

2015

# Perceived Effectiveness of Social Supports for Autism Spectrum Disorders: Postsecondary Student Perspectives

Griselda Wells  
*Walden University*

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# Walden University

College of Social and Behavioral Sciences

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Griselda Wells

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Walden University  
2015

Abstract

Perceived Effectiveness of Social Supports for Autism Spectrum Disorders:

Postsecondary Student Perspectives

by

Griselda L. Wells

MEd, University of Texas Pan American, 1997

BA, Southwest Texas State University, 1992

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Psychology

Walden University

August 2015

## Abstract

College environments can pose both academic and social challenges for students with disabilities. For teachers and parents of children with Asperger's syndrome (AS) and high functioning autism (HFA), these challenges include communication, behavioral, and social difficulties that can hinder their attainment of educational objectives. Limited research has been conducted regarding postsecondary outcomes of elementary and secondary public school interventions provided to these students. This case study gathered information from postsecondary students with AS and HFA regarding their experiences of public school social skills interventions and their perceived impact on current social and academic outcomes. Findings were interpreted using critical theory (CT) and critical disability theory (CDT) approaches, which suggested an advocacy perspective and provided the participants a "voice" to express their lived experiences, offering an opportunity for others to learn from these experiences. Participants included a sample of 12 young adults with HFA and AS currently enrolled in postsecondary educational settings who were recruited through college/university disability services offices, school districts, and support groups. Interview data were examined in order to glean descriptions of the participants' social experiences and determine emergent social and academic themes among cases. Study findings indicated a need for improved guidance and education in the area of social skills for students with autism spectrum disorders (ASD) and proposed avenues for positive social change by providing educators, parents, and advocates information to support the development of improved social supports and more effective outcomes for students with ASD.

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## Dedication

I would like to dedicate this to my family, who, for what seems like so many years, always encouraged and supported me through this process. To my husband, for being Mom and Dad to our sons during my internship year and being my never-ending source of support. To my mother, for making sure her grandsons had everything they needed while their mom was glued to the computer for endless hours at a time. To my father, who, since I was a little girl, always told me I could do anything I set my mind to.

I also dedicate this to my sons, who are my source of inspiration every day and who made me feel like I was the best mom in the world despite the countless hours I had to sacrifice of time spent with them in order to complete school work.

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## Chapter 1: Introduction to the Study

### Overview of Autism

In 1943, Leo Kanner first described and subsequently named a group of very specific patterns of behaviors he observed in a group of children. He called this group of behaviors *early infantile autism*, derived from *autos*, a Greek word signifying “self” (Wing, 1997, p. 13). The children Kanner studied were socially unresponsive, mute, or echolalic; were opposed to change in routine; and demonstrated some isolated skills. In 1944, just 1 year later, Hans Asperger also described a group of behaviors he believed to be different from any other previously described. He also used the word *autistic* to describe the behaviors he had observed in older children and adolescents. His findings, however, showed children with immature and improper social functioning, well-developed speech, poor motor coordination, and an unusual fascination with restricted interests. In the 1940s and 1950s, it was believed that parents were to blame for the autistic behaviors of their children due to their cold and rigid parenting styles. During this time, it was also believed that there was no connection between autism and physical brain abnormalities. During the era of the 1960s, however, parents began to unite in a search for answers as to the causes and treatment of autism (Wing, 1997).

Today, autism remains a mysterious disability for which questions about causality and treatment have not been fully answered. The information that has been learned to date has provided parents, educators, and medical professionals with the ammunition needed to help those individuals diagnosed with autism lead full and independent lives to the best of their abilities. In particular, college is a time of transition that greatly impacts

the lives of students with high functioning autism (HFA) and Asperger's syndrome (AS) both academically and socially. There is a need to learn more regarding the lived experiences of this population in order to help those who will come after them to be even more successful in their postsecondary endeavors. The lives of these students could be more positively impacted if the families and professionals working with these students help make certain that there are successful outcomes.

### **Statement of Problem**

The college environment can prove difficult for students with an autism spectrum disorder (ASD) due to both social and academic demands (Adreon & Durocher, 2007). Understanding early intervention and the focus on independence is critical in the programming for this population (Preis, 2007). Therefore, more research is needed to identify best practices that will help college students with ASD achieve long-term results that are significant in terms of their education as well as their social lives (Callahan, Henson, & Cowan, 2008).

### **Nature and Purpose of the Study**

The purpose of this qualitative study was to understand the perspectives of postsecondary students with HFA and AS on the contributing role their past history of participation in prekindergarten (PK) through 12<sup>th</sup> grade social skills based interventions played in their current postsecondary social and academic outcomes. An attempt was made to understand several phenomena, including (a) current peer and professional staff social interactions in the classroom setting, (b) current peer social interaction beyond the classroom setting, (c) current social interaction and its relation to academics, and (d)



previous PK-12 interventions and their contribution to social and academic outcomes. Findings are useful for informing educators, parents, advocates, and adult individuals with ASD about the lived experiences of those with HFA and AS in regards to social and academic interventions during their PK-12 school years and how these have influenced their postsecondary outcomes.

In this study, I used a case study approach involving face-to-face, semistructured interviews that included open ended questions. This method provided an in-depth exploration (Creswell, 2009) regarding the personal experiences of study participants, providing them with a “voice” to express lived experiences regarding academic and socialization experiences in their daily lives in the postsecondary academic setting.

### **Theoretical Framework**

The theoretical framework for this study was based on the critical theory (CT) approach as a way to interpret systems and theories of Karl Marx. The purpose of this theory “is to explain oppression and to transform society with the objective of human emancipation” (Hosking, 2008, p. 3). CT focuses on an advocacy perspective (Creswell, 2009) through which writers strive to adequately derive knowledge and further inform others regarding the importance of social independence and skills for individuals. The advocacy perspective encourages all individuals be heard and known, with the goal of all being treated fairly.

Challenging the “status quo” (Meekosha & Shuttleworth, 2009, p. 49) exemplifies the underlying purpose of this theory. First proposed in 1937 by Max Horkheimer, CT has fueled social change and helped pave the way for more equalization between those in

different life situations such as different social classes, races, and power constructs, as well as more equality between those with and without varying disabilities (Hosking, 2008).

This study and its advocacy perspective correlated with a CT approach because the aim of this research was to explore the societal relationship between individuals with ASD and their social and academic functioning in a college setting while investigating the perceived effectiveness of these interventions for the betterment of the target population. Prior interventions have aimed to help close gaps in social functioning between individuals with ASD and their neurotypical peers to improve both social and academic outcomes for the former. This is representative of a CT focus on transformation and human potential for those who are oppressed by their social situation (Ramirez, 2007). My goal for this study was to provide a way to further examine and explore the current social and academic functioning of individuals with ASD in the college setting and its relationship to previously received PK-12 social skills interventions, with the aim of empowering these individuals and subsequently helping to improve quality of life outcomes with the knowledge gained.

In this study, I also focused on a subcategory of CT known as critical disability theory (CDT), whose proponents recognize that many in society have looked upon individuals with disabilities as dependent and nonproductive rather than as productive, contributing members of society. CDT and its empowering ideals first came about as a result of the disability rights movement and its “critique against the normative status quo” (Meekosha & Shuttleworth, 2009, p. 47). This movement can be traced back to the era of

the Great Depression, during which time the League of the Physically Handicapped in New York was formed. These efforts, followed by civil rights measures in the 1950s and 1960s (expansion of the Social Security Act) and the 1970s (Supplemental Security Income legislation) and through to the Americans with Disability Act of 1990, signed into law by then President George H. W. Bush, helped bring about protections for the disabled (Pratt, 2011). During the last four decades, the ever-growing inclusion into mainstream American society of persons with disabilities who would have previously been institutionalized as a result of their disabilities has brought about an increasing awareness of social responsibility to this population (Meekosha & Shuttleworth, 2009). As a result, proponents of this theory look to challenge perceptions that have been historically held by some in society, preceding the disability rights movement, about people with disabilities and bring about a change in these views (Hosking, 2008).

Prior to French psychologist and developer of the first modern intelligence test Alfred Binet coining the term *inferior intelligence* to describe someone with an intellectual disability, the term *idiot* was used and accepted (Binet, 1905). In the early 1800s, individuals like Benjamin Rush, father of American psychiatry, attempted to bring changes in the way institutionalized people with mental illness were treated, but it was not until the mid-1800s that noteworthy changes began to take place in American mental health institutions and more humane treatment of patients began to arise as a result of the efforts of Dorothea Lynde Dix, Massachusetts schoolteacher and activist. However, it was not until deinstitutionalization commenced in the 1950s that true change began to come about, and in the 1960s, program initiatives at the federal level began that helped

provoke a shift away from institutionalization and toward community mental health services for individuals with mental health needs (Million, 2004).

Along with these historic changes in society and social views, CDT provides the framework for allowing those with ASD to use their voice by challenging “the social environment” (Meekosha & Shuttleworth, 2009, p. 8) to see them as “equal, integrated members of society” (Meekosha & Shuttleworth, 2009, p. 8). This in turn, may help others learn from their lived experiences by facilitating this understanding in others; in this way, the potential for increased understanding and change is established (Meekosha & Shuttleworth, 2009).

This research regarding postsecondary students with ASD contributes to filling a gap in the literature by gathering directly from those students information about their lived experiences and the relationships between PK-12 interventions and social functioning during their college years. The transition to adult life can be challenging for both individuals with ASD and their families (Geller & Greenberg, 2012). Research indicates that the challenges of the postsecondary school experience for those with ASD greatly impact long-term academic, social, and employment outcomes for those individuals, particularly as these challenges relate to socialization issues (Tager-Flusberg, 2007). Socialization difficulties such as struggles with interpersonal relationships, peer interactions, and social acceptance (Madriaga, 2010; Sperry & Mesibov, 2005) are often experienced by those with HFA and AS. The characteristic social difficulties faced by individuals with ASD affect all aspects of these individuals’ lives and impact their future outcomes (Adreon & Durocher, 2007; Geller & Greenberg, 2012) in areas such as

successfully maintaining long-term relationships, completing an education, and acquiring and keeping a job. Therefore, insight into “what works” for this population is needed in order to improve outcomes (Callahan et al., 2008) and help those with HFA and AS attain the social skills needed to improve interpersonal relationships, achieve academic success, and gain desired employment, subsequently decreasing emotional difficulties such as anxiety, depression, and social isolation.

### **Definition of Terms**

The following terms are defined due to their repeated usage throughout this study and the importance of their precise meaning:

*Autistic disorder*: “The presence of markedly abnormal or impaired development in social interaction and communication and a markedly restricted repertoire of activity and interests ... manifestations of the disorder vary greatly depending on the developmental level and chronological age of the individual” (American Psychiatric Association, 2000, p. 70).

*Autism spectrum disorders (ASD)*: “Severe developmental disorders characterized by abnormalities in social functioning, language and communication, and unusual behaviors and interests” (Mash & Wolfe, 2010, p. 300).

*High-functioning autism (HFA)*: “Refers to a form of autism without mental retardation, but with a clear delay or impairment of language acquisition at an early stage in development ... characterized through the presence of qualitative impairment in social interaction and non-verbal communication as well as the occurrence of stereotyped, repetitive behavior” (Noterdaeme, Wriedt & Höhne, 2009, p. 475).

*Asperger's syndrome (AS), also known as Asperger's disorder:* "Severe and sustained impairment in social interaction and the development of restricted, repetitive patterns of behavior, interests, and activities. The disturbance must cause clinically significant impairment in social, occupational, or other important areas of functioning" (American Psychiatric Association, 2000, p. 80). Individuals with AS display "no clinically significant delay in either receptive or expressive language development" (VanBergeijk, Klin, & Volkmar, 2008, p. 1360).

*High functioning:* In order to more clearly define *high functioning* for purposes of describing potential study participants, an operational definition has been developed. Individuals with ASD who are described as having HFA or AS are characterized as having normal to above-average levels of intelligence and self-help skills (Doyle & Iland, 2004). These individuals have developed the ability to communicate using "complex sentences" (Attwood, 2006b, p. 150) but may exhibit deficits in interpersonal skills. High-functioning individuals on the autism spectrum who have attended public school are expected to have received early intervention and thus be better prepared for the academic and social demands of college life (VanBergeijk et al., 2008). Therefore, despite social communication and interpersonal skills deficits typical of individuals on the autism spectrum, study participants were anticipated to have the ability to share ideas verbally in fluent English; the ability to make independent decisions without feeling that I, as the researcher, was an authority figure that must be complied with without questioning; the ability to understand that participation in the study was voluntary in nature and could be rescinded at any time; and the ability to understand how research has

the potential to benefit others. Being that study participants were college students, it was anticipated that they would have the cognitive and self-help skills to function independently to a degree that ensured that they were able to make informed decisions.

*Neurotypical*: “Typically developing” individuals (White, Keonig, & Scahill, 2007, p. 1858).

*Social skills*: The ability to “adapt to an ever-changing landscape that takes into consideration the environment, the people in it, the thoughts, beliefs and needs of the individual and others who share the environment—whether or not they are in direct communication—as well as individual and collective history of knowledge and experience” (Garcia Winner, 2009, p. 21).

*Social skills interventions*: Interventions to improve social impairments via instruction in targeted social skills that can be “directly and explicitly taught” (White et al., 2007, p. 1865)

*Individuals With Disabilities Education Act (IDEA)*: Public law in the United States that “mandates free and appropriate public education for any child with special needs in the least restrictive environment for that child” (Mash & Wolfe, 2010, p. 9)

*Secondary transition*: “Beginning not later than the first IEP to be in effect when the child turns 16, or younger if determined appropriate by the IEP Team, and updated annually thereafter, the IEP must include: appropriate measurable postsecondary goals based upon age-appropriate transition assessments related to training, education, employment and, where appropriate, independent living skills; and the transition services

(including courses of study) needed to assist the child in reaching those goals” (Texas Education Agency, 2012, p. D-20).

*Individual Education Program (IEP):* A written document for children with disabilities that is implemented in the public school setting and includes “current levels of performance, annual goals with interim short term objectives, measurable goals, a list of specific services provided to the child, extent of participation with nondisabled children, transition service needs, and how progress will be measured” (Stein & Lounsbury, 2004, p. 1434).

### **Assumptions**

In this study, the following assumptions were made: All participants would be honest with their responses regarding the usefulness of PK-12 social skills interventions, and participants would provide a unique perspective on the usefulness of the interventions, services, and supports provided to students with ASD in the public school setting. Another assumption was that study participants would know they had been diagnosed with an ASD and that they would recall information regarding social skills interventions during their PK-12 school-age years (interventions were verified via participant recall of such interventions).

### **Scope and Delimitations**

The focus of this qualitative study was learning about the perspective and hearing the “voice” of those with HFA and AS based on the belief that the sharing of their lived experiences would shed light on personal outcomes. Social and academic outcomes as a result of social functioning and experiences were investigated in order to gain insight into



postsecondary social and academic student outcomes for this population. Lower functioning individuals with autism were not included in this study, as this particular group is not expected to take part in higher education upon graduation from high school. The results of this study are expected to be transferable to similar studies involving college students with HFA and AS. However, generalization to other groups with disabilities is not encouraged, as the nature, characteristics, needs, and experiences of those on the high-functioning end of the autism spectrum are unique to this population.

### **Limitations of the Study**

The limitations of this study included the use of a convenience sample versus a random sample because students were chosen based on their diagnosed disability and their enrollment in the two universities and three community colleges in the area of the Rio Grande Valley in South Texas as well as colleges and universities in the Houston and East Central Texas areas. A further limitation was that this study focused on Texas students with HFA and AS who may have been receiving special education services with specific IEP requirements based on the Texas Autism Supplement (TAS). This may signify that the study participants received services that students in other parts of the country may not have automatically been considered for or provided with.

### **Significance of the Study and Implications for Social Change**

The intention of this research was to make an impact on the decisions that are made for individuals with ASD as related to services provided to them in the school setting. These individuals experience social difficulties that make navigating community settings such as school and work problematic. Problems interacting with others and

succeeding in the postsecondary school setting, which provides less structure and support than the public school setting, are also evident (Marriage, Wolverton, & Marriage, 2009). Difficulties with independent living, self-care such as personal hygiene, and daily living skills such as shopping, housework, and public transportation were also noted to be of concern for individuals with ASD, as was maintaining successful interpersonal relationships (Eaves & Ho, 2008).

Parents, who for well-intentioned purposes protect their children with ASD from daily realities and expectations, may hold back rather than encourage positive future outcomes for their children. “Protectiveness of their families” (Marriage et al., 2009, p. 326) including home schooling and “limiting exposure to social situations” (Marriage et al., 2009, p. 326) in order to protect children causes increased isolation and can impede the realization of an individual’s full potential (Marriage et al., 2009).

Transition planning mandates that several areas be addressed, including work, postschool options, and daily living issues such as transportation, residential situation, medical care, and recreation and leisure, among others (Pratt, 2007). Improved interventions are required in order to ensure that the long-term goals of individuals with ASD are met and they become as independent as possible in all areas of adult life. The goal of these is not only improving outcomes, but also helping the target population become independent, lifelong learners able to care for the needs and challenges they encounter in daily life.

Educators in particular must revise and improve upon the current practices being employed in the school setting, as these have clearly not been sufficiently effective in

bringing about successful outcomes in a vast majority of individuals with ASD and HF, as evidenced by the over 60% of individuals with ASD enrolling in postsecondary education not completing their postsecondary degrees (National Center for Special Education Research (NCSE), 2011). The National Center for Education Statistics (NCES; 2015) reported the current rate of students with ASD not completing their postsecondary education at 49.3%, an improvement from the previously reported statistic but a continuing high rate of noncompletion for the ASD student population.

It is the expectation that results of this study will help parents, educators, and advocates make informed decisions regarding their children, students, and clients in order to afford them an opportunity to have more positive outcomes, socially and academically. The goal of this research was to provide information that will prove helpful in the successful planning of intervention supports and services so that individuals with ASD experience positive postsecondary outcomes and become productive, satisfied community members, able to successfully integrate into society.

### **Summary**

The understanding of ASD has evolved since Kanner and Asperger first identified this spectrum of disorders. Improved early interventions and programming have been developed, and although researchers now have more information and an improved understanding regarding ASD and the ways in which an individual is affected in regard to functioning and behavior, there is still much research lacking in terms of older students with autism and their transition into the world of college and beyond. Research in this area is limited, especially in relation to how social experiences are viewed by those with

ASD, “specifically how they experience their social worlds and what types of social skills strategies they find most effective” (Müller, Schuler, & Yates, 2008, p. 174).

What is known about adult outcomes of individuals with ASD is that “most of the higher functioning ASD individuals ... were functioning well below the potential implied by their normal range intellect” (Marriage et al., 2009, p. 326). Limited socialization and social skills have also been found to be areas of concern in the outcomes of young adults with ASD (Eaves & Ho, 2008). Well-meaning parents, in an attempt to shield their children from negative experiences at the hands of those who do not understand their disability, may remove them from social situations such as school to try and make them “more comfortable” (Marriage et al., 2009, p. 326), and in the process may instead isolate their children and create situations in which their children, when they become young adults, are at home, are without a job, are no longer in school, and have socialization that has been limited to online experiences.

There is a need for better interventions in order to improve the adult outcomes of individuals with ASD—more specifically, the social outcomes these individuals are faced with if independence and social skills are not properly addressed and mediated. One area that is in need of further investigation is the postsecondary academic outcomes of individuals with ASD, specifically in terms of social functioning and how the strategies and interventions attempted during the school years affected these outcomes. Research that focuses on the topic of independence as related to social skills and functioning is relevant to parents, educators, and other professionals who work with individuals with ASD as well as these individuals themselves. This is especially true for those with HFA

and AS, as they are more likely to be aware of the differences between themselves and their neurotypical peers.

With knowledge of the unique needs of these individuals in the areas of social functioning, communication, and behavior, their needs must be addressed and a wide range of interventions considered. The outlook for those with ASD seems to be improving as research is shedding light as to the cause of these disorders, subsequent impaired functioning, and how to better address the deficits in functioning that arise as a result. Also, increased awareness and advocacy for improved teaching methods and systems of instruction are raising the bar in regard to special programming for the particular and very specific needs of individuals with ASD. It is likely that research in this area will continue to increase in the pursuit of answering questions regarding this ever-growing and intriguing disability that affects so many.

Therefore, in this study I gathered and explored the perspectives of postsecondary students with HFA and AS concerning the contributing role their previous history of PK-12 social skills interventions had played in their postsecondary social and academic outcomes. An understanding of the following is presented: (a) current peer and professional staff social interactions in the classroom setting, (b) current peer social interaction beyond the classroom setting, (c) current social interaction and its relation to academics, and (d) previous PK-12 interventions and their contribution to social and academic outcomes. The ultimate goal of this study was to assist in informing those individuals living and working with the target population of individuals on the topic of the lived experiences and influence of social and academic interventions during their PK-

12 school years. Uncovering the needs in this area based on current outcomes helps all interested parties to gain a better understanding of what is needed, what has worked, and what needs to change in order to improve the postsecondary outcomes of individuals with ASD as they relate to gaining independence to improve socialization. In particular, findings helped to reveal the types of interventions needed in the secondary setting leading up to transition to a postsecondary academic environment. However, since socialization deficits need to be addressed beginning in the earliest of academic years, it was expected that similarities across ages and grade levels were going to be found.

In the following chapter, I present a comprehensive literature review, including an overview of the relationship between difficulties associated with ASD and possible explanations for these difficulties. Outcomes associated with ASD are also explored and discussed.

## Chapter 2: Literature Review

### **Introduction**

In the world of developmental delays, there is currently an epidemic of autism, given the alarming rate at which this disorder is being identified. Just a little over a decade ago in 2000, the rate of autism was 1 in 150 children. Today, the prevalence rate of ASD is reported to be 1 out of every 88 children (Centers for Disease Control and Prevention [CDC], 2012). This unprecedented growth in the occurrence of ASD has created a need for educational services for an ever-growing number of school-aged children. Such services include better preparation of these children for the future demands of living in a world that is not prepared to fully address their needs. More specifically, children diagnosed with HFA and AS have the additional burden of learning how to adapt to societal demands, such as those they will encounter in college and work environments. With the increase in autism rates, the number of cases of children diagnosed with ASD with no intellectual disability has also risen (CDC, 2012). Therefore, those with HFA and AS have become more prevalent and their needs ever more present.

The current increase in overall ASD identification rates has led researchers, medical professionals, educators, and parents to wonder about the reasons for this dramatic increase in the rates of these disorders. Several explanations as to the causes of autism have been proposed; among these is better access to medical professionals. Whereas those of higher socioeconomic status have always had access to reliable medical care, including specialty clinics, those of lower socioeconomic status did not have access

as readily as others. The latter of these groups has historically been underrepresented in ASD diagnosis (Scahill & Bearss, 2009). Also, children with mothers who have at least some college education are more likely to have received an early ASD diagnosis. Reasons for this include parent knowledge of developmental milestones, knowledge that a correct diagnosis will provide for better services, as well as pressure on medical professionals to provide a correct diagnosis (Mandell et al., 2009). A broader definition of ASD as well as “greater awareness among parents and professionals” (Coo et al., 2008, p. 1036) has also played a part in the increase in the diagnosis of these disorders. Pinborough-Zimmerman et al. (2011) suggested a number of possible factors in the increased rate of autism, including increased awareness, changes in diagnostic criteria, as well as variability across studies (methods, data sources, definition) that “further complicates the interpretation of rising prevalence rates” (p. 522).

As cases of children diagnosed with ASD have steadily increased in number, there has been a focus on early intervention programs designed to help mediate the problems associated with this disorder (Henderson, 2009; Müller, 2004; VanBergeijk et al., 2008). Early identification, including collaboration between educational settings and medical professionals, has led to specialized programming and services for the very young (Henderson, 2009), whereas efforts to meet the needs of those students with ASD who are capable of transitioning to postsecondary educational settings have been limited (Müller, 2004; VanBergeijk et al., 2008). Once in the college setting, students with ASD lack preparedness for career-choice determination and skills associated with entering the workforce such as “job search skills, career advising, interview preparation, career



development workshops and on-campus interviewing” (Briel & Evans Getzel, 2014, p. 200).

According to the U.S. Department of Education’s (USDOE) Annual Report to Congress on the Implementation of the Individuals with Disabilities Act of 2008 (2014), the percentage of children identified with autism and being served in the public school setting was 7.9%; higher percentages were identified only for students with specific learning disabilities (40.1%), speech or language impairments (18.2%), and other health impairments (13.2%). Identification rates for other disabilities were 7.3% or below. The NCES (2015) indicated that during the 2002-2003 school year, the number of students identified as having autism was 137,000, or 2.1% of students with disabilities enrolled in the public school setting. Nine school years later, during the 2011-2012 school year, that number had increased to 455,000, or 7.1% of the population of students with disabilities.

Clearly, as the number of students identified with autism grows, so do the services they require. An impact is already being made in early intervention services. However, there remains an obvious lack of services for those transitioning to the postsecondary school setting—a group that appears to be increasing in size. According to the U.S. Department of Education (2014), the percentage of students with autism ages 6 to 21 served under IDEA, Part B who received 80% or more of their school services in the general education setting was 39.5% in 2012; 15 years earlier, in 1997, this number was 18.3%; indicating a 21.2% point increase in the number of students with autism receiving the majority of their educational services in a general education setting. The number of these students graduating (with a regular diploma) was 8,145 for the 2009-2010 school

year, and only 1 year later, that number had risen to 9,179 students, a difference of 1,034 more students with autism graduating with a regular diploma in the time span of a single year (NCES, 2015). This increase suggests that a growing number of higher functioning students on the autism spectrum are being educated with their neurotypical peers and subsequently following a more typical path upon graduation from high school—a path that many times includes enrollment in institutions of higher education (VanBergeijk et al., 2008) .

It is also important to note that the dropout rate for students with autism in 2012 was 7.3%, comparable only to the dropout rate for students with visual impairments. Nine years earlier, during the 2002-2003 school year, the dropout rate for students with autism was 16.1%. Other disability categories ranged from 10.2% for students with hearing impairments to 38.1 % for students with an emotional disturbance (USDOE, 2014). This indicates that students with autism are not only being educated with neurotypical peers to a larger extent, but also remaining in school and finishing their education in preparation for a post high school educational setting more often than students in other disability categories. According to the National Longitudinal Transition Study-2 (NLTS2), a 9-year study funded by the U.S. Department of Education, it was reported that 12.4% of students with autism who were out of secondary school were currently enrolled in a postsecondary institution. Due to their disability, members of this student population may be in need of supports in order to have successful outcomes.

The lack of adequate services for the increased number of secondary students with HFA and AS transitioning into postsecondary academic settings translates into a variety

of outcomes for these students. These outcomes may or may not be as successful as these individuals, their parents, and their educators hoped for, given their intellectual abilities and academic potential. Less-than-positive outcomes include limited postsecondary success, challenges to independent living, difficulties in personal relationships (including friendships and marriage), as well as limited workforce success (Renty & Roeyers, 2006). Findings by Anderson, Liang, and Lord (2014) supported previous results indicating increased positive outcomes for individuals on the autism spectrum (with higher cognitive functioning) in the area of academics while adaptive and social skills continue to be limited.

The social difficulties that are a characteristic part of autism are a significant contributor to these limitations. Individuals with autism have difficulty adapting to their environment, including the people and situations in it, due to their communication difficulties as well as their adaptation problems (Garcia Winner, 2009). This, in turn, leads to problems fitting in with peers and successfully navigating the social world they are surrounded by—a situation that may be further complicated in the college setting, where social interactions are an important part of both academic and social structures and demands, as well as by a lack of understanding from others. A survey of college students and faculty indicated that, indeed, many individuals are not well informed on the topic of autism in general, and although there appears to be more awareness, misconceptions are common (e.g., the belief persists that vaccines cause autism; Tipton & Blacher, 2014).

In order to gain a better understanding of the inherent social impairments associated with ASD and the manner in which they affect overall functioning for this

population, in the following literature review I focus on research that provides explanations regarding possible precursors to limitations experienced by individuals with ASD. Such factors include neurological impairments stemming from structural brain abnormalities that are linked to deficits in social skills—deficits that impact social understanding such as the ability to perceive others’ thoughts and emotions, emotional intelligence, and other mental health issues. The U.S. education system and how this system addresses the needs of students with ASD are also examined. Interventions and supports, including transition services and what these provide to the ASD student population, are reviewed. An investigation of ASD in the college setting, including services and supports and overall outcomes in the areas of social functioning, academics, and employment, is presented. A detailed review of these topics assists the reader in understanding not only causes of social limitations in ASD, but also interventions provided for the remediation of these difficulties, as well as the life outcomes of individuals with HFA and AS who venture into the world of postsecondary education.

This review is consistent with CT, as gaining knowledge and understanding of an issue or topic of which little is known will lead to its greater acceptance. In explaining the subjugation of an oppressed population, there is hope that the society in which these individuals live will be transformed, with the end result of greater acceptance and recognition (Hosking, 2008).

### **Literature Search Strategies**

The review of literature for this study was conducted by searching the following online databases: Academic Search Complete/Premier, PsycINFO, Psychology: A SAGE

Full-Text Collection, ProQuest Central, and JAMA. Search terms used were *autism, high functioning autism, Asperger's syndrome, postsecondary outcomes, adult outcomes, social skills, social functioning in autism, academic outcomes in autism, employment outcomes in autism, autism interventions, autism prevalence, comorbidity and autism, theory of mind, brain abnormalities in autism, emotional intelligence, and transition*. Textbooks specific to the topic of autism spectrum disorders were reviewed, as were papers presented at conferences, doctoral dissertations related to ASD, and state and federal regulations relating to the field of education.

### **Neuropsychological Impairment Across Domains**

The impairments experienced by individuals with ASD have an impact on a wide array of cognitive functions, indicating that several areas of the brain are affected. Among these affected domains are language and communication, cognition, memory, and executive function (Tonn & Obrzut, 2005). The manner in which language is affected is particularly interesting. For some individuals, such as those with HFA and AS, it is communication skills (such as pragmatics) that are most often affected, as opposed to basic language skills. Those with classic autism, on the other hand, experience language difficulties such as echolalia or a complete lack of, or very limited, functional language. The majority of language and communication problems in ASD are related to pragmatics, including weak conversational skills, difficulty understanding implied word meanings (due to excessive literalism), and nonverbal communication difficulties (difficulties reading nonverbal cues), as well as unusual tone and prosody (Eigsti & Shapiro, 2003). Problems in prosody or the ability to understand “emotional messages” (Korpilahti et al.,

2007, p. 1539) include difficulty with aspects of language such as sarcasm, irony, and signals of the emotional state of the speaker (Korpilahti et al., 2007). These deficits further lead to difficulties in social functioning, causing ongoing problems with everyday functioning.

### **Deficits in Social Skills**

#### **Gender Issues**

Findings related to gender and the incidence of ASD indicates that boys are at greater risk than girls by a ratio of 4 to 1 (Kogan et al., 2009). The reason for the higher incidence of ASD in males than females is not clear; however, some have speculated that although females exhibit the same characteristics as males, females present these characteristics in subtler manner, thus eluding the diagnosis of ASD. Females tend to be more verbal and less aggressive than males. Their capacity to refrain from acting out in response to confusion, frustration, and/or anger stemming from emotional difficulties allows them to go undetected as having autism, whereas males, who are more likely to outwardly express their frustrations, are more readily identified as having problems and subsequently referred for evaluation and diagnosed as being on the autism spectrum (Attwood, 2006a).

#### **Structural Brain Abnormalities**

Numerous researchers (Brieber et al., 2007; Courchesne, 2004; Kaufmann et al., 2003) have confirmed the distinct connection between structural brain abnormalities and autism spectrum disorders. The areas of the brain most affected by ASD have been found to be the cerebellum, the temporal and frontal lobes, the brain stem, and the amygdala.

There is also information to suggest correlations between increased brain volume and autism (Courchesne, Carper, & Akshoomoff, 2003; Herbert, 2004; Penn, 2006). Along with brain abnormalities, there emerge definite functional implications for the day-to-day functioning and behavior of individuals with ASD.

### **Limbic System Abnormalities**

The limbic system theory of autism revolves around the assumption that the social and communication deficits in ASD are the result of structural brain abnormalities in the limbic system (Tonn & Obrzut, 2005), which is known to play an important role in emotion and sensory input (Schultz, Klin, & Lombroso, 2002). The limbic system “is involved in the regulation of motivated behavior” (Pinel, 2009, p. 70) and is composed of, among other elements, the prefrontal lobes, thalamus, hippocampus, hypothalamus, and amygdala. The amygdala in particular plays a significant role in emotional information processing, including “emotional arousal, assigning significance to environmental stimuli and mediating the formation of visual-reward associations or ‘emotional’ learning” (Schultz et al., 2002, p. 2). It also plays an important role in perceiving social stimuli from the environment (Schultz et al., 2002) and producing fear—more specifically, the manner in which individuals perceive and recognize fear (Pinel, 2009).

In light of this information, any structural abnormality in the limbic system—in particular, any abnormality of the amygdala—would lead one to infer that impaired socioemotional functioning would ensue; this is the case in individuals with ASD. The importance of the amygdala cannot be overemphasized, as it is considerably significant in

relation to emotional processing. This structure, located within the temporal lobe, is essential for perceiving, processing, deciphering, and understanding emotional information (South et al., 2008). It has been found that in individuals with autism, there is a “significantly larger amygdala volume” (Boucher et al., 2005, p. 188) as compared to a control group of individuals not diagnosed with autism. One study in particular reported “larger left amygdala volume” (Haznedar et al., 2000, p. 2000) in individuals with AS. Boucher et al. (2005) also asserted that a larger or smaller amygdala could develop “depending on when the developmental events that led to a person’s autism took place” (p. 196). South et al. (2008) suggested that “amygdala dysfunction in autism may be specific to social information” (p. 49). Other studies have indicated that amygdala abnormality is consistent with difficulties in the identification of facial emotions, the direction of eye gaze, face recognition, and identification of actions and feelings expressed through body language (Boucher et al., 2005).

Current research provides evidence of structural abnormalities of the amygdala and its significant impact on the functioning of individuals diagnosed with ASD. This can further lead to difficulties in social functioning, which could negatively affect interpersonal relations, as well as lead to unsuccessful social and work-related dealings and communication. The knowledge that abnormalities exist, as well as the awareness of the role these structures play in regard to emotion and social reasoning, and the implications of this irregularity for the functioning and behavior of individuals with ASD, is far-reaching, particularly in regard to social functioning.



## **Theory of Mind**

Another possibility regarding the cause of ASD is the theory of mind assumption. This theory indicates that a primary deficit in individuals with ASD is the inability to understand and interpret others' mental states (Tonn & Obrzut, 2005). In turn, this leads to "deficits in social understanding" (Heerey, Keltner, & Capps, 2003, p. 394). An inability to adequately interpret and understand the emotions, beliefs, attitudes, and points of view of others makes interacting with them difficult. In 2005, Fisher and Happé found that these deficits could be ameliorated if individuals were taught various social skills. Subsequently, these skills were found to be generalized to various situations by individuals with ASD, thus minimizing the negative effects experienced in the social realm. There are also those who link theory of mind to executive function, stating that the skills required for theory of mind tasks overlap with those required for executive function tasks (Pellicano, 2007). Therefore, a deficit in executive function would automatically imply a deficit in theory of mind. However, although the theory of mind premise explains the social and communication deficits in autism, it does not explain the restricted, repetitive patterns of behavior found in individuals with ASD. Another factor not explained by this theory is the fact that many individuals with this disorder display relative strength in visual attentional skills (Tager-Flusberg, 2007). Why, then, if this skill area is so well developed, do these individuals continue to have difficulty in "reading" the visual cues they are so adept at recognizing? This lack of ability to interpret visual and gestured cues impairs one's ability to understand, further interpret, and subsequently

acknowledge others' emotions, attitudes, feelings, views, and opinions, further limiting satisfactory social interaction.

### **Emotional Intelligence**

It has been established that individuals with HFA and AS have average to above average intelligence, however, if one examines the theory of multiple intelligences, the role of emotional intelligence (EI) comes into play and helps to explain the social difficulties experienced by individuals with HFA or AS. EI is defined as “the accurate appraisal and expression of emotions in oneself and others and the regulation of emotion in a way that enhances living” (Mayer, DiPaolo & Salovey, 1990, p. 772). In those with ASD, a limitation in EI hinders their ability to “coexist effectively with others across a range of situations” (Garcia Winner, 2009, p. 7).

Whether referred to as *social intelligence* as Robert Thorndike did in the 1930's, or *interpersonal intelligence* as coined by Howard Gardener in 1983 (Grewal & Salovey, 2005), the idea of EI or something closely related to it, has been discussed in psychological academia for decades. However, Mayer et al. (1990) were the first to use the term ‘emotional intelligence’ in their research that examined the “characteristics of emotion in visual stimuli” (p. 778). Their findings suggested that EI could be viewed as an ability or a set of skills, and as such can be psychometrically measured. They further suggested that once measured, deficits in EI could be improved upon, providing improved emotional outcomes for individuals with deficits in this area (Mayer et al., 1990).

One theory of EI is the four-branch model which divides emotional aptitudes into four categories: (a) the ability to perceive emotion—in oneself and others, (b) the ability to use emotions in the thought process, (c) the ability to understand emotions—including emotional language and signals, and (d) the ability to manage emotions for the purpose of accomplishing one's goals (Mayer, Salovey & Caruso, 2008). The above categories are progressive from one to the other as the skills required for each one advance from basic to more complex. The skills needed to accomplish all four categories range from perceiving emotion in facial expressions to problem solving and analyzing of emotions to social awareness of emotions (Mayer, Salovey & Caruso, 2004).

Difficulties interpreting expressions of emotion displayed through body language have also been proven to exist in those with ASD. This is a further issue in the difficulties of those with HFA and AS in regards to social interactions. Findings by Boucher et al., (2005) indicated “a strong trend towards impaired interpretation of body movements” in those with high functioning autism (p. 197). The deficit in facial emotional processing, along with the lack of accurate interpretation of social body language suggests those with ASD will have definite social impediments due to their difficulties in interpreting what others are attempting to convey or are implying via their facial expressions and body movements.

The importance of possessing or being able to gain this type of intelligence is highly desired. A study by Singh and Woods (2008) found that EI is a predictor of wellbeing in individuals. Tsaousis and Nikolaou (2005) found “increased levels of EI have an important role on health functioning” (p. 84). A 2007 study found low trait EI

“can be seen as a global susceptibility factor” (Petrides, Perez-Gonzalez, & Furnham, p. 44), which could be influential in causing individuals to experience “a range of mental abnormalities” (p, 44). With this information in mind, one can see the importance of having EI for positive life outcomes.

In the school setting, children with a high EI are seen as “having leadership qualities and being cooperative and less likely to be seen as disruptive, aggressive, and dependent” (Petrides, Sangareau, Furnham, & Frederickson, 2006, p. 543). While those with low trait EI in the area of self-efficacy were considered as being at risk for peer alienation which could lead to “antisocial conduct and delinquency later in life” (Petrides et al. p. 544).

Analyzing EI from a social standpoint one can see the importance placed on interpersonal factors such as interactions and positive relations with others. Furnham and Christoforou (2007) found that trait EI and level of extroversion were predictors for happiness. Individuals who self-reported as being happy were those who were more social, had many friends, were affectionate, had a higher level of support from friends and participated in “rewarding social activities” (p. 456).

Based on the above information, it is clear that EI is directly linked to better performance in the school setting as demonstrated by more positive working relationships with peers and adults. The impact of EI on overall happiness can be seen through positive social interactions and social networking as individuals who possess these traits see themselves as more content and with a greater level of personal satisfaction. In individuals with ASDs, the lack of skills linked to EI must be taught and it is essential

these skills be generalized into other settings in order for this population to better adapt to the social world and have a better chance for success in not only the school setting but in the workforce and community in general.

### **Emotional Issues**

Social limitations related to their disability can lead some individuals with ASD to develop emotional-behavioral difficulties such as stress, depression, and anxiety which can lead to further problems in everyday functioning (Kanne, Christ & Reiersen, 2009). Those diagnosed with HFA or AS are more likely than lower functioning individuals with ASD to develop comorbid psychiatric diagnoses, in particular depression and anxiety. Social stress and problems with interpersonal relationships and low self-esteem were also found to be associated with individuals on the autism spectrum (Kanne et al.; Shtayermman, 2008; White & Roberson-Nay, 2009).

More recently study by Mayes, Calhoun, Murray, and Zahid (2011) found that as youngsters with ASD reach adolescence, the incidence of depression and anxiety increases, as compared to younger children with this disorder. A child with HFA between the ages of 6-10 years has an increase of 13% in anxiety and 24% in depression once they reach 11-17 years of age (Mayes et al.). These levels of emotional difficulties further exacerbate social functioning, which already proves difficult for these children. This is not to say that individuals with lower functioning forms of autism do not experience anxiety and depression. It may also be that lower functioning ASD children, do not possess the communication skills to express such difficulties (Mayes, et al). These communication issues could lead to behavioral difficulties stemming from other

undetected problems. The comorbidity between HFA and AS and anxiety could be associated with the average to above average cognitive functioning which makes these individuals more aware of their social difficulties and shortcomings due to increased disability awareness (White & Roberson-Nay, 2009). Interesting to note is the possible relationship between anxiety and social loneliness versus emotional loneliness. Whereas youth with ASD report being socially lonely; they are not necessarily reporting emotional loneliness. Perhaps their emotional need is being filled by parents and other close family members versus social connections with peer friends (White & Roberson-Nay). In general however, findings indicate that individuals functioning on the higher end of the autism spectrum tend to develop problems associated with anxiety and depression stemming from their difficulties in social functioning (Shtayermman, 2008). These difficulties also tend to continue into adulthood; in particular in those individuals with HFA (Sterling, Dawson, Estes, & Greenson 2008).

### **Autism in Education: Interventions and Supports in the Public School Setting**

Increased awareness of ASD has brought about immense amounts of research, which have so far helped to provide improved outcomes for individuals with these disorders. Improved outcomes have come about as a result of a variety of interventions, including targeted behavioral and educational programs.

Behavioral interventions have proven successful in the treatment of behaviors associated with ASD. Current research indicates that one of the most effective evidence-based interventions for ASDs includes Applied Behavior Analysis (ABA; Smith, 2008). ABA was developed in the 1970's by Dr. Ivar Lovas at the University of California Los

Angeles (UCLA) and is based on the principles of operant conditioning, which “refers to the process and selective effects of consequences on behavior” (Cooper, Heron, & Heward, 2007, p. 33). Operant conditioning is a method of discovering the function or purpose that a behavior serves, as well as the consequences that result, and uses this information to change behavior via reinforcers and punishers. This particular system requires intensive individual instruction of up to 40 hours weekly during which children with autism are instructed in a manner in which they cannot fail and thus achieve success throughout the duration of the program all the while receiving positive reinforcement. Joint attention, symbolic play, language skills, and sharing are among the skills, which can be achieved through ABA (Vastag, 2004).

Pivotal response training (PRT) and incidental teaching are other behavioral programs based on ABA but which generalize learned skills across settings because skills are taught in natural environments. Discrete trial teaching (DTT) methods are another common ABA methodology used to treat children with autism; these generally involve direct teaching where a student is presented with a task, they respond, receive a consequence, and continue on to the next instruction (Anderson, Taras, & O’Malley Cannon, 1996). However, the length of time required for appropriate implementation of a method such as DTT makes implementation in the public school setting difficult to carry out. This, along with the number of personnel needed and the training requirements for the professionals carrying out the interventions, makes some of these programs not practical in the schools (Smith, 2008). With these programs, children’s preferred

materials and activities are employed in order to help teach a skill as they are used as rewards for performing the desired skill (Volker & Lopata, 2008).

In the school setting a combination of “direct instruction, modeling, role-playing, performance feedback, and/or reinforcement” (Volker & Lopata, 2008) are routinely used as methods for teaching academic and social skills to children with ASD. Children are often placed in learning groups where they can practice learned social skills as well as learn from the behaviors they see other children display (also known as modeling). This allows them to socialize, develop peer relationships, and gain important interpersonal skills (Volker & Lopata, 2008). The use of visual communication systems such as the picture exchange communication system (PECS) has been shown to be a contributing factor to the emergence of speech, joint attention, and a decrease in problem behaviors (Charlop-Christy, Carpenter, Le, LeBlanc, & Kellet, 2002).

Other interventions to address and help develop the social needs of students with autism include social skills groups and social-support groups. A study by Hillier, Fish, Cloppert and Beversdorf (2007) indicated “an increased awareness of other people’s thoughts and feelings and an increased ability to look at situations from other people’s perspectives” (p. 113) as a result of a social and vocational skills support group for adolescents and young adults with ASD. Other studies provide further support to the proposition that the provision of social supports yields positive outcomes for individuals on the autism spectrum. A study by Tse, Strulovitch, Tagalakakis, Meng, and Fombonne (2007) found an increase in social competence as well as an increase in positive



behaviors with positive effects on such as behaviors as irritability, withdrawal, anxiety, and stereotypic behaviors.

In order to ensure that student's with ASDs receive the interventions, services and supports needed to meet their needs, some states have implemented additional requirements to the IEPs of all students identified as having autism. In the State of Texas where this study will take place, this is called the Texas Autism Supplement (TAS); it covers a variety of topics related to the needs of students with ASDs and ensures that these topics are addressed at minimum on a yearly basis.

### **Texas Autism Supplement**

As a result of concerns from groups of parents of student with autism, the Texas Education Agency (TEA) was given the task by Texas legislature to ensure that the needs of this specific student population were addressed. The end result were Commissioner's Rules governing specific requirements for the IEPs of all students with autism provided with special education services by public schools within the state. The current TAS is comprised of eleven different areas that must be addressed by IEP committees at annual IEP meetings. This supplement is especially important because it takes into consideration the social and behavioral needs of this population, including those students with autism who due to their cognitive functioning may not require academic assistance but have needs in other areas, specifically social functioning (Texas Project First, n.d.). These eleven areas are as follow (Texas Project First, Commissioner's Rules TAC §89.1055):

- Extended educational programming, including extended day and/or extended school year services, that considers the duration of programs/settings based on assessment of behavior, social skills, communication, academics and self-help skills;
- Daily schedules reflecting minimal unstructured time and active engagement in learning activities, including lunch, snack, and recess, and providing flexibility within routines that are adaptable to individual skill levels and assist with schedule changes, such as field trips, substitute teachers, and pep rallies;
- In home and community-based training or viable alternatives that assist the student with acquisition of social/behavioral skills, including strategies that facilitate maintenance and generalization of such skills from home to school, school to home, home to community, and school to community;
- Positive behavior support strategies based on information, such as: (a) antecedent manipulation, replacement behaviors, reinforcement strategies, and data-based decisions; and (b) a behavior intervention plan developed from a functional behavioral assessment that uses current data related to target behaviors and addresses behavioral programming across home, school, and community-based settings;
- Beginning at any age, futures planning for integrated living, work, community, and educational environments that considers skills necessary to function in current and postsecondary environments;

- Parent/family training and support, provided by qualified personnel with experience in ASD, that: (a) provides a family with skills necessary for a child to succeed in the home/community setting; (b) includes information regarding resources such as parent support groups, workshops, videos, conferences, and materials designed to increase parent knowledge of specific teaching/management techniques related to the child's curriculum; and (c) facilitates parental carryover of in-home training and includes strategies for behavior management and developing structured home environments and/or communication training so that parents are active participants in promoting the continuity of interventions across all settings;
- Suitable staff-to-student ratio appropriate to identified activities and as needed to achieve social/behavioral progress based on the child's developmental and learning level (acquisition, fluency, maintenance, generalization) that encourages work towards individual independence as determined by: (a) adaptive behavior evaluation results; (b) behavioral accommodation needs across settings; and (c) transitions within the school day;
- Communication interventions, including language forms and functions that enhance effective communication across settings, such as augmentative, incidental, and naturalistic teaching;
- Social skills supports and strategies based on social skills assessments/curriculum and provided across settings, such as trained peer

facilitators (e.g., circle of friends), video modeling, social stories, and role playing;

- Professional educator/staff support, such as training provided to personnel who work with the student to assure the correct implementation of techniques and strategies described in the IEP; and
- Teaching strategies based on peer reviewed and/or research-based practices for students with ASD, such as those associated with discrete trial training, visual supports, applied behavior analysis, structured learning, augmentative communication, or social skills training.

The requirements contained within the TAS call for a variety of different approaches and strategies be used when working with students with ASD not only in the classroom setting but in the home and community settings as well. These supports must be peer reviewed and/or research based practices that have been proven to be effective for the ASD population.

### **Transition Challenges**

In 2004 when the Individuals with Disabilities Education Act (IDEA) became law after being signed by then President George W. Bush, a variety of changes came about as Public Law 49-142 was no longer the law which governed the rights of and requirements for children with disabilities in the school setting. IDEA requires that all children with disabilities receive a free and appropriate public education (FAPE) to prepare them for continued education as well as employment and independent living skills. These services are to begin no later than students' 16<sup>th</sup> birthday, or sooner if appropriate, and must

include the supports and services, as well as courses, that will support the student in achieving their transition goals. As part of IDEA, transition requirements for students include a “coordinate set of activities” that are (U.S. Dept. of Education [USDOE], 2007):

- Designed to be within a results-oriented process, that is focused on improving the academic and functional achievement of the child with a disability to facilitate the child’s movement from school to postschool activities, including postsecondary education, vocational education, integrated employment (including supported employment); continuing and adult education, adult services, independent living, or community participation;
- Based on the individual child’s needs, taking into account the child’s strengths, preferences, and interests; and
- Includes instruction, related services, community experiences, the development of employment and other postschool adult living objectives, and, if appropriate, acquisition of daily living skills and functional vocational evaluation.

According to the U.S. Department of Education’s 36<sup>th</sup> Annual Report to Congress on the Implementation of IDEA (2014), 64.6% of students identified as having autism in the public school setting graduated with a regular high school diploma during the 2011-2012 school year. This was an increase from 5 years earlier when the graduation rate for students with autism was 58.8 and 9 year earlier when the rate was 54.0. The current rate is comparable to the 68.8% of students with specific learning disabilities who graduated

with a regular high school diploma the same academic year. A clear need for appropriate transition planning for the HFA and AS student population is critical as these students are more and more likely to transition from high school into an academic postsecondary setting.

The rise in individuals who are higher functioning and on the autism spectrum has brought about a new set of challenges for both parents and educators working with these students. Difficulties typically encountered by college students with ASD include problems with social interactions and communications. Social difficulties for example “place them at greater risk of being misunderstood by others” (Adreon & Durocher, 2007, p. 272) and communication challenges (such as unusual prosody and misinterpreting the intentions of others) may cause them to be taken advantage of or bullied by others. Also characteristic in this student group are repetitive and restricted behaviors. An intense interest in certain topic or topics may cause them problems when interacting with neurotypical peers. Even activities and topics considered to be common to neurotypical peers (such as video games) may be engaged in to such an obsessive degree that this could cause further alienation from peers. The need for routines and rigidity in following rules/regulations may also cause the student with ASD to become further isolated from neurotypical peers who may at times be pushing limits and engaging in behaviors that are unconventional (Adreon & Durocher, 2007).

It is important to ensure college bound students with ASD learn everyday skills dealing with both personal issues and school/community matters. Personal hygiene must be addressed as this will greatly impact both the social and school settings.

Transportation and housing options must also be carefully planned for and financial management such as banking and savings should be introduced to the student while still in high school in order to help them make a smoother transition into financial independence in college (Geller & Greenberg, 2010).

It is also important for educators, parents, and students to be knowledgeable in and utilize the services available in the community. This is especially important after school based supports and services are no longer available. Agencies such as the Department of Assistive and Rehabilitative Services (DARS) as well as a variety of local and state funded mental health organizations may be able to provide needed supports such as job coaching, coordination with college disability services offices, independent living assistance, support groups, or counseling.

Especially important for this population is the need for social supports in the postsecondary setting. For those students with HFA and AS in college, social difficulties can lead to anxiety and stress which could lead to “social isolation” (Adreon & Durocher, 2007). Identifying and arranging for these supports is fundamental to the overall wellbeing of these students. Student mentors/liaisons and the assistance of individuals such as dorm staff can provide much needed support to an overwhelmed student on the autism spectrum (Adreon & Durocher, 2007), possibly making the difference between success or failure in the postsecondary academic setting.

### **ASD in the College Setting**

Upon graduation from public school, students with disabilities cease receiving services under IDEA and begin to receive any necessary services under Section 504 of

the Rehabilitation Act of 1973 as well as the Americans with Disabilities Act. These two acts help ensure that individuals are not discriminated against as a result of their disability (USDOE, 2011). See Figure 1 below:

<b>Federal Program</b>	<b>Public School Setting</b>	<b>Post High School Educational Setting</b>
Section 504 of the Rehabilitation Act	Provision of:  •a free and appropriate public education (FAPE)	FAPE not required; Provision of:  •appropriate *adjustments to ensure student is not being discriminated against as a result of their disability; and  •comparable housing options similar to those offered to students without disabilities which are accessible and at the same cost (U.S. Department of Education, 2011)
Americans with Disabilities Act (Amendments Act of 2008)	Provision of:  •a free and appropriate public education (FAPE)	Provision of:  •equal opportunity for all individuals with disabilities in regards to employment, transportation, public accommodations, telecommunications, and government services at the State and local levels (U.S. Equal Employment Opportunity Commission, 2008)

\* “arranging for priority registration; reducing a course load; substituting one course for another; providing note takers, recording devices, sign language interpreters, extended time for testing, and, if telephones are provided in dorm rooms, a TTY in your dorm room; and equipping school computers with screen-reading, voice recognition, or other adaptive software or hardware” (USDOE, 2011).

*Figure 1.* Comparison chart of services for students with disabilities in the post high school educational setting.

According to the NCES (2015), 17.4% of students identified as having an ASD in the public school setting go on to enroll in a 4 year college, and 32.2% enroll in a 2 year community college while 22.1% enroll in a vocational/technical school. The completion rates for these students overall (in all three settings) are reported to be 50.7% (NCES);



this leaves over 49% of students with ASD who enrolled in a postsecondary academic setting without completing their education. In contrast, the overall completion rate for all first-time students who enrolled full-time in a postsecondary setting was 28.8% for a four year college and 37.5% for a 2 year school with an overall graduation rate of 66.3% (NCES). Although students with autism in the postsecondary educational setting are making gains, there remains a discrepancy between them and their neurotypical peers. The many challenges they face as a result of difficulties associated with their disability are the major contributing factor to keeping these students from the academic success they are capable of.

Social-skill deficits in particular greatly affect the outcomes of those with ASD as ability in these skills is required for appropriate school outcomes. Displaying positive interpersonal skill and effective communication with peers and adults are skills which are needed but difficult to master by those with ASD. Add the difficulty of transition from one setting to another and the challenges encountered by these students are multiplied.

College students with ASD report feeling stress and anxiety as a result of social situations both in and out of the classroom setting. They report difficulty in making friends, understanding neurotypical peers and getting along with others. Libraries were seen as places to retreat to while communal living situations such as dorms were seen as stressful and difficult to live in for some. For others however they were seen as safe havens full of comforting possessions where they could go to escape their other surroundings (Madriaga, 2010).

The goal for these students, as well for as those working to help develop the skills they lack, is for positive outcomes. Outcomes such as developing lasting friendships, minimizing stress and anxiety, functioning effectively in everyday life skills, and ultimately graduating from the postsecondary setting they are enrolled in and finding a work environment where they can be successful, contributing members of society.

### **ASD Student Outcomes**

The many challenges faced by individuals with HFA and AS include difficulties with social skills and the development of relationships with others, difficulty in effectively communicating with others (such as in carrying on a conversation), insistence on sameness and routines, sensory problems, difficulties with both fine and gross motor skills, problems with understanding the perspective of others as well as interpreting the thoughts, feelings and emotions of others, and issues with other mental health problems such as anxiety and depression (Grandin & Duffy, 2004). As a result of the myriad of problems experienced by this population, their life outcomes are impacted in a manner that can many times be less than desirable. The potential of the HFA and AS community is not being adequately developed and utilized; their skills not being generalized into talents for use in their communities and societies as a whole.

### **Social Outcomes**

Socially, the HFA and AS population are being “left out” of the social world they live in. Their difficulties in this area make it very difficult for them to adequately navigate the social world and as a result leave them feeling alone and isolated. In the college setting, HFA and AS students have difficulty not only in peer interactions but

with the physical environment as well which can make socialization even more difficult for them. College socialization hubs like student unions, cafeterias, and other common areas are typically well lit, loud and relatively teeming with other students. The sensory problems characteristic of many with autism tend to make these places likely to be avoided by those with HFA and AS. If these students do wander into these various locales, undue stress and anxiety could result as a consequence of being in that situation (Madriaga, 2010).

The social connections these individuals make usually revolve around their specific interests and are more platonic than close and lasting relationships (Howlin, 2000) which are difficult for them to make and maintain. HFA and AS individuals yearn for meaningful relationships but their inapt social mannerisms, whether physical or verbal, tend to be misinterpreted by those they are trying to get to know and build a relationship with (Barnhill, 2007).

The social difficulties and naiveté of these individuals makes them easily misunderstood by others (Geller & Greenberg, 2010) and at times shunned or ignored. The nature of autism and lack of outward characteristics such as with other disabilities where visual, auditory, or physical impairments alert others to the nature of one's difficulties; autism is an invisible disability and as a result often misconstrued (Geller & Greenberg). These individuals do not receive the same acceptance and consideration given to those with visible disabilities. They are instead ignored or rejected and continued to be misunderstood.

For those with HFA and AS, a lack of social awareness and skill “may hinder their efforts to initiate and sustain friendships” (Sperry & Mesibov, 2005, p. 363), leading to difficulties in personal relationships, successful employment, and further leading to feelings of inadequacy and loneliness (Sperry & Mesibov). As a growing number of HFA and AS students are successfully transitioned from high schools to college settings, the need for both educational and social supports will be required to ensure their success as it is not enough for these individuals to be cognitively capable of the academic requirements; social needs must also be met (VanBergeijk et al., 2008).

### **Academic Outcomes**

Many times, the difficulties experienced by this population are also seen in academics. Despite having average to above average cognitive abilities, HFA and AS students experience difficulties which can keep them from being successful in the college classroom setting. Lectures being too loud or not loud enough, note taking dilemmas, and having to work in groups (Madriaga & Goodley, 2010) are all challenges that need to be faced and will affect the student with HFA and AS much more so than their neurotypical peers. The dilemma comes in how to best help these students as they adjust to their school environments. If one exempts them from group work for example, they will become even more socially isolated possibly leading to issues which are already known to plague those with HFA and AS such as loneliness, isolation, and depression (Kanne, Christ & Reiersen, 2009, Madriaga & Goodley, 2010, Mayes et al., 2011) yet having them participate in activities that clearly make them uncomfortable and for which they may not be adequately prepared for, can cause undue stress and anxiety (Madriaga &

Goodley, White & Roberson-Nay, 2009 ). With more and more HFA and AS students graduating from regular high school programs and entering postsecondary academic settings, these issues need to be discussed and addressed prior to these students encountering these stressors in college in order to increase graduation rates from these postsecondary academic institutions.

### **Employment Outcomes**

Gainful employment is difficult to acquire when you are an individual with HFA and AS regardless of the level of education attained. The NLTS2 (2011) reported that individuals with autism had a 24.2% employment rate eight years after graduating from high school. Finding and keeping a job is difficult for this population because even though they may have proper academic training and requirements for a particular position, the difficulties they experience socially, with organization, personal appearance, stress and anxiety, may keep them from ever obtaining a job, and if they do, keeping it may be a problem (Geller & Greenberg, 2010). College degree after college degree will not guarantee a job for those with HFA and AS. The many difficulties they encounter and live with on a daily basis as a result of their disability can keep this from happening therefore vocational and other life skills must also be taught and those skills developed in order to succeed in the work environment (Geller & Greenberg, 2010). Dr. Temple Grandin, inventor, college professor, international speaker, and one of the most famous and influential people on the autism spectrum is quoted as saying, “working is such an important part of my life...without work, no matter how big or small the job, life would become small and unsatisfying for me” (Grandin & Duffy, 2004, p. vii).

## Summary

Based on the literature reviewed, Chapter 2 focused on students with HFA and AS in the academic postsecondary setting and their experiences and difficulties both socially and academically, related to their disability.

Lack of effective social skills as a result of difficulties stemming from brain abnormalities, emotional concerns (such as anxiety and depression), theory of mind issues (such as interpreting others' feelings), EI difficulties (such as perceiving and understanding emotions in self and others) and other characteristics inherent to autism, have led young adults with HFA and AS to struggle socially and academically. As a result, their educational, social and job-related outcomes are often negatively impacted. This could manifest in not completing postsecondary education (Eaves & Ho, 2008) or, if completed, having difficulty in obtaining or maintaining a job in a desired field (Geller & Greenberg, 2010). This could also manifest itself as difficulty in developing and/or maintaining long term social and intimate relationships (Howlin, 2000; Sperry & Mesibov, 2005). The untapped potential in this population highlights the need for improved programming, interventions, and planning prior to their transition to the postsecondary academic setting.

The ASD population suffers from neurological impairments that affect all areas of functioning, specifically social functioning. Research showed that these social deficits can be linked to structural brain abnormalities, in particular those of the limbic system which regulate emotional processing, described as the way in which one takes in, processes and interprets emotional stimuli. It is also known that difficulties with theory of

mind lead to further social deficits while poor emotional intelligence affects one's ability to perceive, use, understand, and manage emotions. All of these difficulties further lead to problems such as stress, depression and anxiety as a result of poor social functioning. A number of studies reviewed in this paper indicated evidence of anxiety and/or depression in regards to personal relationships as well as other forms of emotional problems such as obsessive compulsive disorder. Personal adjustment problems including low self-esteem and stress related to social situations, including being socially lonely were also reported (Eaves & Ho, 2008; Kanne, Christ & Reiersen, 2009; White & Roberson-Nay, 2009). These problems may negatively affect long term life satisfaction and success of youth with ASD and AS.

Research also suggests that while in the public school setting, students with ASD receive a variety of supports including academic, social, and behavioral. Often these supports extend to the family in the form of in home and community training. Supports for the educators working with the ASD student population are also provided. These supports and services are offered to families in the hopes of improving outcomes once the student with ASD and AS has left the public school setting and moved on to the postsecondary setting.

Overall, the outcomes for the HFA and AS population continue to be plagued with difficulties; socially, these individuals continue to experience difficulties which can lead to loneliness and isolation; academically, they are also affected as a result of social difficulties which lead to adjustment problems and comorbid conditions such as depression and anxiety. Once in the college setting, students with autism continue to

experience difficulties, particularly in the social realm, which lead to low completion rates. Employment outcomes are also adversely affected as research showed that despite adequate training, social issues and other problems such as depression and anxiety keep this population from attaining and/or maintaining a job.

As evidenced above, research has indicated that social issues greatly impact individuals with ASD. In particular, those with HFA and AS experience an abundance of difficulties in the postsecondary setting. At this time, there is a gap in the literature in regards to the perceptions concerning the social and academic supports received while individuals with HFA and AS were in the public school setting, and the impact of this on their experiences and outcomes in the postsecondary setting. How are these students interacting with their peers and the professional staff they are involved with on a daily basis? Do these students have the skills needed to develop and maintain appropriate social relationships with these individuals in and out of the classroom setting, or have they not received programming and interventions to fill the gaps in social skills they may have? Is this lack in social skills affecting the educational performance of these students and in some way hindering the attainment of long-term goals such as earning a degree and achieving work in a desired field?

The social education needs of these students and the manner in which this will impact them years down the road needs to be better understood by those who work with this student population. It is essential that for students with ASD, social relationships, social interactions, and the everyday social skills needed to navigate the world are adequately addressed and appropriate interventions and programming applied.



High functioning students with ASD are falling through the cracks and their needs are not being properly addressed. The school systems must explore the long-term effects of current programming and address the needs of these students in order to produce more positive outcomes after they transition to the postsecondary academic setting and beyond.

More research is needed to determine exactly how interventions and programming that has already been provided are perceived in terms of effectiveness on the current social and academic functioning of this student population. This study attempted to understand the perspectives of postsecondary students with HFA and AS and the contributing role their history of Pk-12 social skills interventions in the public school setting and the role these have had on the current social and academic outcomes of this population. An understanding of the following was attempted: (a) current peer and professional staff social interactions in the classroom setting, (b) current peer social interaction beyond the classroom setting, (c) current social interaction and its relation to academics, and (d) previous Prek-12 interventions and their contribution to social and academic outcomes.

The insight gained helps to fill a gap in the literature regarding the high functioning ASD and AS student population in the postsecondary academic setting and the manner in which these students function socially and academically, from their perspective, as a result of the social deficits characteristic of their disability. The perceptions and “voice” of these students in regards to their lived experiences and how this has affected them helps shed light on their needs and helps professionals and family better guide them toward success.

In the following chapter I have reviewed the methodological framework utilized for this study including the orientation, approach, and data collection techniques used as well as projected presentation of study results.

## Chapter 3: Methodology

### **Introduction**

Meeting social and academic demands within the college setting can prove difficult for students on the autism spectrum (Adreon & Durocher, 2007). For those with HFA and AS who have the ability to meet the academic demands of a setting such as this, societal expectations regarding social behaviors tend to prove the most difficult challenge to overcome. Developing interpersonal relationships with peers, and adjusting successfully to new situations are difficult for this population. Therefore, a critical precursor to successful outcomes in the postsecondary setting consists of the readiness skills these students must learn in order to prepare them for the challenges they will face. The provision of preemptive interventions that focus on independence is critical in the programming for this population to succeed (Preis, 2007). Gaining knowledge about the perceived effectiveness of social skills interventions and how these have been useful in helping HFA and AS students function socially in the postsecondary school setting is anticipated to heighten awareness regarding how schools address such needs and what, if any, changes need to be made to enhance social skills development programming.

The goal of this study was to understand the perspectives of postsecondary students with HFA and AS and the contributing role their participation in PK-12 social-skills interventions had in current social and academic outcomes. Understanding research on current outcomes (e.g., low postsecondary completion rates, social isolation, rates of anxiety and depression, as well as low employment rates, and how these are linked to social skills deficits) is important for enhancing the long-term efficacy of social skills

interventions from the perspective of those with ASD and HFA, the individuals with this disorder. The acquisition of a better understanding of this relationship benefits educators, parents, and other professionals who seek to help those with ASD and HFA succeed in postsecondary endeavors and ensure successful outcomes not only in college, but in future community and work environments as well.

In this chapter, I discuss the research design and justification for the chosen approach as well as the study research questions. My role is further explained, and any ethical concerns for study participants are considered. The context of the study, including the chosen study sample participants and site selection, is reviewed. Finally, methods of data collection, along with issues of validity and limitations of the study, are described.

### **Research Design and Rationale**

This study used a case study approach involving face-to-face, semistructured interviews that included researcher produced, open ended questions. This method provided an in-depth exploration regarding the personal experiences of study participants, which provided them with a “voice” to express lived experiences regarding academic and socialization experiences in their daily lives in the postsecondary academic setting (Creswell, 2009). As this study entailed an in-depth exploration of the processes that led to the postsecondary social conditions of a group of individuals in which all had been diagnosed with HFA or AS, a case-study approach was deemed most appropriate. This model was chosen because a study such as this calls for direct interpretation of data in order to draw meaning from findings without the need for numerous case examples. This method also facilitated the search for patterns in order to make comparisons as well as the

ability to make generalizations from data analysis in order to later apply that knowledge to other cases (Creswell, 2007).

### **Research Questions**

In order to understand the perspectives of postsecondary students with HFA and AS on the contributing role their past history of PK-12 social skills interventions had played in current social and academic outcomes, an attempt was made to understand several phenomena, based on the following research questions:

1. How do young adults in college describe their current peer and professional staff social interactions in the classroom setting?
2. How do young adults in college describe their current peer social interaction beyond the classroom setting?
3. How do young adults in college describe their current social interaction and its relation to academics?
4. How are previous PK-12 interventions perceived to have contributed to current social and academic outcomes?

This was accomplished via the following interview questions:

1. Tell me a little about yourself, such as what you are studying, what your interests are, and how long you have been enrolled in the college setting.
2. What are your current peer and professional staff social interactions like in the classroom setting?
3. What are your current peer social interactions beyond the classroom setting like?

4. What is the relationship between your current social interactions and your current academic outcomes?
5. How have previous interventions you received in PK-12 contributed to your social and academic outcomes?
6. Is there anything else related to your college/university experience and your current social and academic functioning that you would like to tell me about?

Study findings may inform educators, parents, advocates, and adult individuals with ASD about the lived experiences of those with HFA and AS in regard to social and academic interventions during their school years and how these influenced their postsecondary outcomes. It is believed that services previously received had an impact on current social functioning that, in turn, influenced social and academic outcomes. Study participants' perspectives were interpreted in light of the services and interventions received in the PK-12 school setting and how these might have influenced participants' current functioning and outcomes in the postsecondary school setting. Conclusions were based on generalizations made from findings related to past services and current social and academic functioning.

### **Central Concepts of the Study**

The theoretical framework for this study was based on a CT approach, which focuses on an advocacy perspective (Creswell, 2009). The advocacy perspective encourages attention to the views of all individuals, with the goal of fair treatment for all. In this study, the advocacy perspective was connected to the CT approach, in that I explored the relationship between individuals with ASD and their surroundings in a

college and university setting while investigating the perceived effectiveness of past services and interventions. With this approach, the current study was used to examine and emphasize the empowerment of individuals with ASD, and, as such, to help to improve their outcomes.

The subcategory of CT known as CDT, whose proponents recognize that society has looked upon individuals with disabilities as debilitated rather than productive members of society, was also explored in this study. The disability rights movement was a changing force that helped bring about CDT, prompting increased awareness of social responsibility to this population (Meekosha & Shuttleworth, 2009). Supporters of this theory look to challenge perceptions historically held regarding people with disabilities and thus bring about a change in these views (Hosking, 2008). Therefore, CDT can help allow those with ASD to use their voice to help others learn from their lived experiences and provide for increased understanding and change (Meekosha & Shuttleworth, 2009).

CT and CDT guided this study by providing me with a context for interpreting data and the outcomes for the HFA and AS individuals taking part in the study. Keeping in mind the current perceptions of those with disabilities, I used CT and DT to guide the development of recommendations with the goal of promoting a better understanding of the needs of the HFA and AS population in the college/university setting. The advocacy perspective that is a focus of these theories directed the recommendations stemming from study findings. The aim was to empower the study population and those who advocate and support them by providing them with knowledge on what works best in the long term

in regard to socially based interventions that help to produce the best outcomes for those with HFA and AS in the postsecondary school setting.

### **Research Tradition**

The research method believed to be most appropriate for this type of inquiry is a qualitative approach. According to Creswell (2007), qualitative research is conducted when “a problem or issue needs to be explored .... This exploration is needed, in turn, because of a need to study a group or population, identify the variables that can then be measured, or hear silenced voices” (p. 39). This need to hear the voices of those with HFA and AS and gain knowledge as to their perceptions on issues of socialization and how skills learned in this area have influenced their outcomes can only be met with a qualitative perspective.

The stories of these individuals cannot be expressed through statistical data, as this would not allow for their voices, opinions, and points of view to be heard. In keeping with a CT and more specifically a CDT approach, allowing individuals with disabilities to express their voices allows for their empowerment and helps others gain knowledge and perspective from this voice. Creswell (2007) indicated that “learning the meaning that the participants hold about the problem or issue” (p. 47) is one of the key characteristics of qualitative research. Therefore, learning from these “voices” can best be accomplished using a qualitative approach.

### **Researcher Role**

My role as researcher in this study was that of data gatherer, document examiner, observer of behavior, participant interviewer, and analyzer of data. The goal of gaining



meaning from the participant's perspective regarding the topic being investigated was crucial to my role as a researcher. Ensuring a nonbiased view of data and information gained, providing an accurate interpretation, and providing a holistic account of study findings were fundamental tasks for me as the researcher in this qualitative study.

Another aspect of my role was making certain that my personal interests, values, and background did not introduce biases into my research and its intended purpose, and that all ethical considerations were taken with my study participants (Creswell, 2009).

Special-needs students have been an integral part of my professional life as a special educator for over two decades, as well as the focus of my graduate studies. This is a population that is of great interest to me and will be a part of my future professional life as well.

## **Context of Study**

### **Sample Selection**

Research participants included young adults with HFA and AS. Both male and female participants were included in the study; all participants were consenting adults 18 years and older. Participants were drawn from various ethnic backgrounds and were all expected to have graduated from high school, as the objective of the study was to research the postsecondary academic outcomes of this target population.

The sample size for this study was expected to be 12-15 students. This number was estimated, as there is little information available regarding the actual number of young adults with ASD currently attending college (VanBergeijk et al., 2008). Creswell (2007) stated that when one is conducting a case study, "there is no set number of cases

.... typically, however, the researcher chooses no more than four or five cases” (p. 76).

Additional cases would be used for transferability of findings. Mason (2010) indicated 15 as a minimum number of cases when conducting a case study in qualitative research. The anticipated number of 12-15 was expected to provide an in-depth study with robust transferability. Participant eligibility criteria (diagnosis of an ASD) was established automatically as part of the recruitment process, as only individuals meeting criteria were given letters of invitation to participate in the study (provided to them by participating school districts and university disability services offices). Participants recruited through support groups were also expected to meet criteria, given that they were they members of support groups due to their existing and previously diagnosed disability. All participants were anticipated to know their disability due to sampling procedures.

At the time that potential participants were provided with study information, they were informed via the Letter of Invitation to Participate that they should not feel any pressure to participate if living circumstances such as any type of supported living environment (i.e., residential or group home) was in place, or if they had a diagnosis of a mental or emotional disability that may have impacted their ability to participate in the study. This was put into place in order to protect this vulnerable population, as these factors may indicate potential participant dependence on others or another state of vulnerability and thus would negate their ability to participate of their own free will and without undue influence in the study.

## Site Selection

Participants for this study were nonrandomly selected from the universities and community colleges in the area of the Rio Grande Valley (RGV) in South Texas. These include the University of Texas at Brownsville (UTB), Texas Southmost College (TSC) in Brownsville, Texas State Technical College (TSTC) in Harlingen, South Texas College (STC) in McAllen, and The University of Texas—Pan American (UTPA) in Edinburg. Participants were also selected from various universities and community colleges in the northeastern area of Texas and the Houston region such as University of Houston (U of H), San Jacinto College (SJCC), University of St. Thomas, Houston Community College System (HCC), Rice University, Texas Southern University (TSU), Lone Star College System (LSCS), and Baylor College of Medicine. A convenience sample was used because the target population was limited to those diagnosed with HFA or ASD.

Access to participants was gained by making direct contact with special education directors from various school districts in the South Texas and Houston areas, as well as university disability services offices in these areas. Special education directors were knowledgeable in regard to students who had graduated from their school districts and gone on to higher education, and university disability services representatives had knowledge regarding students with autism currently enrolled in their institutions. Representatives from these institutions were provided with my personal contact information and study information to provide to possible study participants. School district and college representatives were then asked to make contact with prospective

participants (via mail through information packets I provided). It was up to these individuals to contact me for further participation in the study. Participants were also recruited from meetings of various support groups for families of individuals with disabilities. In order to access the members of these groups, I made direct contact with support group administrators/leaders. Presentations explaining the study were offered to the groups. These presentations were offered during regularly scheduled support group meetings so that study information could be disseminated. Potential study participants were to contact me directly if interested in participating in the study.

### **Ethical Concerns and Participant Protection**

Participation in this study did not marginalize or disempower the target audience in any manner. Participants were fully informed of the purpose of the research and the benefits that would come from the study (knowledge for parents, educators, and other professionals, which would provide them with an opportunity to help the target population achieve successful postsecondary academic outcomes). Confidentiality was guaranteed, and participants were assured that at any time, they were be able to withdraw from the study if they so desired.

As this study involved individuals who had been identified as having a disability and therefore were considered members of a vulnerable population, careful consideration occurred to ensure that information regarding written consent was clearly understood. Participants reviewed the consent form thoroughly and reiterated to me the information contained within the consent. Due to the sensitive issues that could arise regarding confidentiality (e.g., ease of identification of study participants due to the nature of their

disability and their enrollment in postsecondary institutions in a relatively generalized area), identifying information has been kept for the duration of the study solely for my use, after which it will be destroyed (Creswell, 2009).

### **Methods of Data Collection**

#### **Document Collection**

Data collection procedures involved face-to-face interviews, and audio taping of face-to-face interviews (Creswell, 2009). Data collection during face-to-face interviews took place in neutral locations such as a public libraries or community centers that were in a location convenient to the participant. When possible these interviews took place in a study room or other such private area of the library or community center in order to ensure the privacy of the participant. All data collected are being kept in a locked filing cabinet which only I will have access to. Data are only be kept for a five year period as required by Walden University, upon which time the data will be mechanically shredded and disposed of.

#### **Interviews**

Data-recording procedures were face-to-face, semistructured interviews that involved the use of researcher produced, open ended questions. The objective of understanding the perspectives of postsecondary students with HFA and AS and the contributing role their previous history of PK-12 social skills interventions has had on current social and academic outcomes was examined. An understanding of the following was attempted: (a) current peer and professional staff social interactions in the classroom setting, (b) current peer social interaction beyond the classroom setting, (c) current social

interaction and its relation to academics, and (d) previous PK-12 interventions and their contribution to social and academic outcomes.

The interviews were audio recorded as previously mentioned and subsequently transcribed. Demographic information was collected prior to the audio taped interview and reflective notes were recorded to document personal thoughts, ideas and impressions (Creswell, 2009). Upon completion of the study, I contacted study participants to review data collected and conduct follow-up interviews to discuss findings. These meetings took place via telephone conference. Overall study findings, including implications of research findings, were provided to participants in a one to two page written summary. These results were delivered to participants to the address of their choice. If participants had questions regarding the study finding results summary, my telephone number was provided as a contact number for any further explanation requested.

### **Data Analysis**

Data analysis and interpretation consisted of analyzing the detailed descriptions of the participant's social experiences and exploring these to determine recurrent themes or perspectives. Data analysis also involved the interpretation of data to help bring meaning to the information collected (Creswell, 2009). Data analysis assisted me in understanding the previously implemented interventions and supports (such as one to one aids, social skills groups, individual social skills training including the use of video modeling, social stories, role playing, etc., in home/community training for social improvement purposes, communication interventions such as teaching pragmatics to increase social communication, and educator support to increase awareness of social learning). It was

expected this information would be useful in drawing conclusions in regards to whether interventions received and current outcomes were associated. These interventions and supports were expected to be addressed as part of the participant's public school records as the TAS is a required component of a Texas public school student's IEP while in the PK-12 school setting. Gaining knowledge as to the particular interventions/supports provided to each participant helped in gaining understanding and interpreting study findings in relation to current functioning of study participants with the assumption that previous interventions/supports affected current outcomes as the goal of this study was to attempt to understand the perspectives of postsecondary students with HFA and AS and the contributing role their history of socially based PK-12 interventions in the public school setting and the role these have had on the current social and academic outcomes of this population.

The QSR NVivo computer software program was utilized to analyze and manage the data collected. Findings from nondiscrepant cases were utilized as it is recognized all cases of individuals with ASDs are different and individuals' behaviors are manifested in different ways.

Interviews were initially analyzed utilizing a within case analysis which provided an individual case description along with themes found within each case. This was followed by a case assentation which provided an overall interpretation of the individual cases involved in the study. Finally, cross case analysis was conducted (Creswell, 2007).

CT and CDT helped guide the interpretation of study findings by providing the basis for an interpretive approach. Interpreting the data from this study, while keeping in

mind advocacy and transformation as a result of findings, expectantly helps reduce the social challenges faced by individuals with ASD in the postsecondary setting and improve their outcomes in general. By examining study participants' current social functioning as it relates to previously applied interventions, the goal of closing social gaps and providing the HFA and AS college/university student population the ability to transform their social situations will transpire. This can be accomplished by providing knowledge to those in decision making positions and affording them with the awareness and information needed to make better decisions that may impact the future outcomes of the population being studied. Therefore, transformation and empowerment, both central to these theories, provided the basis for the interpretation of data.

### **Validity and Reliability**

In order to use study findings in a meaningful way, these findings must be considered valid (Gregory, 2007). Validation is described as an “attempt to assess the accuracy” (Creswell, 2007, p.206) of study findings. In qualitative research, validation is enhanced through expansive field work, time spent with research participants, and detailed descriptions of study findings (Creswell).

### **Ensuring Reliability**

Reliability was ensured by making certain that interview transcriptions were free of errors, and ensuring that once codes were assigned they were not deviated from; all procedures were closely documented.



### **Validity Concerns**

Due to this research being based on a case study approach, issues of validity could possibly have occurred as the personal experiences of study participants were explored. This being the case, the accuracy of interpretations was validated and the perspectives of the participants were accordingly legitimate and credible. Results are therefore considered to be valid.

### **Validation of Findings**

Validity was ensured by member checking of findings (themes and case analysis) through a follow-up interview in order to determine their accuracy. These meetings took place via telephone conference. This validation strategy allowed study participants to contribute to the accuracy of findings through their input (Creswell, 2009). Using this validity strategy helped ensure that not only were study interpretations on target, but that participant's "voices" were accurately represented. The use of in depth, detailed, and thorough descriptions of findings also served as a validation strategy to substantiate validity and aid in transferability (Creswell, 2007).

Peer debriefing was also employed as another validation strategy (Creswell, 2007). A specialist in autism and issues involving students with autism reviewed research and helped to ensure that results and interpretations were valid. The peer debriefer reviewed coding to ensure similar codes and themes were established between their analysis and mine. Blind coding was utilized to achieve this and maintain participant confidentiality. It was expected the peer debriefer and I would reach an agreement in regards to both codes and themes. In order to achieve inter rater reliability, transcripts

were first coded independently and subsequently a meeting was held to review codes and themes. Independent coding was continued in order to ensure that codes were being applied consistently and themes were being identified in similar fashion. Intercoder agreement was expected to be reached when passages were coded similarly and themes were identified similarly as well. A goal of 80% inter-rater reliability on coding was achieved (Creswell).

### **Summary**

Research design and rationale described within this chapter indicated justification for utilizing a qualitative approach in order to most effectively express the voice of the target study participants. This approach best assists the reader to understand the perspectives of postsecondary students with HFA and AS on the contributing role their past history of socially based PK-12 interventions has had on their current social and academic outcomes. Understanding several phenomena, including: (a) current peer and professional staff social interactions in the classroom setting, (b) current peer social interaction beyond the classroom setting, (c) current social interaction and its relation to academics, and (d) previous PK-12 interventions and their contribution to social and academic outcomes was attempted.

Current research indicated a variety of factors, such as brain abnormalities, emotional issues, theory of mind issues and EI factors among others. All impact the behaviors and performance of individuals with HFA and AS. These can be manifested as issues such as depression, anxiety, stress, self-esteem problems, social loneliness, and interpersonal relationship difficulties among others (Eaves & Ho, 2008; Kanne, Christ &

Reiersen, 2009; White & Roberson-Nay, 2009). These different elements and/or a combination of these can have a range of outcomes for the target study population. Academic, social, and job related outcomes can all be impacted and result in less than desirable outcomes for a student population who are intellectually capable of more positive outcomes. Findings from this study inform educators, parents, advocates, and adult individuals with ASD about the lived experiences of those with HFA and AS in regard to social and academic interventions during their school years and how these have influenced their postsecondary outcomes. From this information, academic and social-skills planning can be developed to address the specific needs of this student population.

Participants and the locations from which they were selected, as well as ethical concerns regarding confidentiality were addressed. Data collection and analysis, along with issues of reliability and validity were also discussed and delineated. The ensuing chapter presents study findings by means of a thorough description of research conducted.

## Chapter 4: Results

### **Introduction**

For many young adults, growing up is associated with making the transition from high school to college life. This transition, while challenging for any young adult, is compounded for individuals with ASD due to the social challenges they may face as a result of their disability. This study's purpose was to understand the perspectives of postsecondary students with HFA and AS concerning the contributing role their past history of participation in prekindergarten (PK) through 12<sup>th</sup> grade social skills based interventions played in current postsecondary social and academic outcomes. An attempt was made to understand several phenomena, including (a) current peer and professional staff social interactions in the classroom setting, (b) current peer social interaction beyond the classroom setting, (c) current social interaction and its relation to academics, and (d) previous PK-12 interventions and their contribution to social and academic outcomes. A thorough exploration of the social functioning of study participants helped shed light as to the usefulness of previously implemented interventions with the goal of minimizing gaps in social functioning and providing the HFA and AS college/university student community the ability to transform their social situations and conditions. Results of this study can assist those in positions to help young adults with ASD, such as educators, advocates, and parents, to best plan for these young adults and help safeguard successful outcomes. I addressed this goal through this qualitative study by providing information on the lived experiences of those with HFA and AS in regard to social and

academic interventions during their PK-12 school years and how these influenced their postsecondary outcomes.

In the following chapter, I present study findings through the use of a qualitative approach, which allowed study participants to convey their perspectives and voices, thus ensuring that their opinions and points of view were aptly communicated. An overview of each participant's lived experiences was provided, and recurrent themes were discussed. These themes were illustrated and supported via the use of examples provided and quotes taken from participants. Member checking also helped to ensure the validity of findings and further support the participants' voices. This chapter addresses setting events, such as parent involvement in interviews, and their impact on the study as well as demographic information relevant to study results. Specific data collection information is discussed, along with evidence of trustworthiness within the study. Results, including supporting data, are provided in the form of transcribed information, quotes, tables, and figures in order to accurately display study findings.

### **Setting**

During the data collection process of the study, all protocols were followed as previously specified in the methodology section. It was found that all participants were agreeable to taking part in the study. Several of the young men and women indicated that they were glad to participate because they would like for their experiences to help someone else. There were two cases noted that may have influenced participants or their experiences and that may have subsequently impacted interpretation of study results. In two cases, the mothers of the participants were present for the interview, and in both of

these cases, the mother helped to answer questions with which the student had difficulty. Both of the students appeared dependent on their mothers to some extent and would turn to them for help in answering questions. It appeared that this difficulty in answering questions was more of a language communication problem, such as a problem in expressing their view, rather than simply having the parent answer the question for them. This is discussed at a later point in this chapter, as it is relevant to some of the themes that were found and impacts discussions related to study findings.

### **Demographics**

Study participants consisted of 12 young adults diagnosed with HFA or AS (two female, 10 male). All participants were between the ages of 18 and 23 years. The majority of participants (10 of the total 12) originated from high schools in the Rio Grande Valley (RGV) of South Texas, and two participants were from the Houston area. The Figure 2 illustrates participant demographics as well as the colleges or universities the students currently attended.

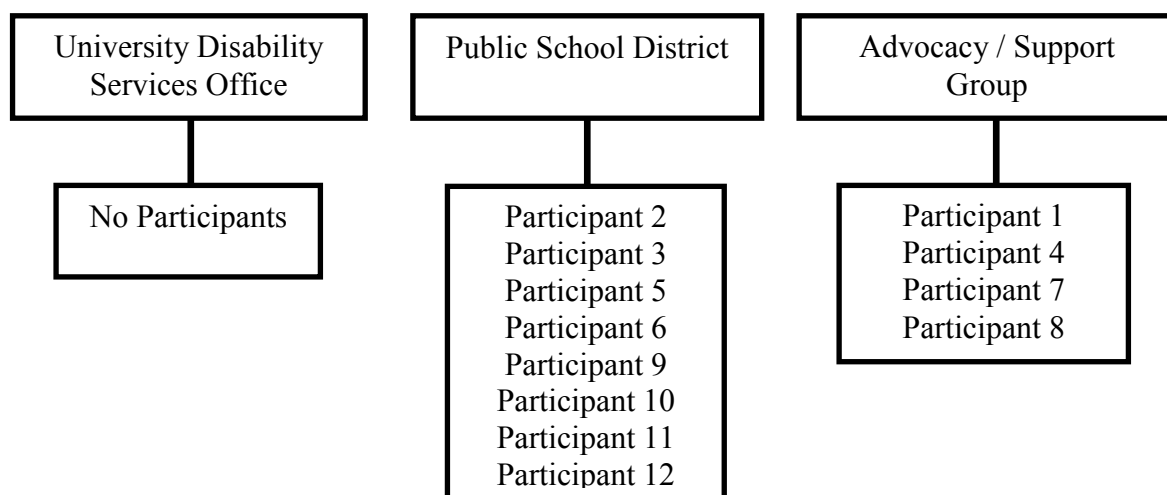
<b>Participant</b>	<b>Age</b>	<b>Gender</b>	<b>Sch. Classification</b>	<b>Major</b>	<b>High School</b>	<b>College/University</b>
Participant 1	20	F	Undergrad	Psychology	Houston area	SJCC – South Campus
Participant 2	21	M	Undergrad	Computer Science	RGV of South Texas area	UTB
Participant 3	19	M	Undergrad	Undecided (computer/ arts related)	Houston area	SJCC – North Campus
Participant 4	21	M	Undergrad	Animation	RGV of South Texas area	TSTC - Harlingen
Participant 5	23	M	Undergrad	Psychology	RGV of South Texas area	UTB
Participant 6	19	F	Undergrad	Liberal Arts	RGV of South Texas area	UTB
Participant 7	19	M	Undergrad	Biomedical Science	RGV of South Texas area	Texas A&M - College Station
Participant 8	19	M	Undergrad	Animation	RGV of South Texas area	TSTC - Harlingen
Participant 9	22	M	Grad Student	Biology	RGV of South Texas area	UTPA
Participant 10	22	M	Grad Student	Biology	RGV of South Texas area	UTPA
Participant 11	18	M	Undergrad	History and Drama	RGV of South Texas area	STC – Weslaco Campus
Participant 12	19	M	Undergrad	English	RGV of South Texas area	Texas A&M - Kingsville

*Figure 2.* Demographics.

### **Data Collection**

Data collection consisted of face-to-face audiotaped, semistructured interviews that involved open ended questions and took place between July 2014 and December 2014. In order to recruit participants, I made direct contact with special education directors and/or their designees from various school districts in the South Texas and Houston areas, as well as university disability services offices in these areas. Autism support groups were also contacted for participant recruitment purposes. Contacts in the various entities were provided with a Letter of Study Information (see Appendix A) in order to provide them with an overview of the study and goals of research. They were

also provided a Letter for Potential Study Participants (Appendix B), which they were instructed to distribute to potential participants. This letter provided information to potential participants and contained instructions so that individuals would be informed as to how to contact me directly if interested in taking part in the study. Figure 3 below represents the breakdown of how participants came to be informed of the study and who their initial contacts were.



*Figure 3.* Parent notification of study.

All interviews took place in predetermined locations chosen by study participants. These locations included college libraries or other on-campus quiet areas such as study rooms; interviews also took place in restaurants close to campus, at public libraries, and, in four cases, the student's home with the student's parents present. In two of these cases, the participant's mothers actively participated in the interview. All interviews lasted between 30 and 60 minutes. Data were collected via the use of a digital recorder; interviews were then transferred to a computer flash drive and subsequently transcribed.



During the interviews, handwritten notes were also taken to ensure the accuracy of data collected.

### **Data Analysis**

The QSR NVivo computer software program was used to organize data and assist in determining themes that arose from the data collected. Information was also transferred to Microsoft Excel to help in generating a visual representation of data collected. General themes that emerged from individual cases were recorded during a within case analysis followed by a cross case analysis to identify emergent themes across cases. Finally, a case assertion was completed in order to come up with an overall interpretation of cases. As a result of findings, there appeared to be a discrepant case in terms of one aspect of the research questions. One participant reported being socially active outside the school setting, which was in direct contrast with the responses of the other study participants, as all others indicated limited to no social interaction outside of the school setting. This aspect of the participant's interview was discussed in the results section of this chapter.

### **Evidence of Trustworthiness**

#### **Credibility**

Credibility of data was ensured via assurance that study participants were legitimately individuals diagnosed with an ASD. The participants were referred to me directly by independent individuals who had direct knowledge of the participant's disability via official school district records or through association with the participant by means of an advocacy or support group. Credibility was also evidenced by eliminating

researcher bias to the maximum extent possible by providing a holistic, detailed account of research findings and making a conscious effort to keep personal interests, views, and background away from the research and its intended purpose. Another method used to ensure credibility was data triangulation. Study participants were varied in terms of the colleges and/or universities they attended as well as the areas in which these schools are located and the high schools they originally attended. This variety helped to ensure study validity.

### **Transferability**

Transferability was demonstrated by the use of detailed description of findings with multiple references to participant direct quotations and case examples as supportive evidence. A comprehensive portrayal of individual cases was also provided in narrative form. Transferability was also evidenced via the use of multiple case studies to ensure replication of data as well as through the provision of information on data collection methods and techniques used for data analysis.

### **Dependability**

The provision of detailed data collection and data analysis processes helped to ensure that dependability was substantiated. This aspect of trustworthiness was also demonstrated via the presentation of themes discovered during data analysis, regardless of whether these themes were related to the original research questions. Thorough description of data collection methods was also provided in this project in order to allow for future replication.

## **Confirmability**

In order to substantiate confirmability of this research, peer debriefing was used and blind coding of themes was carried out. The peer debriefer had an established background in the field of assessment and ASD that allowed for a thorough review of findings. Member checking was also used. All participants were contacted for a follow up interview, which allowed them to provide further input as to the accuracy of the themes found as a result of the research conducted.

## **Peer Debriefing Results**

Peer debriefing findings indicated “moderate” to “strong” levels of agreement between my findings and those of the peer debriefer. It was expected that both raters would code similarly and find comparable themes in order to achieve a desirable level of validity. An 83% agreement in regard to cross case themes found in the overall analysis of research questions confirmed similarity in conclusions reached. These findings, along with member checking, as detailed below in Table 1, and a thorough description of study results, as evidenced in a detailed presentation of discoveries, were representative of credible findings that indicate accuracy of results.

Table 1

*Interrater Agreement*

	Within case themes	Cross case themes	Assertion themes
Theme agreement	12 out of 40	10 out of 12	3 out of 5
Interrater agreement	.7 (70%)	.83 (83%)	.6 (60%)
Level of agreement	Moderate	Strong	Moderate

*Note.* The following values were used to determine the level of agreement (based on value of Cohen's Kappa): 0 - .20 = none, .21 - .39 = minimal, .40 - .59 = weak, .60 - .79 = moderate, .80 - .90 = strong, above .90 = almost perfect.

**Member Checking Results**

Of the 12 participants, six responded to my request for follow-up contact to discuss results and provide feedback on findings. One participant indicated, "I am happy with your findings, I agree with what your studies found." He went on to indicate that college was difficult for many students with disabilities and that he was happy to have contributed to the study. Another responding participant simply thanked me and indicated that the results "looked good." An additional participant stated, "The public education system throughout high school and college for me, or even middle school for that matter, had plenty of chances for social interaction. Reaching out to people for guidance is very important." Another participant, through his parent, indicated approval of the findings. His parent stated that there needed to be more social help in the schools. Yet another participant stated,

I find much truth to these overall themes. Although some of the relationships I form at school are based on the sharing of similar interests, it is true that I form

comradeship with those who can help me succeed. Other than that, I am in full agreement with your findings.

A final participant stated, “These results are consistent” and went on to say, “Whether for social or for professional means, the limited interaction is rather the truth among people like me.”

## **Results**

For purposes of presenting research data, participants were assigned a number according to the order in which they were initially interviewed. An overview of each participant is presented. This is followed by research interview question findings and a discussion of themes established via a cross case analysis for each question. Any themes found in a within case analysis are also discussed within the question analysis and theme presentation. Finally, a case assertion that contains an overall interpretation of all cases is presented.

### **Individual Participant Overviews**

#### **Participant 1 Overview (P1)**

Participant 1 was a 20 year old female student currently attending San Jacinto Community College (SJCC) in the Houston area. She was an undergraduate whose goal was to major in psychology. She had been in college for two years and planned on transferring to the University of Houston for her junior year. Her goal was to become a counselor for children with autism and their parents. She had recently become engaged (to a young man she had known for 6 years) and credited her fiancé and her mother with helping her to try new things, which helped her to become more social in the last two

years. When this participant was 5 years old, her parents were told that she would be in special education her entire life and would never graduate from high school. This had become a source of motivation for this participant, who stated the following:

I think for most of my life a lot of people thought I couldn't do a lot of things, like going to college or have a boyfriend or get married or move away from home; do things on my own, but I think finding out and learning, now just makes me want to push harder. It's been sort of like a drive for me. Every time I think about quitting, I think about all the people that said I couldn't do it, and I can't let them win; especially the school.

### **Participant 2 Overview (P2)**

Participant 2 was a 21 year old senior at the University of Texas in Brownsville (UTB). He was pursuing a degree in Computer Science and graduated in the Top 10% of his graduating high school class after beginning public school in the Preschool Program for Children with Disabilities. He was also the recipient of a four year academic scholarship to UTB. This participant indicated he attends an annual themed convention where he meets and interacts with individuals he has met online with whom he shares similar interests.

### **Participant 3 Overview (P3)**

The third participant was a 19 year old attending SJCC in the Houston area. He had been in college for 1.5 years and was undecided as to a major but was interested in a computer related field or a degree in the Arts. He wanted like to transfer to the University of Houston or Prairie View College after completing his basics at SJCC. He indicated he

wanted to make friends but he was “shy around people.” He indicated, “I am just still getting used to new people but I am starting to make some friends.”

#### **Participant 4 Overview (P4)**

The fourth participant was a 21 year old male who attended community college at Texas State Technical College (TSTC) in Harlingen. He had been taking only one to two classes per semester since graduating from high school and planned to pursue a degree in the field of Animation but was also interested in acting and film-making. He graduated in the Top 10% of his graduating high school class and as of January 2015 had moved to Austin to attend a special program for students with autism at Austin Community College. Regarding his move to Austin he stated, “... a little bit disappointed because I am usually helped out by my parents.” This participant’s mother was present during the interview and assisted him in answering questions; he appeared very dependent on her for reassurance regarding his answers. When a question was asked of him he would provide an answer and then turn to his mother to seek reassurance regarding the answer provided. From information gathered in the interview it also became apparent that she helped to ensure that all of his school assignments were organized and helped to facilitate communication between him and peers related to group work. As an example, the participant’s mother prepared a slip of paper that had room for the name, telephone number and email address of peers he was assigned to do group work with in order help him gather the information needed to later contact them for completion of the assignment. His classes were also audio recorded so that his mother could later help him at home to organize himself and his assignments, and to ensure that all classwork was completed.

**Participant 5 Overview (P5)**

Participant 5 was a 23 year old male who had been attending UTB for 6 years. He was majoring in Psychology with a minor in Sociology but was undecided as to an exact career within this field. He also graduated in the top 10% of his high school graduating class and was a member of the Honor Society. He had been taking on a few classes at a time and expected to take about three to five more semesters to complete his studies. Due to his schedule and his dependence on his family for transportation to and from school, he was typically on campus for approximately 8 to 10 hours per day. He reported that during that time he doesn't "speak to too many people on campus despite how long I am here."

**Participant 6 Overview (P6)**

The sixth participant was a 19 year old female who had been at UTB for 1 year. She was planning on majoring in the area of Liberal Arts and was a self-described "artist." Despite her talents in the area of drawing she reported that her parents "don't exactly want that out of me." They preferred she pursue a different career path. She indicated that when she first entered college, "I did kind of keep to myself, like in my little bubble sometimes." However, she reported that after having to participate in public speaking class she realized she had more in common with others than she first thought.

As the weeks kind of went by then the months went by and I started kind of more getting along with them. I was like wow I am actually getting along with these people. I never thought I would hang out and talk with you guys. Like you would be the kind of guys I would avoid in high school. Like what happened?



**Participant 7 Overview (P7)**

Participant 7 was a 19 year old male student attending Texas A & M University (TAMU) in College Station. He had been at TAMU since entering college his freshman year in the Fall of 2014. He originally attended a public high school in South Texas. His goal was to major in biomedical science and go on to medical school. A secondary goal was to study physical therapy if medical school did not become a reality. He received services through the disability services office at TAMU and indicated that in college, “Everything is hard. I was helped a lot in high school.”

**Participant 8 Overview (P8)**

The eighth participant was a 19 year old male who was a first year student at TSTC. Like other participants, he was also interested in pursuing a degree in the field of Animation. He indicated that his goal is to learn how to make movies like those created by Disney and Pixar. During his interview, Participant 8 was accompanied by his mother who he appeared to turn to when unsure if his answer was correct. He was told there was no right or wrong answers and to just indicate how he felt. He was very conscientious of the manner in which he expressed his feelings as if not wanting to offend anyone with his responses. As an example, Participant 8 stated the following when asked about a particular program he attended.

There were people not normal . . . . I’m so sorry to say that. I know it is offensive to say that they are not normal people, I am sorry. Yeah, they were like different people, you know. Yeah, they had severe problems of their mind. It’s like not the place for me to learn how to interact.

**Participant 9 and 10 Overviews (P9 and P10)**

Participant 9 and 10 were male twin brothers who were 22 year old. They were both currently working on their Master's degree in biology at the University of Texas Pan American in Edinburg (UTPA). Both graduated with a Bachelor's in Biology also from UTPA and by the time they graduated from high school had already obtained an Associate's Degree in Engineering through a dual enrollment program between their high school and South Texas College (STC). These participants moved to the United States from Mexico at the age of 13 at which time they enrolled in 8<sup>th</sup> grade. They were both fluent in English and Spanish and were able to speak, read, and write both languages. Participant 10 was observed to effortlessly and properly translate from one language to the other as evidenced by translating the informed consent form to his mother (present in the home but not during the interview) from English to Spanish. This translation was completed effortlessly as if the participant was reading the actual document in Spanish despite topic specific vocabulary not commonly used in everyday conversation.

**Participant 11 Overview (P11)**

Participant 11 was an 18 year old college freshman who attended school at STC. He had several career goals which included becoming a voice actor, a drama teacher, and a history teacher. During his sophomore to senior years in high school he attended a science magnet school where he excelled as compared to his regular public high school. He described his initial year of high school as "rather unbearable" and indicated the main problem "was the other students."

### **Participant 12 Overview (P12)**

The final participant was a 19 year old male student who was in his freshman year of college attending Texas A & M in Kingsville. He also attended public high school in South Texas and like other students in the study he attended first a regular public high school and then a magnet school. He was majoring in English Education and his goal was to teach English at the high school level with the ultimate goal of becoming a school administrator. He credited his participation in special education and his familiarity with Individual Education Plan (IEP) meetings with causing him “to go into the education field because that is where I really feel comfortable now because I have had to... most of my life has been driven by education.”

### **Research Question Analysis**

#### **Research Questions**

The research interview questions were developed to gain an understanding of the perspectives of postsecondary students with HFA and AS on the contributing role their past history of PK-12 social skills interventions has had on current social and academic outcomes, an attempt was made to understand several phenomena, based on the following research questions: (a) How do young adults in college describe their current peer and professional staff social interactions in the classroom setting? (b) How do young adults in college describe their current peer social interaction beyond the classroom setting? (c) How do young adults in college describe their current social interaction and its relation to academics, and (d) How are previous PK-12 interventions perceived to have contributed to current social and academic outcomes? The following interview questions were asked

of the participants: (1) Tell me a little about yourself such as what you are studying and what your interests are and how long you have been enrolled in the college setting. (2) What are your current peer and professional staff social interactions like in the classroom setting? (3) What are your current peer social interactions beyond the classroom setting like? (4) What is the relationship between your current social interactions and your current academic outcomes? (5) How have previous interventions you received in PK-12 contributed to your social and academic outcomes? (6) Is there anything else related to your college/university experience and your current social and academic functioning that you would like to tell me about?

The perspectives of study participants were interpreted keeping in mind the services and interventions received in the PK-12 school setting and how these may have influenced their current functioning and outcomes in the postsecondary school setting. Themes found are based on generalizations made from findings between past services and current social and academic functioning. The Figure 4 displays the themes found per interview question. These findings are detailed below.

Research Interview Questions	Theme(s)
Research Interview Question 1	1. Academically gifted (Top 10%, Dual Enrollment, full scholarships)
Research Interview Question 2	1. Interactions almost exclusively during assigned group work 2. Professor interactions generally limited to questions and answers
Research Interview Question 3	1. Limited social interventions 2. Perception of no common interests with peers 3. Social interactions that do take place are mainly with people that participants have known for several years
Research Interview Question 4	1. Improved communication skills enhanced both social and academic outcomes 2. Academics were more important than socialization
Research Interview Question 5	1. Social interventions reported to be largely ineffective and poorly developed 2. Various academic interventions versus limited social interventions 3. Overdependence/Learned Helplessness
Research Interview Question 6	1. Past issues of bullying in high school versus understanding peers in college

*Figure 4.* Overview of themes discovered—cross-case analysis.

**Interview Question 1: Tell me a little about yourself, such as what you are studying, what your interests are, and how long you have been enrolled in the college setting.** The theme associated with this interview question was the following: academically gifted (top 10%, dual enrollment, magnet schools).

This question helped me gain a more personal level of understanding regarding the participant, their current college/university situation and their future goals. It provided not only basic school information and length of college experience but also an insight as to the participant's circumstances while still in high school and prior to entering the

college setting. While this question was meant more as a way to gain basic data knowledge from the participants, after analyzing data, a theme arose from the information gained in this question. It was found that many of the participants were considered academically gifted while in high school. This included three out of the 12 participants being enrolled in a public magnet school for students who excelled in the areas of science and technology and three out of the 12 participants graduating in the top 10% of their high school class. Two of the participants received an associate's degree in engineering prior to graduating from high school through dual enrollment classes between their high school and a local college. All of this is despite the fact that all students in the study received special education services and supports at some time during their public school years. The two individuals who graduated with an associate's degree while still in high school decided to enroll in the dual enrollment program that led them to the associate's degree in an attempt to "escape the harassment" at high school and described this setting as "more peaceful." The Figure 5 below displays the participants and their distinctive academic accomplishments.

Participant	Top 10% of High School Graduating Class	Dual Enrollment	Magnet School for Science & Technology	Degree Obtained while still in high school
P2	●			
P4	●			
P5	●			
P7			●	
P9		●		associate's degree in engineering
P10		●		associate's degree in engineering
P11			●	
P12			●	

*Figure 5.* Student academic achievement.

It is important to note that all of the above participants received academic interventions as a result of their disability and all were enrolled in the special education programs of their high schools during those years. Further association between these academic supports and educational outcomes were discussed further as part of other themes found in the study.

**Interview Question 2: What are your current peer and professional staff social interactions like in the classroom setting?** The following themes were associated with this interview question:

- Interactions almost exclusively during assigned group work
- Professor interactions generally limited to questions and answers

This question was intended to elicit information regarding the participant's social functioning both with their classroom peers as well as their professors. The intent of this question was to bring about discussion related to the participant's social interactions in an attempt to gather information which could be used to further analyze, and make generalizations, as well as find connections between previous interventions, and current social outcomes. Knowledge regarding current interactions was also useful in guiding recommendations in regards to needed interventions for the college bound ASD and AS student population.

Data gathered indicates the majority of study participants primarily engaged in social interactions in group type situations whereas other social interactions were limited to none. These were all reported to be study groups for which they either had to be a part of in order to complete a school assignment or for purposes of working together with

others to study for a difficult exam. Comments such as, “I don’t have too many friends; I guess that’s ok” from P1 and as P2 states, “I don’t exactly go out of my way to go meet with them (peers).... There are a few exceptions however if when in a class I were to be assigned to a group... we would meet up.” Being shy around people and “just helping each other out when we are in a group” was reported by P3 while P4 indicated that it was not easy to talk to others in class, “since I don’t know them very well.” P5 said he “occasionally” talks to a student in one of his classes while P7 stated he talks to peers, “Like I will say hi, how is your day going?” P5 goes on to report that in class he was “vocal when it comes to giving my opinion” but doesn’t “speak to too many people on campus.” Regarding college peers he says, “They’ve got places to go and things to do... I am just kind of around.” P8, P9, and P10 all report very limited social interactions with peers in the classroom setting. Comments such as “only questions but no conversation” and “sometimes I do manage to connect with them and have a normal conversation, other times I find awkward silence” were reported. Participant 10 reported having a “professional relationship” with students and does “not talk to them unless they talk with me, and sometimes I ignore them.” He says that sometimes if he needs assistance or if he finds someone interesting he will “try to talk to engage in conversation because my therapist suggests that I do that.” Regarding his limited socialization with peers he said, “Sometimes I do manage to connect with them and have a normal conversation; other times I find awkward silence.” P10 also reports that a study group which was started to help with one of his classes helped him with socialization and he has found that these study groups have helped him do better in school. P12 indicated he has had an easier time



in the college setting (as compared to high school) and has learned to develop “pretty good relationships... for study groups or such stuff.” However, he still reported that peer interactions were “very minimal.”

Participant 1 in particular had greatly progressed socially in her two years of college via the help of her mother and fiancé who encouraged her to participate more in social activities such as parties and taking the initiative to talk to other peers in college. She was now able to talk to peers and “hang out” with her lab group from biology class. This participant indicated that she still struggles with stress and anxiety related to social and academic worries but refuses to take any type of medication despite the urging of her parents. She is a self-motivated young woman, who insightfully states,

There is something every day, I swear to God, that stresses me out and scares me, but I clench my fists and I go through it and then it’s like, ok, that wasn’t bad. There’s going to be something else tomorrow.

Overall, the majority of study participants (11 out of 12) had a difficult time interacting with their peers in the classroom setting. The greater part of participants interacted only when placed in a situation of having to do so for classroom purposes such as when assigned to a group or when having to attend a study group whether assigned or with the objective of increasing their chances of passing a class.

In regards to the reported amount of social interactions with their professors, seven out of the 12 participants indicated they had limited interactions, while five out of the 12 reported adequate interactions. From those who indicated limited interactions, comments such as, “It’s kind of hard to go up and talk to them but when I do I don’t have

to worry about it” by P7 who also indicated it is more difficult to communicate with professors when the class was more difficult. Both P9 and P10 stated they had “professional relationships” with their professors while P10 says “I mostly listen to what they say” but he did state that there were two professors he liked and felt more comfortable with. P11 also described his interaction with professors as “very professional” and said he just tried to give his “full cooperation” and do his best to carry out the instructions given to him by his professors.

Those who reported adequate social interactions with professors, such as P3, stated that professors “are great... they just like tell me everything I need to know.” He went on to say, “I don’t think I have problems with asking for help.” P4 indicated his professors were easy to talk to and reported that professors provide him with more time when needed. He was also able to communicate well with them through email as needed. Asking questions and “interjecting comments or questions” towards the professors was something that P5 felt very comfortable doing in class. P7 reported that in college his professors were very difficult to speak to, especially the professors for the subjects he found more difficult. He reported that in high school his teachers were nicer and they would offer their help, unlike his current experiences in college. P10 goes as far as to say that he felt so comfortable in a couple of classes that he felt comfortable enough with professors to “joke in front of the class and feel good about it.” P12 credited his background in IEP meetings with helping him to have a good relationship with professors. He indicated they know him on a first name basis and he feels comfortable enough to “go in and talk to them... I can let them know whatever issues I have or

whatever disabilities I have at that moment, how they can help me or how we can figure out a solution to those problems.”

**Interview Question 3: What are your current peer social interactions beyond the classroom setting?** The following themes were linked to this question:

- Limited social interventions
- Perception of no common interests with peers
- Social interactions primarily with people participants have known for several years

Interview Question 3 was designed to generate discussion regarding the participant’s social interactions outside of the school setting in order to determine their functioning in this area so as to further attempt to determine whether the level of interventions received socially (if any) had impacted their functioning in this area currently. Gaining insight into how they perceived and described their current social interactions helped me come to conclusions regarding the effectiveness or lack thereof of interventions participants received in this area. Learning the extent of social interactions the participants took part in outside of the school setting helped me make impactful recommendations for future practices in the school setting in regards to socially based interventions which can be recommended by IEP multidisciplinary teams and carried out by teachers and/or related service personnel.

The first theme that emerged from the third interview question was that of limited social interaction with others in general. P1, for example, stated that, “I don’t have too many friends; I guess that’s ok.” She indicated that she generally only interacts with her

fiancé (who she has known since the age of 14) and two girlfriends she has known since high school. She also indicated that she spends time with family members “even though they are not people my age.” She said that going to family parties was like “breaking down my wall” after realizing she “had such a good time that I left and said, we gotta do this again.” She reported that she is no longer “terrified” to communicate with others and says it has “taken like 16 years” to be able to successfully socialize with others.

Participant 3 was found to have limited social interaction but a positive outlook toward making friends and socializing. He reported being “shy around people” and acknowledged it took time for him to get accustomed to new people but when he is around others, “I kind of get use to them and I make friends with some of them.” His main social interactions were with people he knew from high school but had spoken to new people and interacted with others, “always just two days a week.” He also indicated, “there is one person in my second class... definitely walked and talked and laughed.” It appeared this participant was open to interacting with others but was limited in his ability to initiate interactions and follow through with socializing despite the desire to do so. Limited to no social interactions were reported by P4 who said his social interactions were limited to his girlfriend, “I hang out with her, no other kids, just her.” P5 was very involved in classes in regards to participating (answering questions, asking questions, and interjecting answers); however his social interactions out of the classroom setting were very limited. He reported to be more social online. His social interactions consisted of conference calls approximately three times per week with online friends where he played table top games.

P7 reported “hanging out” with people outside of the classroom setting; however he described these interactions as follows, “I stayed up a couple of times in the library with a couple of friends from class, sometimes we hang around campus, sometimes we go off campus to eat.” This participant also indicated that his academics take a “higher place than my social life.” P8 was the most socially isolated of all the participants and it became apparent through his answers that he was not able to understand social nuances and therefore was not able to interact with others, primarily due to his fear of rejection. He indicated that he does not know how to “socialize right” and was fearful of how others would react to his attempts at interaction. He stated, “That is my concern. I don’t know how they are going to react because in my mind I was like concerned that they are going to get mad at me.” Regarding social interaction with others P8 indicated, “I don’t have any friends in college, I should try it... not worry, but see if I can make it.” P9 reported he does participate in class but only has very limited interactions with peers outside of class. He stated social interactions are “a little bit complicated” and said, “I am not sure how to interact with people during recreational activities. He indicated that he has almost no social interactions outside of school. P10 similarly reported limited social interactions and reported “sometimes I find previous classmates from high school or acquaintances while walking around the school”; other than that he indicated, “most of the time I don’t find my peers outside a classroom setting so there are limited interactions.” P10 went on to indicate that during his freshman year he and his brother (P9) would talk to one friend and sometimes go eat or to the movies with him.

The eleventh participant also used the word “professional” to describe his interactions with others and reported that he “gets along pretty well” with peers. He reported he mainly watches Netflix between classes and has a “bit of self-time” but if a friend was there he would interact with them. The main friend he reported having was a friend he had known since middle school. However he did report having other friends from college but seeing them only on campus and did not see them out of school. He reported enjoying college but “in regards to academics and socially, usually I keep to myself.” P12 reported that the only social interactions he had were with his neighbors (P12 lives in off campus housing at college) “and that is because they are high school friends of my brother.”

Several participants reported having no social interactions outside of the classroom setting on a regular basis and those that did have some type of social interaction did this in an online manner. P2 reported,

It’s mainly class where I speak to them (peers) most of the time. I don’t exactly go out of my way to go meet with them.... If I barely know anyone, I don’t exactly have much of a reason to talk to them since I would not exactly feel like I would get along with them or I would have a hard time interacting with them even if they were very friendly.

In the case of P2, it was found this participant was very socially isolated. He reported “not having much to do these days” when not in class and socialized for the most part through social media. For the last “couple of years” he reported he had been attending a yearly themed conference called “Fiesta Equestria”, a My Little Pony

convention, where he would meet people he had interacted with on line who were fans of “Friendship in Magic.” He looked forward to this yearly convention because he was able to see the people he socialized with on line with whom he had common interests. His main goal was to finish school, “It doesn’t matter how I feel about them (people), I just want to go through college.”

P8 likewise indicated the following regarding his social interactions outside of the school setting, specifying he didn’t think he “was going to need to talk and need to socialize but I think it is hard for me to work on, because I don’t say hi because I thought people... maybe they don’t know me.” P9 similarly indicated he had “almost none” in regards to social interactions outside of the school setting, “I am not sure how to interact with people during recreational activities.”

Some of the participants reported feeling they had no common interests with their peers. P8 indicated having difficulty relating to others. He said, “I don’t know how they are going to react.” P6 stated the following regarding her feelings in regards to getting along with others:

They were not exactly the kind of people I would talk with because the kind of people I would hang out with... are more into the same stuff I am into like with cartoons, animation and this stuff like that, comic books, your basic nerdy stuff. The kids I had in my class they would be like the girlie, sporty, jocks. Yeah like the ‘I was a cheerleader in high school’ sort of deal, so I wouldn’t be talking to you sort of deal so I am just like these are not the kind of people I would want to talk to.

**Discrepant case.** Participant 6 was by far the most social of the participants and could be considered a discrepant case. Unlike other participants, she reported having many friends and socializing with others far more frequently than other participants. Although she reported she was initially shy and would become anxious and panic in large classes, she learned that she had more in common with peers than she first thought. She stated that she regularly “hangs out” with friends in the school cafeteria or student union. She also reported going off campus to local restaurants and coffee shops to “chill and talk.” For one class she even arranged to share a textbook with a peer in order to avoid the cost of both of them having to purchase a book. Regarding socializing with others she states, “I think as far as being social with other people it’s pretty okay.”

**Interview Question 4: What is the relationship between your current social interactions and your current academic outcomes?** The themes associated with this question were the following:

- Improved communication skills enhanced both social and academic outcomes
- Academics were more important than socialization

Almost half of participants indicated they felt there was a relationship between social interaction and their current academic outcomes. Many indicated that communication was key in being able to function in college. P1 stated, “I think the social part of it is important in some aspects, definitely... without communication, it would be pretty impossible to pass or even teach a class.” As reported earlier, two of the participants had their mothers present during the interview, for this question P4 turned to his mother for her opinion, she responded by indicating she saw the importance of good



communication between professors and students regarding assignments. She discussed that if a student had a question regarding an assignment and was not able to ask for clarification, the student would not know what was going on; therefore the importance of having the ability to communicate well with others. The importance of social interactions, primarily good communication was also described by P8 as follows, “It will affect my grades if I don’t ask questions.... The most important that I know is that I need to ask somebody... then it is going to help me deal with my academics.” Meanwhile, P10 insightfully stated:

Well, I am not going to lie; before my brother and I started going to therapy we were pretty much isolated from everybody else. However, the first college classes demonstrated that... simply memorizing stuff and talking with each other was not enough. We needed more, different points of view from other people.

Another theme that emerged from this question is related to the importance some of the study participants placed on academics rather than anything socially related. P2 for example stated, “It doesn’t matter how I feel about them (peers), I just want to go through college.” While P7 similarly indicated, “My academics should take a higher place than my social life.” P11 also indicated, “Usually my relationships do not meddle with my work.”

**Interview Question 5: How have previous interventions you received in PK-12 contributed to your social and academic outcomes?** The themes associated with this question were the following:

- Social interventions reported to be largely ineffective and poorly developed

- Various academic interventions versus limited social interventions
- Overdependence/learned helplessness

Interview Question 5 targeted the foundation of this study in that it put an emphasis on the core of the investigation. The participants' answers regarding their perspectives on interventions received during their public school education and their current outcomes without a doubt allowed these individuals to express how they perceive the supports they were provided and how these in turn had shaped their current circumstances in the college setting and beyond.

Overall, the participants acknowledged that previous interventions received did positively impact their current social outcomes more so than their academic outcomes. P1 for example stated, "I think if I would not have gone to therapy (provided outside of the school setting), I would not have learned a good way to talk about my problems and express my feelings." Also citing his interventions as having helped him was P6 who reported his 1 to 1 aide, "helped me get through a lot of stuff" and described the aide as being someone to make sure, "you are not falling, getting in too deep." P6 also credited the accommodations she received as having helped her both academically and socially. She described the extra help as follows:

It was able to help me to like understand more of like the work I was trying to do because I had a really hard time trying to understand the assignment or know what it is I had to do for that said assignment, and counseling, I guess that did help occasionally... things kind of turned out okay I would say.

P7 as well gave credit to the accommodations he received for having helped with his current outcomes. Regarding social interventions he stated, “I got help like with talking to people; they like broke it down and explained to me like what I needed to do”; and regarding academic interventions he says the help he received “helped me to like ask for help or extra work.” Also acknowledging the assistance received for improved academic outcomes is P8. He indicated the 1 to 1 aide he was provided helped him learn “how to be a better student by focusing” and concentrating on his work. Another participant, P9, similarly recognizes the benefits of his interventions. He indicates that through counseling groups (provided outside of the school setting), “we (him and his twin brother) started to get more open and we started to interact more, we didn’t keep stuff to ourselves anymore.”

P8 on the other hand didn’t credit the school’s assistance but rather his study habits and his parents for his outcomes. He did not see the any relationship between the counseling he received and his social outcomes as evidenced by the following statement, “I did not have much of a social life to worry about, so having counseling on that was kind of no (help).” He indicated the following regarding academic outcomes:

My academic outcomes come from studying. When I was little I had trouble doing well at school and then my parents took it upon themselves to teach me how to apply myself... after one or two years I could already study for myself.

Similarly, P11 states that he did not receive any interventions to help him socially. He indicated that socially, “I’ve learned those things through experience, like good experiences, bad experiences; I have learned those on my own.” He acknowledged

receiving academic interventions in the form of copying teacher notes, use of a calculator, and extended time for tests but decided early on not to let the interventions do the work for him and stated:

Well you see there are some individuals with a high enough level of Asperger's to not exactly work well on their own and these accommodations could do the work for them and they just have put in a little for it to happen. I however I used my accommodations to help me and not exactly to do it for me. I am doing the work but I am letting the accommodations assists me.

Negative effects of special education interventions were reported by P12. He indicated that due to receiving the special assistance, such as shortened assignments, other students would:

Tease me, bug me and get upset with the teacher because I was allowed that and it would make it very difficult for me when I was very young. So it caused me to have bad relationship when it came to all of this stuff so I had a very hard time adjusting to special education and stuff like that.... they (peers) would actually tease me about that.

Almost half of the study participants (five out of 12) reported that the social intervention based programs they participated in were not successful in helping them acquire needed social skills. P1 reported that she was in a behavior class for one month but stopped going after she became upset after the other students and the teacher didn't seem to understand her. She described this social skills class as follows:

I went through a behavioral class for a month and then I got pissed off and stopped. It was like a social skills kind of behavioral group where you would sit in a group and they would discuss things like inappropriate topics, appropriate topics, things you do in social situations, things you don't do. Pretty much, it just made me mad. They don't understand when I'm kidding. I guess because I don't have that tone, she (teacher) thought I was being dead serious. I was fourteen and I pretended I had gotten engaged, but everybody knew it was a joke. She thought I was serious. She told my Mom I wasn't progressing. I was so mad... it just irritated me. It made me uncomfortable because there were a lot of people in there that were worse than me in there.

Another participant, P2 had a similar experience where he reported other social-skills group participants had the same social issues as he did and stated, "they didn't talk either" and therefore the class was not effective. This participant took part in social skills outings to different places in the community (restaurants, mall, etc.). He specified the following:

Rather than having similar people with a common interest or disability. I don't exactly know what type of disability they had but I guess they were in a similar state as me. We didn't exactly interact much like those type of common folks.

Likewise, P4 reported that he took part in "pull out socialization class" in elementary school. However this lasted for only a period of one month. P7 reported that although he did find his social skills counseling useful as it helped him talk to people, he "really learned a lot of my social skills like through sports"; crediting sports with helping

him more than the counseling. Finally, P8 reported he too was involved in less than effective social skills programs during the middle school and high school years. One program involved going on social outings and learning how to order in a restaurant but P8 reported that it didn't work because it was "very mixed" referring to the individuals with varying disability levels that took part in the program. A second program P8 was involved in was a summer program run through one of the local colleges in conjunction with the school district. This program was reported as unsuccessful because,

There were people not normal. I'm so sorry to say that. I know it is offensive to say that they are not normal people, I am sorry. Yeah, they were like different people, you know. Yeah, they had severe problems of their mind. It's like not the place for me to learn how to interact.

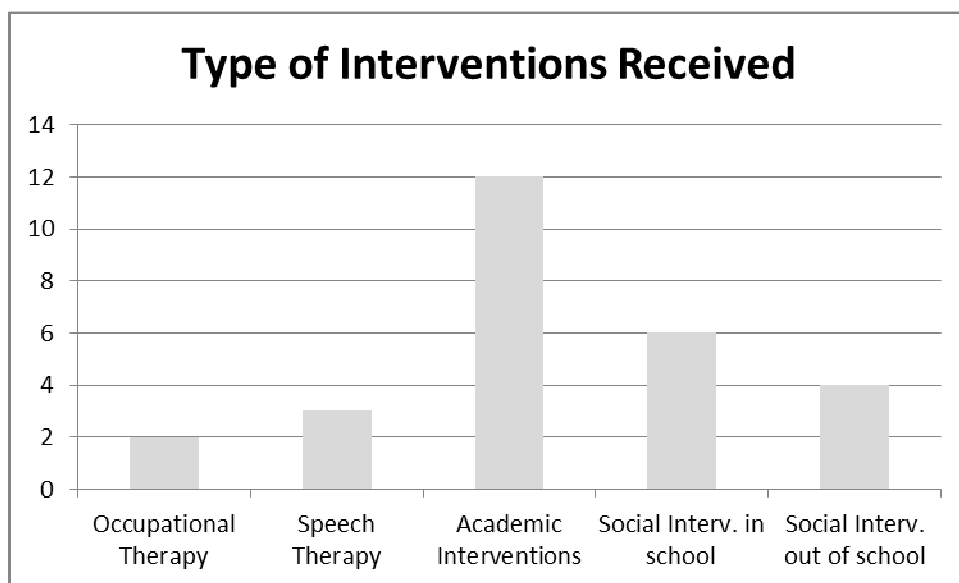
Finally a third unsuccessful social skills program was described as "not well organized." This program was a breakfast social group but reportedly only one other student would attend and he was "too severe" (as compared to P8 who describes himself as "high functioning") so the program was not successful.

Three of the participants stood out from the others in terms of an apparent overdependence on others. These participants either received a 1 to 1 aide while in middle school and/or high school or were assisted more than others in their daily lives by a parent. Their level of social functioning was more limited than other participants who did not receive this type of assistance. The first of these participants, P4, despite doing well academically (graduated in the Top 10% of his class) was overly dependent on his mother to answer questions and validate his answers. She also reported organizing his

class assignments and helping to ensure he was able to effectively communicate with peers when her son was assigned to do a group project. This participant's mother also set up his volunteer job at a local library. P5, who also graduated in the Top 10% of his class, received a 1 to 1 aide during his middle school and high school years. He indicated this person was more than support staff, "rather than just being an aid, we were actual friends." He reported much difficulty in adjusting to college without this support and stated, "It really hit me really hard when I first got here... to go from that (1 to 1 aide) to acting completely on your own, that takes a lot of getting used to and takes a lot; it took some work." He went on to indicate that when he graduated from high school and first started college he went through an "initial panic" because there was "nothing to fall back on." He expressed that in high school it had been "good having someone to just kind of reflect on what was going on... keep you on track." The final participant that appeared over dependent was P8. He also received a 1 to 1 aide during his high school years as well as excessive assistance from his mother. This was apparent as she too was with him at the interview and would assist him in answering questions and corroborating his answers. Regarding social interactions, P8 was a participant that reported limited to no social interactions with others both in and out of the school setting.

It was difficult to determine whether this assistance had helped or hindered their daily life skills. Although these student were doing well academically, if not for the assistance previously received, would they be more or less successful currently?

The Figure 6 below illustrates the types of interventions reported by study participants:



*Figure 6.* Types of interventions received.

**Interview Question 6: Is there anything else related to your college/university experience and your current social and academic functioning that you would like to tell me about?** The theme associated with this question was the following: past issues of bullying in high school versus understanding peers in college.

The intent of this interview question was to ensure participants were able to fully express any and all views, experiences and opinions regarding their social and or academic functioning in the college setting that may not have been revealed as part of one of the other interview questions. An overwhelming theme that emerged as part of this final question was that of bullying experiences in high school with the realization that college was a profoundly different and improved experience than the public school years.

Precisely half of the study participants reported experiencing bullying in one form or another during their public school years and indicated that college life was a more enjoyable due to an overall better atmosphere. P4 reported having problems with a female



peer to the point where his parent had to become involved in order to get the female student to stop bothering him. Another participant, P8, indicated, “Yeah high school is mostly bad idea to me” and reports the other students “are going to be so mean to me, that’s why.” Also reporting bullying are twin brothers, P9 and P10. The latter described their experiences as follows:

I do know we were bullied a lot because we had trouble interacting with others and they gave us a shadowing program but our protector wasn’t that effective.

Usually when people insulted us he wasn’t in the crowd so he couldn’t help us out then. Sometimes he reached us late.

P10 went on to describe the opportunity that was provided to him and his brother to attend dual enrollment classes in conjunction with a local college campus. He described the following:

My brother and I took it to escape the harassment and at first we disliked it because of how difficult the classes were but eventually we were able to like going to STC. It was more peaceful and they actually offered general help. College... it was more of an escape. It was actually a true escape. The students were respectful... and there were even some people who were aware of our conditions and attempted to help us out.

Another participant, P11, also recounted his first year of high school and described it as “rather unbearable.... I guess the big problem I had with it was with the other students.” He described his public school as “full of tension” and once he moved to the magnet school he attended for the remainder of high school there was “a very drastic

change... everyone is friendly, everyone is basically cooperative because it is a magnet school, very smart people involved there.” He reported the following; (I) “really enjoy it here in college.” Finally, P12 described being teased in high school and like P11 having a better experience once he began to attend the magnet school:

I have learned to be more comfortable with my diagnosis and my disorders because the last years of high school were with a college prep school so they were a little more educated, they were a little more like understanding of certain situations of me, and they would actually try to learn about me as opposed to when I was in public school they just teased me. Like they did not even try to get me, they just said I was dumb, or they said I couldn't do things.

P12 also reported the college level to be more accepting and states, “Magnet school and like the college level... more awareness and more understanding.” He indicates that this is what “really helped me get through the things I did.”

### **Summary**

#### **Case Assertions**

- Lack of effective social interactions both in and out of the school setting
- Understanding of the importance of socialization and its effect on outcomes
- Emphasis on academic interventions
- Limited to no social interventions
- Awareness of differences in attitudes and behaviors of high school versus college students regarding their challenges

Comprehensive research findings indicate study participants reported an overall lack of effective social interactions both in and out of the school setting. Limited social interactions outside of the school setting were reported and participants primarily reported socializing for the most part with people they already know or they reported not socializing at all. Some participants did report socializing outside of the school setting but even these interactions were limited in occurrence. In class socialization was displayed in the form of participation in group work that had been assigned by the class professor or a study group needed for academic purposes. Participants did however understand the importance of socialization and its effects on outcomes. They reported that effective communications were key in being able to adequately maneuver social interactions both with peers and professors.

Findings indicated an emphasis on academic interventions in the public schools. All study participants reported receiving these interventions. These appeared to be a routine part of public school special education program implementation. However, study results revealed a lack of social skill intervention programming. Only half of study participants received social interventions in school and these programs appeared limited in duration and lacked success due to program development and or peer groupings. The two participants who reported success with their social skills interventions received these services outside of the school setting through a private agency.

A surprising finding was the striking difference noticed by study participants when comparing their high school versus current college experiences. Where high school was described using words such as “stressful”, “bad”, “disliked”, “full of tension”,

“rather unbearable”; college was described with words such as, “respectful”, “peaceful”, “true escape”, “enjoyable”, “better atmosphere”, “more accepting”, “understanding”, “friendly”, and “cooperative.”

Participant 1 powerfully summed up her perception of being a college student with an ASD by stating, “My life is like a haunted house, I walk through it every day and there is something that is going to scare me... I don’t know what’s going to happen.”

The subsequent chapter focuses on summarizing study findings, and describes the ways in which these findings confirm, disconfirm or extend knowledge in the area of school psychology as it relates to supports provided to students with ASD. The findings are supported by current research in the field. Study findings were interpreted in the context of CT and more specifically its subcategory of CDT. Limitations were addressed and recommendations for further research were made. A description of the potential impact for positive social change was revealed and methodological and theoretical implications were discussed. Appropriate recommendations for practice were made. Figure 7 below provides an overview of within case themes, cross case themes, and case assertions discovered during this study.

<b>Within Case Themes</b>	<ul style="list-style-type: none"> <li>● Limited social interactions in the classroom setting with peers</li> <li>● Limited social interaction with professors in the classrooms setting</li> <li>● Social interactions outside of the classroom setting – limited to none</li> <li>● Recognition that social interaction is associated to positive academic outcomes</li> <li>● Even divide between the perception that previous Pk-12 interventions help current social and academic outcomes</li> <li>● Current majors chosen as a result of disability</li> <li>● On-line socialization</li> <li>● College experience rated as more positive than high school experience</li> </ul>
<b>Cross Case Themes</b>	<p><b>Interview Question 1:</b></p> <ul style="list-style-type: none"> <li>● Academically gifted (Top 10%, Dual Enrollment, full scholarships)</li> </ul> <p><b>Interview Question 2:</b></p> <ul style="list-style-type: none"> <li>● Interactions almost exclusively during assigned group work</li> <li>● Professor interactions generally limited to questions and answers</li> </ul> <p><b>Interview Question 3:</b></p> <ul style="list-style-type: none"> <li>● Limited social interventions</li> <li>● Perception of no common interests with peers</li> <li>● Social interactions that do take place are mainly with people that participants have known for several years</li> </ul> <p><b>Interview Question 4:</b></p> <ul style="list-style-type: none"> <li>● Improved communication skills enhanced both social and academic outcomes</li> <li>● Academics were more important than socialization</li> </ul> <p><b>Interview Question 5:</b></p> <ul style="list-style-type: none"> <li>● Social interventions reported to be largely ineffective and poorly developed</li> <li>● Various academic interventions versus limited social interventions</li> <li>● Overdependence/Learned Helplessness</li> </ul> <p><b>Interview Question 6:</b></p> <ul style="list-style-type: none"> <li>● Past issues of bullying in high school versus understanding peers in college</li> </ul>
<b>Case Assertions</b>	<ul style="list-style-type: none"> <li>● Poor social interactions both in and out of the school setting</li> <li>● Understanding of the importance of socialization and its effect on outcomes</li> <li>● Emphasis on academic interventions</li> <li>● Limited to no social interventions</li> <li>● Awareness of differences in attitudes and behaviors of high school versus college students regarding their challenges</li> </ul>

Figure 7. Overview of themes discovered.

## Chapter 5: Discussion, Conclusions, and Recommendations

### Introduction

#### Purpose of Study

The challenges of successful transition to the college environment are often amplified for students on the autism spectrum due to the social deficits they experience. Such deficits are among the “defining characteristics of ASD, affecting individuals across the spectrum” (Laugeson & Clark, 2014, p. 94). These students must not only manage the typical issues facing all students entering college, but also contend with navigating the social demands of this environment.

In this study, my aim was to gain an understanding of the perspectives of postsecondary students with HFA and AS regarding the contributing role their past history of participation in PK through 12<sup>th</sup> grade social skills based interventions had played in current postsecondary social and academic outcomes. This was done in order to more fully comprehend the answers to the following research questions:

1. How do young adults in college describe their current peer and professional staff social interactions in the classroom setting?
2. How do young adults in college describe their current peer social interaction beyond the classroom setting?
3. How do young adults in college describe their current social interaction and its relation to academics?
4. How are previous PK-12 interventions perceived to have contributed to current social and academic outcomes?

This was accomplished via the following interview questions:

1. Tell me a little about yourself, such as what you are studying, what your interests are, and how long you have been enrolled in the college setting.
2. What are your current peer and professional staff social interactions like in the classroom setting?
3. What are your current peer social interactions beyond the classroom setting like?
4. What is the relationship between your current social interactions and your current academic outcomes?
5. How have previous interventions you received in PK-12 contributed to your social and academic outcomes?
6. Is there anything else related to your college/university experience and your current social and academic functioning that you would like to tell me about?

The findings from this study may assist educators and parents of, as well as advocates for, students on the autism spectrum. Findings may be useful in gaining an enhanced understanding of the lived experiences of those with HFA and AS in regard to social and academic interventions during their PK-12 school years and how these have influenced their postsecondary outcomes. This increased understanding may assist in the provision of improved programming, particularly in the area of social skills, for students on the autism spectrum with the aim of expanding skills and promoting independence in this area.

## **Key Findings**

Results of this study indicate that students on the autism spectrum who attended a postsecondary higher education setting such as vocational school, community college, or university were likely to have been high academic achievers in high school. Graduating in the top 10% of their class, dual enrollment classes, scholarships, awards, and advanced degrees while still in high school were among the accolades these students had realized. Despite these academic achievements, these students with ASD experienced many challenges in the area of social functioning. Social interactions with peers had been quite limited, with the majority of social interactions taking place during group assignments or study groups. Likewise, social interactions with professors were reported to be restricted and mainly took place in the form of answering questions in class. However, some students did report feeling more at ease with some (friendlier) professors, which helped with classroom participation.

Limited social interactions resulted from deficits in social skills, including difficulty with theory of mind issues such as challenges with understanding the intent of others. It was also found that students presumed they had no common interests with peers and therefore no common ground for social interactions. The social interactions that were reported tended to take place with individuals the students had known for several years.

Study participants recognized that improved communication with peers and professors would enhance both their social and their academic outcomes. For example, the students understood that better communication with professors would help to improve their grades, as asking questions freely, expressing concerns, or requesting clarification



on course assignments would be easier for them. Study participants also felt that academics were of higher importance than socialization and believed that their efforts should be targeted toward academic objectives.

Research findings also indicated that limited social skills interventions were provided to students while in the public school setting. Not all participants reported receiving social skills programming, and the programming that was offered was reported to lack adequate organization and development. Students described social skills programs and groups as being composed of individuals of varying ability levels and therefore not appropriate for them. Many study participants considered themselves “higher functioning” than other students in the groups. Another criticism of social skills programs was students not having common interests with others in the groups. In general, as student’s abilities, functioning, or interests were not matched to other students, outcomes were poor. There was more positive feedback from those students who participated in individual social skills counseling or therapy that provided specific instruction in social skills. In contrast, interventions that provided academic assistance were abundant and received by all study participants. Several students described receiving the support of one to one aides who helped them with organization, focus, and remaining “on track.” However, when this support was no longer available in the college setting, there was difficulty adjusting to being without this assistance and having “nothing to fall back on.”

Finally, study participants reported feeling much more at ease in the college setting. They reported their experiences being more positive and indicated that they felt more accepted by others. College was seen as a place where people were more mature

and learning took precedence. Some students reported finding that they were able to slowly begin to interact with others due to increased understanding from peers.

### **Interpretation of Findings**

Current knowledge in the field of autism indicates a rise in the number of high-functioning students with ASD, which in turn points toward increased enrollment of these students in the college/university setting. The social challenges characteristic of many students with autism place them in jeopardy of being misunderstood by others, further impacting their transition into the postsecondary setting. In this study, several findings help to further expand the research regarding struggles and successes of HFA and AS students in the postsecondary education setting.

The characteristic needs of students with this disability as well as the required interventions to improve outcomes are well researched and written into the legal requirements of public learning institutions as outlined in IDEA. In the State of Texas, the TEA was assigned the task of ensuring that the needs of students with autism were fully addressed. TEA accordingly developed the TAS covering 11 specific requirements for students with autism receiving special education services in the public school setting. These requirements reflect consideration of the academic, behavioral, communication, and social needs of students with autism (Texas Project First, n.d.). The following requirement addresses the area of social skills: social skills supports and strategies based on social skills assessments/curriculum and provided across settings, such as trained peer facilitators (e.g., circle of friends), video modeling, social stories, and role-playing (Texas Project First, Commissioner's Rules TAC §89.1055). The supports and strategies used

must be peer reviewed and/or research-based practices that have been proven to be effective for the ASD population. The TAS has been in place since November 2007. Like the TAS, the area of transition is also a legal requirement and described in IDEA. This focuses on providing services and supports designed to facilitate a student's progression from school to postschool activities, including postsecondary education (USDOE, 2007). The increasing number of students with autism graduating with a regular diploma increases the likelihood of those same students enrolling in institutions of higher education.

It is assumed that the TAS was considered in the educational planning of the study participants, as all were within the public education system, which is mandated to take this supplement into consideration when making educational planning and programming recommendations. It is also assumed that transition planning was addressed for these students, as this is not only a state requirement, but also a federal requirement. This being the case, I took into consideration and anticipated an impact due to these legal requirements.

Adreon and Durocher (2007) discussed the need for postsecondary supports in the social realm, as difficulties in this area can lead to problems such as anxiety, stress, and isolation from others. Problems making friends, getting along others, with and understanding peers can increase these difficulties (Madriaga, 2010). Findings from this study confirm that feelings of anxiety and stress are commonly experienced by ASD students in the postsecondary educational setting. One study participant reported feeling "terrified" when needing to ask questions in class, while another expressed feeling

“anxiety” and “panicky” due to larger class sizes. Another participant worried about making friends, and still another reported feeling stress and anxiety due to testing situations. The latter participant reported having a panic attack when asked by her boyfriend to “go talk to people in school.” This produced so much stress for the study participant that she cried for over an hour and could not go to classes for the remainder of the day. Speaking up in class, dealing with large crowds, and talking to others causes so many emotional difficulties for some of these individuals that it quickly becomes apparent that there is more to be done in these areas in order to help these students prepare themselves for the demands of the college setting.

Sensory issues faced by some with ASD were reported to be a probable cause of social difficulties, as the centers of social interaction such as cafeterias and student unions are typically teeming with stimuli including lights, sounds, and crowds. These are all factors that could increase distress in those with ASD, causing them to stay away from these areas and provoking further social isolation. As mentioned above, one participant did report feeling an undue amount of stress because of the large number of students in some college classrooms. Another reported this same feeling of being overwhelmed by crowding in high school and stated, “I can do well with crowding, but it is when being crowded around a bunch of very upset people that is what gets me.” He went on to explain that in high school, he was surrounded by people who were not very friendly, with fights breaking out in the halls. After he moved to a magnet school, these feelings changed, due to a more accepting group of students. This more positive feeling continued into college, where the participant reported having an enjoyable experience. Surprisingly,

these were the only instances of study participants mentioning stress or undue anxiety related to sensory issues. All other feelings of stress, anxiety, and worry were related to interacting and particularly communicating with others. These findings, therefore, only partially validate previous research reporting sensory issues as the likely cause of social problems leading to social isolation in students with ASD.

Despite a yearning for typical social relationships, individuals with ASD find such relationships challenging due to their behavioral differences, which tend to be misconstrued by others (Barnhill, 2007; Geller & Greenberg, 2010). Lack of social awareness can add to these difficulties and further hinder effective socialization, including development of friendships, for individuals on the spectrum (Sperry & Mesibov, 2005). Study participants overwhelmingly reported feeling difficulty understanding others as well as feeling different from their peers. Some participants reported feeling as though others would not understand what they were trying to convey. One participant discussed beginning to slowly participate in conversations with others and being surprised when they understood what she was talking about. This same participant indicated that as long as others knew what she was talking about, “being social with other people is pretty ok” and said that she hoped others did not think she was “weird,” as she longed for others to like her.

Another participant reported “knowing” a student but expressing that the other student did not know him. This same participant indicated that he did not socialize because he was not “100% sure” how to have conversations and make friends. He stated that he felt others would be “mad” at him or not know (recognize) him and therefore not

talk to him. Another participant described interactions with others as “a little bit complicated” and stated that he was “not sure how to interact with people during recreational activities.” Another participant reported that she had in the past been misunderstood because of her “tone,” noting that people thought she was being “dead serious” when she was only kidding. One participant expressed the following: “I don’t interact with many peers, but I have several relationships.” The above experiences, as described by study participants, appear to confirm research findings that indicate that not only do individuals with ASD tend to have difficulties being understood by others, but others tend to have difficulties understanding them as well.

Research indicates that students with HFA and AS, regardless of average to above-average cognitive levels of functioning, experience difficulties that are more challenging to overcome for the ASD student population. Issues related to sensory difficulties, communicating with and working cooperatively with others (e.g., in groups), and effective note-taking are all challenges faced by these students (Madriaga & Goodley, 2010). This leads to a predicament when one is attempting to resolve these difficulties. Providing accommodations that would exempt ASD students from requirements such as group work could lead to further social isolation, which could augment mental health issues that already plague this student population, such as anxiety and depression (Kanne, Christ, & Reiersen, 2009; Madriaga & Goodley; Mayes et al., 2011; White & Roberson-Nay, 2009).

As previously discussed, findings from this study indicate that although sensory issues did not appear to be a factor affecting the postsecondary outcomes of most

participants, communication and working cooperatively with others were issues of concern for the majority of study subjects. Communications with peers were reported to be “professional” by many and for the most part related to topics being discussed in class. Group work (e.g., assigned group tasks or study groups) in difficult courses was initially seen as an obstacle to overcome but later perceived as a gratifying experience that allowed study participants to interact with others, who they found respected them and made them feel at ease.

A review of research indicated that despite legal requirements, there continues to be a lack of adequate services for older students as compared to early interventions and programming provided to those diagnosed at a younger age (Müller, 2004; VanBergeijk et al., 2008). Lack of “support to facilitate integration within the wider society” (Howlin & Moss, 2012, p. 275) in turn places young adults and adults with autism at a significant disadvantage in the areas of “employment, social relationships, physical and mental health, and quality of life” (Howlin & Moss, 2012, p. 275). This lack of appropriate programming and support necessary for successful outcomes, despite ample academic abilities, leads to limited postsecondary success (Renty & Roeyers, 2006). Institutions of higher education are beginning to recognize the academic capacity of students with ASD; however, accommodations are still limited and comparable to those provided for students with learning disabilities, visual or hearing impairments such as taped texts, note takers, talking calculators, electronic readers, and assistive listening devices (USDOE, 2011). Much of the limited success of students with ASD is due primarily to the social difficulties that are characteristic of autism and that contribute to problems such as

communicating with others and adapting to new situations (Garcia Winner, 2009). Results from this study substantiate the overall findings established in the current literature. Students with ASD in the postsecondary educational setting largely lack adequate social skills to communicate effectively, build and maintain successful interpersonal relationships, and effectively interact in social situations. Other findings substantiated include the lack of available supports, both prior to exiting the public school setting and while in the college/university setting. Although some students in the current study were able to develop relationships with others and interact in social situations, these relationships and interactions were generally limited both in intensity and frequency.

Legal requirements currently in place both at the state and federal levels mandate the provision of certain supports and services to either be taken into consideration and/or put into place as a result of a student's disability. The TAS mandates certain services and supports be considered for this particular student population. It appears academic interventions are being provided abundantly in the school setting and students with ASD are succeeding in this area as evidenced by graduating at the top of their classes, receiving scholarships, meeting requirements for acceptance into magnet schools, and dual enrollment programs which grant them college credits while still in high school.

Despite the legal mandates however, these findings indicate youth with ASD are lacking the skills they require to ameliorate the social difficulties characteristic of their disability. Youth with ASD in the postsecondary educational setting experience difficulties related to social problems in communications and interactions with others. They maintain limited friendships with individuals they have known for long periods of



time and some suffer from stress and anxiety related to social apprehensions such as initiating conversations with others, speaking up in class and being accepted by others.

Critical social goals for these students would be graduation from the college/university setting, the successful development of long lasting friendships, a reduction in mental health issues and becoming contributing members of their community, and society in general.

### **Conceptual Framework Analysis and Interpretation**

Findings from this study were interpreted using a CT approach and more specifically CDT. These theories encompass an advocacy perspective and thus set the stage to be used to describe the transformative power of knowledge leading to change (Ramirez, 2007). This study provides a manner in which to explore the postsecondary educational outcomes of individuals with ASD in the college/university setting while discovering the relationship that previous Pk-12 interventions have had on their current social and academic outcomes. The overall goal is to gain knowledge and subsequently empower the ASD population, as well as those who support and advocate for them, with the purpose of improving their life outcomes. Most importantly, this study provided the participants a “voice” with which to express their lived experiences and offered a catalyst for others to learn from these experiences and make necessary changes to programming for this student population.

### **Limitations of the Study**

Study findings were in accordance with limitations discussed in Chapter 1 of this paper. A convenience sample was obtained based on the participant’s disability and

enrollment in institutions of higher education in predetermined areas. Furthermore, the participants in this study all received their PK-12 education in the State of Texas and were in the public school system in 2007, the year the TAS was first introduced. This being the case, study participants may have been considered for or received services that students in other states (not requiring the supplement specified) may have not received. The fact that all participants in the study were considered and or provided with specific considerations for social skills services and supports may have provided them with services and supports students in other States may not have been afforded. In future studies, researchers may consider interviewing students who received their PK-12 public school education in states other than Texas in order to gain an understanding of the social skills services and supports received by students who are not under the obligation of receiving these considerations for services from a specific legal requirement such as the TAS.

### **Recommendations**

Due to the social skills limitations experienced by students with ASD in the postsecondary educational setting, as evidenced by the results of the current research and this qualitative study, the following recommendations are indicated. These recommendations should be interpreted in light of matters related to the difficulties surrounding school funding and in particular, sufficient resources (including staff) to implement suggested recommendations. As an example, the current student population in the State of Texas where this study was carried out was 5,135, 880 for the 2013-2014 school year. The total number of instructional staff (consultants or supervisors of

instruction, principals, teachers, guidance personnel, librarians, psychological personnel, and other instructional staff) for the same school year was 378,660 as compared to 334,612 for total number of teachers (National Education Association, 2015). Since teachers are included in the total number of instructional staff, this leaves 44,048 instructional staff for the over 5 million students, which equates to just over 116 students per instructional staff member. Further analyzed, the number of students psychological staff would be available to work with would be greatly increased being that other personnel who would not carry out interventions or programming for students with ASD are included in the instructional staff figure.

### **Recommendations for Educators**

It is recommended public school systems develop specific programming for the implementation of social skills training and supports to assist students with addressing deficits in social functioning inherent to their disability. This programming should reflect peer reviewed, research-based strategies which have been shown to help enhance the social skills of high functioning individuals on the autism spectrum. The following are provided as examples based on The PEERS Method (Laugeson & Park, 2014), a cognitive behavior therapy (CBT) approach to teaching social skills to adolescents and young adults on the autism spectrum.

1. Didactic instruction:
  - a. Direct teach concrete rules of social behavior and the steps necessary to participate in these behaviors (i.e., how to enter a conversation).

- b. Socratic questioning: systematic questioning to help guide reasoning (i.e., introducing the rationale for specific rules of social behavior to encourage understanding and learning)
2. Role-play demonstrations: modeling of skills (both of appropriate and inappropriate skills in order to learn from both of these presentation styles)
3. Cognitive strategies:
  - a. Reading social cues to increase social perception
  - b. Perceptive-taking questions to increase social cognition
  - c. Social problem solving to help in determining social correctness of a particular behavior and determining how to act accordingly
4. Behavior rehearsal:
  - a. Repeated behavioral rehearsal exercises to provide the opportunity to rehearse newly acquired skills
  - b. Performance feedback for immediate and specific feedback upon performance of a skill in order to increase likelihood that skill will be acquired
5. Homework assignments and homework review: This allows for repetition and practice to reinforce mastery of skills and permits the practitioner to determine level of skill acquisition
6. Parental involvement: this allows for behavior rehearsals in naturalistic settings and encourages the generalization of skills.

### **Recommendations for Parents and Advocates**

Given the results of this study, it is recommended parents become involved in the support and consequent teaching (i.e., parent coaches) of skills. While it is expected not all parents of students on the autism spectrum will be available to participate in the role of parent coach, it would be beneficial to the extent possible. Several students in this study reported it was their parents who taught them how to interact with others.

It is recommended that advocates and parents of students on the autism spectrum promote educational programming which will assist students in gaining appropriate social skills. Skills which will in turn help them gain knowledge and ultimately the proficiency necessary to become effective communicators and productive students who are socially accepted and are involved to the maximum degree comfortable to them.

### **Recommendations for Improving This Study**

It would be beneficial to conduct a study which follows students who are in the postsecondary educational setting and determine graduation status. This would allow researchers to see if these students have been able to complete postsecondary studies and obtain a higher education degree in spite of their difficulties, and determine how they accomplished this. This would assist in gaining their perspective regarding their experiences, the challenges they faced, and how they conquered these.

## **Implications**

### **Potential Impact for Positive Social Change**

This study has created the potential for a number of implications that could potentially impact social change. Research results provide information which could help

a specific population of individuals who are in need of very specialized services and supports due to their disability:

1. Educators must take responsibility for ensuring adequate social supports are provided to students on the autism spectrum and assure these will be implemented with fidelity. Although there are requirements in place to guarantee social supports are considered, it must be guaranteed that these supports will not only be considered but will be implemented for all students on the autism spectrum. Provision of these supports will aid this student population in becoming more successful both in and out of the school setting and help guarantee more positive and effective outcomes.
2. Parents and advocates must empower themselves with the knowledge of programming which has been proven to be successful for the ASD population. This knowledge will assist them in helping to advocate for these individuals and challenge educators to implement appropriate interventions, programs, services, and supports to aid students in learning the skills needed for social success.

### **Empirical Implications**

Research results have yielded empirical knowledge based on data collected which demonstrates the need for improved social skills programming with the ASD student population. These findings generate needed discussion as to necessary changes in the public school setting in regards to programming for the improvement of social skills in student with autism.

### **Recommendations for Practice**

Current research contributes to the field of education by providing educators, advocates, parents and young adults with ASD, findings and knowledge which could impact current practices and programming in the school setting. Changes made as a result of recommendations stemming from this study are in line with current research in the field as well as conclusions established as a result of this study. A more proactive stance in regards to the provision of interventions, planning, supports, services and programming in social skills training must be undertaken in order to ensure successful social and academic outcomes for a population which clearly is in need of these intercessions.

### **Conclusion**

A growing population of students with ASD is in need of the provision of very specific services and supports which can have an enormous impact on their futures. The provision of this assistance to their educational programming must take place for all students on the spectrum, in particular students who are higher functioning and capable of reaching the postsecondary academic achievements of their neuro typical peers. These students are currently struggling or managing their everyday navigation of the social world armed only with their previous experiences and assistance from family and limited friends to help guide them. The current literature as well as findings from this study indicates a need for improved guidance and education in the area of social skills so that these students can be successful navigators of the social world in which they live.

It is imperative to ensure that all students are nurtured, molded and guided to reach their full potential. All students must be assisted and, in the case of students with ASD, they must be specifically directed and taught skills they lack due to the nature of their disability. The goal is not to change them, but to guide them. In the words of one of the greatest autistic minds, Dr. Temple Grandin states that growing up she felt like “a scientist trying to figure out the ways of the natives... All my life I have been an observer, and I have always felt like someone who watches from the outside” (Grandin, 1995, p. 132). A goal of this study was to help enlighten others as to the social needs of individuals with ASD in the hope of better serving these students; helping to guide individuals with ASD transform from observers into active participants who are not watching but partaking.



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## Appendix A: Letter of Study Information

**Letter of Study Information**

*Due to your position in a public school system, college or university disability services department, or advocacy/support group, your assistance is being requested in order to recruit potential study participants for a doctoral level study.*

**Below is a description of this study:**

The purpose of this study is to understand the perspectives of students with \*high functioning autism and Asperger's syndrome and their current social functioning based on past social supports received during their public school years. I am trying to learn more about social supports provided in the public school setting to students with autism spectrum disorders in order to help improve outcomes for students with this disorder. The goal of this research is to provide information which will prove helpful in the successful planning of interventions, supports and services for students with autism spectrum disorders.

**Type of Assistance Requested:**

Your assistance is requested in order to gain access to potential study participant. This would require you or your designee to contact students meeting the following criteria who have graduated from your school district after having been provided special education or Section 504 services:

- 18 years of age or older
- diagnosed with an autism spectrum disorder
- currently attending a postsecondary educational institution (vocational school, technical college, community college, university)

You are asked to provide a copy of the form, "**Invitation to Participate in Research**" to the potential study participant(s) so that they may in turn contact the researcher directly.

You can also provide the potential participant with the researcher's telephone number and email address so that they may directly contact the researcher.

**Plan for Dissemination Study Results:**

Further dissemination of data can be provided to educators from participating school districts upon request through presentations at their respective Regional Service Centers or through presentations to special educators at their school districts. These presentations can also be conducted for participating parent advocacy/support groups.

**Thank you greatly in advance for your cooperation in the recruitment of potential study participants!**

Respectfully,  
Griselda L. Wells  
School Psychology PhD Student  
Walden University



*\*In order to more clearly define 'high functioning' for purposes of describing potential study participants, an operational definition has been developed. Individuals with Autism Spectrum Disorders who are described as having high functioning autism or Asperger's syndrome are characterized as having normal to above average levels of intelligence and self-help skills (Doyle and Iland, 2004). These individuals have developed the ability to communicate using "complex sentences" (Attwood, 2006b, p. 150), but may exhibit deficits in interpersonal skills. High functioning individuals on the Autism Spectrum who have attended public school are expected to have received early intervention and thus be better prepared for the academic and social demands of college life (VanBergeijk, Klin, & Volkmar, 2008). Therefore, despite social communication and interpersonal skills deficits typical of individuals on the autism spectrum, study participants are anticipated to have the ability to share ideas verbally in fluent English, the ability to make independent decisions without feeling the researcher is an authority figure that must be complied with without questioning, the ability to understand that participation in the study is voluntary in nature and can be rescinded at any time, and the ability to understand how research has the potential to benefit others. Being that study participants are college students, it is anticipated that they have the cognitive and self-help skills to function independently to a degree which ensures they are able to make informed decisions.*

## Appendix B: Invitation to Participate in Research

**Invitation to Participate in Research**

Please accept this letter as an invitation to participate in a doctoral research study which focusses on studying the perspectives of students with high functioning autism and Asperger's syndrome and their current social functioning based on past social supports received during your public school years.

If you agree to participate in this study you will be asked to participate in an audio taped, face-to-face interview which will last approximately one hour as well as a follow-up interview in order to determine the accuracy of findings. The interviews will take place in a mutually agreed upon location on a date and time which is convenient to you.

This study is voluntary. Your decision of whether or not to participate will be respected. If you decide to join the study you can still change your mind later. You may stop at any time. All information will be kept strictly confidential.

If you are currently living in a supported living environment such as a residential or group home and you feel this in any way impacts your ability to participate in the study or if you are diagnosed with a mental or emotional disability which you feel would keep you from freely and without undue influence participate in this study, you should not feel any pressure to participate. As stated above, if you do decide to participate you can change your mind at any time during the study revoke your consent to participate.

If you are interested in participating in this study please contact Griselda L. Wells, the researcher, via telephone at \_\_\_\_\_ or email at \_\_\_\_\_.

Benefits include knowing that your participation in this research will help others learn from your lived experiences and provide for further understanding and change to the area of social interventions for students with autism spectrum disorders in the public school setting.

Your time and participation would be greatly appreciated!

Respectfully,

Griselda L. Wells  
School Psychology PhD Student  
Walden University

## Appendix C: Informed Consent Form

**Informed Consent Form**

You are invited to take part in a research study which focuses on studying the perspectives of students with high functioning autism and Asperger's syndrome and their current social functioning based on past social supports received during your public school years.

The researcher is inviting individuals with high functioning autism and Asperger's syndrome, (ages 18 and older) that are currently enrolled in the college setting, to be in this study.

This form is part of a process called "informed consent" to allow you to understand this study before deciding whether to take part. This study is being conducted by Griselda L. Wells, doctoral student at Walden University.

**Background Information:**

The purpose of this study is to understand the perspectives of student with high functioning autism and Asperger's syndrome and their current social functioning based on past social supports received during your public school years. I am trying to learn more about social supports provided in the public school setting to students with autism spectrum disorders in order to help improve outcomes for students with this disorder. The goal of this research is to provide information which will prove helpful in the successful planning of interventions, supports and services for students with autism spectrum disorders.

**Procedures:**

If you agree to be in this study, you will be asked to:

- participate in an audio taped, face-to-face interview which will last approximately one hour
- participate in a follow-up interview in order to determine the accuracy of findings (in order to ensure accurate interpretation of findings)

**Here are some sample questions:**

- What are your current peer and professional staff social interactions like in the classroom setting? (Such as how do you get along with other students and you professors in the classroom?)
- What are your current peer social interactions beyond the classroom setting like? (Such as how and where do you interact with your peers outside of the classroom setting?)

**Voluntary Nature of the Study:**

This study is voluntary and you will not be reimbursed for your participation in this study. Your decision of whether or not to participate will be respected. If you decide to join the study you can still change your mind later. You may stop at any time.

**Risks and Benefits of Being in the Study:**

Being in this study would involve some risk of minor discomforts that can be encountered in daily life, such as: taking time out from your daily schedule (to meet with the researcher and answer the interview questions), and possibly traveling to and from a predetermined location to participate in the interview. Being in this study would not pose any risks to your safety or wellbeing. Benefits include knowing that your participation in this research will help others learn from your lived experiences and provide for further understanding and change to the area of social interventions for students with autism spectrum disorders in the public school setting.

**Privacy:**

Any information you provide will be kept confidential. The researcher will not use your personal information for any purposes outside of this research project. Also, the researcher will not include your name or anything else that could identify you in the study reports.

Data will be kept secure by being kept in a locked file cabinet for which only the researcher has access. Data will only be kept for the required five year period as required by Walden University, upon which time the data will be mechanically shredded and disposed of.

**Limits of Confidentiality:**

The research process involves the sharing of personal information. The researcher will respect your privacy and maintain confidentiality. However, it may be necessary to disclose confidential information if any of the following are revealed to the researcher: (1) you make a threat to hurt yourself, (2) you make a threat to hurt someone else, (3) you express that someone else is hurting you, or (4) you express that you are hurting someone else.

**Contact Information:**

Please provide the name of a relative/friend you would like contacted in case of emergency or distress:

Name: \_\_\_\_\_ Relationship: \_\_\_\_\_ Tel: \_\_\_\_\_

**Contacts and Questions:**

You may ask any questions you have now or if you have any questions later you may contact the researcher via telephone at (\_\_\_\_) \_\_\_\_\_ or email at \_\_\_\_\_

If you want to talk privately about your rights as a participant, you can contact Dr. \_\_\_\_\_. She is the Walden University representative who can discuss this with you. Her phone number is \_\_\_\_\_. Walden University's approval number for this study is 04-18-14-0152000 and it expires on \_\_\_\_\_.

The researcher will give you a copy of this form to keep for your records.

**Statement of Consent:**

I have read the above information and I feel I understand the study well enough to make a decision about my involvement. By signing below, I understand that I am agreeing to the terms described above.

Printed Name of Participant: \_\_\_\_\_

Date of Consent: \_\_\_\_\_

Participant Signature: \_\_\_\_\_

Researcher's Signature: \_\_\_\_\_

## Appendix D: Interview Protocol

**Interview Protocol**

**Study Title:** Perceived Effectiveness of Social Supports for Autism Spectrum Disorders: Postsecondary Student Perspectives

**Interviewer:** Griselda L. Wells, Walden University School Psychology Doctoral Student

**Interviewee:** \_\_\_\_\_ **Date of Interview:** \_\_\_\_\_

**Introductory Protocol:**

To facilitate note-taking, I would like to audio-tape our conversation today. For your information, only the researcher will be privy to the audio tape which will eventually be destroyed after it is transcribed. You will be asked to sign the following form (1) Informed Consent Form (this form indicates all information will be held confidential, your participation is voluntary and you may stop at any time you feel uncomfortable, and no harm is intended to be inflicted on you as a result of your participation in this study).

This interview is planned to last no longer than one hour and during this time several questions will be covered.

You have been selected to speak to me today because you have been identified as someone who has a great deal to share about your experiences as a college student with an autism spectrum disorder. This research project focuses on learning about your perspective on social functioning based on past social supports received during your public school years. I am trying to learn more about social supports provided in the public school setting to students with autism spectrum disorders in order to help improve outcomes for students with this disorder.

**Interviewee Background:**

1. Tell me a little about yourself such as what you are studying and what your interests are and how long you have been enrolled in the college setting:

2. What are your current peer and professional staff social interactions like in the classroom setting? (Such as how do you get along with other students and you professors in the classroom?)

3. What are your current peer social interactions beyond the classroom setting like? (Such as how and where do you interact with your peers outside of the classroom setting?)

4. What is the relationship between your current social interactions and your current academic outcomes?

5. How have the previous interventions you received in PK-12 contributed to your social and academic outcomes? (Example: If you received a one-to-one aide or were involved in social skills groups, how do you feel things such as this contributed to your current social and academic outcomes?)

6. Is there anything else related to your college/university experience and your current social and academic functioning that you would like to tell me about?