: chronosystem, exosystem, mesosystem, microsystem, and macrosystem.

This study focuses on the micro- and meso- systems. The microsystem refers to the direct environment in which we live our lives, including our family, friends, and

anyone else whom we have direct contact with (Bronfenbrenner, 1979). At this level, we are not just passively experiencing social interaction, but we are instead contributing to the actual construction of this environment (Bronfenbrenner, 2005). The next level, the mesosystem, refers to the relationships between our microsystems, such as the interaction between our school experiences and our family experiences (Bronfenbrenner, 1979). However, regardless of the system's position, each can have a direct or indirect impact on the development of an individual at some level (Bronfenbrenner, 2005). This further supports the possibility that, through the parent's interaction with their child in the microsystem and the resulting mesosystem interaction between family and work experiences, a change can occur which influences the employment outcomes of an adult with ASD.

Components of each system are also connected to parental expectations and beliefs. Olsen, Roese, & Zanna (1996) describe the concept of expectancy as "forming the basis for virtually all behavior...since expectancies represent the mechanism through which past experiences and knowledge are used to predict the future." (p. 211). This connects to the research by stating that parents play an important role in helping their children with disabilities make career plans and decisions (Carter et al., 2012).

Statement of the Purpose and Research Question

The purpose of this study was to investigate the relationship between parental factors and the successful employment of adults, age 26 or older, diagnosed with Autism Spectrum Disorder (ASD) in the United States. It was guided by the following questions:

1. What is the relationship between parental demographic factors and the successful employment of adults diagnosed with Autism Spectrum Disorder (ASD)?
2. What is the relationship between parental psychological factors and the successful employment of adults diagnosed with Autism Spectrum Disorder (ASD)?
3. What is the relationship between parental behavioral factors and the successful employment of adults diagnosed with Autism Spectrum Disorder (ASD)?

Rationale and Significance of the Study

Many scholars have examined the general factors, including student, parent, and school characteristics, which may influence the employment outcomes for students with disabilities (Carter et al., 2012; Taylor, Henninger, & Mailick, 2015; Roux et al., 2015). Specifically, Taylor et al. (2015) suggested that more studies are needed which include the effects of individual characteristics and social/contextual factors on the employment of adults with ASD. According to Kang (2015), the strongest predictors of employment outcomes for students with disabilities are ethnicity and gender. However, in addition to student characteristics, there is evidence that parent characteristics, such as socioeconomic status, household income, and parental education also have a strong influence on the post-school outcomes of students with disabilities (Chiang et al., 2013). Specifically, Chiang et al. (2013) found that students from low-income families with ASD were less likely to be employed than those from medium and high-income families.

Since parents play important roles for their children at a young age, such as mediators and decision makers, there is a need to explore and better understand the relationship between parental factors and the acquisition and maintenance of employment adults with ASD. In addition, more precise data would allow professionals to provide higher quality, research-based training materials, strategies, and support groups for parents with the goal of developing their own competencies to allow them to better assist their child in obtaining and maintaining employment. Lastly this research can help identify specific behaviors and communication styles parents can use to increase the likelihood their child with ASD will maintain employment throughout the life span, including when their parents are no longer able to support them due to age, health, or financial limitations.

Assumptions

According to Creswell (2012), assumptions are issues that are taken for granted in a study. This study included the following assumptions:

- The participants were given sufficient time to understand and answer each question in the survey.
- The research questions developed were effective at gauging the demographic, psychological, and behavioral factors which influenced the successful employment outcome of adults with ASD.
- The participants answered the survey questions honestly and openly.
- The participants had current knowledge of their adult child's employment situation.

- The participant's adult child was 26 years or older and diagnosed with ASD on or before the date and time of the interview.

Limitations and Delimitations

Creswell (2012) defined limitations as potential weaknesses or problems in the study that the researcher cannot control. This study included the following limitations:

- The participants all stated that their adult child was 26 years of age or older and diagnosed with Autism Spectrum Disorder (ASD) at the time of survey administration, however the study did not require proof of age from the individual or written documentation of their diagnosis from a licensed professional.
- The study was limited by the perspective, knowledge, and perception of the participants and their willingness to share those with the researcher.
- The generalizability of the findings is limited because the sample was non-random and obtained through the personal and professional contacts of the researcher from educational, non-profit, vocational, state, and national organizations. This may also have caused sampling bias as some parents were not given the opportunity to participate in the study if they were not connected to one of these organizations.

Delimitations, as defined by Creswell (2012), are factors which may affect the study, but are controlled by the researcher. This study included the following delimitations:

- The participants must be a parent of an adult, age 26 or older, diagnosed with an Autism Spectrum Disorder (ASD) by a licensed professional.

- The participants must have current knowledge of their adult child's employment situation.

Definitions

Operational definitions for this study are provided below:

- *Autism Spectrum Disorders (ASD)* - a developmental disability characterized by persistent deficits in social communication and interaction, as well as restricted and repetitive patterns of behavior. These deficits must cause a clinically significant impairment in important areas of functioning, be present in the early developmental period, and must not be better explained by Intellectual Disability (ID). Although previous editions of the DSM divided Autism into five specific disorders, the current edition specifies three levels of severity based upon the level of support needed by the individual (APA, 2013).
- *Successful Employment Outcome* - is when an individual engages in part-time or full-time paid work, at or above the state minimum wage, and in an integrated, self-employment, or Business Enterprise Program (BEP) setting (Rehabilitation Service Administration, 2008, p.31).
- *Environmental Factors* - refer to the physical, social, and attitudinal context in which people live (WHO, 2003).

Summary and Organization of the Study

In Chapter I, the study was introduced. In Chapter II, the literature reviewed is divided into three sections. The first section includes general information on the employment of individuals with disabilities, including the definition, prevalence, and

outcomes. The second section describes Autism Spectrum Disorder (ASD), specifically the diagnostic criteria, characteristics, prevalence rates, and outcomes. Finally, the third section presents the literature related to various environmental factors, specifically the demographic, psychological, and behavioral factors, which affect adults with ASD. In Chapter III, the researcher outlines the methodology of the study. In Chapter IV, the researcher presents an analysis of the findings. In Chapter V, the summary, conclusions, implications, and recommendations for future research are provided.

Chapter II

Review of the Literature

The purpose of this study was to investigate the relationship between parental factors and the successful employment of adults, age 26 or older, diagnosed with Autism Spectrum Disorder (ASD) in the United States. This chapter provides an overview of the research related to employment of individuals with disabilities, with a specific emphasis on the research related to individuals diagnosed with Autism Spectrum Disorders (ASD). The chapter concludes with a brief summary.

Employment of Individuals with Disabilities

The Americans with Disabilities Act (1990), considered to be the definitive cornerstone of disability legislation in the United States, defines a person with a disability using three key criteria: (1) the presence of a physical or mental impairment, (2) substantial limitation of one or more major life activities, and (3) a record of an impairment or perception by others as having an impairment. Due to the difficulty with ensuring new and modified diagnoses are covered, the Americans with Disabilities Act (1990) does not define or require protection for specific categories of physical or mental impairments. Instead it relies on broader definitions and the limitations and records of an impairment regardless of the type of description (Americans with Disabilities Act, 1990).

The Individuals with Disabilities Education Act (2004) lists 13 different impairments with which a student between the ages of 3 to 21 years old could qualify for Special Education services because of being considered disabled. They include ASD, Deaf-Blindness, Deafness, Emotional Disturbance, Hearing Impairment, Visual Impairment, Intellectual Disability (ID), Multiple Disabilities, Orthopedic Impairment,

Other Health Impairment, Specific Learning Disability, Speech/Language Impairment, or Traumatic Brain Injury. In addition to being diagnosed with at least one of the 13 impairments, a student must also demonstrate an *educational need*, which is explained as the student's need to receive Special Education services to access enable access to the general education curriculum (Individuals with Disabilities Education Act, 2004).

Because adults with disabilities are not classified under the Individuals with Disabilities Education Act (2004), and the Americans with Disabilities Act (1990) does not list specific categories, government agencies, such as the Department of Labor, generally report the number of people with disabilities based upon self-identification data from employers and federal and state agencies such as the Social Security Administration and the Department of Health and Human Services.

The Rehabilitation Services Administration (RSA, 2008) defines a successful employment outcome for an adult with a disability as an individual who is engaging in part-time or full-time paid work, at or above the state minimum wage, and in an integrated, self-employment or Business Enterprise Program (BEP) setting. According to the United States Department of Labor's Bureau of Labor Statistics (DOL-BLS, 2016), the workforce participation rate or the number of people with disabilities who were employed or actively looking for employment was 19.86%, compared to 68.8% of individuals without disabilities. Because this percentage only included individuals who were actively searching or already working, it showed the vast disparity in that people with disabilities were participating at less than one-third the rate of those without disabilities (DOL-BLS, 2016).

Physical disabilities. Although a physical disability is not specifically defined by any piece of legislation, including the Individuals with Disabilities Education Act of 2004, it can be regarded as any impairment which affects an individual's ability to physically function such as a Hearing Impairment, Visual Impairment, or Orthopedic Impairment. Pack and Szirony (2009) conducted a series of logistic regression analyses measured against national rehabilitation data to specifically examine the predictor of competitive employment for people with physical disabilities. They found that the provision of job placement services to people with physical disabilities resulted in a 380% increase in their likelihood of obtaining competitive employment (Pack & Szirony, 2009). In addition, the provision of on-the-job support services and a college education were found to increase the chances of obtaining competitive employment by 232% and 215%, respectively (Pack & Szirony, 2009). Other areas identified by Pack and Szirony (2009) as predictive of successful competitive employment outcomes were maintenance payments, vocational training, rehabilitation technology, job search assistance, vocational rehabilitation (VR) counseling, disability, condition treatment, and the level of severity of their disability. Although physical and developmental disabilities are different in terms of characteristics it does appear that common employment interventions are equally effective for both.

Developmental disabilities. The term *developmental disability* is used as a broad term to describe many distinct disabilities with common characteristics, including Autism Spectrum Disorder (ASD), Intellectual Disability (ID), Cerebral Palsy (CP), Epilepsy, and Traumatic Brain Injury (TBI) (Odom, Horner, Snell, & Blacher, 2007). To be diagnosed with a developmental disability, an individual must have substantial

limitations in three or more activities of life, such as learning, language, capacity for self-sufficiency, and/or mobility and such limitations must have been present in early childhood or infancy (Odom et al., 2007). Investigations into the causes of developmental disability have primarily focused on chromosomal abnormalities and biological conditions, such as problems before, during, or after pregnancy and/or environmental toxins (Harvey & Kennedy, 2002).

For individuals with a developmental disability such as ID, the likelihood of achieving a meaningful employment opportunity after high school is much lower (Carter, Austin, & Trainor, 2011). Odom et al. (2007) suggested that this might be due, at least in part, to their significant limitations in areas such as communication, mobility, and self-care. The result of these deficiencies may also explain why most individuals with ID continue to work in non-competitive employment settings such as sheltered workshops or sub-minimum wage enclaves (Taylor & Seltzer, 2011).

Similarly, the employment outcomes for adults with ASD, across several different studies, have generally been poor at best (Carter et al., 2012; Holwerda et al., 2012; Roux et al., 2015; Shattuck et al., 2012; Taylor & Seltzer, 2011). Taylor and Seltzer (2011) found that only 18% of adults with ASD were employed, regardless of whether in competitive or supportive type jobs. Using data from the NLTS-2 sample, Shattuck et al. (2012) and Roux et al. (2015) discovered that young adults with ASD had the lowest employment participation rates of all disability categories and those who were employed tended to work at low-paying, part-time jobs. In his examination of national vocational rehabilitation data of 11,569 individuals diagnosed with ASD, Cimera and Cowan (2009) found that even though they were generally employed at the same or better rates as those

with other disabilities, they tended to earn less wages and work far fewer hours. They also found that throughout all the categories examined, individuals with ASD were the costliest to serve in the VR system (Cimera & Cowan, 2009).

Autism Spectrum Disorder (ASD)

Lyons and Fitzgerald (2007) describe Leo Kanner (1894-1981) and Hans Asperger (1906-1981) as pioneers in the field of ASD. Whereas Kanner was the first medical professional to describe Autism Spectrum Disorder (ASD) (1943), Asperger discovered and described a higher functioning variation of the disorder, which would eventually be named after him 50 years later (Lyons & Fitzgerald, 2007). Despite these early publications, ASD was not included in the American Psychiatric Association's (APA) *Diagnostic and Statistical Manual of Mental Disorders* (DSM) until 1980 when it published its third version. At the time, the disorder was classified as "infantile autism" and, despite the earlier confusion, it was stated that it was not related to childhood schizophrenia (APA, 1980). When the revised, fourth edition of the DSM was published in 1994, ASD was reclassified as a broad category of pervasive developmental disorders (PDD) (APA, 1994). This broad classification included Autistic disorder, Asperger's disorder, Pervasive Developmental Not Otherwise Specified (PDD-NOS), Childhood Disintegrative Disorder, and Rett's Syndrome (APA, 1994).

In 2013, the American Psychiatric Association released the fifth edition of the DSM and consolidated all the previous classifications into a single disorder called Autism Spectrum Disorder (ASD) (APA, 2013). However, to account for the wide range of functioning, they specified three levels of severity based upon the level of support needed by the individual (APA, 2013). Given this recent revision, it should also be noted that

some studies, such as Carter et al. (2012), did specify the specific Autism Spectrum Disorder (ASD) or functioning level of the individuals included in the study and, in at least one study, also included individuals diagnosed with severe disabilities. Per the DSM-5 (2013), Autism Spectrum Disorder (ASD) is characterized by persistent deficits in social communication and interaction, as well as restricted and repetitive patterns of behavior. These deficits must cause a clinically significant impairment in important areas of functioning, be present in the early developmental period, and must not be better explained by an Intellectual Disability (ID) (APA, 2013).

Per the most recent calculations by the Centers for Disease Control and Prevention (CDC, 2014), 1 in every 68 individuals were identified as having an ASD, which was a 150% increase in the prevalence of ASD since 2000 when it was 1 in 150. Also, they found the diagnosis was more common among males than females, and it did not appear to be affected by factors such as race, ethnicity, country of origin, and/or socioeconomic status (CDC, 2014). Additional uncertainty exists as to whether the increase is due to increased awareness and access to appropriate services and evaluation or if it is an actual rise in the prevalence of the disorder (CDC, 2014; Kirby, 2015). Kirby (2015) asserts that it may be a combination of factors, including genetics and environmental conditions, based on the available evidence. From the perspective of Special Education eligibility, Shattuck (2006) studied the rates of ASD and found that, while the number of students qualifying as having ASD grew, the number of students qualifying under learning disability or mental retardation decreased proportionally. This suggests that the rise, at least in the educational system, may be due to more accurate

assessment or more training on the part of diagnosticians to better differentiate between ASD and other disorders with similar characteristics (Shattuck, 2006).

The factors that affect individuals with ASD are varied and include domains such as intellectual functioning, social functioning, daily living skills, and comorbid psychiatric symptoms (Eaves & Ho, 2008; Esbensen, Bishop, Seltzer, Greenberg, & Taylor, 2010). Regarding intellectual functioning, Eaves and Ho (2008) found that individuals with ASD who also had less intellectual ability exhibited lower social functioning and independence than individuals with ASD who had higher intellectual ability. In addition, Taylor and Seltzer (2011) found that adults with ASD who did not have ID were three times more likely to be competitively employed when compared to adults with ASD and ID. However, the opposite was found regarding social activity, as individuals without an ID were much less likely to participate in community activities during the day compared to adults with ASD and ID (Taylor & Seltzer, 2011). When the severity of symptoms was considered, researchers found that individuals with higher levels of ASD exhibited lower levels of independence, an outcome that was exacerbated by the existence of comorbid psychiatric symptoms (Eaves & Ho, 2008; Esbensen et al., 2010).

Factors Affecting Employment of Individuals with ASD

Individual factors. Individual factors, such as age, IQ, level of impairment, communication skill, gender, and race, have been thoroughly examined to better understand how they may be influencing the employment outcomes for adults with ASD (Roux et al., 2015; Taylor & Seltzer, 2011; Wei, Wagner, Hudson, & Shattuck, 2015). Roux et al. (2015) examination of national outcome data from the NLTS-2 study, found

that age, conversation ability, and race were significantly related to work experiences. As individuals aged after high school, their likelihood of employment increased greatly (Roux et al., 2015). In addition, those with greater conversation ability tended to be employed at much higher rates than those with a lot of trouble or the inability to converse (Roux et al., 2015). Lastly, an individual's race appeared to be positively correlated to their likelihood of employment during their early 20s, as White young adults were much more likely to have had a job than those who were classified as Hispanic or Black (Roux et al., 2015).

Taylor and Seltzer (2011), in their study of 66 adults with ASD, discovered a surprising connection between IQ and daytime activity, such as employment. Despite the widely held societal belief regarding superior IQ and adult success, Taylor and Seltzer (2011) found that adults without ID were three times more likely to have no daytime activities, such as employment, when compared to adults diagnosed with an ID.

Using a life course sequence analysis, Wei et al. (2015) found that, like Roux et al. (2015), individuals with little to no trouble conversing and higher cognitive skills were more likely to be employed than those with communication deficits and below average IQ. In addition, individuals who were male and classified by race as White were more likely to have been continuously engaged in post-secondary employment (Wei et al., 2015).

Environmental factors. *Environmental factors*, as defined by the World Health Organization (2003), refer to the “physical, social, and attitudinal contexts in which people live and conduct their lives” (p. 7). In the context of International Classification of Functioning, Disability, and Health (ICF) Checklist, the World Health Organization

(2003) includes environmental factors to better understand how they may serve as a barrier or facilitator to a person's daily function. Environmental factors were studied in a similar way to explore possible connections between the successful employment outcomes of adults with ASD and two specific types of environmental factors: socioeconomic and attitudinal/behavioral.

Socioeconomics. Of the various types of socioeconomic conditions, household income, receipt of benefits, parent education, and parent employment have received the most attention in the literature regarding ASD and employment. The impact of household income on the work participation of adults with ASD has been frequently studied in recent years (Chiang et al., 2013; Sima, Wehman, Chan, West, & Leucking, 2015; Roux et al., 2015). However, there was little agreement between studies on whether household income could be considered predictive of work participation (Carter et al., 2012; Taylor & Mailick, 2013). Through a secondary analysis of the National Longitudinal Transition Study-2 (NLTS-2), a national post-secondary sample of students with disabilities, Chiang et al. (2013) found that students exiting from high school in high-income households were more likely to obtain employment than those from low-income households. Similarly, Sima et al. (2015) found that a significant, positive relationship existed between household income and the competitive employment rate of adults with ASD. Furthermore, Sima et al. (2015) found that adults with disabilities who resided in a household with an income greater than \$50,000 had an employment rate of 42.3% compared to 35.3% for families whose income was below \$25,000 (Sima et al., 2015). Roux et al. (2015) also found that higher parent income did positively correlate with the likelihood of employment for adults with ASD.

Conversely, Carter et al. (2012) found that socioeconomic factors in general, including parent income, were not associated with a successful employment outcome for young adults with severe disabilities, including ASD. In agreement with Carter et al. (2012), Taylor and Mailick (2013), in their 10-year longitudinal study of ASD and adult outcomes conducted a year later, concluded that income was not associated with successful competitive employment outcomes. While this data does provide interesting insight into one of the most commonly addressed variables in social science research, the inconsistency between studies demonstrates the need for further study and specific investigation.

Another factor related to income is government entitlement programs that supplement the income of eligible individuals, depending on need and severity of disability. Kang (2015) found that Supplemental Security Income (SSI) and Supplemental Security Disability Income (SSDI) benefits, paid by the Social Security Administration (SSA) to eligible individuals, were significantly associated with parents' employment expectations. Interestingly, this suggests that the parents of individuals with ASD who receive these benefits have higher career and educational expectations. Sima et al. (2015) also studied the relationship between the receipt of entitlement benefits and competitive employment and found that it had a strong, significant relationship to competitive employment. They also found that adults with disabilities whose families did not receive benefits had an employment rate of 41.1% compared to 34.1% for families who did receive benefits (Sima et al., 2015). It should be noted that, while this study did not focus solely on adults with ASD, a large portion of the 2,900 adults selected for this study were individuals with ASD.

With the implied connection between a parent's level of education and their child's work participation success, attention has been paid to how it may affect a child's career choice and chance of employment success. A further review of NLTS-2 data by Chiang et al. (2013) revealed that individuals with parents who obtained a bachelor's degree or higher were much more likely to participate in paid employment. In addition, Sima et al. (2015) found that household education level had a significant relationship with the rate of competitive employment of adults with disabilities. Specifically, adults with disabilities who had at least 1 parent with a college degree were competitively employed at a rate of 43.5%, compared to 38.4% if both parents had a high school diploma or GED only (Sima et al., 2015).

A recent study conducted by Taylor et al. (2015) also found a statistically significant relationship between parental education and employment and post-secondary education stability. Their findings noted that every adult with ASD in the study who was consistently engaged in employment and post-secondary education had at least 1 parent with some college education (Taylor et al., 2015). In contrast to the previous studies, Carter et al. (2012) did not find any association between parental education and the employment of adults with ASD and other severe disabilities. Although these studies examined the same data set within a relatively close period, the slight differentiation in the disability type studied may be a reason for the disagreement between this study and the others presented before it. Overall, this factor seems to represent one of the strongest relationships between the employment of adults with ASD and their parent's socio-economic conditions.

Parental attitudes and behaviors. Although several studies have explored broad attitudinal factors, they have tended to focus on the parent's specific expectation toward their child's future ability to work. For example, in a study of 99 parents in a Midwestern state, Kang (2015) found that 84.9% of parents expected their child would be employed in a community-based paid job after high school and, when compared to their actual employment outcome, found that parent expectations were a significant predictor of employment success. In a separate study and analysis of NLTS-2 data, Kirby (2015) found that parent expectations were the only variable with a significant direct relationship to a successful employment outcome for an adult with ASD.

As part of their secondary analysis of NLTS-2 data, Carter et al. (2012) included parent expectations of both self-support and work participation. Each showed a very strong correlation between parent expectations and the child's work participation and independence outcomes. In example, a parent's job expectations for their child were associated with a five-fold increase in the chances of work participation after high school (Carter et al., 2012). In fact, parent expectations were found to be one of the only two factors that Carter et al. (2012) could correlate an increase in work participation outcomes. Doren, Gau, and Lindstrom (2012) analyzed the data further, in a different age range, to address academic achievement, work outcome, and post-secondary education and the analysis revealed that higher parental expectations were related to an increased likelihood of a student achieving a diploma, being gainfully employed, and continuing postsecondary education after finishing high school (Doren et al., 2012).

In their intensive, qualitative study of Swiss adults with ASD, Krieger et al. (2012) received several responses from participants that described their parents as

enabling. Additional findings identified the need for acceptance from their parents of their disability and a desire for them to focus on the positive traits of their disability, instead of the negative associations (Krieger et al., 2012). Although this sample size was small, its findings coincide with the commonly held belief that most individuals with disabilities desire universal acceptance from their families, friends, and coworkers. Although the context of these studies has varied, they all point to a possible connection between a parent's attitude and the successful employment of adults with ASD.

A parent's behavior may also be a significant factor in the work participation of adults with ASD. The three behavioral factors discussed in this section relate to current parent behavior, overall parenting style, and the various support roles that a parent may assume when raising a child with ASD. Smith et al. (2014) studied the bi-directional relationship between a parent's behavior and the behavior of individuals with ASD and discovered a direct connection between reduced levels of parental criticism and increasing warmth and the decrease of severe behavior problems in adults with ASD (Smith et al., 2014).

Using a qualitative interview method, Krieger et al. (2012), asked adults with ASD to offer insights into the choices their parents made which helped them. The primary comment made to the researcher was the continued need for their parent to give them space and time to themselves as adults (Krieger et al., 2012). Van Bourgondien et al. (2014) describes this as the difference between a supportive parent and a smothering parent. With a smothering style, a parent tends to make more decisions for their child, rather than allowing their child to make their own choices. Conversely, a parent using a supportive style will provide advice and guidance to their son or daughter to empower

them to make choices (Van Bourgondien et al., 2014). By promoting self-advocacy and personal empowerment, this style of parenting may have a positive long term effect on the employment outcome of an adult with ASD.

In addition to parenting style, parents assume many support roles throughout the life of an individual with ASD, and those various roles may influence their ability to successfully participate in work. Van Bourgondien et al. (2014) discussed two support roles that parents play in the lives of adults with disabilities the first, is the role of an advocate for their needed services and support. Hume, Boyd, Hamm, and Kucharczyk (2014) further discuss how the typical challenges associated with ASD, such as a lack of organizational skills, can adversely impact the ability and motivation of a student with ASD to become autonomous, therefore causing their parents to become overly supportive and inadvertently discouraging to their child's decision making or self-advocacy ability. Though adults with disabilities are expected to be their own self-advocates, their parents frequently play a role in training this ability, and it is ideal for a parent to slowly, but systematically, transfer that control from themselves to their children as part of such training to encourage their own self-advocacy in the workplace.

A second role parents play is that of the social life planner (Van Bourgondien et al., 2014). This role, although not ideal, is designed to help the child with ASD develop a social life they can sustain throughout adulthood. The challenge with this role is that it may not be age-appropriate, and it also might not help the student develop their own social competencies for work participation. McCabe and Wu (2009), through their case study of a young adult with ASD in China, identified the possible parental role of a job coach. The authors explain that, although such a role in the United States would be odd,

China lacks a central vocational rehabilitation program, and as such, parents are often the ones responsible for helping their son or daughter obtain and maintain employment (McCabe & Wu, 2009). Krieger et al. (2012) pointed out that parents played a central role as a provider of opportunities for experience with daily living skills, such as hygiene, household chores, and cooking.

Specific research on the role of parental advocacy found it to be strongly related to the successful employment for adults with ASD later in life (Dudley, Nicholas, & Zwicker, 2015). The challenge, according to Dudley et al. (2015), was that not all families have the necessary expectations, capabilities, or resilience to advocate for their adult child's employment success. As such, it was suggested that future research focus on the role of advocacy by identifying effective strategies used by parents of successfully employed adults with ASD (Kirby, 2015; Taylor, Henninger, & Mailick, 2015; Taylor, Smith, & Mailick, 2014).

ASD Employment Interventions

Most literature related to the best practices for improving the employment of adults diagnosed with ASD have focused on both pre-hiring employment strategies and post-hiring interventions. *Supported employment*, according to the United States Developmental Disabilities Act of 1984, is an intervention for a person with a developmental disability for whom competitive employment at or above the minimum wage is unlikely and who, due to this, require intensive ongoing support to function in a work environment. As the most recognized and widely implemented intervention, state vocational rehabilitation agencies generally provide it, and has been specifically

evaluated for its effectiveness in promoting the positive work outcome of adults with ASD (Dudley, Nicholas, & Zwicker, 2015).

According to a study by Hillier et al. (2007), services found to be most effective in assisting individuals with ASD in finding gainful employment were job matching, job searching, job identification, and interview and resume preparation led to significantly increased levels of employment for individuals with ASD. Likewise, Wehman et al. (2012) found that that the development of a job profile/resume, job search assistance, and interview preparation were important for gainful employment. By the conclusion of their study, 81.8% ($n=27$) of their participants had attained competitive employment after receiving such interventions; a rate much higher than average.

Once employed, other interventions were found to be vital in helping ASD employees be successful in their job. According to Taylor et al. (2012), only a small number of studies have been conducted on on-the-job (OTJ) supports, and all of them were considered poor quality. However, despite the small number of studies, three out of the five reviewed by Taylor et al. (2012) found that on-the-job supports and interventions were successful in increasing the employment rates for the adults with ASD.

Accommodations such as modifying job tasks (Giarelli, Ruttenberg, & Segal, 2013; Hagner & Cooney, 2005), as well as providing on-the-job training and coaching (Hillier et al., 2007; Wehman et al., 2012), appropriate communication and environment adjustments (Hagner & Cooney, 2005; Hillier et al., 2007), and assistance with social interaction by an on-site mentor (Giarelli et al., 2013; Hagner & Cooney, 2005) were found to be the most effective in successful employment. Furthermore, Bolman (2008) recommended that employers provide specific ASD Awareness training to their

employees designed to foster tolerance and understanding about adults with ASD and their behavior. Hillier et al. (2007) suggested employers provide specific information to supervisors and co-workers with regards to social accommodations and ways to maximize the integration of the individual with ASD into the workplace. To make informed decisions about which accommodations to make, they suggested the use of assessments to evaluate variables such as noise level, interruptions, crowding, lighting, and special navigation.

Summary

In Chapter II, the researcher reviewed general information on Developmental Disabilities, the employment of individuals with disabilities, and the literature related to various environmental factors such as the socioeconomic and attitudinal/behavioral factors that may influence the successful employment of adults with ASD. In Chapter III, the researcher outlines the methodology of the study. In Chapter IV, the researcher presents an analysis of the findings. In Chapter V, the summary, conclusions, implications, and recommendations for future research are provided.

Chapter III

Methodology

The purpose of this study was to investigate the relationship between parental factors and the successful employment of adults, age 26 or older, diagnosed with Autism Spectrum Disorder (ASD) in the United States. This chapter describes the methodology of the study, including the purpose, research questions, research design, sample, instrumentation, data collection, data analysis, and summary.

Purpose Statement and Research Questions

The purpose of this study was to investigate the relationship between parental factors and the successful employment of adults, age 26 or older, diagnosed with Autism Spectrum Disorder (ASD) in the United States. It was guided by the following questions:

1. What is the relationship between parental demographic factors and the successful employment of adults diagnosed with Autism Spectrum Disorder (ASD)?
2. What is the relationship between parental psychological factors and the successful employment of adults diagnosed with Autism Spectrum Disorder (ASD)?
3. What is the relationship between parental behavioral factors and the successful employment of adults diagnosed with Autism Spectrum Disorder (ASD)?

Research Design

This correlational study investigated the relationship between parental factors and the successful employment of adults, age 26 and older, diagnosed with an Autism

Spectrum Disorder (ASD) in the United States. This research design was selected because the researcher wanted to describe and measure the degree of association between two or more variables (Creswell, 2012). In this design, the researcher does not attempt to control or manipulate the variables, but instead, they relate two or more scores for each person using the correlation statistic (Creswell, 2012).

The researcher studied three different types of independent variables, specifically, the demographic, behavioral, and psychological factors of a parent with an adult child diagnosed with ASD. To verify the adult child's age and avoid the likelihood of any bias due to confounding variables, the researcher included the demographic information of the adult child with ASD including age, gender, receipt of Social Security benefits, and severity of disability. The parent's demographic factors included the variables of age, gender, ethnicity, marital status, occupation, education, and household income measured on continuous scales. In addition to demographic variables, this study included psychological factors related to a parent's expectations for their adult child's future employment related milestones. Finally, the behavioral parent factors included positive behavior questions, based on research, designed to measure a parent's helpfulness.

The dependent variable, successful employment, was measured, using a parent's report, on a modified version of Taylor and Seltzer's (2012) Vocational Index, which originally ranked the employment and post-secondary education status of individuals with ASD on a scale from 1 to 9, where 1 is no vocational/educational activities and 9 is full employment or post-secondary education in the community for greater 10/hr week.

Two modifications, with permission from the authors (Taylor & Seltzer, 2012), were made to the scale to better fit the design of this study. The first modification made

was the deletion of language related to post-secondary education since it is not included in the variables of this study. The second modification was the renumbering of the scale to better facilitate data analysis. The result was a modified index consisting of 11 categories coded on an 11-point scale, with a range from 1 (meaning post-secondary employment in the community, without supports, at greater than 10 hr/week) to 11 (meaning no vocational activities). The measures in between 1 and 11 represent varying levels of employment or vocational participation based upon number of hours per week, level of support provided, and the setting. Dummy coding participant responses created three different measures of successful employment. The first variable, *Successful Employment with Support*, was created by coding the response options of “employment in the community with supports-greater than 10 hours” and “employment in the community with supports-less than 10 hours” with “1” and all other others “0.” The second variable, *Successful Employment without Support*, was created by coding the response options of “employment in the community without supports-greater than 10 hours” and “employment in the community without supports-less than 10 hours” with “1” and all other others “0.” The third variable, *Successful Employment*, was created by coding all options indicating employment with “1” and all others were coded “0.”

Sample

A purposeful, convenience sample of parents of adult children ($n=92$) diagnosed with Autism Spectrum Disorder (ASD) in the United States was recruited by sending out the invitation letter to various ASD-related organizations across the country, including: Autism Society, Autism Speaks, National Autism Association, Autism Research Initiative, Texas Tech University’s Burkhart Center for Autism Education and Research,

Autism Support Network, Autism Community Network, Families for Effective Autism Treatment, Autism Treatment Center, Positively Autism, and other local groups and organizations. The researcher received confirmation of survey distribution by those organizations in 47 of the 50 states, including Hawaii and Alaska. To be selected for this sample, participants must have met the following inclusion criteria: be a parent of an adult, age 26 or older, diagnosed with ASD by a licensed professional and have current knowledge of their adult child's post-secondary employment situation. Table 1 provides demographic data for the adult children with ASD and Table 2 provides demographic data for the parents of adult children with ASD.

Table 1

Demographic Data for Adult Children with ASD

Characteristics	N(%)
Age	
26-30	62 (67.4)
31-35	20 (21.7)
36-40	4 (4.3)
41-45	4 (4.4)
46 or older	2 (2.2)
Gender	
Male	74 (80.4)
Female	18 (19.6)
Receipt of SSI/SSDI Benefits	
Yes	53 (57.6)
No	39 (42.4)
Severity of ASD Diagnosis	
Mild	23 (25.0)
Moderate	53 (57.6)
Severe	16 (17.4)
Current Employment Status	
(1) Employment in the community without supports-greater than 10 hr/week	27 (29.3)
(2) Employment in the community without supports-10 hr/week or less	7 (7.6)
(3) Employed in the community with supports-greater than 10 hr/week	16 (17.4)
(4) Employed in the community with supports-10 hr/week or less	5 (5.4)
	2 (2.2)

Characteristics	N(%)
(5) Sheltered vocational setting and supported community employment-greater than 10 hr/week	1 (1.1)
(6) Sheltered vocational setting and volunteering in the community-greater than 10 hr/week	3 (3.3)
(7) Sheltered vocational setting (workshop or day activity center) with no community employment/volunteering-greater than 10 hr/week	2 (2.2)
(8) Sheltered vocational setting-10 hr/week or less	8 (8.7)
(9) Volunteering with no other activities	8 (8.7)
(10) Post-secondary education with no other activities	13 (14.1)
(11) No vocational activities	
If Currently Employed, How Long	
Less than 1 year	10 (17.5)
Between 1 and 5 years	26 (45.6)
Between 6 and 9 years	11 (19.3)
10 years or more	10 (17.5)
If Not Currently Employed, Where They in Past Year	
Yes	9 (26.5)
No	25 (73.5)
If Yes, Previous Employment Status	
(1) Employment in the community without supports-greater than 10 hr/week	3 (30.0)
(2) Employment in the community without supports-10 hr/week or less	1 (10.0)
(3) Employed in the community with supports-greater than 10 hr/week	1 (10.0)
(4) Employed in the community with supports-10 hr/week or less	1 (10.0)
(8) Sheltered vocational setting-10 hr/week or less	2 (20.0)
(9) Volunteering with no other activities	1 (10.0)
(11) No vocational activities	1 (10.0)

Table 2

Demographic Data for Parents of Adult Children with ASD

Characteristics	N (%)
Age	
30-39	1 (1.1)
40-49	7 (7.6)
50-59	40 (43.5)
60-69	38 (41.3)
70 or older	6 (6.5)
Gender	
Male	16 (17.4)
Female	76 (82.6)
Ethnicity	
White/Caucasian	87 (94.6)
Hispanic or Latino	2 (2.2)
Multiple Ethnicities/Races	3 (3.3)

Marital Status	
Single, Never Married	1 (1.1)
Separated	1 (1.1)
Divorced	9 (9.8)
Widowed	3 (3.3)
Married	78 (84.8)
Current Occupation	
Paid Employment (full-time or part-time)	42 (45.7)
Self-Employment (full-time or part-time)	15 (16.3)
Unemployed and Seeking Work	3 (3.3)
Volunteer	2 (2.2)
Homemaker	7 (7.6)
Retired	22 (23.9)
Unable to Work	1 (1.1)
Highest Level of Education Completed	
High School Graduate with a Diploma or GED	8 (8.7)
Some College Credit with No Degree	15 (16.3)
2-year College Degree	10 (10.9)
4-year College Degree	26 (28.3)
Graduate Degree	33 (35.9)
Annual Household Income	
Less than \$25,000	5 (5.4)
\$25,000 to \$49,999	8 (8.7)
\$50,000 to \$74,999	15 (16.3)
\$75,000 to \$99,999	18 (19.6)
\$100,000 or more	46 (50.0)

Sample size was determined with an *a priori*, meaning prior to, power analysis using G*Power power analysis (Faul, Erdfelder, Buchner & Lang, 2009). An effect size of 0.30, an *alpha*, also referred to as a confidence interval, of 0.10, power of 0.95 were used to calculate the needed sample size ($n=88$). With the participation of 92 parents of adults with ASD, the needed sample size was achieved.

Instrumentation

For this study, the researcher administered an electronic survey, consisting of 32 questions, to measure all the variables of interest in the study (See Appendix B). The independent variables were separated into three broad categories of parental factors: demographic, psychological, and behavioral. The outcome variable of interest was the

successful employment of adults with Autism Spectrum Disorder (ASD). This section will provide details on each variable and how they were measured, as well as how a panel of experts was used to pilot the survey. Lastly, information regarding the validity and reliability of the survey will be presented.

Independent variables. The independent variables were separated into three broad categories of parental factors: demographic, psychological, and behavioral. Within each of these categories, specific traits were measured and coded based on either multiple choice selection or the ranking of values on a scale. To verify the adult child's age and avoid the likelihood of any bias due to confounding variables, the researcher started the survey with four questions to obtain the demographic information of the adult child with ASD including age, gender, receipt of Social Security benefits, and severity of disability. Next, seven questions in the survey were used to measure demographic factors related to the responding parent's age, gender, marital status, occupational status, education, and household income. The variables were coded as needed to represent the various categorical responses.

The psychological factor was the parental expectations for an adult child's future employment milestones. Participants were asked to rate the likeliness of seven specific future employment outcomes for their adult child on a five point Likert scale. Response options included: *Definitely Will Not*, *Probably Will Not*, *Probably Will*, *Definitely Will*, and *Already Accomplished*. The responses for the psychological scale were summed and the higher respondents scored, the higher their expectations were considered to be.

The behavioral factors included 10 items that measured specific positive and supportive parental behaviors found in the research literature that were shown to effect

successful employment for individuals with ASD. Statements about behaviors are measured on a five point Likert scale with response options of *Strongly Disagree*, *Disagree*, *Uncertain*, *Agree*, and *Strongly Agree*. The behavioral responses were summed and the higher respondents scored, the more helpful they were considered.

Dependent variable. The dependent variable, *Successful Employment*, was measured, with a single item and three follow up questions, based upon a modified version of Taylor and Seltzer's (2012) Vocational Index. The index was developed to give researchers a reliable method to code data across studies, while still capturing the vast range of educational and vocational activities in which adults with ASD participate.

To develop the index, Taylor and Seltzer (2012) used data from about 350 adults, collected on 6 different occasions, across a span of 12 years as a part of their larger, longitudinal study. The original result was an index consisting of 11 categories coded on a 9-point scale (Taylor & Seltzer, 2012). The index has a range from 1 (meaning no vocational/educational activities) to 9 (meaning post-secondary education or employment in the community, without supports, at greater than 10 hr/week). The measures in between 1 and 9 represent varying levels of employment or vocational participation based upon number of hours per week, level of support provided, and the setting.

Two modifications, with permission from the authors (Taylor & Seltzer, 2012), were made to the scale to better fit the design of this study. The first modification made was the deletion of language related to post-secondary education since it is not included in the variables of this study. The second modification was the renumbering of the scale to better facilitate data analysis. The result was a modified index consisting of 11 categories coded on an 11-point scale, with a range from 1 (meaning post-secondary

employment in the community, without supports, at greater than 10 hr/week) to 11 (meaning no vocational activities). The measures in between 1 and 11 represent varying levels of employment or vocational participation based upon number of hours per week, level of support provided, and the setting.

The dummy coding of participant responses created three different measures of successful employment. The first variable, *Successful Employment with Support*, was created by coding the response options of “employment in the community with supports-greater than 10 hours” and “employment in the community with supports-less than 10 hours” with “1” and all other others “0.” The second variable, *Successful Employment without Support*, was created by coding the response options of “employment in the community without supports-greater than 10 hours” and “employment in the community without supports-less than 10 hours” with “1” and all other others “0.” The third variable, *Successful Employment*, was created by coding all options indicating employment with “1” and all others were coded “0.”

Rather than pilot the survey with ineligible participants, the researcher utilized a panel of experts, composed of selected committee members, in the fields of ASD, Post-Secondary Education and Employment, and Special Education. The researcher emailed the panel a copy of the survey and asked that they rate each question based on its relevance, clarity, simplicity, and ambiguity to ensure the survey had adequate content validity (Yaghmaie, 2003). Content validity, according to Creswell (2012), is the extent to which the questions and corresponding scores from an instrument represent all of the possible questions that could be asked about that specific content. Based on the ratings and additional comments provided by the expert panel, the researcher revised the survey

by editing, substituting, and deleting certain words and questions to better measure the intended content.

Reliability was determined by Cronbach's alpha formula, a measure of internal consistency that determines how closely related a set of items are (Creswell, 2012). The samples for *Expectations* had a coefficient *alpha* of .89, indicating good internal consistency between the seven items (Creswell, 2012). The samples for *Behaviors* also indicated good internal consistency, with a coefficient *alpha* of .84 for the 10 items (Creswell, 2012).

Data Collection Procedures

Once permission was provided by the Lamar University Institutional Review Board (see Appendix A), the researcher contacted various educational, non-profit, vocational, state, and national organizations that work with parents of adults with ASD and asked them to distribute the study's letter of invitation and informed consent to all the parents of adult children with ASD (see Appendix C & D). This letter informed the parents about the purpose of the study, the anticipated length of time to participate, how to confirm and participate in the study, as well as the risks and benefits associated with it. Furthermore, they were informed that participation was completely voluntary and that all responses would be deidentified and kept confidentially.

If, after reading the invitation letter and informed consent, the parents chose to participate, they accessed the weblink, hosted through the Survey Monkey online platform (www.surveymonkey.com), to complete the online, cross-sectional survey (Appendix B). On the welcome page, they were provided with the informed consent letter and asked to select "I Agree" to confirm and document their consent and begin the

survey. After the welcome page, the participants were provided with basic instructions on how to respond to the survey questions using either multiple choice or a five-point Likert scale. The survey remained open for a six-week period to allow participants adequate time to navigate to the link, consider participation, and provide a complete response to the questions. In addition, the researcher sent reminders and follow up emails to interested participants and organizations in two week intervals to encourage timely and thorough completion of the survey.

After the data collection period ended, the researcher downloaded the data to a secure, password protected computer to conduct data analysis and determine findings. The data will be retained confidentially for at least five years on a secure, password protected computer that is only accessible to the researcher.

Data Analysis

To conduct the data analysis, the researcher used the Statistical Package for Social Sciences, Version 22 (IBM, 2013). The data was coded, inputted, and sorted into a database for further analysis. Descriptive analysis was completed first to examine measures of central tendency, variability, and relative standing (Creswell, 2012). Prior to conducting further analysis, all data was evaluated to assure that all assumptions were met. Then inferential analysis was conducted using point-biserial correlation to determine the strength of association between a continuous-level variable and a binary variable of interest (Creswell, 2012).

Summary

In Chapter III, the researcher described the methodology of the study. The participants, setting, data collection, and treatment of data were described. In Chapter IV,

the researcher presents an analysis of the findings. In Chapter V, the summary, conclusions, implications, and recommendations for future research are provided.

Chapter IV

Findings and Analysis of Data

The purpose of this study was to investigate the relationship between parental factors and the successful employment of adults, age 26 or older, diagnosed with Autism Spectrum Disorder (ASD) in the United States. It was guided by the following questions:

1. What is the relationship between parental demographic factors and the successful employment of adults diagnosed with Autism Spectrum Disorder (ASD)?
2. What is the relationship between parental psychological factors and the successful employment of adults diagnosed with Autism Spectrum Disorder (ASD)?
3. What is the relationship between parental behavioral factors and the successful employment of adults diagnosed with Autism Spectrum Disorder (ASD)?

This chapter describes the data preparation prior to analysis, the analysis process, the findings, and the interpretation of the findings. The chapter is organized by the research questions which guided this study.

Data Preparation

Prior to conducting analysis, the data was evaluated for the violations of assumptions related to correlation analysis and missing values. All assumptions were met regarding linearity or extreme outliers, however the variables, for all three research questions were not normally distributed. As such, a non-parametric test, point-biserial correlation, was used to analyze the data (Creswell, 2012). According to Creswell (2012),

a point-biserial correlation is a special case of Pearson's correlation coefficient used when you need to measure one variable on a continuous scale and the other on a categorical, dichotomous scale.

In addition, prior to the analysis of the employment variable, the dummy coding of participant responses created three different measures of successful employment. The first variable, *Successful Employment with Support*, was created by coding the response options of "employment in the community with supports-greater than 10 hours" and "employment in the community with supports-less than 10 hours" with "1" and all other others "0." The second variable, *Successful Employment without Support*, was created by coding the response options of "employment in the community without supports-greater than 10 hours" and "employment in the community without supports-less than 10 hours" with "1" and all other others "0." The third variable, *Successful Employment*, was created by coding all options indicating employment with "1" and all others were coded "0." The scores from the expectations subscale, related to research question 1, and the behaviors subscale, related to research question 2, were also totaled and averaged.

The study received 122 total attempted responses, however when analyzing the sample for missing values, 30 responses had to be removed due to skipped questions. Of the 92 remaining responses, two responses completed most of the survey apart from the final 10 item section related to parent behavior. As such, these two responses were included in all the descriptive and inferential analysis related to research question one and two, but were not included in the 90-response analysis of research question three.

Findings for Research Question One

Research question one asked if there was a relationship between parental demographic factors and the successful employment of adults diagnosed with Autism Spectrum Disorder (ASD). A point-biserial correlation was run to determine the relationship between the parent's demographic factors (measured by age, gender, ethnicity, marital status, occupation, level of education, and household income) and the successful employment outcomes of their adult child diagnosed with ASD. The analysis revealed that there were no statistically significant correlations between any of the parents' demographic factors and *Successful Employment with Support*, *Successful Employment without Support*, or *Successful Employment*.

Findings for Research Question Two

Research question two asked if there was a relationship between parental psychological factors (i.e., parental expectations) and the three dummy variables created for the independent variable, *Successful Employment with Support*, *Successful Employment without Support*, and *Successful Employment*. Based upon the results of the point-biserial correlation, there was no relationship between parental expectations ($n=92$, $M=17.9$, $SD=6.9$) and *Successful Employment with Support*, but there was a statistically significant moderate, positive correlation between positive expectations and *Successful Employment without Support*, ($r_{pb}=.471$, $p < 0.01$) and *Successful Employment* ($r_{pb}=.458$, $p < 0.01$). This suggests that the more parental supports adults with ASD had, the better chance they had at being successfully employed in jobs without supports or just having successful employment.

Findings for Research Question Three

Research question three investigated the relationship between parental behavioral factors, in this case positive and supportive behavior, and the successful employment of adults diagnosed with Autism Spectrum Disorder (ASD). Based upon the results of the point-biserial correlation, there was no statistically significant correlation between the parent's behavioral factors and *Successful Employment with Support*, *Successful Employment without Support*, or *Successful Employment*.

Summary

In Chapter IV, the researcher presented an analysis of the findings. The results of the research found a statistically significant, moderate, positive correlation between the parent's psychological factors (positive expectations) and a successful employment outcome, both with and without support. A slightly stronger correlation was found when limited to employment in the community without supports. The correlations showed there was no statistically significant correlation between the parent's demographic or behavioral factors and a successful employment outcome. The researcher provides a summary and a set of conclusions, implications, and recommendations in Chapter V.

Chapter V

Summary, Conclusions, Implications, and Recommendations

The purpose of this study was to investigate the relationship between parental factors and the successful employment of adults, age 26 or older, diagnosed with Autism Spectrum Disorder (ASD) in the United States. This chapter is divided into five sections. The first section is the summary of the study which includes the overview of the problem, the purpose statement and research questions, the review of the study's design, and the summary of major findings. The second section provides conclusions based upon the findings. The third section details the implications for current practitioners. The fourth section provides recommendations for future research and the fifth and final section ends with concluding remarks.

Summary of the Study

According to the Centers for Disease Control & Prevention (2014), the prevalence rate of Autism Spectrum Disorder (ASD) for children in the United States has more than doubled in the last fifteen years, rising 119.4% between 2000 and 2014. This indicates that at least 3.5 million Americans currently live with ASD (CDC, 2014). As the prevalence and age of those children rise, a growing area of concern has emerged: the chronic unemployment of adults with ASD. Shattuck et al. (2012) reported that 35% of young adults with ASD had no job or postgraduate education after leaving high school. Interestingly, the severity of unemployment for all adults with disabilities is just as concerning as those with ASD. The United States Department of Labor's Bureau of Labor Statistics (2016) reported that only 16.8% of individuals with disabilities were participating in the workforce when compared to 65% of individuals without disabilities.

However, when specific employment supports such as job matching, job searching, job identification, and interview/resume preparation are provided, students with ASD can obtain meaningful employment (Hillier et al., 2007; Wehman et al., 2012).

The need for this research was to better examine the potential relationship between a parent's demographic, expectational, and behavioral factors and the successful employment of their adult children with ASD. To improve the post-secondary employment outcomes of adults with ASD, there is a need to examine these factors and, specifically based upon the data related to expectations and behaviors, provide research-based parent training and support for professionals and educators to teaching the desired expectations and behaviors. This need is even greater for parents of adults with ASD over the age of 25 because our current data sets, until now, have largely ignored this older population. As such, this study greatly adds to our body of literature and understanding of the longer-term employment outcomes of adults with ASD.

Overview of the problem. Employment is a highly-desired outcome for students with disabilities and their families after completing their secondary education (Levinson & Palmer, 2015). Similarly, to post-secondary education, this outcome is desired because it plays a significant role in developing a sense of self-efficacy and accomplishment, promoting psychological and physical well-being, providing the security of financial benefits, and overall, increases the quality of life for a person with ASD (Levinson & Palmer, 2015). Several researchers have examined the employment rates of individuals with ASD and almost all of them indicated they were far less likely to be engaged in meaningful employment when compared to individuals with other disabilities (Chen,

Sung, & Pi, 2015; Roux, Shattuck, Rast, Rava, & Anderson, 2015; Shattuck et al., 2012; Taylor & Seltzer, 2011).

Despite these indications, there have been only a handful of studies conducted on the predictive factors that may affect the employability of adults with ASD and, even less so, on factors relate to an individual's environment, such as parental factors. Of the few studies completed, the majority used a small sample size and most were done outside of the United States, where we have a unique economic and job structure which may influence the results of such studies. The one exception to this has been the NLTS-2 study, however Roux et al. (2015) pointed out that our current knowledge base virtually ends at age 25, due to the age limitations of that study and many others focusing on young adults whom have just exited secondary education. As such, a need exists for a large, nationwide study on the employment outcomes of adults over the age of 25.

Purpose statement and research questions. The purpose of this study was to investigate the relationship between parental factors and the successful employment of adults, age 26 or older, diagnosed with Autism Spectrum Disorder (ASD) in the United States. It was guided by the following questions:

1. What is the relationship between parental demographic factors and the successful employment of adults diagnosed with Autism Spectrum Disorder (ASD)?
2. What is the relationship between parental psychological factors and the successful employment of adults diagnosed with Autism Spectrum Disorder (ASD)?

3. What is the relationship between parental behavioral factors and the successful employment of adults diagnosed with Autism Spectrum Disorder (ASD)?

Review of the study design. This correlational study investigated the relationship between parental factors and the successful employment of adults, age 26 and older, diagnosed with an Autism Spectrum Disorder (ASD) in the United States. This research design was selected because the researcher wanted to describe and measure the degree of association between two or more variables (Creswell, 2012). In this design, the researcher does not attempt to control or manipulate the variables, but instead, they describe the relationship between two or more scores for each person using the correlation statistic (Creswell, 2012).

Sample. A purposeful, convenience sample of parents of adult children ($n=92$) diagnosed with Autism Spectrum Disorder (ASD) in the United States was recruited by sending out the invitation letter to various ASD-related organizations across the country, including: Autism Society, Autism Speaks, National Autism Association, Autism Research Initiative, Texas Tech University's Burkhart Center for Autism Education and Research, Autism Support Network, Autism Community Network, Families for Effective Autism Treatment, Autism Treatment Center, Positively Autism, and other local groups and organizations. The researcher received confirmation of survey distribution by those organizations in 47 of the 50 states, including Hawaii and Alaska. To be selected for this sample, participants must have met the following inclusion criteria: be a parent of an adult, age 26 or older, diagnosed with ASD by a licensed professional and have current knowledge of their adult child's post-secondary employment situation. Sample size was

determined with an *a priori* power analysis using G*Power power analysis (Faul, Erdfelder, Buchner, & Lang, 2009). An effect size of 0.30, *alpha* of 0.10, power of 0.95 were used to calculate the needed sample size ($n=88$). With the participation of 92 parents of adults with ASD, the needed sample size was achieved.

Data collection. Once permission was provided by the Lamar University Institutional Review Board (see Appendix A), the researcher contacted various educational, non-profit, vocational, state, and national organizations that work with parents of adults with ASD and asked them to distribute the study's letter of invitation and informed consent to all the parents of adult children with ASD (see Appendix C & D). This letter informed the parents about the purpose of the study, the anticipated length of time to participate, how to confirm and participate in the study, as well as the risks and benefits associated with it. Furthermore, they were informed that participation was completely voluntary and that all responses would be deidentified and kept confidentially.

If, after reading the invitation letter and informed consent, the parents chose to participate, they accessed the weblink, hosted through the Survey Monkey online platform (www.surveymonkey.com), to complete the online, cross-sectional survey (Appendix B). On the welcome page, they were provided with the informed consent letter and asked to select "I Agree" to confirm and document their consent and begin the survey. After the welcome page, the participants were provided with basic instructions on how to respond to the survey questions using either multiple choice or a five-point Likert scale. The survey remained open for a six-week period to allow participants adequate time to navigate to the link, consider participation, and provide a complete response to

the questions. In addition, the researcher sent reminders and follow up emails to interested participants and organizations in two week intervals to encourage timely and thorough completion of the survey.

After the data collection period ended, the researcher downloaded the data to a secure, password protected computer to conduct data analysis and determine findings. The data will be retained confidentially for at least five years on a secure, password protected computer that is only accessible to the researcher.

Data analysis. To conduct the data analysis, the researcher used the Statistical Package for Social Sciences, Version 22 (IBM, 2013). The data was coded, inputted, and sorted into a database for further analysis. Descriptive analysis was completed first to examine measures of central tendency, variability, and relative standing (Creswell, 2012). Then inferential analysis was conducted using point-biserial correlation to determine the strength of association between a continuous-level variable and a binary variable of interest (Creswell, 2012).

Summary of major findings. The major findings of this study are identified by the research questions.

Research question one. Research question one examined the relationship between parental demographic factors and the successful employment of adults diagnosed with Autism Spectrum Disorder (ASD). The study found that there was no statistically significant correlation between the parent's demographic factors and *Successful Employment with Support*, *Successful Employment without Support*, or *Successful Employment*.

Research question two. Research question two studied the relationship between parental psychological factors and the three dummy variables created for the independent variable, *Successful Employment with Support*, *Successful Employment without Support*, and *Successful Employment*. The study found that there was a moderate, positive correlation between the parent's psychological factors (positive expectations) and *Successful Employment*, which was statistically significant ($r_{pb}=.458$, $n=92$, $p=0.00$). Further analysis revealed that there was also a moderate, positive correlation between the parent's psychological factors (positive expectations) and *Successful Employment without Support*, which was statistically significant ($r_{pb}=.471$, $n=92$, $p=0.00$).

Research question three. Research question three investigated the relationship between parental behavioral factors and the successful employment of adults diagnosed with Autism Spectrum Disorder (ASD). The study found there was no statistically significant correlation between the parent's behavioral factors and *Successful Employment with Support*, *Successful Employment without Support*, or *Successful Employment*.

Conclusions

This correlational study was designed to investigate the relationship between various parental factors and the successful employment of adults, age 26 or older, diagnosed with Autism Spectrum Disorder (ASD) in the United States. The study's findings confirm that of all the parental factors measured, parental expectations were the only one that had a meaningful relationship with the successful employment of adult children with ASD, except when they were employed with supports. Based upon the

findings from the correlational analysis, specific conclusions are discussed as they relate to the research questions that guided the study.

Parental characteristics. In this study, parental demographic characteristics did not have a meaningful relationship with successful employment. Previous studies investigating this relationship have had varied findings. For example, Chiang et al. (2013), Roux et al. (2015), and Sima et al. (2015) all found that higher parent income correlated with increased chances of successful employment, but Carter et al. (2012) and Taylor and Mailick (2013) disagreed by stating that income was not associated with successful employment outcomes. In a similar example, Chiang et al. (2013), Sima et al. (2015), and Taylor et al. (2015) all found a statistically significant, positive relationship existed between higher levels of parent education and the likelihood of an individual achieving a successful employment, but Carter et al. (2012) disagreed. Potential explanations for this may be due to the younger ages of the previous participants or that the effect of demographics may lessen over time.

Parental expectations. In this study, parental expectations did have a meaningful relationship with successful employment. Based upon the findings, it can be concluded that a parent's positive expectations may increase the likelihood of their adult child achieving a successful employment outcome. This concurs with previous studies and their similar conclusions as Carter et al. (2012), Doren, Gau, and Lindstrom (2012), Kang (2015), and Kirby (2015), all agreed that higher parent expectations did strongly correlate with increased chances of successful employment. This leads the researcher to conclude, based upon this study's findings and those of previous studies, that higher parent expectations frequently lead to increased outcomes in the employment of adult children

with ASD. Possible explanations for this may be the severity of the ASD diagnosis or that adults with ASD, who seeking non-supported employment, may in fact increase their parent's expectations that it will occur.

Parental behaviors. In this study, parental behavioral characteristics did not have a meaningful relationship with successful employment. While practitioner experience may disagree with this conclusion, little research has been performed using this study's behaviors and, when examining the effect of behavior on adults with ASD, previous research has only found a relationship between parental warmth and a decrease in severe behavior problems (Smith et al., 2014). Potential reasons for this may be that a non-standardized or psychometric instrument was used or that the questions used in the instrument were measuring something other than just expectations.

Implications for Practice

As our current population of children with ASD continues to age, it is essential that professionals and parents work together more closely to prepare for their transition to post-secondary employment. Practical suggestions, related to this study's conclusions, include the following:

1. Provide ongoing training and support groups to parents of children with ASD concerning the tangible effect of healthy expectations related to post-secondary employment.
2. Provide long-term support to parents of adult children with ASD to ensure that, as their needs and abilities evolve, they continue to be able to support them in post-secondary employment.

3. Provide training and technical assistance to professionals to help increase the understanding that, while favorable demographics may influence employment outcomes in some cases, ultimately higher parent expectations lead to higher achievement in post-secondary employment.
4. Offer parents of children with ASD the opportunity to learn from parents and adults with ASD who are older and already successfully employed.
5. Connect parents and their children with ASD to appropriate adult disability employment support agencies, such as their state's vocational rehabilitation system, as early as possible to facilitate a smoother transition and allow time to develop the needed pre-employment skills.

Recommendations for Future Research

With our current research pointing to the poor employment outcomes of adults with ASD, it is crucial that we continue to investigate which factors may be predictors.

Future research recommendations include the following:

1. Using this study's design, conduct similar research on the other domains of post-secondary functioning for adults with ASD, including post-secondary education and independent living.
2. Using a standardized instrument, conduct further research regarding parent behavior to ascertain whether this study's findings are due to the methodology used, the behaviors chosen, or a true lack of significance between parent behavior and the adult child's successful employment outcome.

3. Conduct further research on the various demographic commonalities found with this study's sample, including the much lower than average divorce rate and the higher than average educational attainment and household income.
4. Conduct further bi-directional research on which factors may be shaping the positive relationship between a parent's expectations and the corresponding post-secondary employment success of their child with ASD.
5. Conduct further large-scale, quantitative research studies focused on obtaining data directly from adults with ASD over the age of 26 to ascertain their perspective on their success or lack of success related to post-secondary employment.
6. Conduct longitudinal research, similar to the NLTS-2, focused on the sustainability of adult outcomes for individuals with ASD at age 26 and beyond, such as 26 to 36 years of age.

Concluding Remarks

As one of the few larger scale, quantitative studies conducted on adults with ASD beyond their early twenties, this study provided notable insight into potential reasons for the current state of poor employment outcomes of adults with ASD. While we currently have a significant understanding of research-based employment interventions for adults with ASD, we have a much less developed understanding of why these poor outcomes exist and even less of an understanding of why they persist long-term. As an emerging scholar and experienced practitioner, I will continue to investigate this phenomenon to

promote the more successful employment outcomes that I believe are possible for all adults with ASD.

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Appendices

Appendix A IRB Approval

Appendix B Survey Instrument

Appendix C Invitation Letter

Appendix D Consent Form

Appendix E NIH Certificate

Appendix A

IRB Approval



RESEARCH & SPONSORED
PROGRAMS ADMINISTRATION
LAMAR UNIVERSITY

From: no-reply@irb.app.lamar.edu
Subject: IRB-FY17-19 - Initial: Initial Submission – Exempt
Date: January 24, 2017 at 1:01 PM
To: jkyoung1@lamar.edu , jwilliams109@lamar.edu

Jan 24, 2017 1:00 PM CST

James Young
James Williams
Educational Leadership

Re: Exempt - Initial - IRB-FY17-19 PARENTAL FACTORS RELATED TO THE SUCCESSFUL EMPLOYMENT OF ADULTS WITH AUTISM SPECTRUM DISORDERS

Dear Dr. James Young and James Williams,

Lamar University Human Subjects Review Board has rendered the decision below for PARENTAL FACTORS RELATED TO THE SUCCESSFUL EMPLOYMENT OF ADULTS WITH AUTISM SPECTRUM DISORDERS.

Decision: Exempt - **APPROVED**

Selected Category: Category 2. Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: (i) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

Please make timely submission of renewal or closure to your study. Remember to obtain approval from the Institutional Review Board before instituting any changes to the study.

Sincerely,

Lamar University Human Subjects Review Board

Appendix B

Survey Instrument

Section 1-Demographic Factors

Part A-About Your Adult Child

How old is your adult child with Autism Spectrum Disorder (ASD)?

- (1) 26-30
- (2) 31-35
- (3) 36-40
- (4) 41-45
- (5) 46 or older

What is your adult child's gender?

- (1) Male
- (2) Female

Does your adult child currently receive Supplemental Security Income (SSI) or Social Security Disability Insurance (SSDI)?

- 1) Yes
- 2) No

How would you describe the severity of your adult child's diagnosis of Autism Spectrum Disorder as it relates to their ability to gain and maintain employment?

- 1) Mild
- 2) Moderate
- 3) Severe

Select the statement that best describes your adult child's current employment status?

- (1) Employment in the community without supports-greater than 10 hr/week
- (2) Employment in the community without supports-10 hr/week or less
- (3) Employed in the community with supports-greater than 10 hr/week

- (4) Employed in the community with supports-10 hr/week or less
- (5) Sheltered vocational setting and supported community employment-greater than 10 hr/week
- (6) Sheltered vocational setting and volunteering in the community-greater than 10 hr/week
- (7) Sheltered vocational setting (workshop or day activity center) with no community employment/volunteering-greater than 10 hr/week
- (8) Sheltered vocational setting-10 hr/week or less
- (9) Volunteering with no other activities
- (10) Post-secondary education with no other activities
- (11) No vocational activities

(Adapted from Taylor & Seltzer, 2012)

If your adult child's is currently employed, how long have they maintained employment?

- 1) Less than 1 year
- 2) Between 1 and 5 years
- 3) Between 6 and 9 years
- 4) 10 years or more

If your adult child is not currently employed, have they previously been employed within the past year?

- 1) Yes
- 2) No

If yes, please select the statement that best describes your adult child's previous employment status?

- (1) Employment in the community without supports-greater than 10 hr/week
- (2) Employment in the community without supports-10 hr/week or less
- (3) Employed in the community with supports-greater than 10 hr/week
- (4) Employed in the community with supports-10 hr/week or less

- (5) Sheltered vocational setting and supported community employment-greater than 10 hr/week
- (6) Sheltered vocational setting and volunteering in the community-greater than 10 hr/week
- (7) Sheltered vocational setting (workshop or day activity center) with no community employment/volunteering-greater than 10 hr/week
- (8) Sheltered vocational setting-10 hr/week or less
- (9) Volunteering with no other activities
- (10) Post-secondary education with no other activities
- (11) No vocational activities

(Adapted from Taylor & Seltzer, 2012)

Part B-About You

What is your age?

- 1) 30-39
- 2) 40-49
- 3) 50-59
- 4) 60-69
- 5) 70 or older

What is your gender?

- (1) Male
- (2) Female

What is your ethnicity?

- (1) White/Caucasian
- (2) Black or African American
- (3) Hispanic or Latino
- (4) Asian or Asian American
- (5) Hawaiian or Other Pacific Islander

- (6) American Indian or Alaskan Native
- (7) Multiple Ethnicities/Races

What is your marital status?

- (1) Single, Never Married
- (2) Separated
- (3) Divorced
- (4) Widowed
- (5) Married

What is your current occupation?

- 1) Paid Employment (full-time or part-time)
- 2) Self-Employment (full-time or part-time)
- 3) Unemployed and Seeking Work
- 4) Volunteer
- 5) Homemaker
- 6) Student
- 7) Retired
- 8) Unable to Work

What is the highest level of education you have completed?

- (1) High School with No Degree
- (2) High School Graduate with a Diploma or GED
- (3) Some College Credit with No Degree
- (4) 2-year College Degree (Associate Degree)
- (5) 4-year College Degree (Bachelors' Degree)
- (6) Graduate Degree (Masters', Doctoral, or Post-Graduate)

What is your annual household income?

- (1) Less than \$25,000
- (2) \$25,000 to \$49,999

(3) \$50,000 to \$74,999

(4) \$75,000 to \$99,999

(5) \$100,000 or more

Section 2-Psychological Factors

How likely do you think it is that your adult child will achieve the following in the future?

	Definitely won't	Probably won't	Probably will	Definitely will	Already has done
Obtain a full-time job/internship (40 or more hours per week)	1	2	3	4	5
Obtain a part-time job/internship (30 or less hours per week)	1	2	3	4	5
Obtain a position that provides employer sponsored health-care benefits	1	2	3	4	5
Earn state minimum wage or higher	1	2	3	2	5
Earn enough to fully support themselves without financial help from their family or the government	1	2	3	4	5
Receive a raise or promotion at a job	1	2	3	4	5
Obtain a management/executive level position	1	2	3	4	5

Section 3-Behavioral Factors

Rate your level of agreement with the items below on a scale from 1-5

(Adapted from Robinson et al., 1995)

	Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
I focus on teaching my adult child how to solve problems, rather than trying to solve them myself.	1	2	3	4	5
I believe my adult child can be successful at any task, if they receive adequate training.	1	2	3	4	5
I compliment my adult child when they do something well.	1	2	3	4	5
I speak positively about my adult child, despite their challenges.	1	2	3	4	5
I believe it is important to allow my adult child to learn from their own mistakes.	1	2	3	4	5
I provide support, but I also listen to and discuss my adult child's concerns and feelings.	1	2	3	4	5
I encourage my adult child to make their own decisions as much as possible.	1	2	3	4	5
I take my adult child's wishes into consideration before I ask him/her to do something.	1	2	3	4	5
I encourage my adult child to make their own social activities and decisions.	1	2	3	4	5
I support my adult child in selecting their own social activities, even if I don't like them.	1	2	3	4	5

Appendix C

Invitation Letter

Invitation to Participate in Study

Dear Participant:

As a doctoral candidate at Lamar University, I am conducting a study for my dissertation to better understand the relationship between various parental factors which may impact the successful employment outcomes of adults with Autism Spectrum Disorders. The purpose of this study is to investigate the relationship between parental factors and the successful employment of adults, age 26 or older, diagnosed with Autism Spectrum Disorder (ASD) in the United States. I plan to use this information to develop higher-quality, research-based parent training programs aimed at providing parents the tools they need to help their children with Autism Spectrum Disorder obtain and maintain employment. The results should be of interest and value to parents, educators, related professionals, and any other professionals who work with individuals with Autism and their families.

I hope to have at least 88 parents from across the country participate in this study. Criteria for participation include the following:

The participants must be a parent of an adult, age 26 or older, diagnosed with Autism Spectrum Disorder by a licensed professional.

The participants must also have current knowledge of their adult's employment status.

Your responses are confidential and your name will not be associated with any research findings. In addition, no names or other identifying information will be collected in the survey. The data will be stored electronically in a secure manner.

This study has been approved by the Lamar University Institutional Review Board. You are free to decide not to participate in this study or to withdraw at any time without adversely affecting your relationship with the investigator or Lamar University. There is no compensation to participate in this study; however, benefits of participation may include a contribution to scholarly research, as well as direct benefits to the subjects through the provision of the study's summary and recommendations regarding how parents can best support their children with Autism Spectrum Disorders to obtain and maintain employment.

If, after reading the above information, you would like to participate in the study, please go to the following link to sign the electronic consent form and access the survey through Survey Monkey:

<https://www.surveymonkey.com/r/PFWPASD>

If you have any questions regarding the study, please contact the Principal Researcher or the Dissertation Chair.

Sincerely,

James Williams, MRC, CRC
Principal Researcher
JWilliams109@lamar.edu

Dr. Ken Young
Dissertation Chair
JKYoung1@lamar.edu

Appendix D

Consent Form

Lamar University
Department of Educational Leadership
College of Education

SUBJECT CONSENT TO PARTICIPATION IN RESEARCH

Title of Study: PARENTAL FACTORS RELATED TO WORK PARTICIPATION OF ADULTS WITH AUTISM SPECTRUM DISORDER

Purpose of Study: The purpose of this study is to investigate the relationship between parental factors and the successful employment of adults, age 26 and older, diagnosed with Autism Spectrum Disorder (ASD) in the U.S.

Name of Investigator: James Williams, MRC, CRC - JWilliams109@lamar.edu

Name of Dissertation Chair: Dr. Ken Young – JKYoung1@lamar.edu

I understand that I am agreeing to participate in a research project and that the purpose of this study is to investigate the relationship between parental factors and the successful employment of adults, age 26 and older, diagnosed with Autism Spectrum Disorder (ASD) in the United States.

Participants all meet the following criteria:

The participants must be a parent of an adult, age 26 or older, diagnosed with Autism Spectrum Disorder by a licensed professional.

The participants must have current knowledge of their adult's employment situation.

My name and any other identifying information will not be associated with any of the research findings used and the confidentiality of my responses will be protected. The entire survey should take no more than 30 minutes and I will be asked a series of survey questions through the Survey Monkey (www.surveymonkey.com) survey platform. I can decline to answer any question at any time.

Risks

The study is entirely voluntary and does not entail any foreseeable risks. I understand that I may quit at any time. All data will be maintained in a secure electronic file in the investigator's possession for five years and then securely deleted.

Benefits

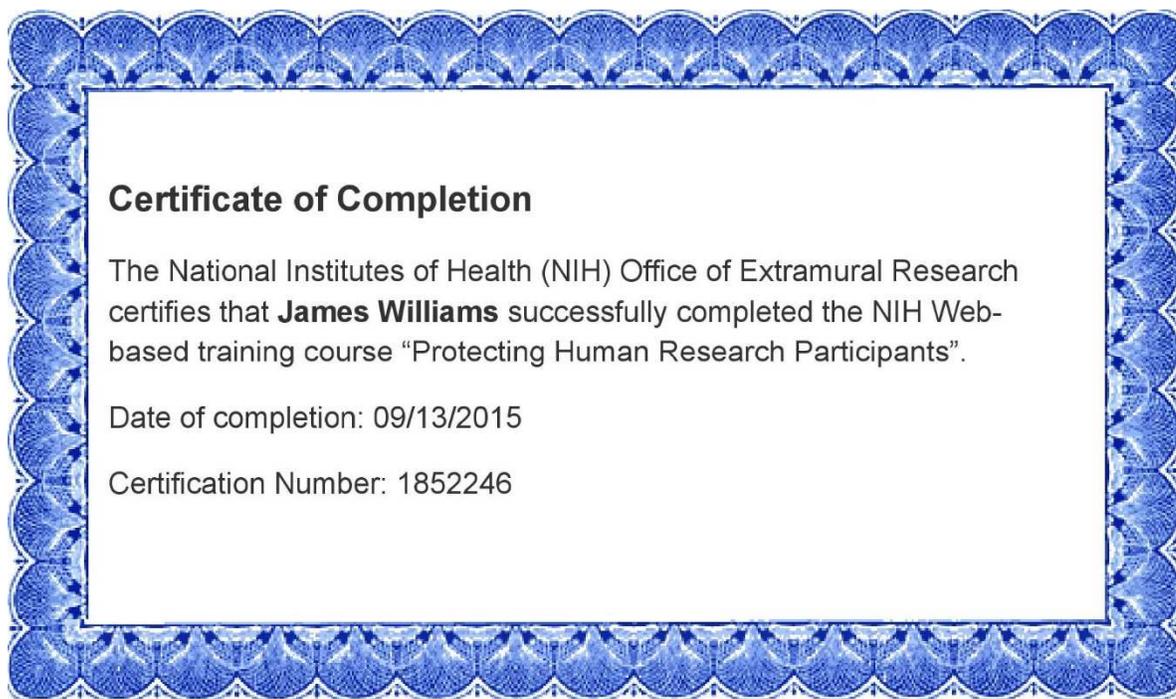
There is no compensation to participate in this study; however, benefits of participation may include a contribution to scholarly research. In addition, there will be direct benefits to the subjects through the provision of the study's summary and recommendations regarding how parents can best support their children with Autism Spectrum Disorders to obtain and maintain employment.

Participation

I understand that my participation in this study is voluntary and that I may withdraw from the study at any time. My refusal to participate will involve no penalty or loss of benefits to which I am otherwise entitled. I understand that I will not be compensated for my participation. An offer has been made to answer all of my questions and concerns about the study.

Appendix E

NIH Certificate



Biographical Note

James Edward Williams Jr. graduated from Cinco Ranch High School in 2005. He graduated from Sam Houston State University in 2009 with a BS in Interdisciplinary Studies/Special Education. He began teaching in Humble Independent School District in 2010, and in 2011, he was teaching at FOCUS Academy, a private school for students with Autism. It was there he discovered his passion for post-secondary transition and he began attending Texas Tech University-Health Sciences Center to pursue his Masters of Rehabilitation Counseling. He graduated in 2012 and applied for and received designation as a Certified Rehabilitation Counselor. He was accepted into the 2014 Doctoral Cohort 11 at Lamar University, where he earned a Doctorate of Education in Educational Leadership in 2017. Currently, he serves as the Chief Operating Officer for a company, in Austin, TX, called Bloom Consulting, which supports adults with disabilities, including ASD, to achieve and maintain meaningful employment.

Style manual designation: *Publication Manual of the American Psychological Association: Sixth Edition*

Typist: James Edward Williams Jr.

