A PHENOMENOLOGICAL STUDY OF VOCATIONAL EXPERIENCES IN ADULT COLLEGE GRADUATES WITH AUTISM SPECTRUM DISORDERS

By

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ABSTRACT

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Individuals with autism spectrum disorder (ASD) remain unemployed and underemployed at greater rates than individuals in all other disability groups (Shattuck et al., 2012; Roux et al., 2013). It is well documented that competitive employment outcomes for adults with ASD are poor when compared not only to the general population but also when compared to adults with other developmental disorders (Howlin, 2013). The barriers to employment for individuals with ASD continue even after completion of postsecondary education (Bissonnette, 2013), however, adults with ASD who earn a college degree have better odds of obtaining competitive employment and earning higher wages than individuals with ASD who complete only high school (Sung, Sanchez, Kuo, Wang, & Leahy, 2015).

This qualitative research study was conducted using in-depth phenomenology to answer the research question of interest in the proposed study, how do adult college graduates with ASD describe their vocational experiences? Interviews were conducted with seven individuals who met the three study criterion. These criteria were: (1) were members of an ASD social skills development group, (2) had a college degree (minimum of an associate's degree), (3) and had experience in the workforce. The data for this study was collected using semi-structured interviews investigating: (1) how adults with ASD and a college education describe their experiences with work, (2) what barriers the participants describe that currently prevent/ or prevented them from obtaining or maintaining employment, (3) what supports have been beneficial for the participants in obtaining or maintaining employment. The results of this study indicated the following: First, the study data indicates that individuals with ASD have varied unique academic and social challenges at the postsecondary level. Second, such social skill deficits continue on and impacted the participants' vocational processes of obtaining and maintaining employment. Third, the majority of the participants in this study were not utilizing their postsecondary degree at their current employment. Lastly, the study results indicated the participants in this study were underemployed, earning low wages, and working in low skill positions even with their completion of postsecondary education. The participant experiences shared within this study align with current ASD employment literature. Implications for rehabilitation counselor educators, practitioners, and employers, as well as recommendations for future research are discussed.

Keywords: ASD, autism spectrum disorder, employment, communication, postsecondary education, social skill deficits.

Copyright by MICHELLE CORA LIZOTTE 2016 This dissertation is lovingly dedicated to Marian Joiner for her selfless and tireless life's work to improve the lives of with individuals with Autism Spectrum Disorders. It is because of your incredible passion that I discovered mine.

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KEY TO ABBREVIATIONS

ADA	Americans with Disabilities Act
AS	Asperger Syndrome
APA	American Psychiatric Association
ASA	Autism Society of America
ASD	Autism Spectrum Disorder
CDC	Centers for Disease Control and Prevention
DSM	Diagnostic and Statistical Manual of Mental Disorders
IDEA	Individuals with Disabilities Education Act
IEP	Individualized Education Program
IPE	Individualized Plan for Employment
NLTS2	National Longitudinal Transition Study-2
PDA	Personal Digital Assistant
QoL	Quality of Life
SSI	Supplemental Security Income
SSDI	Social Security Disability Insurance
TWWIA	Ticket to Work and Workplace Incentives Act
VR	Vocational Rehabilitation
WIOA	Workforce Investment and Opportunities Act

CHAPTER ONE INTRODUCTION

Frequently, the first question asked in an initial introduction is, "what do you do for a living?". Work is central to the life and well-being of adults (Blustein, 2008). Employment provides the individual worker with social, financial, and psychological benefits that allow adults to live as independent, productive citizens. Individuals with autism spectrum disorders (ASD) face unique challenges related to employment (Hurlbutt & Chalmers, 2004; Shattuck et al., 2012; Wehman et al., 2014). Individuals with ASD face various communication, behavioral, and social skill challenges, which contribute to high unemployment rates and low postsecondary education rates when compared to other disability groups (Cimera, Burgess, & Wiley, 2013; Hendricks, 2010). Individuals with ASD and without cognitive disability have high levels of co-occurring anxiety and depression which also impacts the vocational outcomes of this population (Hagner, May, Kurtz, and Clouteir, 2014). However, there is insufficient first-hand information regarding the vocational experiences of individuals with ASD. Additional data is needed to assist ASD service systems, vocational rehabilitation providers, individual practitioners, and families to help individuals with ASD to obtain and retain employment. This dissertation provided insight through research that explored the vocational experiences of adults with ASD who have a college degree.

ASD is defined by the Centers for Disease Control (CDC, 2016) as a group of lifelong developmental disabilities that can cause significant social deficits, communication issues, and behavioral challenges. Current data reports that the prevalence of ASD is 1 in 68, this data reflects the number of 8-year old children living in 11 communities in the United States that are diagnosed with ASD (Baio, 2014). According to *The Diagnostic and Statistical Manual of Mental Disorders* (5th ed.; *DSM-5*; American Psychiatric Association, 2013), people with ASD

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struggle with social skills, impairments in non-verbal behaviors such as eye contact, a lack of social reciprocity, difficulty developing and maintaining relationships, and potentially may have repetitive behaviors such as hand flapping. The defining characteristic of ASD is an impairment of social communication, this includes difficulties with social reciprocity in conversation, difficulty with reading non-verbal communication, and socially awkward behavior (Carter, Davis, Kiln, & Volkmar, 2005). ASD occurs across all racial, ethnic, and socioeconomic groups, it can occur with and without accompanying intellectual impairments (CDC, 2016). However, 46% of individuals with an ASD diagnosis have average to above average intelligence, a significant number of individuals with ASD will complete postsecondary education and attempt to become employed (Baio, 2014).

Individuals with ASD face unique vocational challenges. Current research demonstrates that individuals with ASD are far less likely to become employed or remain employed than their neuro-typical peers and even their peers with other disabilities (Howlin, Moss, Savage, & Rutter, 2013; Roux et al., 2013; Shattuck et al., 2012). Individuals with ASD struggle to obtain and retain employment primarily because of difficulties with social skills, dealing with unexpected changes, and coping with potentially overwhelming sensory experiences (Hurlbutt & Chambers, 2004; Muller, Schuler, Burton, & Yates, 2003). Adults with ASD are often knowledgeable, skilled, and able to work. However, data indicates that young adults with ASD are employed only 33% of the time compared to a 59% employment of all young adults with disabilities (NLTS2, 2009).

Employment is the traditional post graduation aspiration for individuals in the general population and the same is true for individuals with ASD (Hendricks, 2010). Employment improves well-being, is shown to enhance an individual's relationship to both the social and

economic world, and allows the individual who is working to feel satisfaction and accomplishment (Blustein, 2008). One of the primary motivators and benefits of work is economic security including less reliance on government programs such as Social Security. Oftentimes, individuals who are unable to maintain employment survive financially by depending on friends and family as well as using tax-payer funded programs such as Social Security Disability Insurance (SSDI). This financial dependency impacts the individual with ASD, those close to the individual with ASD, and also the tax paying community at large. In 2014, the Autism Society of America (ASA) estimated that the lifetime cost of caring for an individual with ASD is approximately 3.5 to 5 million dollars. ASA also approximated that the financial costs for ASD associated with research, insurance costs, educational spending, employment, and more costs the United States over 90 billion dollars annually (2014). With successful employment an individual with ASD may be able to maintain their own insurance to lessen financial burden, contribute to society through paying taxes, and have an increased quality of life (Cullum, 2014; Fleming, Fairweather, & Leahy, 2013). A study conducted by Taylor et al. (2014) demonstrated that adults with ASD who were working showed a decrease in their negative ASD behaviors such as self-harm. Those employed in the most independent jobs showed the greatest reductions in these types of behaviors (Taylor, Smith, & Mailick, 2014).

Literature suggests the majority of individuals with ASD will have poor outcomes in adulthood (Eaves & Ho, 2008; Farley et al., 2009; Howlin et al., 2004, 2013). In such studies, adult outcomes are measured in terms of social functioning, social relationships, level of independence, and employment status. Based on low levels of social relationships, lack of independent living, and struggles with obtaining and retaining employment, most adults with ASD are rated as having poor or very poor life outcomes. While this outcome data is valuable

and necessary, simply being employed does not guarantee a "good" outcome. Outcome measures typically only measure if someone is or is not employed, and does not consider or measure an individual's satisfaction with their employment. Further, a vital but often overlooked factor in the individual with ASD's life is their quality of life (QoL).

In the general population, an individual's participation in the labor market has a direct impact on his or her quality of life (QoL) (Fleming, 2012). The same is true for individuals with ASD as their participation in the work-force has been found to improve their self-reported QoL rating (Stodden & Mruzek, 2010). Smart (2001, p. 314) defines quality of life as "social and economic independence (within the limits of the disability); the freedom to function at one's highest level; social support, including family life; and the right to medical and psychological care". Therefore, QoL must consider the individual physical, emotional, and social interactions within the context of everyday life. Overall, research indicates individuals with ASD report a lower QoL than their peers without ASD (Kamp-Becker, Schroder, Remschmidt, & Bachmann, 2010; Van Heijst & Geurts, 2015). While there is a correlation between employment and QoL for individuals with ASD, simply placing an individual with ASD into any work situation will not increase their quality of life. The quality of work and how work tasks correspond with the individual's interests is more influential on improving QoL than simply being employed (Chiang & Winemane, 2014).

Individuals with a postsecondary education in the general population are more likely to be employed than those without a postsecondary education (Ayers, 2013), this is also true for individuals with ASD. Individuals with ASD who have a postsecondary education have significantly better odds of obtaining competitive employment and higher earnings when compared to individuals with ASD with less than a high school education (Sung, Sanchez, Kuo,

Wang, & Leahy, 2015). For young adults with ASD, acquiring postsecondary education is a relatively recent concept. Traditionally, obtaining a higher education degree after high school was not the expectation for individuals with ASD. However, the numbers of individuals with ASD continuing their education at the postsecondary level is increasing (Ford & Townsend, 2009; Vanbergeijk, Klin, & Volkmar, 2008). Unfortunately, completion of postsecondary education does not guarantee an easy transition into the workforce. Adults with ASD who have completed four-year degrees and even advanced graduate degrees continue to have difficulties obtaining and maintaining employment (Bissonnette, 2013). For this reason, individuals with ASD who have completed some type of postsecondary education were the population of interest in this study. The current study described the complex disparity between the academic achievement level and the persistent vocational struggles of this unique population.

It is possible that an individual with ASD may decide that he or she does not wish to work. Such a decision may be made in response to several different factors. A common factor that influence's an individual with ASD to choose to not work is their or their family's fear of losing supplementary funding (i.e., SSI, SSDI) or healthcare insurance (e.g., Medicare, Medicaid). While legislation exists, such as the Ticket to Work and Work Incentives Improvement Act (TWWIIA, 1999), that attempts to incentivize returning to work. Most individuals are unaware of the specific details of such policies and fear losing their benefits. Studies focusing on other disability groups have found that receiving disability benefits such as SSI or SSDI has a negative impact on the individual's employment outcome (Jung, Schaller, & Bellini, 2010). The TWWIIA enacts legislation that allows individuals to continue getting their federal benefits while working for a certain length of time so they can "try out" employment to decide if it is the appropriate option for them (Roessler, 2002).

When discussing ASD and the importance of employment, it is vital that the features of job loss also be mentioned. The loss of one's job may have a catastrophic impact on the individual's mental health and can result in depression and anxiety (Lucas, Clark, Georgellis, & Diener, 2004). The loss of one's employment can also lead to lowered self-esteem, familial conflicts, relationship problems, and substance abuse (Blustein, 2006). There is a dearth of literature describing the social and emotional impact of job loss or the impact of unemployment specific to individuals with ASD. Due to the unique communication style of this population and the prevalence of job loss and unemployment for individuals with ASD, the social and emotional impact of this experience is important to explore.

This qualitative study was necessary for multiple reasons. The existing literature primarily uses quantitative information to produce data on the number of individuals who have ASD and are unemployed or underemployed (Chen, Leader, Sung, & Leahy, 2015; Roux et al., 2013). Current literature suggests that existing ASD vocational supports are not satisfactory and fail to provide suggestions for vocational supports that individuals with ASD have personally found effective (Nicholas, Attridge, Zwaigenbaum, & Clarke, 2015; Richards, 2012). In addition, there is little descriptive research on the relationship between quality of life and vocational success or failures for individuals with ASD. Thus, this in-depth phenomenological study was necessary to understand and describe the essence of vocational experiences of individuals with ASD and a college degree.

Statement and Significance of the Problem

The CDC (2016) reported that one in 68 eight year olds in the United States is diagnosed with ASD. However, a study completed in 2015 using the National Health Interview Survey and reported in the National Health Statistics Reports puts that statistic at one in 44 children aged 3-

17 have an ASD diagnosis. ASD occurs across all racial, ethnic, and socioeconomic groups and is diagnosed four times more often in males than in females (CDC, 2016). The rate of individuals being diagnosed with ASD has been continually increasing over the past two decades. Such a trend may be the result of increased public awareness and the improved diagnostic abilities of practitioners. Regardless, it is clear that the condition is established, is prevalent, and the issues associated the condition urgently demand attention.

Studies reveal that adults with ASD are unemployed and underemployed greater rates than both the general population and any other individual disability group (Howlin et al., 2013; Roux et al., 2013; Shattuck et al., 2012). The National Longitudinal Transition Study-2 (NLTS-2) found that 33% of young adults with autism are employed as compared to 59% of young adults with other disabilities. (NLTS2, 2009). The same study reported that 42% of young adults with autism who are employed work less than 20 hours per week, as compared to 11% of all other individuals with disabilities who are employed (NLTS2, 2009). In the past, competitive employment in the community was believed unlikely for adults with autism (Mawhood & Howlin, 1999). Such a belief was due to the behaviors that are innate to people with ASD including social skill deficits, impaired verbal and nonverbal communication skills, struggles with reciprocal social interaction, and for some "restricted, repetitive, and stereotyped patterns of behavior" (American Psychiatric Association, 2013).

Purpose of the Study

Given that individuals with ASD experience multiple challenges in the area of employment and the increasing number of individuals being diagnosed with ASD, it is imperative that scholars and rehabilitation practitioners have an accurate perspective of this experience beyond the vocational outcome. The purpose of this study was to explore the

vocational experiences of adult college graduates with ASD through phenomenological research. This study obtained data that is useful for better understanding the vocational experiences of adults with ASD and a college degree.

Research Question

Given the significant number of individuals with ASD who will attempt to obtain employment in the near future, coupled with the wide ranging manifestations of ASD, additional data are needed to guide ASD service systems, vocational rehabilitation programs, individual practitioners, and families so they can best meet the needs of the individuals with ASD. As such, a qualitative, phenomenological approach was used. The data was collected, analyzed, summarized, and reported data from the perspective of college graduates with ASD on their vocational experiences. The following research question was of interest to this study:

How do adult college graduates with Autism Spectrum Disorders describe their vocational experiences?

Summary

To address the research question, a qualitative, phenomenological approach, was utilized to collect, summarize, and report data from the perspective of an adult college graduate with ASD regarding his or her vocational experiences. This data about the vocational experiences of adults with ASD, it is anticipated that vocational rehabilitation service providers, mental health providers, and families will have a better understanding of the challenges associated with obtaining and retaining employment, and also the social and emotional impact of job loss and unemployment for this population. Data resulting from this study may be used to identify employment interventions that were stated to be useful for the participants in this study.

Definition of Terms

The following terms are offered for clarification:

Autism Spectrum Disorders. The Center for Disease Control (CDC, 2016) defines Autism Spectrum Disorders (ASD) as a neurodevelopmental disability that causes significant social, communication, and behavioral challenges.

Asperger Syndrome. Asperger Syndrome (AS) was considered a condition that was different from ASD in that individuals with AS are considered to have normal intellectual ability and syntactical speech, however they still have deficits in pragmatic language and nonverbal language (APA, 2000). It was first listed in the DSM-IV in 1990. However, the most recent edition of the DSM no longer considers it a unique condition separate from ASD. Individuals showing symptoms that previously would have been diagnosed with Asperger Syndrome will now receive an ASD diagnosis (DSM-5, 2013).

Individualized Education Program. An Individualized Education Program (IEP) is a legal document that is developed annually to establish what a child with a disability who receives special education needs, what services the school will provide, and how the students' progress will be measured. The IEP team consists of the student, the student's parent(s), both the special education teacher and the general education teacher, a school district representative, and anyone that provides special services to the child.

Individualized Plan for Employment. The Individualized Plan for Employment (IPE) is developed by vocational rehabilitation counselor and the individual seeking assistance with employment. The IPE documents the individual's job goal, services that are needed to attain

specific job goal, and documentation of who will provide and finance the services. The IPE must be reviewed annually.

Supplemental Security Income. SSI is federal money paid monthly to people who have low income, few resources, are 65 years old or older, blind, or disabled (SSA, 2015).

Social Security Disability Insurance. SSDI is federal money paid monthly to individuals with disabilities that are so severe they cannot work.

Vocational Experiences. Are paid and unpaid (i.e., volunteering, internships) employment settings in which the individual with ASD is working to achieve their occupational goal. For the purpose of this research, the vocational experience involves the person with ASD, the actual physical environment of the jobsite, the job tasks, the individuals that the employee works with (e.g. coworkers, supervisors), and professionals that help the individual with ASD (e.g., rehabilitation counselors, job coach).

CHAPTER TWO LITERATURE REVIEW

The purpose of this phenomenological study was to describe the vocational experience of college graduate adults with ASD. Therefore, the literature review will address the following areas: a) history and overview of ASD, b) secondary and postsecondary education for individuals with ASD, c) services, legislation and employment, and d) outcomes for adults with ASD including quality of life implications.

Autism Spectrum Disorder

History of ASD. In 1943, in the paper called "Autistic Disturbances of Affective Content", a child psychiatrist at John Hopkins University, Dr. Leo Kanner, described several children who displayed communication issues, repetitive behaviors, and a need for sameness (Deisinger, 2011). Kanner's original description continues to meet the current diagnostic criteria we use today. During the same time period, Hans Asperger, an Austrian pediatrician wrote a paper similarly describing a group of children who were intellectually capable but demonstrated deficits in their communication styles, perseverated on unique interests, and had repetitive behaviors (Wolff, 2004).

The 1950's were a time of fascination with and research on autism. There was much misinformation during this time, and several researchers turned to blaming the parents of children with ASD for the condition. There was confusion about the differences between autism and schizophrenia and whether the two were related or even the same condition (Feinstein, 2010). During this time period it was common for individuals with ASD to be institutionalized and potentially be given experimental treatments that were harmful and abusive. Autism in the 1950's was seen as a very rare condition requiring two qualifying symptoms: (1) desire for aloneness, and (2) the obsessive desire for sameness.

Parents in the 1960's grew weary of being blamed for their children's autism and became frustrated by the lack of resources available. As a result, parents began organizing associations to protect their children and spread public awareness of the condition (Feinstein, 2010). For example, in 1969 parents created the National Society for Autistic Children, later, this organization would be renamed the Autism Society of America. Special schools began to appear that were specific to children with ASD. Autism specific therapies were introduced during this time. During the 1970's, additional research confirmed that ASD was in fact a neurological disorder and was not caused by parental negligence or social deprivation. It was during this same time period that autism was understood as being a spectrum and different subtypes of autism were defined. The efficacy of behavioral interventions for ASD was established during the 1970s.

During the 1980's, Uta Frith developed, tested, and confirmed the revolutionary concept of theory of mind. The theory of mind is that individuals with ASD are unable to understand what another person might be thinking or experiencing (Frith & Happe, 1994). The theory of mind successfully explains the impairments in socialization, communication, and imagination that individuals with ASD have. For the first time ever in 1985, two neurologists were able to locate specific neurologic differences unique to individuals with ASD (Feinstein, 2010). The rates of ASD continued to rise into the 1990's and theories regarding the rate increase continued to develop. During the 1990's, a popular theory was that childhood vaccinations were causing autism; however, this idea was later deemed untrue (Gerber & Offit, 2009). To date, research has not provided evidence regarding a specific cause of autism.

Overview of ASD. Current data indicates the prevalence of ASD is 1 in 68 eight-year-old children in the United States (CDC, 2016). It is considered the fastest growing developmental disability by the U.S. Department of Education (Cimera & Cowen, 2009). The common difficulties experienced by individuals with ASD include: social skill deficits, impairments in non-verbal behaviors such as eye contact, lack of social reciprocity, and potentially with repetitive behaviors (American Psychiatric Association [APA], 1994). The defining characteristic of ASD is considered communication impairment including a lack of social reciprocity (Carter, Davis, Kiln, & Volkmar, 2005). Individuals with ASD commonly experience difficulties with executive functioning such as working memory, problem solving, mental flexibility, and impulse control (Hill & Frith, 2003). There is evidence of ASD across all racial, ethnic, and socioeconomic groups, and ASD is four times more commonly diagnosed in males than in females (CDC, 2016). The severity of ASD symptoms vary from individual to individual; therefore, the impact of symptoms on the activities of everyday life will differ for each individual with ASD. Each of the symptoms in isolation, or any possible combination of ASD symptoms, could cause barriers to employment for the individual with ASD.

Diagnosis. ASD is a relatively new condition. It did not appear in the *Diagnostic and Statistical Manual of Mental Disorders* (DSM) until 1980 in the DSM-III, and was not considered a special education category until 1991 (3rd ed.; *DSM-III*; APA, 1980). The definition of ASD has changed continually through the years, at some points broadening the inclusion criteria and other versions shifted in order to make the diagnostic criteria much narrower (McGinty, 2015). This continuing evolution in the diagnostic criteria have resulted in significant changes in the reported prevalence rates for autism (King & Bearman, 2009). The newest *DSM*, the *DSM-5*, will only allow for one diagnosis, Autism Spectrum Disorder with

varying levels of severity. The *DSM-5* also combined what was two separate core features in the *DSM-IV-TR*, social deficits and communication deficits into one feature called social communication and social interaction (Matson, Belva, Horovitz, Kozlowski, & Bamburg, 2012). These changes resulted in a stricter criterion in order to obtain an ASD diagnosis, therefore, a decrease in ASD diagnosis rates has occurred. A study by McParland et al. (2012) of 933 participants diagnosed with having ASD under the *DSM-IV* found that 39% would no longer meet the criteria for an ASD diagnosis using the updated *DSM-5* criteria. Since ASD is a spectrum, individuals may share the same diagnosis but have largely different impairment levels. Levels of impairment in individuals with ASD are measured by an individual's cognitive functioning, language abilities, and behavior (Gotham, 2010). ASD can co-occur with an intellectual disability or other disabilities. One third of individuals with ASD have at least one of the three most commonly co-occurring conditions; ADHD, intellectual disability, or epilepsy (Peacok, Amendah, Ouyang, & Grosse, 2012). The presence of a co-occurring disabilities can cause further limitations and vocational challenges for an individual with ASD.

Prevalence. The ASD prevalence rate has increased exponentially over the past twenty years. In 1996, the rate of autism was 3.4 out of 1000 children had mild to severe autism (Gottleib, 2003). The current rate, as measured by the CDC, is 1 in 68 eight-year-old children in the United States is on the autism spectrum (CDC, 2016). One explanation for the increase in the prevalence rate of ASD may be the refinement of diagnostic criteria. Individuals in the past who would now have an ASD diagnosis may have received other diagnoses such as childhood schizophrenia or a language disorder (Bishop, Whitehouse, Watt, & Line, 2008; Coo et al., 2008). Such a phenomenon is called "diagnostic substitution", whereby one label replaces another label and results in a decrease in the prevalence of the first condition and a

corresponding increase of the prevalence of the second condition (McGinty, 2015). Additionally, the diagnostic criteria for an ASD has evolved over time, impacting the number of individuals eligible to receive an ASD diagnosis (Luntz, 2012). Additional explanations for the increased prevalence of ASD include an increased awareness of the condition by parents, physicians, and the media.

Asperger Syndrome. Asperger syndrome (AS) is a lifelong developmental disorder that is described as falling on the higher functioning side of the ASD spectrum (Barnhill, 2007). The condition was initially detailed in descriptions of children that a Viennese Pediatrician, Dr. Hans Asperger, described in an academic paper in 1944 (Asperger, 1944). The group of children Dr. Asperger described shared very similar personality characteristics and behavior traits (Attwood, 2006). The observed children had language impairments, challenges with reciprocal conversation, and challenges making friends. In 1981, Lorna Wing first used the term Asperger's syndrome as its own diagnostic category (Wing, 1981). It was first listed as a unique diagnostic category in 1994, in the DSM-IV (4th ed.; DSM-IV; APA, 1994). Individuals with AS are considered to have normal intellectual ability and syntactical speech; however, they still demonstrate deficits in pragmatic and nonverbal communication (APA, 2000). The non-verbal behavior deficits can include lack of eye contact, lack of social reciprocity, or repetitive behaviors (APA, 1994). Individuals with AS often struggle with social interactions because of these social skill deficits that are innate to their condition. AS is often considered a milder, higher functioning form of autism (Smith, 2007). One study estimated that that twice as many children are diagnosed with AS than are diagnosed with classic autism (Van Bergeijk & Shtayermman, 2005).

The current *DSM-5* (APA, 2013) does not contain an AS as a stand-alone diagnosis. Individuals who demonstrate AS type symptoms would now be diagnosed with Social Pragmatic Communication Disorder, or the broad umbrella diagnosis of Autism Spectrum Disorder (ASD). Individuals previously diagnosed with Asperger's may choose to continue to identify with their Asperger's diagnosis and feel that an ASD diagnosis is incorrect for them. The current study focused on the group of adults who reported being previously diagnosed with AS. The term highfunctioning autism (HFA) is used somewhat interchangeably with AS in the ASD literature. However, the term HFA is offensive to some individuals who have been diagnosed with ASD and has been shown to be somewhat subjective rather than an actual clinical diagnosis, this study will not include the use the HFA in the terminology.

Education

Elementary and Secondary Education. Children with ASD are protected by Public Law 94-142 (1975), now known as the Individuals with Disabilities Education Act (IDEA), while they are enrolled in public elementary, middle, and high schools. IDEA mandates that students with disabilities receive appropriate special education services that match their needs and abilities. Students with ASD make up the 6th largest population of students receiving special education services in the United States (U.S. Department of Education, 2007). While in the education system, students with special needs, including ASD, are required to have an individualized education plan (IEP) that reflects the students' abilities, interests, and annual educational goals. Each student's IEP is updated annually by a team that includes: the student, the educators who work with the student, any special service providers for the student such as an occupational therapist or speech therapist, the student's family, and typically a member of the school's administrative staff.

Transition Planning. A post-high school transition plan should be developed before a student with ASD turns 16 according to IDEA and if necessary at age 14 (Public Law 108-446, 2004). The transition plan is created by the student, the student's family or guardian, the teachers who work with the student, any service provider with whom the student works (e.g., speech therapist, occupational therapist), school administrators, and ideally a vocational rehabilitation counselor. The goal of the transition plan is to take into account the student's preferences and interests and, as a group, to develop post-high school plans and resources to help the student with ASD achieve their post-high school goals. Due to the complex nature of ASD, Cimera et al. (2013) suggested that a student's transition plan should be initially developed at age 14. Research demonstrates that students who are well prepared for the transition from high school to adulthood have increased positive adult outcomes (Chiang, Cheung, Hickson, Xiang, & Tsai, 2012). However, students with ASD are significantly less likely to attend the Individualized Education Program (IEP) meeting for transition planning, and when they do attend they are not actively involved in the development of their transition plan (Shogren & Plotner, 2012). Unfortunately, transition plan goals for students with ASD frequently portray low expectations, and plan for sheltered employment more frequently than for postsecondary education or competitive employment.

During high school, students with ASD typically focus entirely on academics with little or no instruction on obtaining or maintaining employment (Lee & Carter, 2012). Educational goals for individuals with ASD should focus on providing the individual opportunities to acquire skills that increase independence, social responsibility, and employability (Hendricks & Wehman, 2009; Test, Smith, & Carter, 2014). While social skill deficits are a core component of ASD and one of the primary barriers for individuals seeking employment, Bennet and Dukes

(2013) reported a dearth of research studies on social skill interventions for students with ASD in secondary education. High school students with ASD are also far less likely than their peers without disabilities to have had part-time employment or internships while in school (Roux et al., 2013). The high school years also magnify the social skill deficits and the resulting isolation from their peer group that many individuals with ASD experience. Adolescents with ASD are more likely to never see friends out of school, to never get called by friends, and to not receive invitations to social activities when compared to same age peers (Shattuck, Orsmund, Wagner, & Cooper, 2011).

The transition from high school to postsecondary education or to employment is often a challenging, anxiety producing, and exceptionally difficult time period, for young adults with ASD (Hendricks & Wehman, 2009). Due to the lack of appropriate community resources available to individuals with ASD and their families, this time period has been described as a "confusing maze of misinformation, limited opportunities, insufficient resources and inappropriate or time-limited services" (Gehardt & Holmes, 1997, as cited by Eaves & HO, 2008, p.739). Young adults with ASD are faced with decisions during this transition that can potentially alter the rest of their life.

Individuals with ASD are less likely to graduate high school with a regular education diploma and less likely to participate in postsecondary education (Newman, 2007). Additionally, young adults with ASD demonstrate lower rates of participation in both postsecondary education and employment when compared to peers with speech and language impairments, intellectual disabilities, and learning disabilities (Shattuck et al., 2012). These young adults may remain in school receiving services until age 21 in most states or age 26 in Michigan, or they may graduate high school with a high school diploma or a certificate. Once they have completed high school,

the young adult with ASD as well as his or her support system must decide what comes next for this individual. For some individuals, immediate employment is possible, others continue to live at home and not work, and others decide to pursue postsecondary education. It is reported that only one-half of young adults with ASD work for pay within the first 8 years after high school (Roux et al., 2013). Ironically, young adults with ASD that would have previously been diagnosed with Asperger's Syndrome or considered "high functioning" are up to three times more likely to have no employment or structured day time activities when compared to young adults with ASD and co-morbid intellectual disabilities (Taylor & Seltzer, 2011).

Individuals with a postsecondary education in the general population are more likely to be employed than those without (Ayers, 2013), and this statement remains true for individuals with ASD (Migliore, Timmons, Butterworth, & Lugas, 2010). Individuals with ASD who have postsecondary educations have significantly better odds of obtaining competitive employment when compared to individuals with ASD who have less than a high school education (Sung et al., 2015). There are several ways educators can help to facilitate and encourage students with ASD to continue their education at the postsecondary level. First, educators should make sure that their students with ASD are made aware of postsecondary opportunities as early as possible and include this goal in the student's IEP. Secondly, educators must then ensure, if at all possible, that the student with ASD is educated in a general education curriculum and assist the school in employment of effective instructional strategies to improve academic performance (Chiang et al., 2012). Lastly, it has been shown that students with ASD who experience rigorous academic curriculum that reflect high academic expectations fare better in postsecondary education (Test et al., 2014).

Family Involvement. One of the primary characteristics in the transition planning period for young adults with ASD is the active involvement of both the individual with ASD and their family (Benz, Lindstrom, & Yovanoff, 2000). The importance of parental involvement in the development of the IEP has been stressed since 1975 (PL 94-142) and its importance was further emphasized as one of the six main tenants of IDEA. It has been established that appropriate parental expectation and participation in their child's education is strongly predictive of the child with ASD's academic achievement (Hill & Tyson, 2009). However, parents of children with ASD are often at a disadvantage when participating in the education process. Parents often view themselves as "outsiders", since they are often the only participants of the IEP meeting that are not employed by the school district and may not have the same depth of understanding of the IEP process (Tveit, 2009). Many parents of children with ASD report they have experienced conflict with an IEP team (Tucker & Schwartz, 2013). Parents of children with ASD face increased difficulties and stressors that parents of neuro-typical children do not. These additional stressors include increased financial expenditures, caretaking, dealing with challenging behaviors, as well as increased time commitments to participate in educational meetings (Tucker & Schwartz, 2013). Research indicates that an increase in the severity of a child's autism was correlated with a greater level of stress reported by the parents (Lyons, Leon, Roecker Phelps, & Dunleavy 2010).

Parents of children with ASD report filling multiple roles as they support their child through the public education system (Stoner & Angell, 2006). First, they reported feeling as if they are acting as a negotiator to get the outcomes they desire in meetings and conferences. Next, parents of children with ASD report they feel one of their roles is a monitor, they are responsible to ensure their child is receiving the services promised in the IEP and they are

making appropriate educational progress. Lastly, parents of children with ASD report they fill the role of the advocate, both in and out of their child's classroom (Stoner & Angell, 2006).

Families of individuals with ASD report high levels of stress and depression and lower psychological wellbeing across the individual's lifespan (Gray, 2002). Families of individual's with ASD play a vital support role during the transition period. As the school supports discontinue post high school, the parent or family takes on the role of advocate in searching out postsecondary and vocational opportunities for their son or daughter with ASD (Smith & Anderson, 2014). Parents of students with ASD report high levels of anxiety when they consider their child's future prior to them exiting high school (Lounds et al., 2007). Parents of children with ASD report being highly unsatisfied with the current information and options available for their son or daughter post high school (Parsons et al., 2009). As an individual with ASD transitions out of the highly structured secondary school environment, studies by Taylor and Seltzer (2010, 2011) showed an increase in the individual's problem behaviors and a decrease in the quality of the individual with ASD's relationship with his or her parents. A study by Neely et al. (2012) demonstrated that social and economic stressors continue for the family of the individual with ASD even after the individual with ASD enters adulthood. Each year approximately 50,000 youth with ASD turn 18 every year and each of those individuals and their families will go through a major transitory period (Shattuck, 2012). Research has demonstrated that individuals with a postsecondary education experience improved employment outcomes, and employment correlates with a higher quality of life, it is necessary that individual's with ASD are encouraged to participate in postsecondary education when appropriate.

Postsecondary Education. The number of college students with ASD is increasing (Smith, 2007). The National Longitudinal Transition Study-2 (NLTS2), a U.S. Department of

Education longitudinal study about the secondary and postsecondary experiences of students from all 12 federal disability categories, shows 47% of students with ASD continue their education and attend some type of postsecondary education institution. For comparison purposes, the table below summarizes the postsecondary outcomes in education for the general population, young adults with disabilities, and young adults with ASD.

Table 1

Postsecondary Enrollment	Young adults in the	Young adults	Young adults
	General Population	with Disabilities	with ASD
Any Postsecondary schooling	62%	55%	47%
2 year or community college	21%	37%	33%
Vocational, business, or			
technical school	17%	28%	20%
4-year college	37%	15%	16%

NLTS2: Data for Students Ever Enrolling in a Postsecondary School (NLTS2, 2007)

Source: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Sudy-2 (NLTS2), Wave 4 parent interview and youth interview/survey, 2007; U.S. Department of Labor, Bureau of Labor Statistics, National Longitudinal Survey of Youth 1997 (NLSY97) 2001 youth survey, responses for 19-23 year olds.

Students without the cognitive impairments associated with individuals who are "lower functioning" on the autism spectrum and who would previously have been diagnosed with Asperger's syndrome, are able to gain college admittance and do well academically in college

(Mynatt et al., 2014). Attending postsecondary education has been demonstrated to increase independence, self-determination, self-confidence, and increases the chances the individual with ASD will be competitively employed in the future (Getzel & Thomas, 2008; Hart, Grigal, & Weir, 2010). However, young adults with ASD continue to enroll in postsecondary education at much lower rates than their cognitive and academic abilities might predict (Shattuck et al., 2012).

Individuals with ASD who chose to pursue postsecondary education will likely still struggle with poor communication skills as well as poor planning and organizational abilities (Adreon & Durocher, 2007). These deficits can lead to difficulties understanding course work instructions, as well as problems planning, organizing, and completing required assignments (Cai & Richdale, 2016). Therefore, college students with ASD may need academic accommodations to succeed. Previous studies have suggested that extended time on tests, reduced course loads, class registration assistance, and preferential classroom seating may be beneficial to a student with AS/ASD (Smith, 2007). Students with ASD in the postsecondary setting may struggle with time management, interpersonal skills, and organizational skills rather than with academic issues. Postsecondary students with ASD must create an entirely new support system than the one they utilized in high school (Palmer, 2006).

Entitlement to eligibility services. Special education services in K-12 public schools are provided as an entitlement service, meaning it is the responsibility of the schools to identify students with special needs and to provide such students appropriate services. However, a student with ASD at the postsecondary level must self-identify as having a disability and bring documentation of their disability to their campus disability services office in order to request or receive accommodations (Grossman, 2001). A postsecondary student with ASD may be reluctant

to self-disclose because they do not want to be seen as different from other students (Attwood, 2006). Students with ASD often transition to postsecondary education with very little knowledge of their own disability and what supports and assistance are needed. Such students also struggle to advocate for their needs. The inability to self-advocate, in part, results in a lack of appropriate services for individuals with ASD at the postsecondary level (Getzel, 2008).

Individuals with ASD at the postsecondary level may have obvious academic abilities and expertise; however, because ASD is an invisible disability that cannot be easily identified, without disclosure faculty and other students may not understand or be accepting of the social deficits of inherent to ASD (Camarena & Sarigiani, 2009). A postsecondary student with ASD will likely experience significant barriers when attempting to engage in the social aspects of college life. Postsecondary students typically have active social lives that can include clubs, organizations, intermural recreation teams, and student societies. Students with ASD may struggle to initiate contact with groups or clubs they are unfamiliar with and based on social skills deficits, they may face ridicule and rejection from their peers (Attwood, 2006).

Postsecondary support. Some colleges have created specialty groups specifically to cater to postsecondary students with ASD. Programs specific to students with ASD offer a wide range of services such as academic and social supports, peer mentors, organized outings, and independent living instruction. Parents and postsecondary students with ASD reported that the presence of programs specially designed to promote success for students with ASD on campus would increase their likelihood of choosing a particular college and would impact their decision to live in the residence halls (Camarena & Sarigiani, 2009). While some programs are grant funded and free for the student with ASD, most of these ASD specific programs are provided at an additional cost and can be very pricey, costing anywhere from \$1,000 to over \$8,000 a

semester. Michigan State University has a program called Building Opportunities for Networking and Discovery (BOND). The BOND program offers students with ASD social and communication opportunities for development. The BOND program connects students with ASD who may share similar interests or challenges, provides academic supports, facilitates groups to enhance social skill development, and provides opportunities for social activities (BOND, 2015).

The College Support Program (CSP) at Rutgers University uses a coordinator that meets with the student weekly to assist the student in identifying needs and matching the student with ASD with university resources. The CSP program provides the student with ASD with peer mentors to address social difficulties and isolation. The program is able to deal with both academic accommodations and problems that may arise as the student with ASD learns to live independently (CSP, 2015). Nova Southeastern University created the Access Plus Program which originated with the concept that student's with ASD can live independently and participate fully in campus life. The Access Plus Program provides academic, residential, and social supports to the student with ASD as well as facilitates psycho-educational support groups and vocational opportunities (Access Plus, 2016). The Access Plus program provides a daily twohour study hall that is staffed by peer mentors to assist the student with ASD with academic issues. The Access Plus Program also has a 24-hour help line the student with ASD may call at any time to address any number of concerns. The program examples are a random sampling of ASD specific support programs that exist in colleges around the United States. As students with ASD continue to enroll in postsecondary education and request accommodations, these types of programs will become increasingly more common.
Most people associate the completion of a college degree with obtaining employment. However, this is not an easy transition for individuals with ASD. Individuals with ASD who have a college degree may still lack the understanding of workplace social skills needed to present well to employers and coworkers. It is recommended that individuals with ASD in postsecondary education use those years to help build their resume with job experiences, both paid and unpaid (Palmer, 2006). The two strongest predictions of higher earnings in employment for individuals with ASD have been shown to be participation in postsecondary education and receiving vocational rehabilitation services while in college (Migliore, Timmons, Butterworth, & Lugas, 2012). While enrolled in postsecondary education experience and after completing college, individuals with ASD are eligible to seek assistance from vocational rehabilitation services. However, it is important to note that students attending college out of state may not be able to access their own states VR program due to residency qualifications.

Vocational Rehabilitation

The United States Vocational Rehabilitation System (VR) is administered by the US Department of Education. The goal of VR is to increase independence in adults with disabilities and to maximize employment outcomes. In order to be determined eligible to receive VR services, an individual must have a physical or mental impairment that creates a barrier to employment, need VR services to prepare for, secure, retain, or regain employment, and be able to benefit from VR services. Examples of potential VR services are assessment, job placement assistance, assistive technology, and on-the-job training. Each individual who is deemed eligible for VR services has an Individualized Plan of Employment (IPE) that is developed with his or her input. The IPE includes the job goal of the individual and what services will be provided by VR in order to help the individual attain their vocational goal.

The current VR system is particularly unsuited for the unique needs of adults with ASD (Hendricks, 2010). Individuals with ASD are denied services by VR at greater rates than individuals in all other disability groups due to determinations that their disability is too severe for them to be able to benefit from VR services (Lawer, Brusilovkiy, Salzer, & Mandell, 2009). Traditional VR assessments and interventions may be ineffective in addressing the needs with individuals with ASD, as they do not communicate their needs or vocational interests in typical ways and require adaptation and patience on the part of the VR counselor (Morgan & Shultz, 2012). Individuals with ASD have the most expensive cases of any disability group VR assists; however, higher expenditures for services is associated with greater instances of positive employment (Lawer et al., 2009). In general, VR consumers who received on-the-job training and job placement services were most likely to find competitive employment (Hayward & Schmidt-Davis, 2003; Migliore et al., 2012). However, even those VR consumers with ASD whose cases are closed successfully based on obtaining competitive employment work fewer hours and earn lower wages than other groups served by VR (Cimera & Cowan, 2009).

Ideally, an individual with ASD will first make contact with VR in their transition out of high school. There has been a substantial increase of transition age individuals with ASD accessing VR services over the past 10 years (Burgess & Cimera, 2014). Between 2002 and 2006, there was a 121% increase in the number of individuals with ASD seeking VR services (Cimera & Cowan, 2009). Sadly, only 1/3 of transition age adults with ASD who accessed VR services achieved successful employment, meaning 67% of individuals did not achieve successful employment (Burgess & Cimera, 2014).

Competitive and Supported Employment. VR considers employment in two forms: competitive employment and supported employment. Competitive employment is employment

in an integrated setting where the individual with a disability is making minimum wage or above, and the individual may or may not need supports on the job. An "integrated setting" is defined as a setting that is common in the community where the employee with a disability interacts with people without disabilities, other than those professionals providing vocational services to the individual. Competitive employment in an integrated setting is considered to be the most desired outcome for adults with disabilities (WIOA, 2014). However, competitive employment for individuals with ASD occurs less than non-competitive employment, or supported employment (Wehman et al., 2016).

Supported employment may or may not meet the minimum wage requirement and focuses on enabling a person with a disability to maintain paid employment that is in an integrated work environment (Mawhood & Howlin, 1999). Customized employment is an option through supported employment specified in the Workforce Innovation and Opportunities Act (WIOA, 2014). Customized employment is a process in which the person with a disability who is seeking employment partners with an employment specialist to design a job that matches the needs of the employer and also aligns with the strengths and abilities of the individual with a disability (Wehman et al., 2016). Sheltered employment is another type of supported employment. Sheltered employment does not occur in an integrated setting, and the individual may or may not be paid and if paid, is often sub-minimum wage. Sheltered employment is only used by VR as a time limited service to prepare the individual for integrated employment. However, past research has demonstrated that sheltered employment is not effective in helping individuals with disabilities progress toward competitive employment (Bond, 2004; and Drake et al., 1999). Sheltered employment includes less social interaction and less income for the individual with a disability. VR does not consider long term sheltered employment to be a

positive vocational outcome. One study found that individuals who participate in a sheltered workshop employment setting have higher service costs to the VR organization without significantly improving the employment outcome (Cimera, Wheman, West, & Burgess, 2011).

Some individuals with ASD will require outside support to maintain their jobs for the rest of their lives, these individuals can remain in a supported employment setting permanently. There is a dearth of research about effective interventions for individuals with ASD in a supported employment setting (Taylor et al., 2012). However, supported employment can eventually lead to successful competitive employment for some individuals with ASD. Wehman et al., (2012) conducted a study that demonstrated the success of supported employment evolving to competitive employment for adults with ASD. The study enrolled 33 participants with ASD in a supported employment program. At the end of the study, 27 participants had been placed into competitive employment. This process of initially providing the individual with ASD with substantial supports in order for them to acquire the skills and behavior modifications needed to be successful in a less supported environment has been successful with this population.

The state federal VR system has increased its attention to individuals with ASD over the past ten years. The has been new policy changes such as the Workforce Innovation and Opportunity Act (WIOA, 2014) have mandated additional services to be provided to youth, individuals making sub-minimum wage, and those working in sheltered workshops. To summarize, individuals with ASD are often denied VR services because of the perceived severity of their disorder and those who are accepted by VR and able to find employment using VR services work fewer hours and earn less than other disability groups that VR serves. VR services to help individuals with disabilities find employment are federally mandated under the

Rehabilitation Act of 1973. Individuals with ASD are protected and provided services by this act and by several other pieces of legislation.

Employment Legislation. Individuals with ASD have legal protection both under Section 504 of the Rehabilitation Act of 1973 (Section 504) and the Americans with Disabilities Act (ADA) of 1990 while they are pursuing postsecondary education, searching for employment, and while they are actively employed. Section 504 of the Rehabilitation Act of 1973 prohibits discrimination on the basis of disability in any program that receives federal financial assistance.

ADA. That ADA was established with the goal of increasing employment opportunities and wages for individuals with disabilities by eliminating employer discrimination (Baldwin, 1997). The ADA includes specific employment provisions that were enacted to guarantee equal employment rights for individuals with disabilities, therefore leading to greater employment opportunities (Bruyere et al., 2010). The provisions of the ADA prohibit employment related discrimination against people with disabilities and require employers to make reasonable accommodations to assist in work place function. Reasonable accommodations are required during the application process, during performance of the essential functions of the job, and in receipt of benefits and privileges of employment (Bruyere et al., 2010). Reasonable accommodations may include making facilities accessible, modifying a work schedule, restructuring job duties, and providing assistive technology when needed. Employers are not required to provide accommodations that would cause undue hardship on the business.

Employment

Traditionally, individuals exit the secondary and postsecondary educational setting with the goal of obtaining employment. Employment allows individuals to earn money, pursue their interests, and interact with others while contributing to an individual's feelings of self-worth

(Hendricks, 2010). Individuals with ASD face disadvantages in both finding and maintaining employment. Even in situations when an individual with ASD obtains employment, it is often part time and menial (Taylor & Seltzer, 2011). Literature demonstrates that individuals with ASD are often underemployed and if employed they often work in low paying and low skill positions (Howlin et al., 2013; Levy & Perry, 2011). Young adults with ASD are less likely to work full time, have held fewer jobs, and earn less per hour than young adults with other disabilities (Roux et al., 2013). Employment allows individuals with ASD to contribute to society and not be dependent on publically funded programs such as SSDI (Roux et al., 2013). Further, the quality of life for individuals with ASD has shown to be improved if they are employed (Fleming et al., 2013).

Research indicates that barriers to employment for individuals with ASD can be separated into two distinct categories: (a) those barriers that prevent the individual with ASD from participating in the vocational setting (i.e. SSDI, transportation, education requirements, disability symptomology, and medication side effects) and (b) those barriers that exist within the actual hiring process (i.e. employer bias, disability disclosure) (Spirito-Dalgin & Bellini, 2008). Both categories of barriers pose significant challenges for individuals with ASD in the employment process. The primary barriers that impact individuals with ASD in vocational settings are the social skill deficits inherent to the condition. These social skill deficits can cause employment problems from the initial stage of employment, the interview. During the interview an individual with ASD may not be able to have a typical reciprocal conversation or think quickly enough to respond to interview questions thoroughly (Berney, 2004).

Participants in Hurlbutt and Chalmers (2004) study reported frustration at the fact that success on the job involves much more than the ability to do job tasks as it also includes the

ability to get along socially with coworkers and supervisors. The participants explained that while working they had to put a great deal of effort into thinking about the social aspects of their job and that doing so became exhausting. This effort can come from trying to discern social cues, knowing what conversation topics are work appropriate, and being competent at social interactions. Such added mental exertion can cause stress and fatigue in the employee with ASD (Hurlbutt & Chalmers, 2004). Thomas (2015) found that social ability was impactful on employment success, and that repetitive behaviors and restricted interests of the individual with ASD had no relationship to employment

The social skill deficits innate to ASD can cause issues in one's soft skills in an employment setting. Soft skills are character traits, attitudes and behaviors as opposed to "hard skills" which are technical skills or knowledge (Robles, 2012). One factor that is a core component of an individual's soft skills are their interpersonal skills. Research indicates that interpersonal skills are the most important skills at all job levels for employees both with and without disabilities (Smith, 2007). Appropriate interpersonal skills can promote a positive attitude, effective communication, and respectful interaction (Evenson, 1999). However, based on the social skill deficits that are innate to individuals with ASD, soft skills will likely have to be explicitly taught and interpersonal skills will always be a challenge. Individuals with ASD may struggle to be engaged in informal office discussions and projects that involve team work (Richards, 2012). They may have an impaired ability to connect with coworkers and struggle to interpret coworker's nonverbal behaviors.

Individuals with ASD will likely have difficulty understanding "unwritten rules", or social norms within the office setting that are "common sense" and not explicitly stated anywhere. An unwritten rule could be something like casual Friday, where jeans are acceptable

attire even though they are not permitted Monday through Thursday. Individuals with ASD may be challenged in dealing with unanticipated change in the work setting, or job tasks. Further, individuals with ASD may have poor hygiene and self-care and may act inappropriately towards individuals of the opposite sex (Hendricks, 2010).

Communication Concerns Unique to ASD. Some of the core social features innate to ASD can make individuals who have it ideal targets for bullying behavior. Bullying behavior is typically thought of as an issue for school-age children; however, it may continue into adulthood. An individual who is bullied is at risk of acquiring serious emotional and behavioral problems as a result of the bullying (Scholte et al., 2007). Research demonstrates that individuals with ASD are at a greater risk of bullying because they are less socially competent than their peers, they have trouble understanding nonverbal behaviors, and because they have a much smaller social network of people they consider friends (Frith & Hill, 2004). A study by Little (2001) found that 75% of adolescents with ASD had been victimized by their peers.

A large percentage of individuals with ASD also meet the DSM criteria for Social anxiety disorder (Maddox & White, 2015). Social anxiety is considered a feature of ASD and is defined as "excessive concern about social situations due largely to fear of potential negative evaluation by others" (Alfano et al., 2006) however not all adults with ASD who have social anxiety meet the diagnostic criteria for social anxiety in the DSM-5. The symptoms of social anxiety include avoidance of feared social situations as well as physical symptoms such as blushing, trembling, and increased heart rate. White (2013) explained how social anxiety paired with the social skill deficits inherent to ASD can lead to a very negative spiral for individuals with ASD. For example, and induvial with ASD may be aware of their social skill deficits and therefore be more anxious about social interactions, which can lead to avoiding social situations where they could

improve their social skills and interpersonal communications (Maddox & White, 2015). A study of adults with ASD and social anxiety ranked the three most feared situations for them are parties, speaking in front of a group, and speaking with unfamiliar people (Maddox & White, 2015).

Individuals with ASD reported that problems with social skills, communication, dealing with change, and sensory problems contributed to their difficulty in obtaining and maintaining employment (Griffith, Totsika, Nash, & Hastings, 2011). Sensory abnormalities occur in at least 90% of individuals with ASD (Leekam, Nieto, Libby, Wing, & Gould, 2006). Sensory issues can involve auditory, visual, touch, smell, or oral functions. Individuals can become so distressed over a sensory issue they may not be able to verbalize the cause of their distress (Leekam et al., 2006). Oftentimes, sensory issues such as air conditioner unit noise or a coworker's perfume which are troubling to the individual with ASD are not even noticeable to an individual without ASD.

Previous studies have found that individuals with ASD reported frequent job changes and periods of unemployment (Muller et al., 2003). Frequent job changes and periods of unemployment can negatively impact an individual's employment opportunities and may limit their overall career development (Muller et al., 2003). Job loss and unemployment may also contribute to mental health issues such as stress and depression (Hurlbutt & Chalmers, 2004).

The second category of barriers to employment for individuals with ASD are related to those challenges an individual confronts during the hiring process. ASD is an invisible disability; it is not possible to simply look at someone and know, based on their physical features, that they have ASD. Since an employer cannot know simply by looking at an individual that he or she has ASD, it is up to the individual whether or not he or she discloses their ASD diagnosis. Disability

disclosure is a complicated issue. Without disclosing his or her disability, the individual with ASD is unable to ask for or receive workplace accommodations. However, by disclosing their disability, the individual may face discrimination from the employer based on the employer's perception or knowledge of ASD.

The Americans with Disabilities Act (ADA) was created to protect people with disabilities from discrimination in the workplace; however, since its passage in 1990, the employment rates of people with disabilities has not increased (Weathers & Wittenburg, 2009). The fact that people with disabilities remain unemployed at such high rates even after the creation of the ADA lends itself to the idea that employers still discriminate in the hiring of people with disabilities. Employers have reported their hiring practices are influenced by negative attitudes about people with disabilities, including a belief that people with disabilities lack skill and also a perception that all workplace accommodations are costly (Lengnick-Hall, Gaunt, & Kulkarni, 2008). Under the ADA, an employer is responsible to provide reasonable modifications that would allow the individual with ASD to perform the essential functions of the job efficiently and productively. It is completely up to the individual with ASD when they disclose their disability, if they decide to do so. Some individuals chose to disclose their disability before the interview, others at the interview, and still others wait until they have been offered and accepted the position before they choose to disclose their disability.

While there are a multitude of employment barriers for individuals with ASD, there are also vocational strengths that should be mentioned. Employers report being pleased with their employees with ASD based on their significant focus on their tasks and attention to detail. Some individuals with ASD have exceptional logical and mathematical acuity, outstanding computer skills, and some have a photographic memory (Gentry et al., 2015). Individuals with ASD are

often content with positions that other employees tend to dislike based on the repetitiveness of a task (Smith et al., 1995). Employers report valuing the trustworthiness, reliability, timeliness, and low absenteeism of employees with ASD (Hendricks, 2010). Further, employers report that their employees with ASD are often better performers at work than others and that these employees remain loyal to their position for longer periods of time (Sheiner, 2013). Finally, several studies (Hagner & Cooney, 2005; Hillier et al., 2007) have shown that supervisors rated the job performance of their employee with ASD as average or above average. Some employers actually value the limited social interest that a person with ASD may have, as the worker may be less likely to engage in prolonged and unnecessary social interactions with peers (Capo, 2001).

Factors Related to Employment Success. Research has indicated predictors of success in adulthood as well as recommendations to help individuals with ASD achieve the most independent lives possible. Young adults with ASD who have better communication skills, functional skills, and come from higher income households were more likely to achieve employment, potentially because those families have less access to vocational resources (Roux et al., 2013; Shattuck et al., 2012). The vast majority of individuals with ASD who are educated in segregated settings will not obtain a high school diploma or work in their adult years (Howlin, Goode, Hutton, & Rutter, 2004); therefore, participation in inclusive education settings is vital for individuals with ASD. Participation in the workforce while in high school leads often to better competitive employment outcomes for individuals with ASD (Siperstein, Heyman, & Stokes, 2014; Wehman et al., 2014). A study done by showed a positive relationship between parental levels of education and the individual with ASD's engagement in the workforce (Taylor, Henninger, & Mailick, 2015).

Research has demonstrated that women with ASD are far less likely to be engaged in the workforce than men with ASD (Taylor et al., 2015). Individuals with ASD who demonstrate proficiency in independent living skills demonstrate more independence in employment settings (Taylor & Mailick, 2014). Certain demographic characteristics can also be factors in the prediction of employment success. Having ASD and the absence of a comorbid condition is a predictive factor of employment success (Chiang et al., 2013). The level of education attainment an individual with ASD achieves can also be predictive as to their employment success. Family support and the level of employment support provided to an individual with ASD can also be predictive of vocational success (Chiang et al., 2013).

A supportive supervisor is a factor that has been proven to have an extensive impact on the individual with ASD's success in the workplace (Hendricks, 2010). A group of supervisors who successfully employ individuals with ASD were surveyed and reported that certain supervisory techniques were especially beneficial to employees with ASD. These strategies include providing visual supports, task analysis, positive reinforcement, activity schedules, and prompting (Hagner, & Cooney, 2005). Other factors that supervisors felt were beneficial to employees with ASD were consistent work tasks and schedules, reduction of idle or unstructured time, and being direct when communicating with the employee. A flexible management style that is open to providing accommodations is imperative for individuals with ASD to be successful on the job. Research has shown that communication from the employer to the employee with ASD that includes comprehensive job expectations and the productivity requirements of the job leads to more successful employment (Scott, Falkmer, Girdler, & Falkmer, 2015).

The culture of the workplace where an individual with ASD is employed can also impact his or her success on the job. Employees with disabilities who perceive their workplace as having an inclusive climate report greater psychological empowerment on the job and higher levels of organizational support (Disability Case Study Research Consortium, 2008). As a result of feeling included in the workplace, individuals with disabilities report a positive impact on their job satisfaction, their commitment to the organization, and increased productivity (Disability Case Study Research Consortium, 2008). An indicator of an inclusive workplace culture is when employees are comfortable in disclosing their disabilities and asking for accommodations without fear of rejection or discrimination. Based on the importance of having an inclusive workplace culture and its role in impacting the successful employment of adults with ASD, it is important that coworkers, employers, and other staff around the individual with ASD be provided with support and education (Walsh, Lydon, & Healy, 2014). Coworkers who witness their colleagues with ASD being treated fairly may also develop further loyalty and commitment to the organization (von Schrader, Malzer, & Bruyere, 2014).

Studies have shown that employment success for an individual with ASD is dependent on the relationship between the requirement of the job and the abilities of the individual with ASD (Mawhood, & Howlin, 1999). This can mean the modification of a job to make it a better match for the employee with ASD. A common modification for individuals with ASD includes having a consistent work schedule and set of job duties that does not vary. Sometimes modification is needed to reduce the social demands of the job (Hagner & Cooney, 2005). Frequently, a visual aide can assist an individual on the job. This could be an instruction sheet, a checklist with pictures, or the labeling of items the individual will need to use. It is important to note that each of the job modifications listed have either no cost or very low cost to the employer.

Strategies to Promote Employment Success. There is sparse data regarding tools that can be used to assist individuals with ASD to be successful in the employment setting. Most research literature about ASD interventions is regarding children ages three to 6 years old (Shattuck et al., 2012). As a result, there is only a limited body of research that is useable for VR and employment support providers who are seeking evidence based methods of interventions for individuals with ASD (Gentry et al., 2015). A longitudinal study by Taylor and Mailick (2014) followed 406 adolescents and adults with ASD for 10 years and tracked their vocational and educational activities. The results of this study demonstrate very poor vocational progress for the participants over the course of the 10-year study. Only 5 percent of the participants showed improvements in their vocational situation, while 13.3 percent of the participants showed vocational scores that significantly declined over time (Taylor & Mailick, 2014). This data demonstrates that the barriers to employment experienced by individuals with ASD continue well into adulthood. Additional data in the area of effective employment strategies are needed to inform service providers who assist individuals with ASD on the job site.

Job coaching. A strategy frequently used to promote employment success for an individual with ASD is the provision of a job coach when the individual has acquired a new position. A job coach is a professional who is specially trained to work with individuals with disabilities as they begin a new job. A job coach is trained to teach both job task skills and social skills. Having a job coach present can assist employees with ASD as they learn their new job tasks and navigate the new work culture (McInnes, Ozturk, McDermott, & Mann, 2014). It is the responsibility of a job coach to help the individual with ASD understand the unspoken rules of the workplace and hopefully head off any problem behaviors right away. Job coaches initially spend more time with the employee with ASD on the job site but as the employee demonstrates

the ability to perform job tasks independently the job coach should fade out (McInnes et al., 2014). Job coaching can be very expensive to maintain as the job coach usually makes more hourly than the employee with ASD. If the individual is working in a competitive setting, the job coach will fade out as soon as the individual with ASD is able to complete the job in a satisfactory way and no longer needs social coaching.

Personal digital assistants. A less obtrusive and cheaper form of vocational support can be provided by personal digital assistants (PDA) such a smart phone, tablet, or iPod. These handheld pieces of assistive technology can be useful in modifying behavior, fostering communication and learning job tasks (Hill et al., 2013). There are many applications available for download by these types of devices that would assist in the job performance, social interactions, and accessibility of an individual with ASD on the job site (Gentry et al., 2014). A study completed in 2014 used a randomized sample of adults with ASD who were beginning a new job with a job coach. One group received training on the use of a PDA as a vocational tool at the start of their new employment, the other group received the PDA training after 12 weeks on the job. The group that received the PDA training initially required significantly less hours of job training the first 12 weeks on the job and also continued needing fewer job coaching hours than the control group even after the 12-week point that the second group was also using the PDA (Gentry et al., 2015). This study demonstrates that using a PDA as assistive technology significantly diminish the worker with ASD's need for job coaching support while maintaining an adequate functional job performance (Gentry et al., 2015).

Employees with ASD may struggle to learning and memorize their schedule or what task comes next, visual supports are very helpful in this situation (Myles et al., 2007). For example, a visual schedule can easily be created on a PDA to assist the employee with ASD in maintaining

his or her daily schedule, knowing what comes next, and have been shown to be effective in improving functional independence in individuals with ASD (Gentry et al., 2010). A checklist can also be created and kept on a PDA for the individual with ASD to refer to as needed on the job. Video modeling of task sequences can be housed on an individual's PDA so they may refer to them as needed.

PDAs can also provide the opportunity for an employee with ASD to use video modeling as a job training tool. Video modeling is a technique that is evidence-based and proven effective to teach vocational and social skills to individuals with ASD (Bellini & Akullian, 2007; Kellems & Morningstar, 2012). In the vocational setting, video modeling can be used to teach a new job task or to work on an existing task the individual with ASD is struggling with. Individuals with ASD are typically visual learners and do best when information is presented using written word, pictures, or videos (Kellems & Morningstar, 2012). Video modeling requires either the individuals themselves or someone else being video recorded correctly preforming a job task. The individual with ASD can then watch the job task video in order to learn a task or recall it if they forget how to correctly complete a task. Individuals using video modeling demonstrate quicker skill acquisition compared to someone modeling the task live (Charlop-Christy, Le, & Freeman, 2000). Video modeling can be especially useful in teaching someone with ASD a complex task. Video modeling is a great resource for employers to use because they only have to record the task one time and the individual with ASD can re-watch it as often as necessary without having to ask for additional help. Video modeling can also be used to remind the individual with ASD about appropriate social interactions (Hill et al., 2013).

The use of a PDA for job assistance rather than a job coach may allow the individual with ASD to maintain more confidentiality about their diagnosis, as most everyone in the population

has and uses a PDA so using one would not draw any additional attention to themselves in the workplace. Also, because the use of PDAs is commonplace, socially accepted, age appropriate, and portable, their use as an intervention tool has a higher probability it will be implemented (Hill et al., 2013).

Visual aids. Another strategy that is useful for improving the workplace success for an individual with ASD is the use of work stations with appropriate visual systems. Hume and Odom (2007) reported that visual systems need to communicate the task, the amount of work to be finished, a signal the work has been completed, and instructions for what the employee is to do next. Hume and Odom (2007) demonstrated an intervention using work systems with appropriate visual systems increased employee on task behavior time and decreased the number of prompts the worker with ASD needed to complete a task.

Natural supports. The use of natural supports in a workplace can be beneficial to an individual with ASD. A natural support can be a willing coworker who is informed the individual with ASD's strengths, challenges, and how to best respond to support him or her (Mank, 1996). The process of natural supports may occur organically in the work setting or may be initiated by the job coach. Literature promotes using natural supports in the workplace as a way to promote social inclusion for the employee with a disability (Nisbet & Hagner, 1988). One study indicated that using coworkers as natural supports for the employee with a disability may increase the length of time that employee will remain employed (Evert Cimera, 2001). The presence of a natural support allows the employee with ASD to have additional support and someone to go to with questions or concerns other than supervisors.

Importance of Work

Workforce participation is not only important for financial reasons but also for developing one's identity (Krieger et al., 2012). Research has shown that working improves well-being, can enhance an individual's relationship to both the social and economic world, and allows an individual to feel satisfaction and accomplishment (Blustein, 2008). A study conducted by Taylor et al. (2014) showed that adults with ASD who were employed showed a decrease in their negative ASD behaviors such as self-harm. Study participants with the most independent jobs showed the greatest reductions in these types of behaviors (Taylor et al., 2014).

When discussing adults with ASD and the importance of work, it is vital that the features of job loss also be mentioned. The loss of one's job may have a catastrophic impact on an individual's mental health and result in depression and anxiety (Lucas et al., 2004). The loss of employment can also lead to lowered self-esteem, familial conflicts, relationship problems, and substance abuse (Blustein, 2006). The loss of employment for an individual with ASD will impact their financial independence and potentially their housing situation if they can no longer afford to pay rent. The loss of employment will also lead to increased social isolation for an individual with ASD (Howlin et al., 2013).

Quality of Life and Adult Outcomes. The existing quality of life (QoL) literature reports 48% of adults with ASD still live at home. Only 42% are engaged in full time postsecondary education or employment, and only 15% reported being in a romantic relationship or married (Howlin et al., 2013). Billstedt, Gillberg, and Gillberg (2005) completed a follow up study of 120 individuals that were diagnosed with ASD in the 1970's and 1980's. Of those participants, 57% scored a very poor outcome and none scored a good outcome (Billstedt et al., 2005). While this outcome data is informative, simply being employed does not guarantee

positive adult life outcomes. Outcome measures typically only measure if someone is or is not employed and do not measure an individual's satisfaction with their employment.

A vital but often overlooked factor in the individual with ASD's life is their QoL. An individual's QoL is defined by the World Health Organization (WHO, 1995) as the individual's perception of his or her position in life in the context of culture and value systems and as related to their goals, expectations, standards, and concerns. By definition, QoL encompasses physical and mental health, social relationships, and level of personal independence. Multiple QoL studies have been conducted regarding individuals with ASD. However, in each study the individuals with ASD report having a lower QoL than their peers without ASD (Kamp-Becker et al., 2010; Van Heijst & Geurts, 2015).

There are several factors that research has indicated impacts the QoL of an individual with ASD. Individuals with more symptoms, greater symptom severity, and additional comorbid psychiatric conditions reported having a lower QoL (Kamio, Inada, & Koyama, 2012; van Heijst & Geurts, 2014). Individuals who were diagnosed with ASD early in life and those who reported higher levels of perceived support reported having a higher QoL. When researchers broke up QoL measurements into different domain areas focusing on certain aspects of life, they found that individuals with ASD reported "physical health" as their highest quality of life area (Kamp-Becker et al., 2010). The domain area that individuals with ASD report as their lowest QoL area is "social relationships" which is not surprising considering the social skills deficits innate to the condition.

Research documenting the adult outcomes of individuals with ASD has been ongoing since Leo Kanner's 1971 follow up account of his 11 original research participants with autism. Over the years, multiple studies have labeled adults with ASD as having "poor" or "very poor"

adult outcomes (Bilstedt et al., 2005; Gilberg & Steffenburg, 1987; Howlin et al., 2004; Lotter, 1974; Rutter et al., 1967). Between 1967 and 2011, the majority of studies about adults with ASD demonstrated poor outcomes (Henninger & Lounds-Taylor, 2013). Initial outcome studies for adults with ASD examined the individual's social life and whether or not there was "potential for social progress" which is incredibly subjective (Rutter et al., 1967). Across time, more reliable studies were conducted to measure the adult outcomes of individuals with ASD. Adult outcome study data has slowly improved as fewer adults with ASD are living in institutions and more work opportunities for individuals with disabilities become available (Howlin & Goode, 1998). Howlin et al. (2004) developed a scale that measured outcomes based on the individual's work ability, friendships, and ability to live independently. It is important to note that adults with ASD and a comorbid disorder have consistently worse outcomes than individuals with high functioning ASD (Ebensen et al., 2009; Farley et al., 2009). A very recent study of adult outcomes found outcomes for adults with ASD could be more accurately predicted in childhood if the individual also had an intellectual disability (Anderson, Liang, &Lord, 2014). The same study demonstrated that adults ASD who were participating in interventions prior to age 3, were less hyperactive, and were able to demonstrate a decrease in repetitive behaviors, had positive adult outcomes.

Summary

This literature review identified the ongoing need to examine the vocational experiences of adults with ASD and a college degree. The research available described the barriers that individuals with ASD face as they transition out of secondary education, into postsecondary education, and then eventually as they seek to obtain and maintain employment. However, the literature cannot describe the complexities involved in an individual with ASD's vocational

experiences. While the overall social and behavioral barriers individuals with ASD commonly face in the workplace are established; the current study seeks to describe the unique vocational challenges college graduates with ASD encounter as they function vocationally and what supports each individual has found most beneficial in employment settings. Knowledge from this study will help to inform rehabilitation research and contribute to research, policy, and practitioner application efforts to enhance the vocational experiences of adults with ASD and a college degree.

CHAPTER THREE METHODOLOGY

Introduction

The purpose of this qualitative phenomenological study was to describe the vocational experiences of adult college graduates with autism spectrum disorders (ASD). A comprehensive review of the literature which details the vocational barriers and educational journey that adults with autism may experience was detailed in Chapter 2. While other studies have quantitatively examined the rates of unemployment and underemployment among adults with autism and a college degree (Howlin et al., 2013; Roux et al., 2013), the present study gives a voice to those same individuals to explain the complexities of their unique situations. The current study provided a detailed description of the vocational experiences of individuals with ASD and a college degree to better understand how the phenomenon is experienced.

This methodology chapter addresses the following areas: research question, research design, participant selection, participant demographic characteristics, participant profiles, researcher bias and assumptions, data collection procedures, instrumentation, ethical protection of participants, and data analysis.

Research Question

The research question of interest in the current study was: How do college graduates with ASD describe their employment experiences? The research question was addressed with a phenomenological design that utilized semi-structured interviews, field notes, and demographic information.

Research Design

A phenomenological study is used to explore and describe a phenomenon experienced by a heterogeneous population, in this case the employment experiences of individuals with ASD who have graduated from college (Creswell, 2013). Qualitative methodology such as phenomenology is vital as explained by Creswell (2007):

We.... conduct qualitative research because we need a complex, detailed understanding of the issue. This detail can only be established by talking directly with people, going to their homes or places of work, and allowing them to tell the stories unencumbered by what we expect to find or what we have read in the literature (p.40).

The purpose of phenomenological research is to reduce individual experiences of a phenomenon down to a composite description of the essence of a lived experience for all of participants (Creswell, 2013). Edmund Husserl is considered the founder of phenomenology. Husserl focused on the human experience, including emotions, actions, imagination, and perception, which is known as transcendental phenomenology (Moran, 2000). Husserl felt that a single experience had by a single individual had the potential to bring insight and universal truth (Moran, 2000).

The raw data obtained for this study were first-person accounts of the vocational experiences of individuals with ASD who have completed some level of postsecondary education. The data described how the experiences in the work force were lived and understood by the participant. Since only the participant who has the lived experience of interest is able to provide the data needed for the study, self-report based on the individual's recollection was the primary data source for this study; self-report methods are subject to memory decay, alterations,

or participant response errors. However, self-report has been demonstrated as a legitimate way to gather data and is not necessarily less reliable or less valid than observational or experimental methods (Giorgi, 2009). In phenomenological studies, validity is accepted as long as the phenomenon is well substantiated in the study (Giorgi, 1988).

Participants. The experience of interest in this study was that of being employed (either currently or in the past), having ASD, and having obtained a college degree. Therefore, the population of interest in this study was adults with an ASD diagnosis, a college degree, and who have previously worked or are currently engaged in employment. Phenomenological research requires the gathering of data from a small number of participants through extensive interviews to identify the essence of their lived experience (Creswell, 2013). It is recommended in phenomenological studies to use a minimum of 3 participants (Giorgi, 2009). In the current study, data was collected from 7 participants. Qualitative sampling focuses on the representativeness of the sample when compared to the population of interest (Englander, 2012).

For the purpose of the current study, autism spectrum disorder (ASD) was defined as a diagnosis of autism, Asperger's syndrome, childhood disintegrative disorder or pervasive developmental disorder not otherwise specified at some point in the participant's life. Criterion sampling was used to ensure that all participants have experienced the phenomenon being studied (Creswell, 2013). Criteria for participation in this study was: (1) minimum of 18 years of age and the participant must be their own legal guardian, (2) enrolled in a social skills development group at the time of recruitment, (3) have at least one year of being engaged in the workforce (does not have to be one consecutive year), and (4) must be a college graduate (minimum of an associate's Degree).

The sample was recruited using the researcher's familiarity with two different social skill development programs. Potential participants were recruited through emails and personal contacts. The social skills development groups were located in the Atlanta, Georgia and Lansing, Michigan. Both social skills groups require an ASD diagnosis documentation for participation. Both groups combine a social skills development curriculum with regular community outings to practice specific skills. Permission to disseminate *The Study Recruitment Flyer* (Appendix A) to social skills group members regarding potential participation in the proposed study was obtained from both social skill group administrators.

Participant Demographic Characteristics. The current study involved a total of seven participants. All of the participants were between the ages of twenty-six and thirty-seven years old, with an average age of thirty years. Two of the participants were women and the other five participants were men. Of the seven participants, one has an associate's degree, five have a bachelor's degree, and one has a master's degree (Table 2). All seven of the participants identified themselves as white/Caucasian. Five of the seven participants reported that they currently reside in their family's home with their parents, one participant reported living alone, and one participant reported living in a house with their husband and children (Table 2). Of the seven participants, only one was married and that same participant also reported having two children. The age each participant obtained their ASD diagnosis varied, with four participants receiving their ASD diagnosis in childhood, while three participants were diagnosed with ASD in adulthood.

Table 2

Participant Demographic Information

Name	Age	Gender	<u>Highest</u> <u>Level of</u> <u>Education</u>	<u>Living</u> <u>Situation</u>	<u>Number</u> of Paid Positions Held	Currently Employed Part- Time or Full-Time	<u>Ethnicity</u>
Anna	34	F	Bachelor's Degree in English	Lives Independently	7+	Full-time	Caucasian
Brice	27	М	Bachelor's degree in Zoology	Lives with Parents	2	Part-time	Caucasian
Cassie	35	F	Bachelor's Degree in Accounting	Lives with Husband and Children	6	Part-time	Caucasian
Daniel	37	М	Master's Degree in Computer Science	Lives with Parent's	5	Full-time	Caucasian
Evan	26	М	Associate's Degree in Computer Support	Lives with Parents	1	Part-time	Caucasian
Finn	30	М	Bachelor's Degree in Drafting	Lives with Parents	2	Full-time	Caucasian
Gabe	26	Μ	Bachelor's Degree in Art	Lives with Parents	2	Part-time	Caucasian

Participant Profiles. Participants are described in the order in which they were interviewed.

Fictitious names have been assigned alphabetically to protect participant privacy.

Anna. Anna, 34, has a bachelor's degree in English and lives alone. She has worked at many jobs, though none that have required her level of education. Her work history is sporadic, both in length of employment and the type of work she was doing. Anna obtained her first job while attending the university, she found a part-time position at a grocery store where she was employed as a bakery clerk. After completing college, Anna was unable to find a job using her English degree. She worked for several years as a temporary worker in different production jobs. Anna reported that she was diagnosed with autism as an adult, after she completed college when an employer suggested she go to Vocational Rehabilitation (VR) for vocational assistance. Through the assessments provided by VR, Anna learned she had ASD. She reported that ASD was not something she was aware of as a child or as a young adult. Anna is presently employed full-time in a production job at a warehouse in a position VR assisted her with obtaining. Anna has been employed in the warehouse production position for over a year and reports that her intentions are to stay at this employment long-term. Anna utilizes her own vehicle for transportation and drives herself to and from work. She lives independently in a home that her parents purchased for her, they however, live out of state. Anna reported that her long-term vocational goal was to move up the corporate ladder within her current company but she is unsure if she will be supervisory level work.

Brice. Brice, 27, obtained a bachelor's degree in zoology from a large public state university. He currently lives with his parents at his parent's home. Brice reported that he was diagnosed in early childhood with ASD. Brice reported having no work experience prior to enrolling in college. While in college, Brice worked in a campus research lab. Brice has been employed in two positions since he graduated from college. The first job he reported was a 4month temporary position, and he is currently working at the second job, a position where he

performs data entry as well as some office tasks like scanning. Brice is currently employed parttime, 20 hours a week, and has maintained this position for the past 5 years. Brice has been collaborating with his local VR office for the past 2 years in an attempt to find full-time employment in a field related to his education and interests. He reported having about 12 phone interviews and 7-8 in person interviews in the past two years, however, those interviews have not resulted in a job offers. While Brice reported that he enjoys his current job, he reported feeling unchallenged by the job tasks and is frustrated by the lack of full-time job opportunities he has been offered in the past two years. Presently, Brice is considering going back to graduate school with hopes that additional education would assist him to obtain full-time employment. Brice has his own transportation and drives himself to and from work.

Cassie. Cassie, is a 35-year-old female who earned a bachelor's degree in accounting. She lives with her husband and two children. Cassie reported having been diagnosed with ASD in her late 20's. Cassie currently works full-time for an organization that assists people with disabilities. She reported having been in this position for 4 years. She performs a variety of job tasks for the organization including accounting and marketing. Cassie utilizes her own transportation to get herself to and from work. Cassie initially started working around the age of 15 as a babysitter, then at age 16 she obtained a retail job at a department store, where she continued working for 5 years. She was employed both a stock clerk in the back room, and as a customer service representative on the sales floor. Cassie reported that she enjoyed working as a stock clerk in the stockroom more than on the sales floor due to her social skills deficits. After leaving her retail job, Cassie obtained employment on a part-time basis as a bank teller. The bank teller position required extensive social interaction from Cassie with both coworkers and customers. After giving birth to her second child, Cassie quit her job at the bank and started a

paper route to accommodate her family's child care needs. Concurrent to working the paper route, Cassie was employed at an afterschool program where she supervised children. She reported the most difficult part of working in a child care setting was communicating effectively with the children's parents. The position in childcare lasted less than a year. Cassie eventually started receiving services from an organization that assists people with disabilities. This relationship led to the organization offering her a part-time accounting and marketing position. She has been working for this organization for over 4 years and her long term goals include staying with the organization. She hopes to continue to improve her communication skills and eventually supervise others.

Daniel. Daniel is a 37-year-old male who earned a master's degree in computer science from a mid-size public state university. Daniel is currently working full-time in a temporary position in a computer software design position. At the present time he lives with his parents. Daniel does not drive, and he uses public transportation or his parents drive him to and from work. Daniel has been employed multiple jobs since he began working while in college. Daniel reported that he was diagnosed with ASD while he was enrolled in college. Daniel obtained his bachelor's degree in computer science. However, after acquiring his bachelor's degree he was unable to find work other than as a grocery store bagger, so he decided to return to school where he obtained a master's degree in computer science. Daniel is currently employed full-time in a temporary position that was originally expected to last for about six months, however, he remains employed in this position for over a year with no confirmation of an end date. Daniel reported that communication issues and social interaction problems have plagued his vocational experiences. Although his current position is labeled as temporary he hopes to stay with the job as long as possible. Once this position ends, Daniel hopes to find another job doing similar job tasks. His long-term goal is to save money for retirement and to eventually obtain employment where he is supervising others.

Evan. Evan is a 26-year old male who has earned an associate's degree in computer support from a small technical college. Evan currently resides at his parent's home. He is currently working as a dishwasher on a part-time basis. Evan has a driver's license and drives himself to work. Evan reported that he was diagnosed with ASD in early childhood. After completing high school, Evan attended a program for adults with disabilities that required living onsite and learning independent living skills as well as vocational skills. Evan reported that he was asked to leave this program due to his poor attitude. Evan did have a case with the vocational rehabilitation program in his state; however, they closed his case and told him there was nothing more they could do to assist him at that time. Following completion of his associate's degree, Evan was unemployed and actively job seeking for approximately 3 years prior to obtaining his current job as a dishwasher. The dishwashing job is one he obtained with assistance from the group leader of his social skill development group. Evan reported being incredibly happy with his position as a dishwasher. He stated that he enjoyed his job and reports having a supportive work environment, and positive interactions with his supervisor and coworkers. Evan's long-term goal is to maintain his current employment. He also reported that he hoped to transition into a position that utilized his computer skills. However, Evan also stated he would be happy to remain in his position as a dishwasher for the long-term. His personal goals include achieving greater financial independence by paying more of his own bills and further enhancing his social network.

Finn. Finn is a 30-year-old male who has a bachelor's degree in drafting. Finn lives at home with his parents and drives himself to and from work. He was diagnosed with ASD in

early childhood. Finn had no employment prior to college or while he was engaged in postsecondary education. Finn was unemployed for more than two years following his college graduation. During this period of unemployment, Finn began working with VR to find employment. In a work evaluation set up by the VR program, Finn successfully demonstrated his abilities folding and sorting clothes. Once the evaluation was completed, the VR program set him up with a two-month internship. The VR program also helped him obtain multiple volunteer positions so he would be able to have additional job experience on his resume. He is currently working full-time at a thrift store well known for assisting individuals with disabilities. He has been employed in this position for over 4 years. Finn's long-term goal is to obtain employment utilizing his degree in drafting to gain more personal independence.

Gabe. Gabe is a 26-year-old male who earned a bachelor's degree in art from a small liberal arts university. After completing college, he moved back to his parent's home and is currently still residing there. Gabe reports that he was diagnosed with ASD in early childhood. Gabe has a driver's license and drives himself to work. After Gabe graduated from college he worked with his local state vocational rehabilitation program for a year before he obtained work as a nighttime stock clerk at a grocery store. That position lasted 5 months and ended when Gabe quit based on the work schedule. He is currently employed part-time, working 25 hours per week, as a county employee. He works at a county owned building where he sets up and tears down materials at a venue used for special events such as weddings. Gabe's long-term goal is to be employed in a position that would utilize his artistic talents.

Researcher Bias and Assumptions

It is vital that the researcher identify and address her own personal values, assumptions, and biases that may influence any aspect of the research process (Creswell, 1994). The

researcher has extensive background working with individuals with ASD in various settings. The researcher has a bachelor's degree in Special Education and previously taught in a kindergarten to second grade self-contained classroom for young children significantly impacted by autism. The researcher has provided Applied Behavioral Analysis (ABA) to young children with ASD as a behavior interventionist under the supervision of a Board Certified Applied Behavioral Analyst (BCBA). The researcher has a master's degree in rehabilitation counseling and was trained to apply counseling techniques to individuals with disabilities. The researcher has worked for two state agencies practicing vocational rehabilitation with a specialty area of assisting adults with ASD find appropriate employment. The researcher has worked for the two social skills organizations that were the sources of study participants. The researcher has provided multiple trainings to job coaches who work with individuals with ASD. The researcher will make use of her field notes to assess bias and reactions she had, as well as her personal belief system and its influence on the research. While it is not possible to eradicate the researcher's personal biases and assumptions completely, it is vital that the researcher be aware of her views through the process of bracketing so as to view the phenomenon of vocational experiences of adults with ASD who have a college degree for the first time (Moustakas, 1994).

Data Collection Procedure. This study's research methods, which included the use of human subjects, were approved by the Michigan State University Social, Behavioral, and Education Institutional Review Board (SIRB). Upon receipt of IRB approval, the researcher contacted the directors of both social skill development programs for adults with ASD in order to disseminate the study recruitment flier to appropriate group members who fit the study inclusion criteria. *The Recruitment Flier* (Appendix A) included the researcher's contact information, inclusion criteria, the purpose of the study, and the requirements for participating in the study.

The participants then contacted the researcher by phone or email, and an initial informational phone meeting was scheduled to enlist participation. The initial phone call reviewed the purpose and process of the study, answered any questions the participant had, and obtained verbal consent to continue the study process and schedule the interview time and location. The researcher assessed whether potential participants met the study inclusion criteria, and if so, sent a pre-interview packet to the participant. The pre-interview packet contained the informed consent document and the list of interview questions. The provision of interview questions prior to the interview was intentional to allow each participant plenty of time to consider the vocational experiences being studied (Englander, 2012). Participants were instructed they could bring any type of notes they had made about their experiences; however, none of the participants brought any type of notes or documentation to their interview.

The interviews occurred at locations that were mutually agreeable to the participant and researcher. Five of the participant interviews were held in private conference rooms at libraries local to the participant. The remaining two interviews occurred in private conference rooms at a non-profit organization familiar to the participants. The researcher considered participant proximity to location and privacy of the space when scheduling participant interviews. Upon meeting the participant for the interview, the researcher verbally explained and provided a copy of *The Informed Consent Document* (Appendix B) for the participant to keep if desired. The researcher explained that the interviews would remain confidential unless there were any disclosure referencing an intent to harm or any report of abuse or neglect. The researcher explained that the interview could potentially elicit strong emotions and that resources could be provided should the individual decide to seek counseling. The researcher explained that she would use

fictitious names to identify participants throughout the data collection and analysis process. The researcher explained that data would be discussed with her dissertation advisor, but that no real names or other identifying data would be used.

Upon discussion of *The Informed Consent Document* (Appendix B), the researcher explained that continuing on with the interview demonstrated agreement with the informed consent document and indicated voluntary agreement to participate in the study. The researcher assured participants that their involvement in the study was voluntary and they were able to end their involvement and stop the interview at any time. Participants agreed verbally to the terms of *The Informed Consent Document* (Appendix B) by their continuing with the interview process. After informed consent was provided, each interview began with the researcher asking the participants specific demographic information. The participants were given the opportunity to complete the demographic information independently or if desired, they could answer verbally and the researcher would document the answers for them. *The Participant Demographic* form (Appendix D) included ethnicity, age, gender, level of education obtained, number of paid and unpaid positions held, current vocational status, and current living arrangement. *The Participant Demographic Information* form (Appendix D) was used to create a profile of each of the seven research participants in order to provide a summary of the study sample.

Each research interview was initiated differently based on the perceived comfort of the participant. Several of the participants initially appeared anxious, so the researcher started the interview with safe topics such as college experiences. Once a suitable level of rapport had been established with the participants, the researcher asked the formal study *The Interview Guide* (Appendix C). Several of the participant responses overlapped with answers to other questions, as such, the researcher did not follow the same order of questions in each interview. However,

the researcher ensured that each participant was asked each of the interview questions at some point during the interview. The researcher asked unique follow-up questions in each interview depending on participant responses. The participant interviews varied in length depending on the participant, with the average interview time being approximately 40 minutes. The shortest interview was 27-minutes and longest was 89-minutes. Each of the interviews occurred in March 2016. The interviews were recorded on audiotape and the digital audio recordings were sent to a third party transcription service for transcription into Word documents. At the conclusion of each interview, the participants were thanked and remunerated for their time with a \$15 Amazon gift card.

The researcher maintained a journal of handwritten field notes throughout the data collection process. The researcher field notes included observations of participants' nonverbal behaviors, key phrases participants used during the interview, and the researcher's own thoughts and emotions during the interviews. Field notes are considered a secondary data storage method and are considered vital to retain the data gathered in qualitative research (Lofland & Lofland, 1999).

Instrumentation. Data for this research was gathered using in-depth semi structured interviews with each participant. *The Interview Guide* (Appendix C) was used to maintain consistency across the interviews. *The Interview Guide* (Appendix C) was developed based on the research question, theoretical and empirical ASD literature, and phenomenological methodology. The style in which the interview questions were worded was based in phenomenological literature (Kvale & Brinkmann, 2009; Moustakas, 1994). The questions were meant to be evocative, giving the participants much to discuss. *The Interview Guide* (Appendix C) was vetted by 3 experts in the field of adults with ASD in order to eliminate questions that are

too abstract or lacking clarification. One expert was an individual with 35 years of experience working with individuals with ASD both as a special education teacher, an autism consultant for multiple school districts, and currently working as the director of a large social skills organization. Another expert was the parent of an adult with ASD. The third expert has worked in public school administration, taught special education courses at the college level, and is currently the executive director of a social skills organization for adults with ASD. Once approved by the ASD experts, *The Interview Guide* (Appendix C) was reviewed by two individuals who met study inclusion criteria to ensure the credibility of the questions and to address any unforeseen misunderstandings based on the chosen verbiage.

The Interview Guide (Appendix C) contains 6 broad questions. The questions were developed to elicit as much detail as possible regarding participant vocational experiences. The questions are broad, opened ended, and allow the participants to answer in a variety of ways. The phenomenon of interest, the vocational experiences of adults with ASD who have a college degree, was the focal point of the interview. Given the nature of the semi-structured format of the questions, participants were asked to elaborate and expand on responses through probes that were unique to each interview. Traditionally, phenomenological interviews have very few follow-up questions and allow participants to guide the researcher through their experiences with the phenomenon being explored. However, since the population of interest have unique social skill deficits regarding social reciprocity, the researcher prepared follow-up questions in the event a participant was overly brief with his or her responses. The follow-up questions were utilized during all seven participant interviews.

Ethical Considerations. The seven participants in this study were all adult volunteers. Each participant was older than 18 years old, they were each their own legal guardians, and they
were free to choose whether or not to participate in this study. There was no known harm associated with participation in this study. The participants were given a paper copy of *The Informed Consent Document* (Appendix B) as well as verbally explained the concepts of consent and confidentiality. At the start of each interview, the researcher explained that the participant could refuse to answer any question with which he or she was uncomfortable, as well as informing the participant they could chose to end the interview at any time without fear of repercussion.

Data Analysis Procedures

Data were gathered and analyzed from in-depth semi-structured interviews that focused on the vocational experiences of adult college graduates with ASD. Initially, the researcher listened to the audio recordings of each interview multiple times while taking field notes of thoughts, reactions, or questions. The researcher listened repeatedly to each interview to become familiar with the words of the interviewees and develop a holistic sense of the experience (Hycner, 1999).

The seven interviews were transcribed by a third party transcription service. The participants were assigned pseudonyms to protect their identities in the data. After the transcriptions were returned to the researcher, the researcher reviewed each transcribed interview document while listening to the recording to ensure the accuracy of the transcription. Each participant interview transcription was read multiple times, while the researcher continued to write field notes about her thoughts, reactions, and also documenting emerging themes and patterns in the data. Giorgi (1994) suggests phenomenological researchers "dwell with data, allowing time for intuitions to develop, and penetrating the data to a depth that is appropriate" (p.

208). As part of phenomenology, the researcher was able to keep the "voice" of the participants in this research; their perspectives were not abstracted out through the researcher's analysis

The researcher described each of the participant's overall vocational experiences in a brief summary format using data gathered from both the demographic information provided as well as content from the participant's interview. Unique identifiable information was withheld in order to protect the participant's confidentiality. Next, the researcher summarized the overall patterns and similarities among all the interviews to describe the overall vocational experiences of individuals with ASD who have some level of postsecondary education. The researcher described the phenomena being studied precisely as it was presented, not adding or subtracting from what was given (Giorgi, 1994).

First, the researcher reviewed each participant's interview transcript line by line. Then, the researcher highlighted and extracted statements from each interview that illuminated the study's experience of interest. These statements are considered "units of meaning". The researcher created a list of these statements from each interview. Next, the researcher eliminated the redundant units of meaning and continued to search for unique units of meaning within each interview (Moustakas, 1994). The researcher identified the significance of certain units of meaning based on the number of times it was mentioned both within and across participant interviews. The researcher was conscious of the non-verbal cues and the context to which units of meaning are stated since seemingly similar units of meaning may be different in the chronology of the participant's experience (Hycner, 1999).

Once the researcher had established a list of non-redundant units of meaning, she was able to elicit the meaning of units within the holistic context. This approach required grouping the units of meaning together into themes (Moustakas, 1994). The researcher went back and

forth between the list of units of meaning and the recorded interviews to substantiate the themes that she developed. There was overlap in the themes, and that is to be expected when considering the nature of human phenomena (Groenewald, 2004). Next, the researcher evaluated the most commonly occurring themes across all of the participant interviews and wrote a composite summary of each theme from the participant's experiences. These theme summaries include direct quotes from participants to substantiate the researcher's analysis.

The qualitative data analysis computer software Dedoose version 6.1.18 was utilized to supplement the researcher's own analysis (2015). Creswell (2013) supports the use of software to both store and organize qualitative data. Each participant interview transcript was uploaded to the cloud based system Dedoose. The researcher then coded specific words, phrases and quotes. Dedoose was used to organize the data as well as assist the researcher to locate text associated with a code or theme, and also helped find passages that were identified with two or more code labels (Creswell, 2013). While Dedoose was used to assist in word searches and queries, it proved more effective for the research to conduct the research by hand rather than use this computer software.

To recognize and limit researcher bias, the researcher met with her dissertation chair to review field notes and analysis summaries.

Summary

This chapter described the phenomenological research design utilized in the current study. The methods and design used to explore the vocational experiences of adults with ASD and a college degree were outlined. The rationale for using this type of qualitative design was discussed. The process of participant selection was described and ethical considerations were

addressed. The data collection process and data analysis procedures were described. Chapter 4-Results will describe the findings of the current study.

CHAPTER FOUR RESULTS

The purpose of the present study was to describe lived vocational experiences of adult college graduates with autism spectrum disorders (ASD). While there have been multiple quantitative studies that demonstrate that adults with ASD are unemployed and underemployed at far greater rates than other disability groups regardless of academic attainment (Chen et al., 2015; Roux et al., 2013), there is a paucity of literature describing the actual lived experience of having ASD and a college degree and being employed. A phenomenological study was needed to best describe the complexities of this lived experience. The phenomenological analysis described by Moutakas (1994) was used in this study. Interview transcriptions were read multiple times while the researcher recorded significant quotes, statements, and phrases. The researcher then developed units of meaning and context from the significant statements and clustered them into relevant themes. Lastly, the researcher organized the listed themes and described them in detail with related participant quotes to describe the vocational experiences of adults with ASD and a college degree. The themes originating in the data collected and analyzed in this study are included in this section.

A total of four major themes describing the vocational experiences of adults with ASD and a college degree were derived from seven participant interviews: (1) postsecondary experiences, (2) transition to the workplace, (3) communication in the workplace, and (4) ASD at work.

Postsecondary experiences included participant descriptions of both their academic and social experiences at the university level. Such experiences also included descriptions of academic accommodations utilized by participants and the decision-making process regarding their academic field of study. The three sub-categories in the postsecondary experiences theme

are: (1) academic experiences, (2) social experiences, and (3) lack of planning on degree pursuit. Transition to the Workplace details the participants' journey from college to the workforce, including their vocational expectations and the realities they encountered while attempting to obtain employment. There are two sub-categories in this theme are: (1) vocational expectations, and (2) vocational realities. The Communication theme details the social skill challenges the participants faced while attempting to obtain employment, participate in job interviews, and interact with coworkers, customers, and supervisors. The communication theme also explores the interventions or accommodations that aided participants in improving their communication skills on the job. The communication theme includes five sub-categories including: (1) job interview, (2) coworker interactions, (3) customer interactions, (4) supervisor interactions, and (5) improving communication skills. Lastly, ASD at Work describes disability disclosure, workplace accommodations, sensory challenges, anxiety on the job, and other barriers to employment as described by the participants. In addition, the future social and vocational goals of each participant are detailed. The five sub-categories for the ASD at Work theme are: (1) disclosure and accommodations, (2) sensory challenges, (3) anxiety, (4) barriers to employment, and (5) future goals.

Postsecondary Experiences

The first major theme that was discussed in detail by each participant was the experiences they encountered in obtaining postsecondary educations. Each of the seven participants spent a significant portion of their interview discussing their college experiences. The participant data related to postsecondary education are vital as there are a limited number of first-hand accounts of the postsecondary experiences of adults with ASD in the literature. The three sub-categories within the postsecondary experiences theme were: (1) academic experiences in postsecondary

education, (2) social experiences in postsecondary education, and (3) lack of planning on degree pursuit. Participants reported attending multiple types of colleges ranging from two-year technical universities to large four-year state institutions, and obtaining various degrees within the past 3-18 years.

Academic Experiences. It is only in the past few decades that individuals with AS or ASDs have enrolled in postsecondary education; however, the numbers of students in this population enrolling in postsecondary education is increasing steadily (Ford & Townsend, 2009). The participants in this study had all received a diagnosis of Asperger Syndrome (AS) prior to the release of most recent edition of the *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.), which no longer considers Asperger Syndrome a stand-alone diagnosis (American Psychiatric Association, 2013). Prior to 2013, AS was diagnosed in individuals who demonstrated significant and sustained impairments in social functioning as well as restricted behaviors or interests, similar to those with ASD. However, individuals with AS, by definition, demonstrated average or above average intellectual abilities (APA, 2000). Even though this population is intellectually capable of university level education, they still may require accommodations to succeed academically. Finn described his decision to enroll in college by stating, "Well, I figured since everyone else is doing it, I should, as well. I just wanted to try to blend in."

Daniel attended college courses at a local university while he was still attending highschool as part of a dual enrollment program. Once he graduated from high-school, Daniel was accepted and enrolled in a university that is well known for its academic rigor and highly competitive engineering program. In describing his transition to college life and what the changing academic expectations were like for him. Daniel stated:

Well I started at [mid-size state 4-year university] when I was in high school; I did about a year or so of classes there and did fairly well in those... I briefly went to [large very well-known college for engineers] but had to go back to [mid-size 4-year state university] after some poor grades, I'm afraid... [this was a result of] several factors. Partly due to the fact that I tended to be more focused on the practical rather than technical aspects [of my courses] ... Some parts were difficult because I wasn't used to being on my own... Well I wasn't used to waking myself up... so part of the problem was missing classes and tests.

Daniel was one of the two study participants who moved away from home after completing his high school education. It is apparent from his statement above that the transition away from home meant that fewer supports were available to him in his everyday life to assist with tasks such as waking in a timely manner in order to arrive at his classes on time. Daniel also described the experience of being required to take courses as part of his degree program that he was disinterested in completing. While it is typical that students pursuing a college degree are required to complete certain prerequisite classes that are outside of the individual's specific interest and academic major, Daniel explained that it was a struggle for him to motivate himself academically in courses where he saw no practical utility for the material being taught. He stated, "academically [large very well-known college for engineering] was challenging. Especially if it involved an area I wasn't familiar with, or wasn't sure what the practical applications of it were or if they were asking questions about data structures I rarely use."

Cassie began her postsecondary education at a local community college where she wanted to study astrophysics. She reported that she excelled in her math and science courses at the community college. Cassie then decided to continue her course work toward obtaining a bachelor's degree at a large four-year public state university. Cassie related her experiences in transferring from a small community college, where she excelled, to a new large institution:

I was good at math and science. I took every math at community college because I just loved it, and I transferred all the math. I four-pointed my way through calculus... I really like space, and I was, that was my special interest actually and I was able to pursue it, but the physics was really hard [once she transferred to a large state school]. I couldn't cut it. I had to take this chemistry class that I didn't take at community college and it had 500 people in a class. I just dropped [the class]. Then I dropped out of [large state school completely]. I just quit.

The researcher asked Cassie to expand further on what it was like for her to have ASD and take courses in a large classroom setting. Cassie explained the overwhelming reaction she had to the large classroom environment:

I had never been in that kind of situation, not in classes. I've never been in a group like that, I didn't know it was going to bother me. It was panic when I went in that room. There were too many people I didn't know. It wasn't necessarily loud; it was just the crowd. I didn't realize why I was avoiding it either at first. But when, I dropped out of that class and I didn't drop out of school yet. The second class I had to take, like biology or something, again 500 people, and then I was like, I can't do this. And then I dropped out [of college]. I just quit going to all my classes.

Evan, on the contrary, chose to start his college experience by taking courses online because he felt that in person classes would cause him extreme anxiety. Evan described that he had a positive experience taking his initial college courses towards obtaining his associates

degree in computer support using an online course format. He described his experiences taking online postsecondary courses at a small technical university as follows:

They were flexible, like we had to study the books on our own. We didn't have the teacher, the instructor to lecture us, but I was good at it. I actually kept up with it really well. I think the main thing that messed me up back in high school was the rigidity of the classes there. I had to stay there and listen, whether or not I was in the mood, or if I was able to listen. Like if I got stressed out, I had to stay there and tough it out. I didn't do really well.

After several semesters successfully taking online courses, Evan decided to transition toward completing courses in person at the same small technical university. He was able to go to his college's disability center and advocate to receive academic accommodations. Under the Americans with Disabilities Act (ADA, 1990), students at the postsecondary level who report a documented diagnosed disability can request academic accommodations from the postsecondary institution to help them succeed academically. Evan reported that, overall, the accommodations, such as walking out of the classroom when he needed to calm down, were effective in helping him achieve his academic goals. Evan described the majority of his professors as understanding and accommodating; however, he reported one negative experience involving requesting course accommodations:

They [the university] had accommodations, but by that point, I had gotten good at controlling my disability. I didn't necessarily need [them] other than just leaving the classroom if I needed to. Like, if I got stressed out the instructor would allow me to walk out and calm down; they worked with you... You didn't have to sit there [in class]. There was only one instructor I had problems with, and he was kind of like kind of old

fashioned. He had like a, he did not want to compromise on anything he had. You had to meet, if he gave you a deadline, you had to meet it, no matter what was going on. And I had to withdraw from his class and take it again with another instructor later on, because he, I didn't work well, I didn't mesh well with him."

Finn attended a small technical university, in person, where he was able to advocate for needed academic accommodations at the disability service center. He reported that the two most beneficial academic accommodations he received at the postsecondary level were sitting in the front row of the classroom and being able to utilize additional time on course exams if needed. Finn also stated that he had no issues interacting with his course instructors when he requested and used the two accommodations.

While each of the seven participants did eventually finish their postsecondary education, it was not without much effort and perseverance. The participants chose to attend multiple college environments, both online and in person. Several participants based their college decision on the college's geographical proximity to their parent's home while others chose to take college courses online due to anxiety. Overall, the participants who utilized a disability support center to obtain accommodations reported the accommodations assisted them in their academic success.

Social Experiences. While academics are the primary feature of postsecondary education, the social experiences of adults with ASD during college are important to explore and discuss. A common expectation of postsecondary level course work is working collaboratively with peers to accomplish a group project. Group work requires interactions with students who may or may not be friends with the student with ASD, and who most likely are not even aware of the individual's ASD diagnosis.

Daniel explained that his peers did not know he had an ASD diagnosis. He detailed his experiences with group projects at a medium sized public state university while he pursued a computer science bachelor's degree:

I got along fairly well with the other students, better than I did in high school, but then again you actually have to work to get into college. There were a couple of classes I had a little trouble with the group projects. I was having a hard time figuring out my place in the group. I was having a hard time figuring out if I was supposed to do anything. There was some confusion. I ended up not doing anything on one group project, until I finally explained to them that the reason why I did something completely unrelated to their group project was because they hadn't told me to do anything.

Initially, Evan completed all of his college courses online. Once he became comfortable with the online course format and academic expectations, he decided to attend courses in person at the same university where he initially took his online courses. Evan described that he disclosed his ASD diagnosis with his peers in college courses:

I let them know right off the bat that I even had that [ASD]. We had to introduce ourselves, I'd point that out in every introduction, and in the introduction posts I made in the online classes... Just so people know that if I had anything going on, that was why. They [peers] were supportive; no one had any problems with it. They just, a few of them were curious. They wanted to know what was going on, what it was like to have it [ASD], because they've heard of it. I was happy to answer their questions. They were very interested.

Cassie reported that the peer interaction necessary for group work was a much more positive experience online as compared to what she experienced during in-person courses. She described the differences and advantages of working in groups in online courses as opposed to in-person group work. She described:

I felt very respected. It was so much easier to communicate [online]. The experience was just very different. I felt like I was valued, unlike the other groups that I would work with in on-site classes. For once, I was a leader. I didn't realize I was lacking that much personal communication skills. You know, having greater communication skills online than in person, it showed me that I really needed to work on personal skills that I didn't have [in person].

Cassie experienced multiple college environments. She attended a small community college setting, a large public state university, and completed her accounting degree while attending an online college. Cassie stated that if she were asked her opinion, she would advise other individuals with ASD who were interested in postsecondary education to ensure at least part of their postsecondary experience was at an in person college or university setting. Cassie stated: "I wouldn't ever encourage anyone with ASD to complete their entire degree online. I think you have to learn those social skills with other people."

Additionally, college is traditionally a time when individuals are engaged in social activities and interactions with peers outside of the classroom setting. Finn earned his associate's degree at one small college, then continued on to earn his bachelor's degree at a second small liberal arts university. He lived in a dorm setting for the entirety of his college career. Finn explained what his college social life was like:

Not too social-like. I don't know if it's just me, I did have some difficulty making many friends. At both colleges I made a couple of friends and stuff. I pretty much just spent most of the day in my room. I did have some people I could talk to a little bit and stuff like that.

Lack of Planning on Degree Pursuit. One of the most difficult and yet important choices every college student faces is the selection of an academic major. The same holds true for the sample in the current study. However, prior to the selection of the degree, the student had to decide which academic institution they would attend. Evan described his experience:

Basically, because I didn't have enough money to pay for my own way through and I didn't want to get a student loan. I applied for [financial aid] and looked around for colleges that would, A, have classes in the field I was studying, and B, support the [financial aid], and that was also close enough to my house, because I wasn't comfortable driving all that way out on my own just yet. So [small technical college] was the perfect fit.

Anna earned her bachelor's degree in English literature. She described her reasoning for choosing to pursue an English degree and her vocational expectations while she worked to complete her degree, "I worked on the school paper and they said I was good at it. I was good. I wanted to go into journalism and become and editor." Evan described why he chose to pursue a degree in computer support:

I started off, like early childhood, working on computers. I kind of thought that it was a natural fit, because I was very skilled. Everyone had always told me I did well with it. I

always had a thing with computers, I always was good, had a very good knack for working on them, getting them working, and so I wanted to continue that.

In addition to degree choice, participants were also asked about their expected vocational outcomes. Several of the participants spoke about the uncertainty they felt even while still in school regarding what job they would be able to obtain following graduation.

Gabe earned his bachelor's degree in art from a small liberal arts university. He described how he chose this specific field, "Well, I was thinking of being like a painter or a drawer, but honestly, I didn't have really a good, specific plan. I just chose art as my major, because I thought I was good at it."

Cassie reported that she initially chose to pursue a degree in astrophysics because that was an area of special interest to her; however, she eventually changed her mind. Cassie was the only participant who mentioned looking at the potential vocational outcomes associated with her degree choice while deciding on an academic major. She explained, "I was accepted into the astrophysics program, but I realized there are not a lot of jobs out there for that. So I went and did my degree in accounting."

Finn earned a bachelor's degree in drafting from a small technical college. He reported becoming interested in drafting based on a suggestion his mother made. Finn explained, "My mother said to [go into drafting] because I'm able to envision things and imitate some of these things and bring them to life.". Brice also described how he decided to select zoology as his college major, "I liked animals. I started on that pathway and could not find a better one." When asked to discuss who assisted him in deciding on his academic degree field and what it was like to experience this process of career decision making, Brice explained:

That's an area full of massive anxiety. I didn't know what I wanted to do and I don't know what I want to do. People tried [in high school] but if I was given a job test about what I wanted to do, it would be like almost everything I was given the highest grade I would give anything was neutrality. I literally felt nothing above neutral towards anything.

After Daniel completed his bachelor's degree, the only employment he was able to obtain was as a grocery store bagger. Following being fired from this position as a grocery store bagger, Daniel decided to return to school to pursue his master's degree. When asked to explain what prompted his decision to return to graduate school for an additional degree, Daniel explained:

Well, that fact that I didn't have much else to do. I attempted applying for a job but was largely unsuccessful at the time... A lot of companies were looking for someone with more experience [than I had]. They would ask for five years' experience for a system that was invented 3 years ago.

The degree choice individuals make during their postsecondary educations can potentially open vocational doors for them in the future. At the time of data collection, five of the seven participants in the study were NOT currently employed in a field that required or used their academic major degree. The data suggests that the participants in this study may have chosen their academic major based more on their personal interests than the potential employment and career opportunities related to the degree.

Transition to the Workforce from Postsecondary Education

The second major theme derived from study data focused on participant transition from college to the workforce. Most of the participants did not have an easy transition from postsecondary education to the workforce or to the jobs they expected to get after obtaining a degree. The transition to the workforce theme addresses two sub-categories: (1) vocational expectations, and (2) vocational realities experienced by the sample of adults with ASD and a college degree.

Vocational Expectations. Individuals who are graduating from postsecondary education typically have the expectation that they will be able to find employment in their field following graduation. The same is true for individuals with ASD (Hendricks, 2010). Study data indicate that for individuals with ASD, this expectation of an easy transition into employment did not prove to be the reality.

Evan described his experience attempting to find employment once he completed his college degree:

I was kind of naïve... that's what they always told me [in school] was there was always a high demand for skilled technicians. I mean, that [computer support] was one of the fastest growing industries.... I learned the hard way when I got out, they [computer support jobs] had a very low turnover rate. Once they got technicians on the job, they hardly ever leave. They keep them there till they retire. The instructors said there was big demand in this industry and its only going to get bigger with all the reliance on computers.

Anna stated, "I felt ready to work. I was told I was a good writer. I wanted to be a newspaper editor." When asked about his post-graduation vocation plans while he was still in college pursuing degree in art, Gabe responded: "I still didn't have one. I thought I could get into some other things like maybe 3-D design or something more with printing, but I didn't have much experience, only taking classes."

Vocational Realities. The previous section documents participant vocational expectations following graduation, while the vocational reality sub-category outlines the reality faced by participants as they sought employment and held a job.

Evan and Gabe both described needing some time to "relax" after finishing college. Gabe explains what he did right after graduating with a bachelor's degree in art: "I just kind of relaxed a bit and stuff, I didn't exactly start work until the next year". Evan also reported that felt tired once he finished school: "After I got through there I was kind of tired, I wanted a break from it, I had already persevered through it. I wanted to sit there and to catch my breath before I went back to it."

Evan completed his associate's degree in computer support but chose not to seek the additional certification that is common in his field. He explained his decision to not seek certification:

I think by that time [the certification test], after I got through there [college], I was kind of tired. I wanted to take a break from it [academics]. I'd struggled with, that's not the right word, but I had already persevered through that. I kind of wanted to sit there and catch my breath before I went back to it. I think I waited too long.

Evan described his expectation of there being a large number of job openings in his field in the previous section. Here, he described the reality of searching for a job after completing college:

I started looking around. I got alerts from the college. They would send me regular, like newsletters, letting me know if there was anything open. But I knew very well that anyone with a degree [4-year] or a certification, they had priority over me getting hired, so I kind of shot myself in the foot by not seeking certification... I checked online. I looked in the newspaper, and a few jobs they had I could not qualify for because they were all like higher-level management type things. I was looking for an entry-level technician job, because that's all I was qualified for.... I couldn't find anything. I found one technician job, and it was several counties over. I didn't want to have to drive that way. I could have done it but it would have been very hard on me.

After finding it difficult to find an entry-level job utilizing his degree in computer support, Evan described what the next several years of unemployment were like for him:

So then I just started helping out at group [social skills group], like I've been going there for a while, but I started helping out, volunteering with stuff they had going on. Started doing things around the community. Helping my relatives and friends out. I kept busy, that was the main thing. I didn't sit around and get lazy.... I got kind of discouraged at times. I thought I was all, all I was ever going to do was volunteer. I would just feel like helping out with something. I didn't mind doing it, as long as it kept me doing something, but I didn't think I was ever going to find an actual paying job. [The hardest part of not working] was sitting around and doing nothing. Half the time, I tried

to keep busy, like I said, but I couldn't go nonstop. I didn't like sitting around at home. It made me very stressed out and moody some days.

The researcher followed the above comments by questioning Evan regarding whether he had any support from his state vocational rehabilitation program while he was unemployed and looking for employment. Evan explained:

They [vocational rehabilitation] closed my file and had nothing else to do with me. I was relying on my people at [social skills group], my parents, family, and friends. They [vocational rehabilitation] thought there's nothing more they can do to help. They said they had done all they could, I think what made it worse was that I didn't have the right attitude and it ticked them off... I don't think they [vocational rehabilitation] understood, didn't think they understood what I was going through. They just saw me as a name on a piece of paper, they didn't really care.... I thought they were doing the same cookie-cutter thing, and that didn't really work well. I needed to be special, I needed to have something, like a plan, tailored to what was going on, because that's the thing with people with ASD, were all different. You can't apply the same treatment to all of us and have it work.

Anna graduated from a mid-size public university with a bachelor's degree in English. She described the challenges she faced entering the workforce:

Once I got out [of college] the internet was coming on so newspapers were on their way out. The only places hiring needed people with lots and lots of experience. So I thought I would get those temporary jobs as a stopgap. Instead, I couldn't keep up so it made my resume look bad.

When asked for an opinion about the importance of her college degree Anna explained:

I think I wasted my time.... They said an English degree was one of the most worthless degrees you can get. And I was too proud to admit they were right... I'm overqualified. I don't need a college degree to do industrial work. I sure don't need a degree to work at [current employment].

After realizing that obtaining a job that would utilize her English degree was unlikely, Anna changed vocational directions and attempted to become employed as a pet groomer. She explained:

After struggling for a few years [doing temporary work] I thought this isn't going to work. Maybe I will go into pet grooming instead. So I took a pet grooming class. Same story [as journalism]. They wanted experience, paid experience. I did volunteer work at the Humane Society and I asked if I could groom their dogs. They said, you can bathe and brush but you can't give them haircuts, which is where I needed the experience the most.

Gabe, who graduated with a bachelor's degree in art, also worked with the VR program in his state. He described the period of time after he finished college, his transition to the workforce, and his partnership with his state VR program:

I wanted to work, we [he and VR] were trying to find a job and stuff, but it [didn't work out] either because I didn't have too much of a work experience and stuff like that... It didn't make my resume look good. I had listed mission trips and stuff like that but that isn't exactly job experience material, so finding a job was ugh, that made it more difficult that it should be. I was looking for jobs, interviewing for jobs, hoping it would all work. I was just looking at it like ugh, It's very boring [not having a job], I was trying to find that dream job of art, but when I thought about it, I couldn't even decide what kind of art job I wanted. I said just wing it and go for it [any type of work] I just wish I had like a specific job I wanted. I also wish I had worked before, like maybe during my college years, just so I could put it on my resume.

Gabe eventually secured a stock clerk position at a local grocery store with the help of his VR counselor. However, that employment ended after only a few months based on scheduling issues. He currently has a job working for the county municipality he where he lives. In this position, he sets up chairs and other items for events. When asked to describe the time period when he was between jobs Gabe stated:

It gets a little boring and stuff because I am doing the same old routine every day... honestly, it was just obviously that I need something to do.... I felt like, I'm 26, I shouldn't be like this [at home unemployed] all day and stuff. I should get a job, live in an apartment, be married and moving on with my life.

Brice has a bachelor's degree in zoology and currently works at a part-time job doing data entry while working with his local vocational rehabilitation office with hopes of obtaining full time employment in his field of training. Brice explained his motivation for looking for different employment, "I think I've had more experience [now]. I just want to get better at life. I am tired of a part time job, tired of staying still. I want to move forward with something."

As is evident by the experiences shared by the participants of this study, obtaining employment even after obtaining a postsecondary education can prove to be challenging for individuals with ASD. For some participants it appears the vocational challenges resulted from a college major with limited marketability, or potential employers who were looking for candidates with more on-the-job experience.

Communication as a Barrier to Employment

In this theme, the participants expressed how their communication difficulties have impacted multiple areas of their vocational experiences. Communication is often cited as the number one barrier to employment for those with ASD (Roux et al., 2013). The communication as a barrier to employment theme includes five different sub-categories that emerged as participants described their vocational experiences. These five sub-categories included: (a) the interview, (b) coworker interactions, (c) customer interactions, (d) supervisor interactions, and (e) interventions and strategies that were effective in improving or alleviating participant communication difficulties. The Diagnostic and Statistical Manual of Mental Disorders (DSM-5), states that individuals with ASD struggle with persistent deficits in social communication and social interaction impairments across multiple settings (American Psychiatric Association [APA], 2013). These contexts include social-emotional reciprocity, inability to understand nonverbal communication, and difficulties developing, maintaining, and understanding relationships. Each of the seven participants in this study described vocational difficulties based on communication. The communication impairments described within this theme included both verbal and nonverbal communication difficulties.

When asked to describe what it is like to have ASD, Evan stated:

When I was younger, I described it [ASD] as a curse, but now I see it as a blessing, because I see things differently. I think outside the box. The only thing I wish that I didn't have so much of is my social awkwardness. I'm not really good at dealing with people because of it [ASD]... for other people, it comes naturally for other people to like read body language and know how to appropriately act in a situation. It comes a lot harder for me. I don't really have that ability to read people, and it's kind of stressful. If I mess up, I get really stressed out.

When considering the implications of the communication and social struggles that Evan described in his interview, it becomes apparent that such social skill deficits may manifest negatively in a work environment for an adult with ASD. The human-to-human interactions necessary at all stages of an individual's vocational journey are relevant for their success in occupational environments (Vogeley, Kirchner, van Elst, & Dziobek, 2013).

The Job Interview. Almost all employment openings require an interview in order to secure a position. All seven participants in the study described having anxiety and communication stress during the interview process. Such anxieties related to both the verbal and nonverbal components of the interview process. Anna shared her perspective on job interviews as:

Interviews are hard.... I don't know how to find the right words... Sometimes they throw questions at me that I don't know how to answer without making myself look bad... I know they are looking for every single flaw, like eye contact, hand position, dress. I just feel like it's being under a microscope. And I don't like that.

Evan described how well documented nonverbal ASD communication issues, such as eye contact, impacted him during job interviews. During the research interview for the current study, Evan frequently looked to the upper corners of the room or at the floor when answering questions. He rarely made eye contact with the researcher. Evan reported:

The main thing though is keeping eye contact and keeping a firm handshake, because I don't really do well with those... If I'm talking to someone I can't [make eye contact], if I'm going to be answering questions or whatever, I get kind of nervous watching people's eyes. I'd prefer just to look off when answering questions. Some people get a little unnerved by that, but it helps me to concentrate.

Similar to Evan, Cassie provided data related to eye contact and communication issues. She explained that she learned appropriate interview skills in her college communication course. Cassie reported:

It's hard to make eye contact, and I knew I had to.... It was a little harder if they asked me a harder question and I'd have to make eye contact and answer it at the same time. If I could look away when I was trying to come up with the answer I could do that, and I think I learned that over time. But if I was really trying to impress them and make more eye contact like I would during job interviews. I would stutter my way through a lot of questions. The stuttering would increase if I kept the eye contact.

Daniel described how the type of questions he was asked during job interviews impacted his ability to answer effectively. Daniel stated:

Most interviews went along fine, as long as I explained to them what I did [at previous jobs] and tried to explain what my previous jobs were.... If the questions are purely technical, I can answer them fairly well. If the questions are of past experience, I can remember those well, but more abstract questions tend to be a little trickier for me.

The job interview process was clearly fraught with social stressors and anxiety for the participants in this study. However, without a successful interview an individual is unlikely to

obtain employment. The job interview process appeared to be a barrier to employment for the study sample due to the social skill deficits and communication impairments that are innate to ASD.

Coworker Interactions. A necessary component for maintaining employment is the ability to get along with others, which is difficult for individuals with ASD due to the socially inappropriate behaviors common to ASD (Howlin et al., 2005). In the workplace environment, co-existing with other employees necessitates both verbal and nonverbal interactions with coworkers. These necessary coworker interactions occur frequently while working and while on break. Cassie described her struggle to understand the social rules and norms involving social interactions with coworkers. She became especially perturbed when coworkers did not follow the employer's explicit policies. Cassie described a scenario that occurred when a coworker, a fellow bank teller, did not adhere to the documented company policy. Cassie explained:

...in that situation where someone would go outside the policy or break the rule or try and tell me it was different, and I would get very angry.... I would feel like tattling when somebody wasn't using the policy... I didn't understand the unwritten social thing where you don't go tattling on your coworkers... It was very stressful to try and know what to say and what not to say and when... I would call them [coworkers] out on things I'd be like "you know you're not supposed to do it that way", and they'd be like "mind your own business" ... Sometimes they would refuse to talk to me... One lady would pretend I didn't talk... she would ignore me, and I'm not sure why.

Cassie reported that it was more difficult for her to socialize with coworkers who were near her age rather than with coworkers who were older than her. She described the age issues she encountered while employed as a bank teller like this:

We had floaters come in from other banks, they were my age, and I couldn't socialize with them... I was more intimidated with socializing with people of my age. I was used to being at [retail store] and socializing with people that were older, and I learned how to talk to them without being as abrasive. I just was never able to get, to socialize with peers until now.

Cassie also described how social interactions with coworkers were not limited to working hours. She recalled several social situations in which she was expected to socialize with coworkers outside of the workplace. Cassie reported:

We went to Panera's one morning and I didn't know how to talk, or what they were doing so I just sort of sat there. Another time it was somebody's birthday and we went out to a bar. It was very awkward and I was saying very rude things. There was a girl who was 23 and the rest of us were 19 or 20. She may have even been older than that. I would always say things about her age because it didn't make sense to me... It wasn't that I didn't like her it was just the differences. I didn't have a filter. That was a huge issue. I was an outsider.

Cassie described her experience at a work holiday party:

The holiday party was the worst social interaction I've ever had. I didn't know what to do. We were hosting it at our branch. We were all expected to be there. And I would go from person to person I knew and just kind of stand there, and I would not know what to do. Like I had no idea... I didn't know how to talk to them. Like, we're not talking about banking. Social, it was all social.... I went home feeling very depressed because I didn't

know [how to talk to people]. I wouldn't even like, go up to people and talk about my special interest or anything like that. I wasn't even trying...

Cassie reported that she struggled with interactions with coworkers at her bank teller job, who were homosexual, due to her limited exposure to individuals who identify as such. She stated:

There were male tellers, which was great, they were gay but that was harder for me too. Even then, I don't think at that point I had ever had that much interaction with gay people. I didn't know what was appropriate, inappropriate. I was always self-conscious about "what do I say?".

Anna explained that she has always struggled to interact with her coworkers both on the job and in the break room. She described not understanding some of her interactions with her peers, "People [coworkers] would either laugh at me or yell at me and I'd have no idea why." Anna discussed several situations where her coworkers laughed at her and that she did not understand the reason for their laughter. Anna described social interactions as the most challenging aspect of being employed. She stated:

Come to think of it at [place of employment], they'd laugh, they'd start laughing at me, too, when I asked the questions. I just don't know what I said that was so funny... I asked a question, someone was having a birthday and they had a, for example, they had a birthday and they had a cookie cake. And I said, well, I don't have time now but leave some for me. And then after work I asked them if there is any cookie cake left? They looked at each other and burst out laughing.

The information provided in the participant interviews show clear evidence of the impact of participant social deficits in relation to their coworker interactions. Overall, the coworker interactions described by participants were negative, with experiences of the coworkers ignoring or mocking the individual with ASD, or the participant describing their anxiety and discomfort during interactions with coworkers.

Bullying. Adults with disabilities, including those with autism, are at a greater risk of being bullied at work by their peers (Schroeder et al., 2014). The two main protective factors against being bullied are (1) having the social skills necessary to blend in and (2) having a strong and supportive social network. Typically, adults with ASD do not possess either of those characteristics (Schroeder et al., 2014). Anna described an individual who was rude and mean at a temporary production type job she held in the past.

This one employee took it upon himself to make my life a living hell... He, I rub, I rub my, like if I itch my nose, he'd go stop picking your nose Anna. I rub my, I scratch my stomach [he'd say] don't scratch yourself there Anna. Anna where are you? Why are you so lazy... he said I wasn't pulling my weight because whenever I finished my tasks I wouldn't go up to them and help them, even though that was not part of the job description.

Anna also described additional verbal interactions with coworkers that convey as bullying. She reported that the conversation captured below occurred with several different coworkers at a manufacturing job:

Another, well, another little odd quirk is that whenever I told someone, whenever I talked to someone and it came out that I liked cats, it, for some reason it would be like a

signal to tell them how they kill and abuse cats... [they'd tell me about] killing it, running it over, getting killed by dogs.

Finn described a coworker at his current place of employment who made comments to and about him that were upsetting:

Sometimes they just like to, aggravate me just for fun... He says that I said I'll buy us lunch or cook supper for them or join them at a party. He's just joking.... I didn't say any of that stuff... or intend. Sometimes they laugh and it is not funny.

Adults with ASD can isolate themselves from their peers and become targets of victimization based on their social skills deficits (Schroeder et al., 2014). Individuals with an ASD or AS diagnosis may have advanced vocabularies and knowledge. Daniel demonstrated such characteristics. He spoke in a formal manner during the research interview. He reported that he often discussed his interests at length while ignoring attempts by others to change the conversation topic. An example of a unique verbal interaction that could bring negative attention to an individual with ASD was provided by Daniel when he explained carpooling to work with a coworker. Daniel described his coworker's driving style:

The thing is, not everyone is a very good driver. I had to explain to [former coworker], I spent quite of bit of time explaining elementary physics. I had to explain rolling frictions, especially under wet conditions, especially if they were following somebody too close.

This data subcategory provides multiple examples of the workplace bullying that was experienced by the research participants of this study. The participants did not describe the interactions using the term "bullying"; however, the context of the messages is clear. These were unwelcome and unappreciated social interactions, and the participants were unaware of how to stop them. Unfortunately, some of the social skill deficits innate to ASD may prevent individuals from recognizing bullying behaviors in others. Repeated bullying, and the resulting social anxiety it creates, can also cause the individual with ASD to become hostile toward their peers, and can also raise the risk of aggression (White, Kreiser, Pugliese, & Scarpa, 2012). Anna described:

I was eating a carrot at break and I just looked out and all these girls [coworkers] are at the table laughing, I thought, nah, they wouldn't be laughing at me. And they come up to me later and say it's really amusing how I was eating that carrot. I was like, well, I was doing that because of my sensitive gums. That's why, if I even suspect someone's laughing at me, I go ballistic. I shout "What is so funny? Are you laughing at me?'.

Customer Interactions. Many jobs available in today's labor market involve some degree of customer interaction and customer service provision (Vogeley et al., 2013). Individuals with ASD may find interactions with customers challenging due to the communication and social skill deficits innate to the condition.

Daniel explained that after he completed his bachelor's degree in computer science, the only position he was able to obtain was that of a bagger at a local grocery store. He reported losing this job fairly quickly due to his inability to communicate appropriately with customers. Daniel reported:

I was a bagger, and unfortunately, I, the problem is, ... I was good at bagging, I was not very good at, I had a problem with customers. I am not good at dealing with strange people.... The only thing I remember distinctly is yelling at a couple of customers when they were, I was trying to clean up something that was broken, and some customers started laughing at me, I started yelling at them.

Daniel also provided an example of a challenging customer interaction he encountered while in his current computer programming position. He stated:

I was trying to communicate I need more information to do this, and basically the client was, the client, rather than giving me more information or explaining to me what I needed was basically just repeating what his problem was. I finally got annoyed and snapped at him. I got in trouble for that.

Finn also reported struggling with customer interactions at his retail job. When he started at his current job, one of his job tasks was to bring new products from the stock room out to the sales floor in a tote. The company policy was that customers were not allowed to take items directly from the tote. Rather, they had to wait until a store employee removed them from the tote and placed them on the appropriate store shelf. Finn described his experiences as:

I'm more comfortable in production because I didn't like customers to chase me down. You're supposed to talk to them if they needed help or if they were, like want to see what was in the totes, but they weren't allowed to touch them until they were on the shelves or wherever they belonged... It was sometimes a little difficult, occasionally a customer would be frantic. Once a customer was frantic about wanting to grab an item from the tote and they are not allowed to do that because we must first put it on the shelves or where it belongs first... [Finn got upset with the customer] and then I was written up for being negligent.

Ultimately, Finn held the position involving customer service and interaction for three months. His employer then decided that a better fit would be for Finn to work in the backroom doing production work that involved minimal customer interaction.

Individuals with ASD are known for being concrete thinkers and rule followers (Hill & Frith, 2003), so it may have been challenging for Finn to effectively communicate with the customer about taking items out of the tote before he had a chance to put them away.

Supervisor Interactions. Continual interaction with a supervisor is a vital part of almost every job (Vogeley et al., 2013). As the interactions between an individual with ASD and his or her supervisor evolve, the employee is continually constructing his or her own social reality of the work environment (Salancik & Pfeffer, 1978). Each supervisory interaction communicates an implicit message to the employee regarding work performance. These interactions may be stressful for an individual with ASD, particularly if a supervisor is unaware or uneducated about the communication style of the individual with ASD. The participants' shared reflections centered around three main categories: (a) *positive* supervisor interactions and (b) *negative* supervisor interactions, and (c) organizational citizenship behavior.

Positive supervisor interactions. When an employee is engaging with their supervisor they may internalize that interaction as being a positive interaction. Several participants in this study recalled and described interactions with both current and previous supervisors that were positive.

Anna explained what it was like to get a compliment from her supervisor at her current place of employment.

I didn't even know how well I was doing until the boss himself actually said he wanted to keep me, [that he was] really glad he hired me... I practically floated out of the building.... The only thing on my mind was, yes, job security.

Anna continued on to describe what makes someone a good supervisor for herself as an employee with ASD:

One who enforces the rules without micromanaging. Who is willing to give feedback about what I am doing wrong and how to fix it. It's best to take me to the side and discuss what's wrong and how I can improve. They would let me know as soon as there was a problem, not let it build and build.

Anna also reported that some of the most important feedback she has ever received from an employer was when she was working for a dog breeder.

She finally told me what I've been doing wrong. I am very bad at following directions. I forget parts of the directions or I'd forget to do something. Or it would be ambiguous and I didn't know what she was talking about. So she started giving me as much detail as possible.

Cassie reported having a very positive relationship with her current employers. When asked about her interactions with her employers she explained:

I really enjoy the respect that I get, the communication. I don't know how to explain what they are doing and how they are speaking to me. How [Employer] and [Employer] talk to me, people have never talked to me that way before and its encouraging and makes me want to be a better person. Evan, who is employed as a dishwasher, also reported having a positive relationship with his supervisor. He stated:

He always checks to make sure I'm doing well, and if I need to leave early, like if I have something going on, like an appointment or something, they'll work with me on that. He's a very good guy. Like they want to see everyone succeed... They have told me that if I don't feel comfortable in my job to let them know and they'll try to work with me to get me where I feel comfortable in what I am doing.

Brice reported having a positive relationship with his supervisor. He believes that he and his supervisor have an effective working relationship. Brice described his relationship with his supervisor as: "[he is] easygoing, supportive... [he's] available for me asking for help, he's fine with me looking for more work, and he seems like he'll defend me."

Negative supervisor interactions. While supervisory interactions are an expectation of having employment, some interactions described by the participants had suggested a negative connotation. The participants described some of the frustrations and challenges they experienced concerning their supervisory interactions.

Daniel described his frustration at the lack of communication he had with his supervisor when he was working part time for a refrigeration company. He stated:

I mostly interacted with my immediate supervisor, but part of the problem is he didn't always answer my emails... my biggest problem with that job was communication, trying to figure out, okay, what am I supposed to do here? I ended up several days with nothing to do, because I couldn't get my boss to explain to me what I needed to do with something, and he was busy with every other project. Part of the problem was that I

really needed to know what to do, and every time I tried communicating with my boss, he wouldn't answer.

After leaving the job he described above, where he reported receiving inadequate feedback, Daniel reported he reacted defensively when his new supervisor would interact with him due to his previous supervisory interactions. He stated, "my supervisor was all confused why I kept flinching whenever he came into my office. Eventually I had to explain I usually only talked to my previous supervisor whenever I was in trouble."

Cassie reported that her supervisor at her retail sales position provided a poor example of appropriate communication. Cassie stated, "My boss and I did not get along. I thought she was rude. She would just say rude things to me, things you don't say to people. So she wasn't a good role model for learning social skills."

Anna was let go from a position as a bakery clerk in a large chain grocery store. She was fired for stealing products. However, Anna did not agree with the decision that she broke company policy. Anna explained:

They told me they had caught me stealing cupcakes on camera. But I didn't steal anything. But what I would do is when I threw the garbage away I'd take a little bite here and there. They said that's a fire-able offense. That's stealing and we don't tolerate stealing. Turn in your badge.

For Anna, the stealing of cupcakes may not have been internalized as stealing, especially if the employer had never explicitly stated this as a rule. However, such behavior may also demonstrate of impulse control issues, which is not uncommon in individuals with ASD (Hill & Frith, 2003).
Supervisory instruction and feedback. Anna, Brice, Cassie, and Daniel discussed the importance of supervisory feedback.

Anna explained the necessity of detailed employer feedback regarding her work performance, "I don't know if this is just me, or it's true for everyone like me, but I need detail. I need to know exactly what's what. Like directions, like my schedule. Otherwise, I'll start making stuff up." She continued on to explain when she is expected to adapt to new work tasks or a change in directions she needs the instructions to be in writing. Anna explains, "The instructions should probably be in writing if there's a lot of them. Written instructions with as much detail as possible are better. Verbally it gets a little garbled on the way in." Later in the interview, she described a good supervisor as, "one who's willing to give feedback if I'm doing anything wrong and how to fix it." When asked how a supervisor could best give her this type of feedback, Anna stated:

I say that if they take me to the side and discuss anything, tell me everything that's wrong and how to improve. And [a good supervisor] would let me know as soon as there was a problem, not let it build, let it build, let it build.

Daniel explained that he prefers to receive ongoing supervisory feedback and evaluation, "Usually, they [the employer] discover that with me, they need [to provide] more continuous feedback rather than one review a year." Daniel described on job in which he felt that a lack of employer feedback led to him receiving poor annual reviews. Daniel explained:

Unfortunately, most of my annual reviews ended up him discussing how unreliable I was because I couldn't get anything done. I tried very hard to explain but it ended up

sounding like I was making excuses. He complained about my unreliability, and I didn't want to tell him that part of the problem was the lack of feedback I was getting.

Evan explained that he learns new tasks most effectively when he is provided examples: Lead by example, if they are teaching me how to prep food, for example, I like having one of the chefs come over and take whatever dish I'm supposed to be prepping. Have [the chef] take like a sample of it and prep it to show me how it's done. I do well with examples like that.

Finn, also reported that at his current job where he sorts items at a thrift store, he learns new tasks best when his supervisor, "Illustrates and [I] watch and [I] learn.".

Participant statements demonstrate a need for prompts and continuous feedback from their employers. The participants also shared that they may learn new job tasks differently from employees without disabilities. Anna, for example, prefers written rather than verbal instruction when being assigned a new or complex job task. Employers can identify the most effective approaches for delivering feedback to an employee with ASD by talking directly with such individuals about specific methods of instruction or feedback provision that are effective for them.

Organizational citizenship behavior. Typically, when new employees begin jobs they learn about their formal job task requirements through the job description that was likely posted for the position (Klieman, Quinn, & Harris, 2000). Specific job tasks are usually broached in the initial interview to ensure the job applicant is aware of and capable of fulfilling the requirements of the open position. However, there are also unwritten unspoken job behaviors that are desired by supervisors, but rarely expressed. Such job behaviors are referred to as "organizational

citizenship behavior" or OCB (Klieman, Quinn, & Harris, 2000). The OCB informal expectations expand the job tasks of the employee without actually notifying the employee explicitly of such additional tasks. Such an expectation may pose a disadvantage to individuals with ASD who may not intuitively comprehend this complex social system (Vogeley et al., 2013).

Anna shared an example of the OCB expectations at her previous job. She reported, "They [coworkers] tried to get me in trouble for not working because when I'd finish my task and take a breather for a few minutes instead of going over and helping them."

Anna was describing the concrete type of thinking that is common for individuals with ASD. She completed her assigned work tasks and did not consider assisting her coworkers to complete their required job tasks. The employer may have used subtle verbal cues to try to clue Anna in without her realizing this communication about unspoken work expectation. Anna described her inability to understand unspoken social rules, "What's obvious to everyone else isn't so obvious to us [individuals with ASD]. The thing about ASD is there are these social cues, these unwritten rules of society that we just can't pick up on."

Learning to Improve Communication Skills. The participants each noted particular areas in which they struggled with communication skills related to past experiences of obtaining or maintaining employment. Literature describing the barriers to employment for individuals with ASD frequently lists difficulties with communication and social skill deficits as primary barriers to employment for this population (Howlin et al., 2013). In order to generate a comprehensive data set regarding participant vocational experiences, it was important that participants were asked to describe specific supports that helped to minimize their vocational

communication stressors. Within this category are participant descriptions of effective communication interventions they utilized in their workplace setting.

One communication tool that Daniel reported finding advantageous in his current job is a computer chat program the company uses to allow interactions between coworkers without leaving their computer. Daniel explained:

We [employees] usually use chat programs to interact. It helps immensely. You don't actually have to leave the cubicle. I get a little uncomfortable when somebody walks into my cubicle with me. I find it easier to communicate that way and to chat.

Cassie explained that one solution she used to ease her interview anxiety was scripting. Scripting an answer provides the individual with ASD an outline of content and supports memory and recall (Naremore, Densmore, & Harman, 2001). Scripting is beneficial for individuals with ASD and communication impairments who have difficulty planning and organizing verbal responses. Cassie described how she has used scripting in interview situations, "I would have things memorized and scripted before I would go in, like, what is your greatest accomplishment, what do you regret, things like that, and I would have all of that memorized."

Prior to obtaining employment in a retail sales position, Cassie worked in the stockroom as a shoe stock clerk at the same retail store. The sales floor position required more frequent customer interaction than the stock clerk position entailed. Cassie explained the transition from stock clerk to customer service representative and how her communication skills were impacted: Cassie also described the job training videos and role-playing that were helpful for improving her social skills and better understanding her employer's expectations in her banking position.

There were some videos that they would show us. You know, we learning the value of knowing the customer's name, and I forget the videos, what they were called. It was a guy that did them all. And he would, we would watch the videos and learn what they wanted us to do and how they wanted us to sell, and scripted interactions.... Sometimes my boss, I would ask him... how do you do that, because he was so good at selling. I'm like, how do you get them to tell you if they have money at another bank, and he would role play it.

Anna reported that job interviewing was a source of significant anxiety for her and that interviews have consistently been an area of struggle for her vocationally.

VR helped me out a lot. They did seminars like how to do an interview, how to fill out applications. They figured out some of my communication problems at work and helped me work through that. VR helped me at my interview for [current employer]. The interview went pretty well. One of the VR counselors coached me on interviews earlier and gave me some practice questions. The counselor came with me to the interview, and the guy interviewing me knew that and didn't care.

In addition, Anna reported that her VR counselor's physical presence at her job interview significantly lessened her anxiety and helped her feel more comfortable throughout the interview process.

The communication challenges participants reported having during job interviews demonstrated the magnitude of social impairments experienced by individuals with ASD as they related to their vocational experiences.

ASD at Work

Data summary and analysis yielded an ASD at Work theme in which participants described how having ASD impacted their vocational experiences. This theme was comprised of five subcategories as follows: (1) disclosure and accommodations, (2) sensory challenges (3) anxiety, (4) barriers to employment, and (5) future goals.

Disclosure and Accommodations. The prospect of disclosing one's disability to an employer or potential employer may be a challenging personal choice; an individual must decide if that is something he or she does or does not wish to do. However, according to the ADA (1990), an employee must disclose his or her disability and provide documentation of the diagnosis if they are seeking accommodations at their workplace.

Evan, who works as a dishwasher, did not clarify whether he or someone else disclosed his ASD diagnosis to the employer. However, he talked about the accommodations that his employer provided that were beneficial to his success on the job. Evan stated:

When I started off, they had me, they allotted me some time around lunch time to take a break, because I was not used to the physical requirements of the job. I was getting tired out really easy, so they let me take a few minutes to sit outside and rest. But as I got used to the job, I stopped asking for it. I got to where I could do it [the job] without having to take breaks.

Evan provided additional data describing his supportive work environment, which allows him to take breaks as needed to tolerate physical and cognitive fatigue. He described how beneficial it was for him as an employee, to have an employer he feels cares about him enough to provide him accommodations that enable him to be successful. Evan reported:

I've gotten to where I don't need accommodations, usually, but if I ever do, I definitely appreciate it. I'm very thankful people will work with me on that. There have been days I have to, like even now, there have been days where I've had to sit down, because I've gotten tired, like gotten dizzy, or whatever else, over-worked. And they've [current employer] let me sit down and catch my breath for a few minutes there. It means a lot to me.

Cassie reported verbally disclosing her ASD diagnosis to her current employer. She was not diagnosed with ASD until her late 20s, thus, she was employed in multiple positions prior to acquiring the diagnosis. Therefore, Cassie has also experienced employment settings where she was unable to disclose having a disability or request accommodations. Cassie described the experience of disclosing her ASD diagnosis to her current employer:

I told them about the paper document I have, I mean it's kind of obvious. Everything is affected by my autism, everything in my life. From the moment I wake up to when I go to bed, everything. Everything is shaped, like the sound that is comforting me right now [fan noise on space heater] to the sound that just distracted me [phone ringing]. If [co workers] were here talking my anxiety would increase. It's [autism] just constantly there.

Finn, like Evan and Cassie, reported that he had disclosed his ASD diagnosis to his current employer. He stated: "The [employer] understanding is essential. So they know about my disability and what I am capable of doing. I will inform them, then we will talk about it. Along with my parents. Because it is a very big deal." Finn's mentioning of his parents advocating for his workplace accommodations was unique in this study. He was the only participant who mentioned parental involvement directly in the employment process.

Gabe reported that his employer was aware of his disability based on his obtaining the position through his partnership with VR. Gabe reported that he did not, at present, have or require any workplace accommodations. However, the research interview with Gabe occurred following his first day of work at his current position. It is possible that Gabe may not yet be aware of all the job tasks required for the position, and may potentially require accommodations in the future.

Daniel described his reasoning for not formally disclosing his ASD diagnosis to his employer:

It hasn't come up. I usually don't disclose that kind of thing [ASD diagnosis], and I'm worried what their [employer] impression might be. They might get the wrong impression and let me go because they'd think I wouldn't be able to work out with the rest of the employees or something. The biggest issue is I think they would think less of me [upon disclosure].

When asked about disability disclosure, Anna responded that she wasn't sure if her employer knew about her ASD diagnosis. However, she worked with the state VR agency to obtain the current position; therefore, her employer may be aware that she must have a documented disability in order to be considered eligible to receive VR services. When questioned about accommodations in her current job, Anna reacted with a strong nonverbal negative reaction and stated, "No. I am just the same as everyone else. I don't want to make problems. I don't want to come off needy." Anna explained further that she did not want to be perceived differently than any of the other employees at her job, and that requesting an accommodation is not something she feels comfortable doing. The decision to disclose or not

disclose one's disability is a personal choice that each participant had to make when considering workplace accommodations.

Sensory Challenges. Sensory challenges were a commonly experienced vocational barrier reported by the participants in this study. Such a finding is not unique within this population as at least 90% of adults with ASD report experiencing challenges with sensory related issues (Leekam et al., 2006). Sensory sensitivities can involve visual, auditory, oral, touch or smell functions. In job settings there may be multiple factors that could irritate an employee with ASD who has a sensory sensitivity. If sensory issues are not accommodated, the individual with ASD may have emotional or behavioral responses that negatively impact their work performance.

Six of the seven participants in this study reported sensory sensitivities to auditory factors. Specifically, Anna, Brice, Daniel, and Cassie mentioned people conversing nearby as a background noise that is particularly distracting and irritating to them. Daniel reported an olfactory aversion to strong perfume. Cassie and Finn both reported experiencing sensory sensitivities to distracting light sources at their employment. Cassie and Evan reported tactile sensitivities. Gabe was the only participant who reported not having encountered any type of sensory sensitivities at work.

Evan described experiencing both tactile and auditory sensory challenges at his current place of employment. He works in a restaurant dish room where he encounters both of these issues every time he goes to work. Evan described his sensory challenges in general, as well as the ones he faces at his job as a dishwasher. He reported:

My disability, like some of the quirks I have. I don't really like loud noises. I don't like touching stuff. I have a weird thing about like textures and all that. I had to overcome both of those to work down there, because the dishwasher and the dish pit is very loud, and we're having to constantly work with cleaning off food and all that.

The researcher questioned Evan regarding his experiences tolerating his sensory challenges in order to remain on task and employed at his present job. Evan described his sensory experiences as follows:

I think the first day was the hardest. I wasn't used to it so I kind of had to take a break.... By the second day, I had already stopped using the gloves, because people that work in the dish pit, we are not required to wear gloves but we can if we want. At first I was wearing the rubber gloves, having to constantly change them out. I think by the second day, I said, you know, this is going to be more trouble than it's worth I've just got to do it without gloves and I'm good with it now. I just learned to tone [the loud noise of the dish pit] it's really easy to tone it out and not pay attention to it. If I don't pay attention to it, I don't start thinking about it, I'm fine with it. Normally, I don't like loud noises, but when I am down there, I just get into the zone and go through it, it doesn't bother me whatsoever.

An important component of acknowledging sensory issues is that the employee with ASD is confident in his or her ability to advocate for accommodations that may be needed to be a successful employee. Having a sensory sensitivity does not preclude an individual from ASD from obtaining employment in an environment where they may encounter their sensory impairment. As Evan described, he was able to learn to tolerate his tactile and auditory sensory

challenges after only a few days on the job. Evan adapted in order to tolerate the tactile sensations involved in washing dishes as well as the very loud dish room environment.

At present, Cassie is employed as an accountant in an office setting, and shares an office with two coworkers. She explained how her sensory issues can emerge in this setting and how she and her coworkers addressed the offending light and sound sources. Cassie reported:

If they are making noise in the background and I have to take a call, I get kind of stressed from the noise. They talk to each other and if I am not on the phone I will use headphones to try to help me... There is a light over there that is way too bright, it's in my field of vision and it just makes me very angry. [Coworker] is not allowed to turn it on, I will go mental when it's on. We also had to take down a clock that was ticking.... It took me awhile to realize the light was making me angry and I started panicking. I use a space heater for the white noise and they [coworkers] turn it off a lot, and I really like the noise. I also have a fan app on my phone.

Additionally, Cassie described the sensory difficulties she encountered in order to follow her employer's dress code requirement. She stated, "The dress clothes caused some sensory issues. Nylons. There is a seam in the nylons that would annoy me." Cassie also reported experiencing tactile sensitivities to the feel of her dirty hands caused from stocking shoes when she was employed as a retail stock clerk and also when she was responsible for rolling and delivering newspapers along a paper route. She stated, "My hands got really dirty though, and that was annoying." Similar to Cassie, Daniel reported auditory sensory challenges at his workplace. He reported, "I usually listen to soft music on my phone while I'm working, that helps."

The data obtained regarding sensory challenges for individuals with ASD in a vocational setting demonstrates that while participants did experience sensory sensitivities at their place of

employment, they were able to persevere, maintain their employment, and ask for accommodations when they were required. Sensory sensitivities have also been associated with increased anxiety in individuals with ASD (Wingham, Rodgers, South, McConachie, & Freeston, 2014). Individuals with ASD who reported the highest degree of sensory challenges also reported the highest levels of anxiety (Uljarevic, Lane, Kelly, & Leekam, 2016).

Anxiety. It is common for individuals with ASD to experience issues with anxiety, although the research has yet to determine if anxiety is a core feature of ASD or if anxiety is a common co-morbid condition (Kerns & Kendall, 2012). It is estimated that 50% of individuals with ASD demonstrate levels of anxiety that are significant enough to cause dysfunction in their daily life functioning (Bejerot, Ericksson, & Mortberg, 2014). Multiple participants in this research study reported dealing with anxiety as part of their academic and vocational experiences.

Brice described that having anxiety was part of his ASD, and that his anxiety is also a significant barrier to obtaining and maintaining employment. He reported, "Having ASD hinders me finding a job, it puts up some mental blocks I think. It creates a sense of anxiety with things, difficulty adjusting to change, and I am not good at looking at people or reading them." Brice further explained that an unexpected change in routine causes significant anxiety for him. He stated, "If it's [change in routine] massively unplanned I tend to get really anxious. To someone else it would look like extreme frustration or sometimes anger. I can get real snappish with people."

Evan did not use the word "anxiety"; however, when he described his stress in social situations, it conveys as social anxiety. He explained:

Like other people, it comes naturally for other people to read body language and know how to act appropriately in a situation. It comes a lot harder for me. I don't really have that ability to read people and it is kind of stressful. If I mess up I get really stressed out.

The researcher continued questioning Evan about what the experience of feeling "stressed out" is like for him and how he addresses that emotional response at his place of employment. He reported:

It depends how stressed out I am. I think, usually, I start running my hands through my hair, kind of like talking faster and all that. If I get really stressed out then I will start crying out of stress, and I have to go and leave the area for a few minutes to go and calm down. I have learned how to calm down and keep it from being full-blown panic like that. I just have to breathe in slowly, breathe out slowly, count to 10 and all that. Just keep working on it. I am still a work in progress today.

Like Evan, Cassie reported a preference toward structure and routine in her employment. She provided a detailed story about a time when the manager at her bank job unexpectedly preformed a random appraisal of her cashbox at the end of Cassie's shift. This unexpected event in Cassie's daily work schedule was difficult for her to tolerate. She explained:

At that time, I would leave work and go home to my husband who had watched my son during the day and then he would go to work. So I knew what time I needed to leave in order to get home so my husband could leave for work on time. And so I knew exactly what time, if I closed my cashbox at 3:08 and clocked out by 3:15 I would get home right on time. Well. It turned out I had a surprise audit and I was so mad. I was so angry at that point. I called my husband with my manager sitting right there. I told him I didn't

know what time I was going to be home and you are going to be late for work. I was very rude. I was just, oh man, I was mad. My manager was angry with me but she didn't say a lot. She said they could check my cash box anytime. That was the only time they ever did it at the end of my shift... They changed my routine, that's exactly what they did... I couldn't handle it. It was the end of the day and I was getting ready to decompress....

Cassie described a technique that assists her in coping with anxiety brought on by encountering a new situation:

In order for me to go to like social and new situations I have to have a person who is an anchor. If I am not able to locate a person that I feel safe with then I don't feel like I am able to hand the situation.

Cassie explained her experience with the structure and routine of stocking shelves at a retail store as it related to her anxiety:

I started out in shoes, I would take the stock that we'd get every day and I would put it in the stockroom. All the shoes were organized by number and then by size and that was awesome. The lighting was different in the stockroom; it was so comforting to go into the stockroom.

Cassie also worked on a newspaper route for several years. It was a job she mostly enjoyed due to the structure and routine of the job. Cassie stated, "I really liked it. It was two or three hours in the morning. It was all organized. I was really good at it eventually. It was quiet and routine with no coworkers."

Gabe briefly mentioned how routine helps him be successful in is employment, "I like routines, if I've done it before, I know what stuff I'm supposed to use, how I'm supposed to clean it and all that kind of stuff." Gabe also described the anxiety that emerges when he is asked to complete a new task. He explained:

If you tell me to do something I have no experience with. I just usually ask questions or keep asking "am I actually doing this right, or is this horribly wrong?". Because I know it's like if you make mistakes there [it's ok], but I make it into a big deal.

While the above examples from Cassie demonstrated how routine helped to minimize anxiety, the study data also indicated that adults with ASD may develop routine work behaviors that have negative consequences for their employment. For example, Anna developed the habit of using the restroom immediately after her break. This behavior led to Anna forgetting to clock back in after her breaks, which then resulted in disciplinary action being taken against her by her employer. Anna explained the scenario:

The worst thing that I've done at [current job location] is when I would go on break and forget to clock back in. It counts against me. To change my routine, I started getting in the habit of when I left the break room, I would clock back in immediately, not stopping to talk or go to the bathroom, I would just immediately turn, and clock right in. I just willed myself to change. I figured it out for myself.

Barriers to Employment. Individuals with ASD and a college degree face unique barriers to employment. Study data suggests that social skill deficits are a major employment barrier and impact the success of an interview and relationships with supervisors, coworkers, and customers. However, there are also less frequently identified barriers to employment that

emerged from the data collected in this study including transportation, job location, and work scheduling.

Transportation and geographical location of job opportunities. Several participants described the geographical location of an employment opportunity as a barrier to their obtaining employment. More specifically, Daniel reported that his most significant barrier to employment has been transportation and the location of jobs in his city.

My difficulties in driving... Here in [large metropolitan city], it's all a lot of road, a lot of not very good public transportation. There is some public transportation. I can take a bus all the way to [large city] but I can't get to places like [smaller suburb] or some parts of [smaller suburb]. I tried driving. I haven't done very well at it, so I don't drive. But I still need transportation to get to the bus stops and such.

When responding to two different questions during the research interview, Daniel mentioned a certain part of town in the same large metropolitan city where he lives and stated that there are jobs in his field in this other location, but that he can't access them. An interesting observation, based on study data is that the location he mentions that has "all of the good jobs" is only 20 miles away from where he currently resides with his parents. Daniel never mentioned the possibility of relocating to the area of town where he reports the jobs in his field are more plentiful. He stated, "A lot of good jobs are in [suburban city] and other places I can't travel to.", and continues on to say, "The problem is all of the good jobs are in [suburban city] and I can't travel that far."

Evan, who looked for several years for employment in which he could utilize his college degree in computer support, also mentioned a similar work location dilemma. He stated:

I only found one technician job and it was a few counties over. Like I didn't want to have to drive that way all the time. I mean, I could have done it, but it would have been a very hard toll on me.

Anna reported that her choice to not leave her parent's home impacted the length of time it took her to find employment. She stated, "If I were braver, I probably would, I'd probably be out in California or something. If I weren't so scared to leave home, I would've probably gotten a job sooner."

These three participants shared examples of what the researcher describes as geographic inflexibility. Geographic inflexibility means that individuals are unwilling to leave their immediate geographic area, commute what would be considered a reasonable distance to work, or relocate to live closer to a potential job location.

Schedule rigidity. Daniel described another situation in which the rigidity of his preferred schedule led to him being fired from a job after only one day.

I got a job for one day at one company. The company was doing some type of government project, and they told me, okay, minimum 40-hour work week and you have to work late into the night on Tuesdays. I spent most of the day complaining about that and they basically said, you know what, we don't need you. We really don't need you after all. I assumed it would be the normal 8:00am to 5:00pm hours.

While a work schedule requiring a worker to work late one night a week may not have been ideal for Daniel, many employees could tolerate such a schedule so as to avoid being fired for complaining. However, this schedule was not what Daniel was expecting, and maintaining that job would have forced him to change his nightly routine, which Daniel found to be unacceptable.

Gabe also described scheduling inflexibility that resulted in the ending of employment. When asked about the hardest part about being employed Gabe responded:

Probably like how it [working] conflicts with your schedule, and like you have to go there, and like you have to be there at a certain time. You've got to leave for work really early and then get back [home] really late and stuff.

After graduating from college with a bachelor's degree in Art, Gabe struggled to find appropriate employment. He had not held a job prior to or during college. Gabe eventually obtained employment as a nighttime stocking clerk at a grocery store. The position appeared ideal for Gabe as it was routine and structured and required very little social interaction with others. Since the position was a night shift position, Gabe had little social interaction with customers and worked with a minimal number of coworkers. Gabe explained why the night stocking job ended with his resignation:

Well, scheduling, scheduling conflicts. During that same time [as working as nighttime stock clerk] I signed up for a sword training Kendo class. So I would have something to do. Sword training is like making sure you do the right stances and right blows. In order to get to the cool stuff like slicing things, you had to do like years of training and years of safety and stuff. It felt overwhelming because with the midnight jobs, I had to go back and home and go to bed, then go there [sword training] and go back to work and do it again. So I decided to drop work, because I was feeling too overwhelmed and stuff.

Conceptually, it is interesting to consider that Gabe, after months of unsuccessful job seeking, secured a position that was seemingly a good fit for him and yet he decided to resign based on scheduling conflicts between work and his new hobby. One could surmise that such a

decision based on his inability to maintain his preferred daily schedule may have been made based on immaturity and the relative financial safety he experiences living at home with his parents. Alternatively, the decision to quit could have been Gabe prioritizing whether work or hobbies most significantly impacted his quality of life. Gabe's response when asked how his life changed after quitting the night stocking job was, "I could actually sleep again, but after a while (being unemployed) it kind of gets a little boring and stuff, because I am doing the same old routine every day."

Anna identified the three most significant employment barriers across her work history as: (1) social interaction, (2) gaps in her employment history, and (3) her production speed on the job. Anna described the experience of losing a job with a shipping company:

I was there for a few months unloading the trucks and I just could not move fast enough for them. They said only go as fast as you safely can. That's as fast as I safely can. It wasn't fast enough.... They said I couldn't do the job because I just couldn't go fast enough.... If I go faster than a certain point, I start dropping stuff and losing stuff.

Identity as a Worker. In this subcategory, participants explained how employment has impacted their personal identity and self-esteem. When questioned about his definition of work Brice stated, "Work would be getting employment, benefits, potential to go forward as a means to obtain money and fulfill a niche to humanity and personal growth."

Cassie has an extensive work history. She was first employed in high school, earlier than any of the other research participants. When asked about her decision to work while in high school, Cassie explained: I grew up very poor, so it was always kind of like known that I would go to college and get a job. I never thought any differently of that. We were so poor I had to buy my own clothes. I had to provide for myself, so it [work] was a survival thing.

While completing college, Cassie held multiple long-term jobs. After completing college, Cassie secured employment in a position that aligned with her academic skills. Cassie described the feeling of pride she obtains from being employed:

[I work] to feel that I have a purpose and to feel like there's a sense of accomplishment and that I'm doing something. I'm very proud of having a job. There are a lot of arguments online right now [about not working and receiving federal benefits] and I'm like, I have a full-time job. I like saying that. I like people to know that. It makes me feel like I've accomplished something. And even though it's kind of looked down upon to say in spite of the autism that I have, it's not really something that I accomplished in spite of. I'm just a person and I feel like I'm doing well given the issues that I have.

Anna's vocational experiences have varied widely, with both positive and negative employment experiences. When asked what it felt like when she was unemployed, Anna described the feeling, "I was ashamed. I felt useless, worthless, like a mooch on society, my parents, everyone. I felt like everyone looked down on me…"

At a later point in the interview, Anna described feelings of her apathy toward working:

So far my work experience hasn't been very good. There were a few jobs I liked here and there but mostly it's been... Ugh.... As far as my current job, I'm okay with it. I like it all-right, you could say I don't mind it. Money is my main motivation to work. If I didn't need the money I wouldn't work where I am now. I would work with animals. I would get a business degree and run my own pet care service.

Evan reported that he struggled for several years to find employment after he completed his associate's degree. He became discouraged by his lengthy job search prior to obtaining his current position as a dishwasher. While many would not perceive dishwashing as an optimal career, throughout the interview Evan spoke with great pride and confidence when he was describing his job and job duties as a dishwasher. He stated:

Strangely enough, I enjoy it. I love being down there [the dish room] helping out. It gives me something to do, which makes me happy. I don't like to sit at home so it means a lot to me. Otherwise I would be sitting at the house miserable. I am happy to go down there. I am happy where I got to be. I'm happy that I'm at a good stage in my life and I can only sit and wonder where I am going to go from here. The future looks bright.

Daniel has had a sporadic work history throughout his life. At 37, he was the oldest participant and is the only participant who completed a master's degree. Much of his work experience has been in jobs that relate to his interest and academic background in computer science. Daniel explained:

Well, most of my work experiences have been fairly mundane. A lot of what I end up doing at work and part of why I've managed to stay so long, is trying to come up with the weird, and other possibilities that could be causing this [system] to go wrong. I try to think of rather bizarre possibilities and eventually find one that turns out to be right.

The ability that Daniel describes of being able to "think outside of the box" is a trait of ASD that is sometimes marketed to prospective employers as a desired quality (Simone, 2010). Daniel reported that this quality has assisted him in maintaining his current employment position.

When questioned about his feelings on being employed, Finn stated, "This is about more than making a living. It's about gaining human dignity." Finn's brief statement illustrates that his employment is much more valuable to him than simply monetary compensation. The participant statements about their perceived identity indicate that work is an important component in the quality of life for adults with ASD. This finding is consistent with previous ASD quality of life research (Hurlbutt & Chalmers, 2004).

Personal and Professional Future Goals. The final interview question asked each participant to describe their long-term personal and professional goals. This question was asked to encourage participants to describe their thoughts and feelings about the future and to potentially bring up any topics that were missed throughout the interview.

Anna is approaching the one-year anniversary of her employment in her current position working in a warehouse. She spoke positively about her job throughout the interview and appears to be proud of her longevity in the position. Anna reported feeling positive about her future and stated:

My goal is to start making enough money and try and get some real time off so I can start traveling. So I can go down and visit my nephews more often. My other personal goal is to make some close friends where I'm at. Professionally, I want to get into the highest position I can, maybe go into management. In management, I would have to supervise and make the plans and I don't know if I can handle that, it would be a lot of social stuff. I want to climb up that corporate ladder, maybe get a position of respect.

Brice has been employed part-time for several years in a position where he reports he is unchallenged. Brice has been collaborating with the Vocational Rehabilitation program in his

state for two years attempting to secure a full-time position that aligns with his education and interests, but has thus far been unsuccessful. Brice appeared visibly discouraged and emotional when talking about his vocational experiences. He explained:

My personal goals are to be more social, less isolated. Professionally, I'd like a highranking position with maybe like a state environmental field, or director or maybe a head research person at a research lab. Or high-ranking thing with the state or like in this type of position like the director of a department, I want to do something to change the world.

Cassie has been employed working as an accountant for the past five years. The position aligns closely with her postsecondary education. She hopes to remain with her current employer and expand her job activities to include supervision tasks. Cassie explained:

Professionally, I want to stay with [current employer]. I don't know where it will go. It is always changing and in flux. They see me as only the accountant and I don't know if I necessarily see me as the accountant. I kind of like the idea of being a business manager. I don't know if I could handle people being underneath me, I am undecided where I fit in that puzzle. I like being heard and if I am just the accountant I don't think I'd have much input anymore. Personally I want to learn more communication skills so that I could work with more people on the spectrum. I need more leadership skills. Another personal goal is to buy a house.

Daniel was the oldest participant in the current study and the only participant who had earned a master's degree. He lives at home with his parents. While Daniel currently has full-time employment in a position that aligns well with his education, his position is classified as

temporary, so he has no guarantee of long-term, permanent employment. Daniel described his personal and vocational goals as follows:

Work-wise, it's more that I'm saving up for retirement, trying to find, if I need a better position, my current position I am pretty happy with but I don't know how long it will last. Personally, I've been trying to develop a bunch of different skills, I seem to be about a mile wide and inch-deep in skills. Right now among other things, I am working on writing, drawing, and cat training...

Evan is currently employed as a dishwasher after, per his report, several discouraging years of unemployment. Although dishwashing is not related to his degree in computer network support, Evan expressed pride in his employment. He stated:

The main thing is just actually to get out and have more of a social life. I think even now I am kind of socially awkward. I made friends at work, but I don't really have anything to do with them off hours there. I need to start going out and being sociable with people. I think also about being able to manage my finances. Even now, I have my parents managing most of them, because I'm scared I'd forget something. I think the main thing is that I've done the best I could, and generally I have the feeling I do. But I am always trying to improve myself even more. My main goal is to help people, before anything else.

Gabe participated in this research study following his first day at a new job. His position does not utilize his passion for art or his bachelor's degree in art; however, Gabe seemed pleased to be able to report that he is now employed. Gabe has two siblings who are in well-established career fields and in committed romantic relationships. It appeared to the researcher that Gabe

compares his life patterns and choices to those of his siblings. Gabe described his future personal and vocational goals:

Well, just get a life. Got to get a job, get an apartment, find a girlfriend, get married, trying to be like everyone else, just moving on because I am 26 years old, I should, I'm an adult now, I should start getting a life. I'm thinking if I ever get like an art job or something. I at least want my work to be recognized. Not just from my family or friends, but other strangers as well, just so I would be kind of appreciated.

Finn spoke with the greatest brevity of any of the seven research participants. He answered questions in a concise way that conveyed to the researcher that Finn had been coached and given scripted answers to the research interview questions. Finn's responses did not always align with the questions asked of him, and often he was unable to expand on the brief responses that he did share. Regarding his future plans, he stated, "Try to help make the world greater. I want to support myself and be independent and self-sufficient." Participants' comments regarding their personal and vocational futures indicate that while each of the seven participants were employed at the time of the study's data collection, they still have areas in both their personal and vocational lives they would like to see improved.

Summary

The purpose of the present study was to explore and describe the vocational experiences of adults with ASD and a college degree. Although each of the seven participants had unique postsecondary and vocational experiences, their experiences could be described in four major themes. The four themes were (1) postsecondary academic and social experiences, (2) transition from postsecondary education to employment, (3) communication, and (4) ASD at work.

Chapter 5- Discussion describes the implications of the study results related to individuals with ASD, policy, practitioners, researchers, and families of individuals with ASD and a college degree.

CHAPTER FIVE DISCUSSION

This chapter presents the culmination of the present study. An overview of the study is provided, along with the purpose statement and research question of interest. A summary of the interpretation of the findings that emerged from the data is provided with a focus on the four major data themes and their implications. The strengths and limitations of the study are also addressed. Recommendations for areas of future research are described and recommendations for individuals with autism spectrum disorders (ASD), policymakers, educators, rehabilitation counselors, rehabilitation counselor educators, and employers are presented. Lastly, a summary of the dissertation is provided.

Introduction

The purpose of the current study was to explore the vocational experiences of adults with ASD who have college degrees. Specifically, this study was designed to explore the question: How do college graduates with ASD describe their employment experiences? To address this research question, the researcher used phenomenological methodology to gather data though semi-structured interviews with seven participants who have ASD, a college degree, and a work history. While discussing their vocational experiences, participants shared barriers to employment and factors that increased their work successes. The social environment played a significant role in the participants' vocational experiences as described in the in-depth interviews with each participant.

This chapter discusses the four themes chronologically in the same order they were presented in Chapter 4- Results. The discussion includes the importance of the findings as related to relevant literature on the vocational experiences of adults with ASD and a college degree.

Themes will be discussed as follows: (1) academic and social experiences in postsecondary education, (2) transition from postsecondary education to the workforce, (3) communication, and (4) ASD in the workplace.

Postsecondary Education

The literature indicates that the number of individuals with ASD enrolling in postsecondary education is increasing (Smith, 2007). The participants in the current study attended varying types of postsecondary institutions including small technical colleges, large state universities, and for-profit online colleges. Five of seven participants completed their entire college education in-person, physically on the college campus. Two participants enrolled in both online and in-person courses. The degrees obtained by the participants varied from associate's to master's level degrees. The results of the current study are consistent with reports in the literature regarding effective academic accommodations at the postsecondary level (e.g., Adreon & Durocher, 2007). Specifically, the two most effective academic accommodations, as reported by the participants in this study, were preferential seating in the classroom and extended time on tests.

Individuals with ASD may struggle with developing effective and meaningful social relationships with their peer group at the postsecondary level and beyond (Adreon & Durocher, 2007). The participants in this study reported barriers to interacting with their peers while enrolled in postsecondary education. One study participant, Cassie, reported an advantage to taking college courses online was that her peer-to-peer communication and interaction was limited to email, as opposed to the frequent face-to-face verbal interactions with peers in on-campus classes. Such limited peer communication proved to be advantageous as Cassie reported feeling more respected by her peers in online courses. She also reported taking a leadership role

in one of her online course group projects, something she had not done during her an in-person courses. Finn reported that even though he lived on-campus in the dorms, he spent the majority of his free time alone. This finding aligns closely with Attwood's (2006) study, which documents that individuals with ASD struggle socially in postsecondary education because they may not be able to initiate contact with groups or individuals with which they are unfamiliar.

The current study provided data about the process participants went through to choose which college to attend, and the evolution of their decisions about which degree or major they chose to pursue. Results indicate that degree completion without attention to employability in the chosen field, and a desire to reside with or close to parents were frequent barriers to potentially higher-paying degree related employment opportunities. Multiple study participants chose to pursue a degree based on their interest area and without a plan for the employment opportunities made possible by their chosen degree after college graduation. Specifically, six of the seven participants chose a postsecondary degree based on interest area or the suggestion of a parent rather than based on the employment made possible by the degree. Cassie was the sole participant to report leaving a degree program that aligned with her specific interest area, astrophysics, based on the projected lack of job availability after degree completion. Instead, Cassie chose to pursue a degree in accounting because she learned there were potentially more local job options available in the accounting field.

The lack of career planning which appeared to be demonstrated by six of the seven participants is based on the observation that five participants are working low skill and low pay jobs unrelated to their postsecondary degree. This finding confirms what has been reported in the employment literature regarding individuals with ASD. Namely, that underemployment in menial jobs is common for individuals with ASD who are able to obtain any type of competitive employment (Ballaban- Gil et al., 1996; Taylor & Seltzer, 2011), regardless of education level.

Transition to Employment from Postsecondary Education

The data gathered in the current study confirm previously documented findings in the relevant employment literature, which notes that people with ASD face disadvantages in both finding and maintaining employment, and when they do obtain employment, it often offers low pay and requires minimal skills (Howlin et al., 2013; Levy & Perry, 2011; Taylor & Seltzer, 2011). This finding was demonstrated by reports by five of the seven participants in the current study. Anna has a bachelor's degree in English literature; however, she works full-time at a warehouse production job. Like Anna, Brice earned a bachelor's degree; his is in zoology. Brice has been working at a part-time data entry position for the past five years. Evan has an associate's degree in computer support and currently works as a part-time dishwasher, which falls into the category of a low pay and low skill position. Finn obtained a bachelor's degree in drafting and works full-time sorting items in a retail setting. Lastly, Gabe, has a bachelor's degree in art and works part-time in a position that involves setting up for special events at a county owned building. While obtaining a degree that proves to be less than useful when seeking employment is not an issue isolated to individuals with ASD, the lack of planning for employment outcomes when selecting a degree to pursue may be a unique barrier to employment for adults with ASD.

The current study reached conclusions similar to previous literature (Howlin et al., 2013), demonstrating that even after obtaining a college degree individuals with ASD frequently obtain low pay and low skill types of employment. Moreover, the existing literature also indicates that full-time work is a rarity for individuals with ASD (Schall et al., 2015; Taylor &

Seltzer, 2011). This same situation was found to be true for the participants in the present study in which three of the seven participants reported working full-time and the other four reported working part-time. Baldwin et al. (2014) reported that 45% of adults with ASD were overeducated for the job in which they were currently employed. The rate of underemployment among the participants in the current study was even high than that found by Baldwin et al. (2014) and may be due to a misalignment between educational level, degree type, and available positions within the geographic area where these participants are willing to work.

The current study is unique in that all seven research participants were employed at the time the data was collected, even though current employment was not a requirement for participation in the study. Previous studies have found that individuals with ASD often have frequent job changes and periods of unemployment (Howlin et al., 2000; Muller et al., 2003). A similar situation applied to the participants in the current study. For example, while Anna reported having the most jobs over the course of her vocational lifespan, the longest time period she retained a job was one year. Anna, Daniel, and Evan, reported experiencing multiple years of active job searching after completing postsecondary education.

Multiple studies (Taylor & Mailick, 2014; Taylor et al., 2015) reported that women with ASD were less likely than men with ASD to be engaged in the workforce. For the two female participants in this study, this tendency was not found to be accurate. The two female participants, Anna and Cassie, reported a greater number of paid positions over the course of their vocational histories when comparted to the male participants in this study. Cassie reported continuous employed for the last fifteen years. Cassie has worked multiple jobs simultaneously at different parts of her vocational lifespan which is something none of the male participants reported doing.

Anna reported that having a clear production goal for each day, as well as structure and routine in her employment, helped her to be successful. Anna has worked at multiple temporary production jobs in which she felt that the only time employees find out they are not doing the job correctly is when they are being terminated. She reported that she sought temporary work in order to demonstrate additional work history on her resume. However, the short-term jobs appeared to hinder Anna's career development, as she reported that employers saw the frequent job changes as red flags. These findings align closely with the findings of the Muller and colleagues (2003) who reported that frequent job changes and periods of unemployment impede the career development potential of adults with ASD and limit their employment opportunities.

Communication as a Barrier to Employment

Communication deficits are a core feature of ASD and are reported to be the most significant barrier to employment for this population (Hurlbutt & Chalmers, 2004). Communication impairments factored into every participant interview in various ways. More specifically, participants discussed how different social skill deficits impacted their employment situation. The results of the current study are consistent with the findings of Hurlbutt and Chalmers (2004) who reported that job success for individuals with ASD is more frequently impacted by an individual's social skill performance in relating to coworkers and management than actual job tasks performance.

The job interview was reported by each of the study participants to be both a major source of anxiety and a venue in which social skill dysfunction was problematic. This finding is consistent with previous research that describes the common difficulties experienced by individuals with ASD during a job interview. Such difficulties are often due to impairments with reciprocal conversation or delayed cognitive processing speed which impairs the individual's

ability to think and respond quickly to interview questions (Berney, 2004; Richards, 2012). Both Evan and Cassie stated that they struggled to maintain eye contact in past job interviews. One observation in the current study was that each of the seven participants made only fleeting eye contact with the researcher during their interview. Previous studies have found that an impairment in socially normative behaviors can lead to employers generating a potentially negative first impression of the individual with ASD and making assumptions based solely on nonverbal communication (Vogeley et al., 2013).

Richards (2012) explained that employees with ASD struggle to engage in informal office discussions or projects that involved teams. This social interaction challenge was reported by all seven participants in the current study as they talked about their experiences with fellow students in postsecondary education and social interactions with coworkers in the break room. An interesting strategy that Daniel found to be helpful was the use of computer chat software in the office. Daniel reported that this chat software eliminated his need to socialize with coworkers, therefore lessening the impact of his social anxiety at work. Both Daniel and Brice reported that they avoid the breakroom or interactions with coworkers as small talk is something they preferred to avoid. A recent study by Thomas (2015), suggested that social ability was the most impactful factor on vocational success for individuals with ASD.

Bullying was reported explicitly by two of the participants who shared concerning situations at their workplaces. While neither of these two participants used the term "bullying" it was apparent that the participants had experienced bullying in the workplace. It has been reported in the literature that individuals with ASD are victimized by bullies at greater rates than individuals without ASD because of their social skill deficits and lack of a close social network of friends (Schroeder et al., 2014). The previous literature examining bullying demonstrates that

individuals who react to bullying with strong emotional or behavioral reactions are at risk of increased victimization as these reactions actually encourage the perpetrator of the bullying to continue. Emotional and behavioral reactions from an individual with ASD under social distress are not unexpected as such individuals may have emotional regulation issues. Furthermore, individuals with ASD may have restricted interests that isolate them from their peer group and can therefore lead to further victimization (White et al., 2012).

Van Roekel et al. (2010) reported that individuals with ASD have greater risk of being bullied because of their likelihood to react aggressively and emotionally. In addition, individuals with ASD are less likely to be aware that they are being bullied because of the limited social insight and social awareness innate to the condition. Bullying incidents were described by four of the seven participants in this study. This study further validates the previous research claims that level of functional social abilities directly impacts the employment success of individuals with ASD (Thomas, 2015).

A study by Hagner and Cooney (2005) indicated that supervisors frequently reported that communication issues often impacted the job performance of their employees with ASD. This situation was illustrated clearly in the interview with Daniel. He reported that he had a supervisor who was slow to respond to his emails regarding questions about work tasks. Consequently, Daniel did not complete any work in the period of time prior to receiving a response from his supervisor. A frequent participant complaint regarding supervisory interactions that emerged in the data, was a need for unique provision of instruction or additional detailed directions when assigned a new job task. Cassie explained that if directions are complex and given to her verbally, they become "garbled" in her brain. She reported that she sometimes "makes stuff up" if she can't remember the exact sequence provided. Cassie reported that

written directions make learning a new job task significantly easier. Research indicates that when an individual with ASD is unable to perform a job task, it is often due to their lack of understanding of the instructions given (Muller et al., 2003). Evan, Finn, and Gabe reported that they learned new job tasks best when they were shown how to do something rather than verbally told how to do it.

ASD at Work

The current study reflects previous research, such as Roux et al., (2013), demonstrating that young adults with ASD have held fewer jobs and are less likely to work full time than their peers with other disabilities. In the current study, Cassie was the only participant who reported having been employed during high school. Once in college, Anna, Brice, Cassie, and Daniel, reported obtaining and maintaining employment. Participants in the present study differed from those in the Roux et al., (2013) study in which the data indicated that 50% of young adults with ASD held any type of paid employment within 8 years of graduating high school. All seven participants in the current study reported being employed within 8 years of completing high school.

At the time of data collection, Anna, Daniel, and Finn, reported working full-time, while Brice, Cassie, Evan, and Gabe were employed in part-time positions. Cassie reported wanting part-time employment only, as she is the primary caretaker of her two children. However, Brice reported that he is unhappy and unchallenged having a part-time job. Brice would like to obtain a full-time job and has been searching for full-time employment for the past two years. Gabe, who had no work history prior to graduating from college, and first worked after college as a nighttime stock clerk at a grocery store, was the only participant in this study to verbalize the negative impact of his lack of work history. He reported wishing that he had been employed

prior to graduating from college so that he would have been able to report a work history on his resume.

Vocational Supports and Barriers. The findings in the current study related to vocational supports and barriers to employment for adults with ASD and a college degree are consistent with previous research findings. Finn reported that a visual chart on the wall at his workplace is helpful to him as he sorts items into their appropriate bins. Literature supports the use of visual aids in the workplace as a tool to help individuals with ASD stay on task (Myles et al., 2007). Using a visual chart as an accommodation imposes little cost, and also embraces the concept of universal design. Such an accommodation may benefit many employees at Finn's place of employment. Universal design is the concept that supports making all environments and systems accessible. Such a design approach decreases functional barriers for individuals with disabilities and provides ease of accessibility to those without disabilities (Steinfeld & Maisel, 2012). The literature related to ASD vocational accommodations have recently demonstrated a movement toward electronic media, such as video modeling or PDA tools, to accommodate employment barriers. However, no participants in this study reported the use of electronic media as an assistive device at their employment (Allen et al., 2010; Burke et al., 2010).

Difficulty dealing with an unexpected change in routine is a well-documented employment barrier for individuals with ASD regardless of their education level (APA, 2013). Anna, Brice, Cassie, Daniel, mentioned in their research interviews that structure and routine in their job helped to decrease their anxiety. Brice reported that a drastic change in his work routine was the most anxiety inducing part of the job. This finding in the data aligns with recommendations by Hagner & Cooney (2005), who reported that maintaining consistency in the
work tasks and schedules of employees with ASD were beneficial to the work successes of the employee.

Disability Disclosure. Disclosure of one's disability to an employer is legally necessary prior to requesting workplace accommodations. Evan, Cassie, and Finn described disclosing their diagnosis to both previous and current employers. All three participants reported satisfaction with the employer's response to their disclosure and with the accommodations that were granted. On the other hand, Daniel and Anna both reported they had not and would not disclose their diagnosis to their current or any future employers. Daniel reported fearing employers would think he was less capable if he disclosed having ASD, while Anna feared she would appear "needy" if she disclosed her ASD diagnoses and requested employment accommodations. Such fears are not without merit as a 2008 study reported that employers often have negative attitudes about people with disabilities and perceive workplace accommodations to be costly (Lengnick-Hall, Gaunt, & Kulkarni, 2008). Interestingly, Brice and Cassie reported being unsure if their current employers were aware of their ASD diagnosis, but both recognized their employers may have known of their disability because of the involvement of the state VR program in obtaining their jobs.

Geographical Location of Employment. Evan, Daniel, and Anna, described employment opportunities they found when job searching that they had dismissed that were less than thirty miles from the homes they reside in with their parents as being too far away for them to consider as options for employment. This finding is a concept that has not been well established in the literature, that is, the idea that individuals with ASD may limit their employment options due to narrow geographic parameters. Potentially, these self-imposed geographical parameters may even be more inflexible for individuals who do not live

independently, as it may be unlikely that families would be willing or able to relocate based solely on the adult child with ASD's employment.

Anxiety. Previous literature demonstrated that at least 50% of adults with ASD meet the diagnostic criteria for social anxiety disorder (Maddox & White, 2015). Hillier et al. (2011) found that providing social skill training and vocational skill training to young adults with ASD significantly lowered anxiety and depression. Each of the participants in the current study were actively involved in social skill development programs as criterion for inclusion in the study; however, each participant also mentioned or described significant anxiety during the research interview. It has also been established that this population has high levels of co-occurring anxiety and depression that can further influence vocational outcomes in adulthood (Hagner et al., 2014). Daniel reported that his period of unemployment resulted in feelings of depression. This finding aligns with a study by Lucas et al. (2004), which reported the loss of a job can have a major repercussions on an individual's mental health.

Parental Support & Independence. Five of the seven participants in the current study reported living in their parent's home at the time of this interview. This finding is consistent with the current literature available relating to adults with ASD and residential independence. The vast majority of adults with ASD, regardless of educational attainment level, live with their parents or in a supported environment. Very few adults with ASD achieve full residential independence (Howlin et al., 2013; Levy & Perry, 2011; and Taylor & Seltzer, 2011). Brice explained that one of the reasons he still lives in his parent's home, aside from the financial assistance, is his fear of loneliness. Evan explained that he hopes to achieve greater independence in regard to his finances. He reported that his parents presently manage his finances for him. Evan expressed anxiety and insecurity about the possibility of managing his

own finances. Yang (2014) and Fulmer (2005) both noted that families play an important role both practically supporting and providing emotional support to the individual with ASD well into adulthood. The topic of parental was raised by multiple participants in the current study.

Social Isolation. While social isolation did not fit neatly into any of the established data themes, it is important to highlight as part of the study findings. When the participants were asked about their personal goals for the future, five of the seven participants mentioned they would like to be less isolated and have more friends. The finding is noteworthy when considering the study sample. As part of the inclusion criteria, each participant was required to be actively enrolled in a social skills development group. The social skill development groups each provide a weekly social outlet for activities with other adults with ASD and educational opportunities related to appropriate social interactions, including nonverbal behaviors. It is noteworthy that the participants reported feeling socially isolated even though they were employed, were living with their parents, and had weekly social interactions with peers with ASD.

Strengths and Limitations of the Study

A strength of the current study is that the participants are the individuals with ASD themselves who are reporting on their own vocational experiences. Many studies regarding the vocational experiences of individuals with ASD are conducted using the parents of the individual with ASD as the informant of the experience (Taylor & Seltzer, 2011). The participants in this study were able to describe their vocational experiences over the course of their adult lives, rather than just their current situation. Furthermore, this study was also able to obtain valuable information from women with ASD who are often underrepresented in employment literature regarding ASD.

There are limitations inherent to every research study. The current study has several limitations that need to be noted when considering the results. The data for this study was gathered using phenomenological methodology, therefore, the results described are not generalizable to all adults with ASD who have a college degree. The results of this study are limited to the seven participants in this study. The seven research participants shared their subjective experiences as they saw and experienced them. The real-life stories shared add to the credibility and authenticity of a phenomenological study (Moustakas, 1994).

The data obtained in this study are limited based on the small number of research participants recruited via convenience sampling. The limited number of participants coupled with the lack of population representativeness preclude generalization of findings to all adults with ASD who have a college degree and work history. The amount of data is also limited based on study data collection protocol which included only one 30-90-minute interview per participant. Additional data may have been obtained using one or multiple follow-up interviews. Also, this study only interviewed adults who were currently engaged in a social skills development group. It is not known if there would be differences in the vocational experiences of participants compared to individuals with ASD who were not involved in a social skills development group. The criteria requiring social skill development group enrollment was used as a mechanism to ensure that each participant had a valid ASD diagnosis. Finally, the participants in this study all identified as being Caucasian, thus limiting the individual differences and diversity characteristics of the sample.

Implications of the Study

Study findings have implications for a wide variety of stakeholders. Needless to say, results are important to both individuals with ASD and their families. Findings also have

implications for policy and practice. As such, the results of this study will be discussed in the context of policy makers, families, and multiple professional disciplines. In addition, implications for rehabilitation counselor educators and employers will be discussed.

Implications for Individuals with ASD. Results of this study indicate that the transition from secondary education to postsecondary education, then eventually from postsecondary education to the workforce, is littered with barriers and stressors for individuals with ASD. The vocational barriers described by the participants in the current study include social skill deficits, geographical limitations, and the pursuit of college degrees that do not assist in positive vocational outcomes. Five of the seven participants in the current study reported they are underemployed in low-pay, low-skill positions. Such underemployment may be the result of college degree choices that did not lead to employability in the participants desired fields. Individuals with ASD will need to advocate for their needs and accommodations on the job. This includes the awareness and ability to disclose their disability to an employer if needed. Multiple participants in this study described how their sensory challenges impact them at their workplace. Individuals with ASD need to be aware of their sensory challenges and knowledgeable about tools or accommodations that may be utilized at work.

Implications for Families. As evidenced by the results of this study, the parents and families of individuals with ASD continue to play a vital role well into adulthood. Five of the seven participants reported to living in their parents' home presently, i.e. after they have graduated postsecondary education and obtained employment. This aligns with previous research that indicates parental social and financial support commonly extend beyond college for individuals with ASD (Neely et al., 2012). The results of this study indicate a need for parental advocacy for improved career decision making and degree choices. As evidenced in Smith and

Anderson (2014), parents often act as the advocate of the individual with ASD as they make postsecondary and vocational decisions. Parents should consider the vocational possibilities of the degree choice their son or daughter with ASD has made at the postsecondary level.

Implications for Policymakers. Data obtained from this study suggested there are policy problems in serving young adults with ASD both educationally and vocationally. The paucity of empirical literature related to the transition needs of young adults with ASD is well documented (Test et al., 2014). While transition planning is mandated for students receiving special education through the public school system, this planning may not encourage realistic postsecondary goals or provide work experiences and job related skills training for young adults with ASD while they are still in school. IEP planning should include individualized goals for postsecondary education and employment that match the strengths and interests of the student. These goals should be measurable in order to track progress. Having a rehabilitation counselor present throughout the transition process may assist to ensure postsecondary and vocational plans are appropriate and will result in a vocational outcome that aligns with the goals and abilities of the individual with ASD. The Workforce Innovation and Opportunity Act (WIOA, 2014) increases the focus and funding available for services for young adults with disabilities in their job search. WIOA also encourages occupational skills readiness training for in-demand career fields which could be beneficial to the population in this study.

Implications for Practitioners. The results of this study demonstrate the disparity between the academic successes and the vocational struggles for adults with ASD who have obtained a college degree. The study results demonstrate several areas across multiple life stages that can be addressed by the appropriate practitioners in order to potentially improve the vocational outcomes of adults with ASD. Implications for high school, postsecondary, and

rehabilitation counseling practitioners are discussed. Further, implications for employers and rehabilitation counselor educators are delineated.

Implications for high school personnel. Once in high school, individuals with ASD would benefit greatly from positions in the workforce similar to jobs their neurotypical peers would have during this time period. Regardless of whether the position is paid employment or volunteer work, the student with ASD would benefit from learning to interact with others in a work environment, understanding work expectations, and building a work history to document on a resume. A longitudinal study has demonstrated the influence of high school programming on the post-school outcomes for students with ASD (Test et al., 2009), and found that early work experiences are identified as a predictor of successful employment outcomes.

In a study by Feldman-Sparber (2015), high school students with ASD who were engaged in a work-study program while in high school were twice as likely to be employed a year after graduation. In the current study, only one of the seven participants held any sort of employment prior to entering college. Lack of work history puts individuals with ASD at a significant disadvantage to their peers who have likely worked multiple weekend or summer jobs prior to graduation from high school. There is a need for high-quality transition planning that includes post high school outcomes related to postsecondary education and employment.

Implications for postsecondary educators. This study demonstrated the need to better address vocational decision-making as it applies to vocational outcomes regarding the college majors/degrees that the participants in this study chose. Whether that is through disability services, career counseling, or their academic advisor, college students with ASD should be provided a realistic picture of their job options in their chosen degree field. Several participants realized too late that there was no realistic vocational outcome based on their degree area and

regretted their chosen degree. Several participants also reported that they had utilized disability support programs to seek accommodations; however, none of the participants in the current reported participating in an autism specific program provided by their postsecondary institution. It is important to note that most participants had likely graduated prior to the development autism specific disability services at postsecondary institutions.

Educators at the postsecondary level should be trained regarding accommodations for students with ASD. College instructors should also be educated about the social skill deficits that can make it difficult for such students to approach the instructor about their needs, accommodations, or academic struggles. As suggested by the findings in the current study, if the college instructor is aware of a student with ASD in their course and they are assigning a group activity, the student with ASD would likely benefit from concrete direction from the instructor regarding group work expectations and group communication.

Implications for rehabilitation counselor educators. Based on the number of individuals who are diagnosed with ASD each year, it is likely that a rehabilitation counselor will interact with individuals with ASD in their career. When educating future rehabilitation counselors about working with individuals with ASD it is important to be certain future rehabilitation counselors are aware of the unique communication style inherent to ASD. Participants in the current study described the impact of their verbal and nonverbal communication deficits on their job search process. Future rehabilitation counselors need to be educated to utilize current evidence based practices and interventions in their work with individuals with ASD. They should maintain current information as to the services and interventions that are shown to be effective when working with this population. As Evan explained in his interview, "The thing with people with Asperger's, we are all different. You

can't apply the same treatment to all of us and have it work." Future rehabilitation counselors need to know that each person with an ASD diagnosis is completely unique and should be treated accordingly.

Implications for rehabilitation counselors. Five of the seven participants in this study reported having an open case with their state VR program at some point during their vocational experience. Two of those five described their experiences with VR as frustrating or negative. Evan reported negative feelings about working with rehabilitation counselors, "I just didn't think they [VR counselors] understood, I don't think they really understood what I was going through. They just saw me as a name on a piece of paper. They didn't really care." However, three other participants reported positive experiences with VR and obtained employment based on the services VR provided to them.

It is vital that rehabilitation counselors are prepared to work with people with ASD and that they understand the unique traits and factors related to this disability. Rehabilitation counselors need to maintain high expectations for the vocational outcomes of adults with ASD, while also being aware that the social deficits innate to the condition remain a barrier to employment regardless of the individual's academic achievement level.

Rehabilitation counselors should be prepared to support the goals and aspirations of individuals with ASD. However, they must keep in mind the special interest area or desired degree field the individual chooses to pursue may not have realistic job opportunities. Three of the participants in this study described finding employment but were not being willing to accept it based on its distance from their home. In both cases the potential job was less than thirty miles from their home. Two of the participants in the study describe leaving employment based on the work schedule not aligning with their preferred weekly schedule. As such, based on the study

findings, rehabilitation counselors also need to consider the rigidity of thought that can be common in individuals with ASD regarding both: (a) the geographic area in which they would consider working, and (b) the work schedule they are will to accept.

The importance of teaching clients with ASD who are employed or job seeking to advocate for themselves and their needs cannot be understated. Interestingly, several of the research participants worked with VR to obtain employment and did not think their employer knew they had a disability. However, having a disability that causes barriers to maintaining or obtaining employment is a necessary qualification for eligibility to work with the state VR program. Rehabilitation counselors must be transparent regarding their communication with the individual's employer and ensure that their clients with ASD individual know precisely what they disclosed to an employer.

Six of the seven participants with ASD in this study reported having sensory sensitivities involving sound. Several participants utilized accommodations in place to help them block out the auditory irritants in their workplace such as fans, space heaters, or applications on their personal cellular phone. Thus, rehabilitation counselors need to be aware of the sensory concerns that are common among individuals with ASD and be prepared to assist the individual with tools to help either remove sensory concerns or assist the individual in tolerating them.

Interview anxiety was something that was reported by six of the seven participants. It is imperative that rehabilitation professionals prepare adults with ASD for job interviews. Interview preparation may require mock interviews, scripting potential interview answers, and explaining the appropriate social skills needed for a job interview. Based on study data that indicated two participants benefitted from rehabilitation counselors being present at their job interviews, such

interventions will likely increase the individual with ASD's self-confidence and decrease their anxiety.

Implications for employers. The employer will only be made aware of an employee's ASD diagnosis with the employee's disclosure; therefore, it is necessary that employees of individuals with ASD are aware of the unique characteristics and needs of employees with ASD. This study demonstrates the importance employers' providing frequent and direct communication when interacting with employees with ASD. Multiple participants reported that immediate feedback was vital for their success on the job. Employers of individuals with ASD need to be aware of the sensory differences an employee with ASD may have. Workplace accommodations for these sensory issues may need to be allowed, such as approving a fan or soft music at the employee's work site to drown out the offending sounds. The employer also needs to be aware of the common communication barriers and social skill deficits that are innate to individuals with ASD. Also, employers need to be aware of this population's vulnerability to bullying behavior, recognize that it may be occurring, and know to take such reports seriously. Many participants mentioned the most anxiety provoking occurrence in their workplace is when their work schedule or routine changes unexpectedly. If an employer is aware an upcoming major change, the time and effort needs to be taken to inform and prepare the employee with ASD about the change, as well as to transition to the new routine or expectation over the course of time rather than an immediate change.

Recommendations for Future Research

Previous research studies have suggested that adults with ASD have difficulty obtaining and maintaining employment regardless of their level of academic achievement (Howlin et al., 2013; Roux et al., 2013; Shattuck et al., 2012). The findings in the present study are consistent with previous work and also highlight reasons for these challenges outside of the traditional conclusions. Additional quantitative and qualitative studies are needed to further identify effective employment preparation techniques and vocational supports for adults with ASD who have obtained a college degree.

A follow up study that includes interviews with parents of adult children with ASD is necessary to provide additional data about the vocational experiences of adults with ASD who have a college degree. A longitudinal study tracking individuals with ASD as they transition from high school to college or work, and over the course of a career, would contribute to the body of literature currently available in this area. Additional research in the area of bullying with adults with ASD would be beneficial as the literature regarding ASD and bullying relates primarily to children and adolescents. Data from the current study suggests that bullying may occur for adults with ASD who have a college degree and are employed.

An extension of the current study utilizing quantitative methods or mixed methods would provide additional data about the vocational experiences of adults with ASD and college degrees. Various quantitative measures including quality of life scales could be used to obtain different perspectives on the impact of vocational experiences among adults with ASD. The use of quantitative surveys could delve into information that is not gleaned via qualitative methods. Extending the current study would expand our understanding of the vocational experiences of adults with ASD.

Based on the findings in the current study, future research is needed in the area of vocational decision making in young adults with ASD. Results of this study demonstrate that while adults with ASD may have the cognitive ability to be academically successful and complete postsecondary education, the degrees they obtain may not assist them in overcoming

the vocational challenges they face once they graduate. Additional research is needed regarding the process of vocational decision making and career planning for adults with ASD who complete college. Additionally, further research is also needed to examine the efficacy of interventions used to enhance social and job readiness skills of individuals with ASD, as such data has been minimally reported in the literature. Finally, research exploring the impact of parental vocational expectations on individuals with ASD and the relationship of such expectations on adult outcomes is needed.

Researcher Reflexivity

Qualitative data is prone to a degree of subjectivity due to the influence of the researcher on both the participants and the interpretation of the data. Throughout this study, the researcher considered the importance of reflexivity, defined as an ongoing analysis of the degree of influence the researcher exerts both intentionally and unintentionally on the research findings (Fontana, 2004). Reflexivity is a continuous process of reflection throughout the study where the researcher examines her biases, values, preconceptions, and researcher behaviors that can influence participant responses (Parahoo, 2006). The researcher's process of reflecting on the research and her values and beliefs and how those factors impact the researcher's interpretation of the data adds credibility and rigor to qualitative studies (Jootun, McGee, & Marland, 2009).

Social Desirability Bias. When considering the researcher's influence on participant responses in this study, it is imperative to note the demographics of the researcher. The researcher in this study is a female who is in the same age group (26-37) as the research participants. One unexpected result of the in-person interviews was the influence of social desirability bias found in some of the participant interview responses. Social desirability bias occurs when a participant offers inaccurate self-report on sensitive topics, denies socially

undesirable traits, and claims socially desirable ones to paint themselves in the best possible light (Fisher, 1993).

This bias was recognized clearly in a participant interview. The researcher has also known some of the participants from the social skills groups over the course of multiple years. One participant in particular had a long period of unemployment with accompanying mental health struggles, including severe depression and suicidality. It was during that point in his life several years ago, when the participant and researcher met. That participant and the researcher have had no further interaction over the past 4 years. In the interview for the current study, the participant only shared positive aspects about his employment history and experiences. For example, when questioned about the periods of unemployment throughout his vocational journey, the participant did acknowledge the negative features of this period of time, yet stated it was a time of great personal and professional growth and learning. He did not report any of the negative impacts the researcher witnessed first-hand. The researcher did not bring up past events or knowledge in either the interview or the analysis. However, knowing some of the unreported negative features of this participant's vocational journey, the researcher needed to address this validity issue.

When reflecting on the interviews it was important for the researcher to note that the two interviews with female participants were much lengthier (59 minutes- Anna and 89 minutes- Cassie) with more descriptive content regarding vocational failures and challenges than what the male participants shared. The male participants appeared to be influenced by the social desirability bias of wanting to appear more socially desirable to the researcher, and therefore reported more about the positive factors of their vocational experiences than negative. In contrast, the two female participants provided more realistic detail about their vocational

experiences, including the descriptions of potentially embarrassing vocational situations, challenges, and failures.

Conclusion

Given the current rates of ASD diagnosis and the continuing number of young adults with ASD entering postsecondary education and the workforce, urgent attention should be paid to ensuring that the employment preparation being provided to young adults with ASD is consistent with the needs of the current labor market. The findings in the present study demonstrate that individuals with ASD face many challenges in vocational settings regardless of their level of academic achievement. The vocational situations and challenges described by participants in this study were complex. The study results demonstrated the need for additional vocational education for individuals with ASD in relation to college degree choices. Several of the research participants were essentially limited with no realistic job options due to their chosen academic major. The high number of individuals with ASD who are either currently considering postsecondary education and employment, or will be in the near future, makes this area of research pertinent (Taylor & Seltzer, 2011).

The purpose of the present study was to explore the vocational experiences of adults with ASD who have a college degree. The seven participants, each of whom were enrolled in a social skills organization, had at least an associate's degree, and had employment experience. The participants were recruited from two social skills organizations. Each of the seven participants had unique postsecondary and vocational experiences. Although each experience was unique to the participant who reported it, there were similar experiences that were reported by each participant. The researcher was able to analyze the data and extract four themes. These included:

(1) postsecondary education, (2) transition to the workforce, (3) communication, and (4) ASD at work.

Areas for further research have been identified including research specific to postsecondary education; such as the career development process for this population as it relates to degree choice. Additional research highlighting parental perspectives and vocational expectations regarding adult children with ASD would benefit the literature. Lastly, a longitudinal study following the experiences of individuals with ASD as they transition from high school to postsecondary education and then their experiences entering the workforce. The current study provided detailed descriptions of the postsecondary and vocational experiences of seven individuals with ASD and a college degree. The current study provided additional data that may be useful in assisting ASD service systems, vocational rehabilitation providers, individual practitioners, and families in order to help individuals with ASD to obtain and retain employment APPENDICES

APPENDIX A

Study Recruitment Flier

Research Volunteers Needed for a Michigan State University dissertation study about the vocational experiences of adults with ASD with a postsecondary education.

Who is eligible: 1.) Adults who participate in ASPPIRE or Autism-Skills for Life,
2.) Have a postsecondary education (associate's degree, bachelor's degree, etc)
3.) Have worked for at least a year (does not have to be 12 consecutive months and can be at multiple jobs, you do not need to be employed currently)
4.) Be your own legal guardian

Participants will be asked to:

Participate in a 60-minute audio recorded interview answering questions about your work experiences.

Interview questions will be about your work experiences, how working or not working impacts your life, what types of accommodations you felt were helpful, and what your long term job goals are.

Participants may be asked to review the transcript of the interview and the findings of the study to confirm they are consistent with the participant's experiences.

Benefits of the study: You will be providing much needed information about the vocational experiences of adults with ASD. This information will be used to enhance the existing literature on the topic and to potentially address improvements in the vocational rehabilitation services provided to adults with ASD that may improve the quality of life for individuals with ASD through improved positive vocational outcomes.

** Each participant will receive a \$15 Amazon Gift Card. **

Contact: If you are interested in participating in the study or would like more information regarding the study please contact the researchers, Michelle McKnight-Lizotte, via phone or e-mail at <u>Mcknight.Michelle@gmail.com</u> or (404) 509-3787.

APPENDIX B

Informed Consent Document

Research Participant Informed Consent Form

Study Title: A Phenomenological Study of Vocational Experiences in Adult College Graduates with Autism Spectrum Disorders

Researcher and Title: Michelle Lizotte, Doctoral Candidate

Department and Institution: Department of Counselor Education, Psychology, and Special Education, Michigan State University

You are being asked to participate in a research study. The researcher is a doctoral candidate at Michigan State University. The information in this form is provided to help you decide if you want to participate in the study. This form describes what you will have to do during the study and the risks and benefits of the study. You should feel free to ask the researcher any questions you may have.

If you have any questions about this form or do not understand something you should ask the researcher by the email address provided or call (404) 509-3787. Do not participate in the study unless the researcher has answered your questions and you decide that you want to be a part of this study.

Purpose of the Research: The researcher is interested in learning about individuals with Autism Spectrum Disorders (like Asperger's syndrome) experiences with working.

Why me? You are being invited to participate in this study because you:

- are an ASPPIRE participant,
- you have completed some type of Postsecondary education
- are your own legal guardian
- Have worked at least 1 year (does not have to be one consecutive year)

What Will Happen: For this study we will meet once at a mutually agreeable location and time. During this meeting we will talk about your experiences with working. The interview will be audio recorded to be transcribed at a later date and I will take written notes throughout our conversation. This study will take no more than a 90-minute commitment on your part.

Potential Benefits: I hope that will find our conversation helpful, interesting, and beneficial as it relates to your experiences with employment. Potentially the results of this study may be helpful for individuals with ASD who are employed or want to be, and those who help support those individuals.

Potential Risks: In every conversation, there are risks: these risks include hurt feelings, feeling let down, and misunderstandings. In the research context of your interview there are additional risks. I may accidentally ask you a question you find upsetting, too personal, or uncomfortable. You never need to answer a question or talk about a topic that you do not want to.

Privacy and Confidentiality: The data for this project will be kept confidential. I will use pseudonyms for each participant so that your actual name will never be used. We will meet in a location that you feel comfortable and maintains your privacy.

Any information you share with me will be kept confidential to the maximum extent allowable by law. The only persons who will have access to the data gathered in this study are myself and my advisor Dr. John Kosciulek. The results of this study may be published or presented at professional meetings, however your identity and those of all the other research participants will remain anonymous.

The interview will be audio recorded with your permission. The audio recordings will be stored in a digital format on my laptop. My laptop will be password protected to protect the files.

Participation is Voluntary: Your participation in this study is completely voluntary. You have the right to say "no" at any time. You may choose not to answer a specific question and can stop the interview at any time. Choosing not to participate or withdrawing from this study will not make any difference in your relationship with me or the social skills group.

Costs and Compensations for the Study: The cost of participation for you as a research participant is minimal, such as driving or taking a bus to the location of the interview. As a token of appreciation for your time, each participant will receive a \$15 Amazon gift card at the completion of the interview.

Contact Information: If you have any questions or concerns about this study, please contact me (Michelle Lizotte, Michigan State University, Department of Counselor Education, Psychology, and Special Education. Erickson Hall, East Lansing, MI 48824. 404-509-3787 <u>Mcknight.michelle@gmail.com</u>)

If you have any questions or concerns about your role and rights as a research participant, would like to obtain information or offer input, or would like to register a complaint about this study, you may contact the Michigan State University's Human Research Protection Program at (517) 355-2180, Fax (517) 432-4503, or email <u>irb@msu.edu</u>. This communication can be kept anonymous.

APPENDIX C

Interview Guide

- 1. How would you describe your experiences with work?
- 2. Please describe the supports or beneficial workplace conditions that were helpful in getting or keeping a job.
- 3. Please describe any reasons that prevented you/ or are currently preventing you from getting or keeping a job.
- 4. Please describe how the experience of not having a job impacted you.
- 5. What suggestions would you give for professionals working to help individuals with autism find and keep a job?
- 6. What are your long term goals? Both vocationally and personally?

APPENDIX D

Participant Demographic Information

Age:			
<u>Gender:</u>	MALE		FEMALE
Highest Level of Education Completed:			
Associates Degree	Bachelor's De	gree Master's Deg	gree Doctoral Degree
Number of paid positions held:			
1 2 3 4 5	6 7 8	9 10 11 12 13	14 15 Other
Race/Ethnicity:			
Asian American	1	Black/African America	an Native American
Latino(a)/Hispanic	,	White/Caucasian	Native Hawaiian/Pacific Islander
Other	1	Prefer not to Answer	
Number of unpaid positions held (volunteering or internships):			
0 1 2 3 4	5 6 7 8	9 10	Other
Current Living Situation:			
With Parents/family	Alone	Group Home	with Roommate/s
Other			

Current Vocational Situation:

Employed & looking for another job

Not Employed but looking for a job

Not employed and NOT looking for a job

If Currently Employed:

Work Part-Time

Work Full-Time

Do you Currently Receive:

SSI

SSDI

Other Assistance_____

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