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A Look into the Lived Experiences of College Students with Asperger's Disorder

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COLLEGE STUDENTS WITH ASPERGER'S DISORDER

A Look into the Lived Experiences of College
Students with Asperger's Disorder

by

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DISSERTATION

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A LOOK INTO THE LIVED EXPERIENCES OF
COLLEGE STUDENTS WITH ASPERGER DISORDER

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Abstract

Currently there is confusion about how to meet the educational needs of students diagnosed with Asperger's Disorder (AD). This is a growing concern for schools where there has been a significant increase in the use of this diagnostic category (Barnhill, 2001). This research project was developed to investigate the lived experiences of college students with a previously identified diagnosis of AD. The aim of this study was to gain a greater understanding of how these students managed the academic and social demands of middle school and high school. Of particular importance were the transitional years during adolescence, where social competence becomes increasingly important and students are expected to function more independently in the classroom. The project was designed around the constructivist paradigm and the principle that reality is socially constructed. Through semistructured interviews, the personal accounts of 10 individuals were gathered using a case report research design. The utilization of semistructured interviews provided the participants the opportunity to define relevant material and offer insights into their experiences during middle school and high school. Individuals with AD who had made the transition to college were selected because of their knowledge regarding the resources and skills that facilitated the completion of their high school education. Participants identified teachers who had a positive impact on their academic experience, effective accommodations, and obstacles that they encountered. Participants were provided with opportunities to reflect on their understanding of the diagnosis and whether their unique learning styles were acknowledged by teachers. The students' interviews were transcribed and then analyzed for prominent themes. Themes that emerged from the students' narratives indicated that the establishment of the diagnosis of AD often provided an explanation for the social and academic difficulties that they experienced and contributed to students feeling less isolated. The students also indicated that

teachers and family members played an integral role in their success. The careful consideration of the specific components of AD and the unique presentation of each student allowed for the implementation of appropriate academic accommodations and supports in the school setting and contributed to the participants' success.

Keywords: Asperger's Disorder, autism spectrum, academic accommodations,
academic supports

A Look into the Lived Experiences of College Students with Asperger's Syndrome

In 1944, Hans Asperger, a Viennese physician worked with and wrote in great detail about the personality characteristics of four children, who displayed similar delays in social maturity and social reasoning (Frith, 1991). He observed that while these children seemed devoid of many of the social tools that others develop instinctively and automatically, their cognitive abilities were well within the average range. He postulated that these children represented a previously unidentified diagnostic category, which he described as a life-long and stable personality type. Despite his observations and detailed analysis of these individuals, Asperger's ideas went unnoticed for many years. In 1981, Lorna Wing, a British psychiatrist, published a comprehensive report of her own case studies of a group of 34 individuals with similar characteristics (Myles et al., 2007). Her work introduced the English speaking world to the fascinating and at times perplexing balance of symptoms that are associated with the condition currently known as AD. However, it was not until 1994 that AD was finally included in the Diagnostic and Statistical Manual of Mental Disorders-Fourth Edition (DSM-IV; American Psychiatric Association, 1994) where it was identified as one of the pervasive developmental disorders. The diagnosis continues to evolve with the release of the Diagnostic and Statistical Manual-Fifth Edition, where it proposed that AD will be combined with pervasive developmental disorder– not otherwise specified (PDD-NOS) and autistic disorder into the new category of autism spectrum disorder (ASD; Happe, 2011).

The DSM-IV pervasive developmental disorders include Autistic Disorder, Rett's Disorder, Childhood Disintegrative Disorder, Asperger's Disorder, and Pervasive Developmental Disorder Not Otherwise Specified. The Diagnostic and Statistical Manual contains the most frequently utilized behavioral and exclusionary criteria for the diagnosis of AD (Attwood, 2006).

The behavioral elements include: (a) qualitative social impairments, (b) restricted, (c) repetitive and stereotyped patterns of behavior, and (d) significantly decreased social functioning. The exclusionary criteria are identified as language delays, cognitive delays, or the presence of other disorders ranging from schizophrenia to autism (APA, 2000).

This research project incorporated and expanded upon the presently established foundation of research and knowledge pertaining to AD, which currently provides an incomplete picture of this complicated disorder. The utilization of qualitative research methods allowed the participants an opportunity to identify relevant aspects of their story, to locate meaning within their stories, and to specify factors that influenced their life experiences. Of particular importance to this study was the examination of the academic experiences of the students with AD. The school years have been identified as a difficult time for students with AD, and it appears that as these individuals move into adolescence and young adulthood, these problems become more pronounced (Tantum, 1991). This study examined how the participants described their interactions with peers, teachers, and parents. The personal accounts of each participant provided insight into how these students described their environment and the obstacles they encountered during their adolescence.

The participants in this research project included 10 college students with a previously identified diagnosis of AD. Individuals with AD who have made the transition to college were selected because of their knowledge regarding the resources that facilitated the completion of their high school education. This includes information about the support services which were effective and the skills that were required to navigate their middle school and high school educational experience. Also of considerable importance were details pertaining to the triumphs and obstacles they encountered along their journey to postsecondary education. Through these

stories information was sought about how they adapted to the various components of this disorder and how their strengths were recognized and utilized to meet their academic needs.

Confusion Pertaining to Asperger's Disorder

While AD was originally described over 60 years ago, it is still a relatively new disorder in the United States and was not recognized by the American Psychiatric Association until 1994. Before the term was included in the taxonomy of American Psychiatry, those presenting with the core symptoms of this disorder were often misunderstood and misdiagnosed. The difficulties in interpersonal relatedness, empathic communication, and imagination may have contributed to these individuals being identified with a range of learning and personality disorders. In some cases the imprecision with which they navigated their social world may have led physicians to suggest institutionalization (Hulbutt & Chalmers, 2004). Inefficient and ineffective interventions were also implemented without a clear understanding of the skills and deficits associated with AD.

Over the past 20 years an increasing amount of attention has been devoted to the examination of the pervasive developmental disorders. This is evidenced by the large number of print and electronic resources dedicated to this particular topic (Safran, 2002). Despite the increasing awareness and research pertaining to autism spectrum disorders, our understanding of AD is still incomplete (Ozonoff, South, & Miller, 2000). There is considerable confusion about how to meet the unique educational and emotional needs of individuals diagnosed with AD and how the various features of the disorder coalesce in everyday life (Barnhill, 2007). A number of questions remain pertaining to quality of life, diagnostic criteria, prevalence, and treatment. There is also a need for greater public awareness of this condition and the resources that are available for educational services (Barnhill, 2007).

As a result of the present confusion, many individuals with AD continue to be undiagnosed or misdiagnosed. These issues may result from the research endeavors and interventions having been designed for implementation with a wide range of students on the autism spectrum and not specifically attending to the needs of individuals with AD (Cramer & Horvath, 2003). As the core components of the disorder are elaborated and clarified through continued research and dialogue, the language and descriptions used to describe this disorder will likely continue to change.

DSM-IV-TR and The Core Characteristics of Asperger's Disorder

Social competence. The defining element of AD and the component which impacts virtually every domain of functioning is the qualitative impairment in social interaction. Children and adolescents with AD often have little awareness of the social values, customs, and beliefs required to manage meaningful relationships (Myles et al., 2007). There may be evidence of a lack of ability to participate effectively in a variety of social settings and develop and sustain friendships, due in part to a lack of understanding of the conventions of social interaction. These factors have been found to be essential to success in later endeavors (Gutstein & Whitney, 2002). Children with AD often display limited reciprocity and desire to share their experiences with others. In conversations there may be evidence of a decreased ability to read and adjust eye gaze, facial expressions, and body posture to the demands of the interaction. Myles, Trautman, and Schelvan (2004) refer to this knowledge of social rules as the 'hidden curriculum' and contend that most children are able to grasp these details intuitively through their observations and experiences. However, children and adolescents with AD may require more formal or direct instruction to develop an appreciation of social norms. Additionally, in the AD population, these difficulties do not typically abate with development and it is likely that the deficits in social

competence become more noticeable as children move into adolescence and expectations pertaining to socially appropriate behavior increase (Rao, Beidel, & Murray, 2008). If interventions geared towards the improvement of social skills are not executed early in the developmental process, serious deficits in interpersonal functioning may develop. Students with AD may distance themselves from their peers for fear of rejection and this may contribute to even greater isolation from peer groups and increased feelings of loneliness. The literature also indicates that the social skills deficits of children with an ASD affect academic performance (Estes et al., 2010; Jones et al., 2009).

The individual with AD may also appear to exhibit an extreme form of egocentrism, or appear devoid of empathy (Myles & Simpson, 2002). They may seem to move throughout the world without knowledge or concern for how their behavior or actions impact others (Frith, 2004). In conversation they may make statements that are perceived as rude or inappropriate and make no effort to repair the rupture in the relationship or apologize for their indiscretion. However, the form of egocentrism often demonstrated in AD is not believed to be deliberate or motivated by what is in the best interest of the individual (Frith, 2004). Additionally, it is important to recognize that individuals with AD do indicate a desire for relationships and that their lack of success in this area is a result of poor skills and not a lack of interest (Jones & Mendel, 2001). This is in stark contrast to the behaviors associated with schizoid personality disorder, where individuals often demonstrate a consistent pattern of detachment from interpersonal relationships and indifference to social experiences and engagement with others (APA, 2000).

These difficulties navigating social experiences may be related to deficits in theory of mind (TOM) abilities (Frith, 2004). Theory of mind refers to one's ability to utilize information

presented both verbally and nonverbally in social interactions to gather an understanding and appreciation of the ideas, beliefs, and feelings of another person (Attwood, 2006). This includes the capacity to postulate about the mental state of others. These skills allow an individual to perceive a situation from another person's perspective. TOM abilities are vital to the planning and predicting of how to react appropriately in interactions with others. Additionally, TOM abilities are important because they provide a means for individuals to assess how one's actions impact others and whether another person's behavior was intended or accidental. Around the age of 5, children are often quite skilled at deducing the feelings and thoughts of others from their observations of both verbal and nonverbal behavior (Attwood, 2006).

Restricted, repetitive and stereotyped patterns of behavior. The next defining element of AD is a restrictive and repetitive pattern of behaviors, interests, or activities (APA, 2000). Children or adolescents may display this component of AD through their complete immersion in a specific interest area (SIA), or in their development and strict adherence to seemingly nonsensical schedules or routines, repetitive movements, or fixation on parts of objects (APA 2000). The individual's preoccupation with a specific interest or element of an object is often perceived as abnormal in focus and intensity and can contribute to considerable frustration if access to the object or area of interest is denied (Attwood, 2006). The specific interests vary considerably from one individual to another and devotion to these topics is often associated with the accumulation of a wealth of knowledge about a specific interest area. The cataloguing and organizing of information about the SIA frequently demands a great deal of time and effort and it may be difficult to interrupt the individuals when they are involved in these activities. Also of importance when working with this population is the individual's often strict adherence to routines or schedules. Individuals with AD often demonstrate difficulty with transitions and

disruptions to routines. New situations can be experienced with considerable trepidation if the student is not adequately prepared.

When considering the intense preoccupations and considerable difficulties with transitions, it is understandable that family members, teachers, and peers might become frustrated or be confused by the behavior of the student with AD. At times, their interest in their SIA may seem to supersede all other priorities. Unexpected changes to daily schedule may contribute to significant disruption that may appear excessive or unwarranted. However, when we begin to weave together the various components of this diagnosis, the connection between the unique behavioral presentation and specific deficits becomes increasingly evident and these behaviors may begin to appear more rational. A closer look at the cognitive abilities of individuals with AD provides some clues as to why the stereotyped, restricted and repetitive interests and behaviors may surface. Research has demonstrated some deficits in executive functioning and a style of information processing that suggest weak central coherence in this population (Frith & Happe, 1994; Kleinmans, Adshoomoff & Delis, 2005; Manjiviona & Prior, 1999).

Executive functions allow individuals to monitor and manage themselves and their resources for the attainment of future objectives. These functions impact our ability to organize and plan action, control our impulses, self-evaluate, hold information in our working memory for future problem solving, and to be flexible in thought and action (Klienmans et al., 2005). Executive functioning plays an important role in goal-directed behavior and helps individuals to anticipate events and adjust appropriately to unexpected stimuli in their environment. While not all areas of executive functioning appear to be impacted in individuals with AD, the most consistent findings point to difficulties in cognitive switching and the use of well-organized

retrieval strategies (Klienmans et al., 2005).

Central coherence refers to a person's ability to understand things in context and with an appreciation for the circumstances surrounding an event. This requires the ability to integrate information from different sources, both internal and external and to utilize this information to develop a meaningful interpretation of events. Individuals on the autism spectrum appear to conceptualize stimuli in their environment in the smallest possible parts and demonstrate a preference for attending to details. Individuals with autism may become preoccupied with specific details and struggle to interpret whole chunks of information. A deficit in cognitive central coherence can cause a person to miss subtle cues in social contexts that provide valuable information about another person's intentions and emotional state. When an individual has weak central coherence they often struggle to discern between critical and extraneous stimuli in their environment. When solving problems the student with AD may focus on irrelevant details and struggle to integrate or find the relationship among pertinent pieces of information.

These weaknesses in executive functioning and central coherence can make efficient processing quite difficult. In addition, the combination of these factors may impact the individual's ability to rapidly process the combination of verbal and nonverbal information that is required to successfully participate in complex social interactions. It also may point to why individuals with AD may develop rituals, struggle with changes in their routine, and establish specific cataloguing techniques for their SIA. The individual with AD may develop these routines, rituals and specific interests that they can control because they are looking for some semblance of order in a social world that they experience as confusing and unpredictable.

Expanding our View beyond the DSM-IV-TR

The DSM-IV-TR is an invaluable resource for professionals working with this population

and increased recognition of this disorder has helped in the identification and implementation of services for many students. However, there are a number of characteristics typical of AD which are not in the DSM that contribute to the present uncertainty about this disorder and support the need for further refinement of the diagnostic criteria. The diagnostic criteria provide little insight into the subjective experiences of those living with the disorder and the myriad characteristics that might significantly impact performance in the academic setting (Myles & Simpson, 2002). It is important to examine the various characteristics of this disorder, to gather a more complete picture and understanding of the lived experiences of those diagnosed with AD. While individuals with AS may typically share the same core symptoms, the AS population is a heterogeneous group and the core symptoms of this disorder are often manifested in ways specific to the individual (Barnhill, 2007).

While the DSM-IV-TR is an important tool that assists in the diagnosis of AD, it does not give appropriate attention to several characteristics that are vital to the conceptualization of this disorder. Specifically, there is no reference in the DSM to the overly formal use of language and unusual prosody that are frequently observed in this population (Attwood, 2006). Individuals with AD often demonstrate conversational skills that may seem peculiar to their peers and family members. Children and adolescents diagnosed with AS may exhibit pedantic speech patterns and demonstrate a vocabulary that seems quite advanced for their developmental level. The prosody or stress and intonation patterns of individuals with AD may also seem unusual. Prosody refers not to what is actually stated in a conversation, but to the way statements are made. This includes how pitch, loudness, tempo, and rhythm are altered during speech in order to convey different meanings and intentions. Prosody is essential for the transfer of social information in

expressive language and individuals with AD may fail to recognize and use these alterations in stress and intonation patterns when engaged in discourse with others.

In addition, the diagnostic criteria include references to “stereotyped and repetitive motor mannerisms” (APA, 2000). This may include such behaviors as hand or finger flapping and more complex movements of the entire body (APA, 2000). Yet, these behaviors are more commonly found in individuals who exhibit a combination of symptoms most often associated with individuals located on the lower functioning end of the autism spectrum (Church, Alisanki, & Amanullah, 2000). Additionally, when individuals with AD do display these motor mannerisms, they typically become less frequent or abate before adolescence (Church et al., 2000).

Sensory processing. Another important component of this disorder which is not adequately addressed in the DSM-IV-TR is the sensory perception issues which are often demonstrated by individuals with AD (Attwood, 2006). This is somewhat surprising because Hans Asperger wrote about these sensitivities to various sensory experiences in his early observations of this population (Frith, 1991). Several studies have shown individuals with AD tend to demonstrate sensory processing patterns considerably different than their peers (Dunn, Myles, & Orr, 2002; Myles et al., 2007). This is a particularly salient issue for further research because the range of hyper- and hyposensitivities is quite variable in this population. Presently, sensitivity to sound is the most frequently identified in this population (Attwood, 2006). It appears that while all seven sensory systems (sound, touch, vision, taste, smell, movement, and body position) are functioning, there may be difficulties related to the integration and utilization of this information from the various sensory systems to react to environmental demands (Dunn, Saiter, & Rinner, 2002).

Issues related to hyper- and hyposensitivity to sensory stimulation, may be instrumental

to understanding the experiences of individuals living with AD. In a large-scale study by Myles et al. (2007), where the characteristics of 156 individuals with AD were assessed, many of the participants reported sensitivity to sensory information. It appears that the sensory experiences were at times overwhelming and contributed to these individuals' withdrawal from the environment and difficulty persisting with unfamiliar activities (Myles et al., 2007). These adjustments to stimulus overload may be responsible for some of the behavioral difficulties with which parents and teachers are confronted in working with this population. If not acknowledged and discussed, this resistance to certain sensory experiences may easily be misread as oppositional behavior and contribute to frustration for professionals working with students with AS. In implementing interventions for this population it seems imperative that the sensory experiences of the individual as well as the stimuli from the environment are given adequate attention.

Fine and gross motor functioning. Individuals with AD often exhibit signs of fine and gross motor difficulties which can have a significant impact on their performance in various settings (Safran, 2002). The exact prevalence of these delays has not been established, as research in this area has provided mixed results. Several studies found that from 50-100% of participants with AD demonstrated impairments in motor skills (Ghazuiddin & Butler, 1998; Gillberg, 1998, Green et al., 2002). Despite these estimates, motor characteristics of individuals with AD are only briefly mentioned in the DSM and are not included as a core characteristic of the disorder.

In the classroom, fine motor skills may have a considerable impact on student participation and acquisition of information from the teacher's lectures. Students may have trouble writing legibly or require an inordinate amount of time to complete the written portion of

assignments. Tasks such as taking notes from a presentation or discussion may be quite demanding. Classes such as art and industrial arts can also be difficult and contribute to significant frustration for the student with AD.

These motor deficits often impact balance and coordination, skills which are essential in physical education class, at recess, and when playing sports. The acts of catching a ball, running, and jumping may lack fluidity and appear disjointed. Additionally, individuals may walk with a peculiar gate. These difficulties in gross motor coordination may stem from problems related to proprioception and the individual's ability to accurately assess the position of their body (Weimer et al., 2001). However, it is important to note that there are also examples of individuals with AD who excel at athletic pursuits and have well developed fine and gross motor skills (Attwood, 2006). Clay Marzo who was born in Hawaii won surfing's most prestigious amateur title in 2004 and was diagnosed with AD in 2007. He struggled throughout his childhood and adolescence to interact with others, but in the water he found an outlet which has landed him various endorsement deals, magazine covers, and comparisons to some of the best athletes in the sport.

Autism and Asperger's disorder. Another criticism of the DSM criteria revolves around the differentiation of autism from AD. Presently, AD is identified as one of the Pervasive Developmental Disorders, which includes all disorders where there is a qualitative impairment in reciprocal social interaction, communication, and imagination (Molloy & Vasil, 2002). The DSM recognizes AD as a separate diagnostic category from autism, which also falls under the label of Pervasive Developmental Disorder. However, many consider AD to be one of the possible manifestations of autism and believe that AD resides on the higher functioning end of the autism spectrum continuum (Frith, 2004). AD is also used interchangeably with terms such

as high-functioning autism, mild autism, and pervasive developmental disorder not otherwise specified. The variety of applicable terms can contribute to significant confusion for parents, teachers, and clinicians working with this population and researchers trying to learn about AD.

Presently, assessment takes a hierarchical approach where a diagnosis of autism takes precedence over that of AD (APA, 2000). However, there has been speculation that it is nearly impossible to diagnose AD utilizing the current DSM (Mayes, Calhoun, & Crites, 2001). Mayes, assessed a sample of 157 individuals with a previous diagnosis of either autism or AD and applied the present diagnostic criteria for autism and AD to the sample. Results from the research indicated that all participants met criteria for autism and none met the present criteria for AD. This was because all of the participants provided evidence of a communication impairment, which qualified them for a diagnosis of autism and ruled out AD.

Additionally, an individual can meet the diagnostic criteria for AD, but if there is evidence of a "significant" language acquisition problem then the diagnosis is shifted to autism, even if "typical" features of AD are displayed. Presently there is some concern around the specific language used in the DSM-IV-TR and the definition of a significant language problem. To be diagnosed with AD the individual should demonstrate the use of single words by two years of age and unprompted use of phrases by three years of age (APA, 2000). However, research on language development indicates that in normal development, the emergence of spoken language occurs between 12 and 15 months and that word combinations occur between 18 and 30 months (Tager-Flusberg et al, 2009). The criteria outlined in the DSM for a diagnosis of AD may actually point towards a considerable language acquisition problem in this population. Several authors also contend that a language delay should actually be considered as an inclusion criterion for AD (Attwood, 2006; Gillberg and Gillberg, 1989).

Asperger's syndrome and high functioning autism. There is some concern about the differentiation of AD and high-functioning autism. Individuals who show the core symptoms of an autistic disorder and have intellectual abilities within the normal range are labeled as "high functioning." There seems to be some disagreement about whether AD and high-functioning autism (HFA) are different disorders and whether they can be accurately identified (Ozonoff, Goodlin-Jones, & Solomon, 2007). Ozonoff, South and Miller (2000) compared individuals with AS and HFA and found that these two groups scored similarly on cognitive functioning and current symptomatology. However, there were group differences found in early language development, repetitive behaviors, imagination, and utilization of special education services, indicating that AD may be associated with less severe impairment (Ozonoff et al., 2000). It appears that when reexamined in their early teens some individuals who exhibit language delays in early childhood and fit the diagnosis of HFA, demonstrate cognitive and behavioral presentations similar to individuals with AD (Ozonoff et al., 2000). Sharma, Woolfson, and Hunter (2011) reviewed 69 research studies carried out between 1981 and 2010 on the diagnosis of AD. They contend that it is quite difficult to differentiate AD and HFA and that the two diagnoses should be merged and viewed as simply a part of the autism spectrum.

A Growing Concern for Schools

Presently, questions abound pertaining to the diagnostic criteria and the selection of appropriate interventions for this population (Myles & Simpson, 2002). This is a problem which requires immediate attention as the number of students identified with AD has increased in recent years (Barnhill, 2001). Presently, the DSM-IV-TR does not include figures relating to prevalence, but several studies have put the figure between 3.6 and 7.1 per 10,000 children (Stoddart, 2005). It also appears that the higher functioning end of the autism spectrum, which

includes AD and high functioning autism, are the fastest growing segment of the autism population (Sansosti & Powell-Smith, 2006). As the number of students with AD increases, the need for empirically supported interventions and a clearer understanding of the unique elements of this disorder are imperative to the provision of appropriate services. This is particularly important considering that most individuals with AD are educated in general education classrooms and are more regularly expected to independently manage social and academic demands than individuals elsewhere on the autism spectrum (Gibbons & Goins, 2008). With this increase in the number of students identified with AD, schools and clinicians will be faced with greater pressure to augment the social abilities and address the academic needs of this population.

The Importance of Research in Middle Schools and High Schools

Research pertaining to interventions and accommodations utilized in the educational setting is particularly pertinent to the success of middle school and high school students diagnosed with AD. The period of adolescence is stressful for many individuals, but it appears that it is a particularly demanding time for individuals diagnosed with AD. In a qualitative study where parents of students with AD were interviewed, many parents indicated that the transition from childhood to adolescence was of particular importance and presented unforeseen challenges (Portway & Johnson, 2003). Presently, there is limited research available on the perceptions of adolescents with AD related to quality of life and social supports (Jennes-Coussens, Magill-Evans, & Koning, 2006). Yet, there is evidence that individuals with AD often present with symptoms of depression and anxiety during adolescence (Jennes-Coussens, Magill-Evans, & Koning, 2006). When transitioning to middle school and high school, students are exposed to a variety of new challenges including social, physiological, psychological, and environmental

changes (Adreon & Stella, 2001). Consideration of these factors and how they may interact with the core components of this disorder are essential to the development of a complete picture of the adolescent with AD.

Social changes. As students move into adolescence and eventually into young adulthood the importance of socially competent behavior increases dramatically. Students at this age are expected to demonstrate more socially appropriate behavior, more independence, and a more complex understanding of the unwritten rules of social conduct. During this developmental time period, peer groups become increasingly important and interactions with peers allow for continued rehearsal of communication skills. While the influence of parents remains important, the desire to conform to peer group expectations often increases significantly (Rutter & Rutter, 1993). Through their participation in social exchanges and observation of other students, individuals develop an appreciation of the benefits of interacting in accordance with social conventions. The skills developed through interactions during this time period provide opportunities for cooperative learning, are essential to social and emotional growth, and the development of a coherent sense of self (Gutstein & Whitney, 2002). Without the skills necessary to initiate and maintain relationships, students with AD are likely to experience rejection and ridicule from their peer group (Church et al., 2000). Hartup (1989) found that knowledge of and application of social skills in childhood was instrumental to peer acceptance, academic achievement, and mental health. Additionally, in a research project investigating the perceived quality of life of adults with HFA and AD, the 'hours spent with friends' was a crucial variable that was directly linked to quality of life (Craig, 1998).

Not surprisingly, it appears that the deficits in social interaction typically seen in students with AD may be most apparent and problematic during adolescence (Tantam, 1991). The

difficulties in social interaction including the inefficient recognition and utilization of nonverbal information and deficits in 'theory of mind' skills may make students with AD less likely to establish and maintain relationships. While they may exhibit a desire to cultivate relationships with others, they often approach this task with inefficient skills. As a result, they may develop a pattern of negative interactions with others which they are unable to explain or remedy. These difficulties may contribute to a heightened awareness of their level of social inadequacy and increased recognition of their differences from their peers (Wing, 1981). Without guidance or support, the continued frustration that results from failed social exchanges may reinforce the individual's assessment that their interpersonal difficulties persist because they are somehow flawed.

Physiological changes. In adolescence, students must not only adapt to new social expectations, but must also adjust to considerable changes within their own body. Adolescence, which is typically viewed as the transitional period from childhood to adulthood is a time of impressive physiological change (Spear, 2000). The acceleration of biological changes associated with this developmental period are unmatched by any point in the life span besides infancy (Dusek, 1996). At different stages of puberty the body releases various hormones to stimulate growth and these chemicals can impact both mood and behavior (Dusek, 1996). As the individual's stature and physique transform making them look more like adults, they are also expected to initiate more socially competent behaviors and take on new responsibilities independently (Dusek, 1996). Students must process their own reactions and the responses of others to the somatic changes that ensue during their growth spurt. This may include comparisons of their development during puberty to classmates and similar aged peers.

These biological changes and the reactions of others to these alterations in appearance

and physical maturity may have a significant impact on the performance of students with AD. It is not unusual for students going through a growth spurt to take some time to get used to the somatic changes. Students with AD who often demonstrate motor clumsiness or impairments in motor functioning may appear particularly awkward during this time period as they try to become accustomed to their ever changing bodies. Participation in certain physical activities may be quite challenging and this may impact feelings of confidence or efficacy.

Environmental changes. Typically the move to middle school from elementary school requires the incoming student to make an adjustment to a larger academic building and student body. In the first few weeks of the school year, students must learn and commit to memory the layout of an unfamiliar building. Also, individuals must determine the most efficient routes between classes and navigate busy hallways, which may be bustling with a student population that is considerably more diverse than the student's previous academic setting.

Additionally, the daily schedules for students in middle school are considerably more complicated. While in elementary school many students spend a majority of their day with one teacher, in middle school education is departmentalized and different teachers are responsible for instruction in the various subjects. As a result, students in middle school and high school see a greater number of teachers and must change classes throughout the day. Also, students typically move through classes independently and not as a cohort. Students need the ability to complete more independent monitoring and planning to successfully switch between classrooms. Due to the departmentalization of education each teacher has less time to learn about the academic needs of each student, and students have fewer opportunities to acquire knowledge about the specific expectations of each teacher. This decreases the number of interactions between the student and teacher and as a result teachers have fewer opportunities to acquire information about how to

best address the specific learning style of each student. Teachers in junior high and high school will likely work with a greater number of students and may have less time for individualized instruction. Additionally, it may take more time and effort for students to gain an appreciation for each instructor's teaching style and the amount and quality of work that they expect students to produce.

The changing of classes requires that the student has the ability to organize his or her materials at the end of each class period and to gather what is needed for the next class in a fairly short period of time. This may include stopping at a locker to deposit or retrieve supplies. As students make the transition to this next class they must also manage the cognitive shift that is required to attend to the demands of a different subject and the specific expectations of a different teacher (Adreon & Stella, 2001). The number and variety of transitions that students with AD must handle as they move into middle school may contribute to a significant disruption of functioning and cause considerable anxiety. Students with AD often struggle with modifications or alterations to their schedules and routines (Myles & Simpson, 2002). The move to middle school requires students to adjust to a new building, larger student body, and a greater number of teachers. Students with AD may have difficulty handling the variety of class changes, and due to their unique sensory experience may find the busy hallways quite overwhelming and difficult to navigate between classes.

Additionally, at this stage of the educational process, the academic curriculum becomes more complex. There is the potential for greater competitiveness as students are grouped according to ability. In elementary school there is a greater focus on memorization and recitation of facts, which may benefit the student with AD who often demonstrate an impressive ability to remember and categorize information (Attwood, 2006). However, in middle school and high

school students are expected to be more sophisticated in their processing of information.

Students are expected to gather facts from a variety of sources and to develop hypotheses from the integration of this information. The push for more complex observations at this stage of the academic process is supported by the work of Piaget, who proposed that in adolescence, students progress from concrete thinking to more abstract modes of processing material (Piaget, 1952). At this stage students may begin to imagine what is possible in addition to what is actually present in their environment (Piaget, 1952). However, the demand for the use of more abstract reasoning abilities may be quite difficult for students with AD and may make them susceptible to academic underachievement. The complexity of these tasks also tends to increase as students move into high school. The executive functioning and central coherence deficits that have been demonstrated with this population may make the completion of tasks such as taking notes from lecture, organizing and keeping track of both class work and homework, and completing research projects particularly challenging.

Psychological changes. The adolescent years are also a period of impressive psychological change and growth. Of particular importance is the student's move to more independent functioning. Adolescent students often spend considerably more time with peers and less time with parents than when they were younger (Rutter & Rutter, 1993). This may relate to their desire for greater autonomy and experimentation with different roles as they attempt to achieve a more stable identity or self concept. The desire for independence is also associated with the emergence of new cognitive abilities. These new cognitive abilities allow the student to begin to develop more abstract and complex descriptions of themselves in relation to others (Rutter & Rutter, 1993). This information is vital as it allows adolescents to discern the person they are and who they would like to be in the future.

Erikson described adolescence as a time when individuals have inadequately defined roles (Dusek, 1996). The adolescent is neither a child nor an adult and this ambiguity creates what Erikson referred to as the identity versus role confusion crisis (Dusek, 1996). Unsuccessful navigation of this stage can contribute to future difficulties as individuals may not have an accurate perception of who they are and what they want to accomplish in the future. Erikson speculated that family support and peer interactions play an integral role in this process of identity development, because they provide information and feedback about how the adolescent's actions affect other people.

The task of establishing a secure sense of identity may be a complicated task for the student with AD. First, because of their difficulties associated with theory of mind, they may have difficulty recognizing and reflecting on the reactions of others to develop an appreciation of how their behaviors impact other people. Additionally, students with AD may feel defined by their diagnosis. If parents, teachers, and peers perceive the student to be awkward and treat him or her as somehow flawed, then the self-image of the student may be defined by their surroundings. Their attributional style may also lead them to feel that any negative experiences are a result of personal deficits and leave them with little hope of improving their situation (Barnhill & Myles, 2001). The individual with AD may fail to search for independence or autonomy for fear that they have few options to choose from and are reliant on others to succeed (Barnhill & Myles, 2001).

The examination of the social, biological, environmental, and psychological changes that are associated with adolescence are particularly important for students with AD. It appears that this time period may present specific challenges which if not recognized may leave the student with AD at a considerable disadvantage. School personnel must work to consider the collection

of strengths and deficits and how they interact during this stage of development. While students with AD often present with a combination of strengths and weaknesses, if the complexity of their needs is not addressed in the educational setting then their deficits may be the only characteristics that are recognized.

Twice-exceptional students. When attempting to describe the individual with AD, it is important to embrace the often incongruent pattern of abilities and remain cognizant of both the strengths and limitations of this population. This requires parents, teachers, and professionals to embrace the idea that adolescents with AD are often “twice-exceptional” students and present with both impressive intellectual abilities and specific learning deficits (Bianco, Carothers, & Smiley, 2009). Although individuals with AD typically possess average or above average intellectual abilities, and seem well suited for success in the academic setting, they often exhibit significant impairment in other areas of functioning (Dunn et al., 2002). These impairments can have a considerable impact on their performance in school and attainment and maintenance of employment (Hillier, Fish, Cloppert, & Beversdorf, 2007).

It is not unusual for parents, teachers, and mental health professionals to be frustrated by the academic performance of students with AD. Since these individuals do not exhibit significant observable physical or intellectual deficits, it may be difficult for peers and adults to understand the extensive social and academic needs of the student with AD. These students look “normal” and can perform quite well in some academic pursuits because of specific strengths, but also often demonstrate work production rates and a quality of work which seem well below their abilities. Reports from teachers may detail quite contradictory performances with individuals receiving the highest marks in some classes and marks significantly below expectation in others (Gibbons & Goins, 2008). The inconsistencies in performance can lead parents and professionals

to assume that the problems revolve around a lack of motivation exhibited by the student, while in actuality performance below expectations may be a result of specific learning problems and an idiosyncratic learning style (Gibbons & Goins, 2008).

Currently, psychologists have not been able to utilize standardized tests of intelligence to locate a specific cognitive profile for students with AD. However, numerous studies have found that on tests of intelligence many students with AD show significant differences between their Verbal Intelligence Quotient (VIQ) and their Performance Intelligence Quotient (PIQ); Barnhill et al, 2000; Cederlund & Gillberg 2004; Dickerson Mayes, & Calhoun, 2003). Upwards of 50% of students with AD show advanced verbal reasoning skills and may display a vocabulary that seems quite sophisticated for their developmental level (Attwood, 2006). Additionally, students with AD often demonstrate strong rote memory skills (Gibbons & Goins, 2008). They may accumulate extensive knowledge about certain topics and may seem like an encyclopedia of facts. In some situations students with AD may learn to read on their own or with little or no instruction. However, some students with AD demonstrate particular strengths in the area of PIQ or show no significant difference between their verbal and perceptual reasoning scores (Manjiviona & Prior, 1999). These findings make the review of the sub-test scores from the standardized tests of intelligence particularly important. As a result of the present uncertainty about the cognitive profile of this population, teachers and school personnel must consider both the cognitive strengths and weaknesses of each individual student with AD to truly understand how to meet their educational needs.

The various cognitive strengths demonstrated by students with AD may mask certain deficits, delaying accurate diagnosis and the provision of appropriate support services. "The higher their level of ability, the more difficult it is to 'see' their level of vulnerability" (Portway

& Johnson, 2003, p. 41). While students on the lower functioning end of the autism spectrum are typically identified by the age of 3, the diagnosis of individuals with AD often does not occur for another 5.5 years (Winter-Messiers, 2007). Howlin and Moore (1997) reported that the average age of diagnosis for students with AD was 11 years of age. The ability to remember facts and rote memory skills may allow the student with AD to succeed in elementary school, where strong memorization skills can contribute to considerable academic success. However, in middle school and high school there is a greater demand for critical thinking and abstract reasoning skills and as a result, specific learning problems may be exposed for the first time. These problems related to accurate diagnosis are of considerable concern, as it is imperative that individuals with AD are identified at an early age and appropriate interventions are implemented (Farrugia & Hudson, 2006). Without early interventions students may be forced to struggle through their early education, faced with academic and social obstacles that they don't have the skills to manage.

For example, students with AD are expelled from school at a rate 20 times higher than their peers (Barnard, Prior, & Potter, 2000). The high rates of suspension may be related to disruption that is often experienced when these individuals experience changes to routine, or as they attempt to navigate the constantly changing social and sensory experiences of their school. Students bumping into them in the busy hallways, the barrage of smells and sounds of the lunchroom, and the consistent disappointments in their interactions with peers may leave these individuals vulnerable to outbursts that are misunderstood by school personnel. Additionally, the increased demands on executive functioning or higher level cognitive abilities during middle school and high school may contribute to frustration and mental fatigue. Within the classroom the student's response to this frustration may be misread by teachers as an indication of oppositional behavior or a lack of motivation. Early detection is likely to significantly improve

long-term outcome for individuals with AD, but can only be accomplished through increased research and the development of a greater understanding of this particular disorder (Portway & Johnson, 2003).

Comorbidity. There appear to be considerable consequences for not identifying this disorder early in the developmental process and providing needed social and academic supports. There is a considerable amount of research indicating that adolescents and adults with AD are vulnerable to mood and anxiety disorders (Ghaziuddin, Weidmer, & Ghaziuddin, 1998; Ryan, 1992; Tantam, 1991). In a study by Farrugia and Hudson (2006), adolescents with AD displayed levels of anxiety equal to adolescents with a prior diagnosis of an anxiety disorder. The combination of these mental health issues may contribute to the high rates of suicidal ideation and suicide attempts reported by people with autistic conditions (Gillberg, 2002; Barnard et al., 2001). "For teenagers with Asperger's Syndrome, an additional mood disorder is the rule rather than the exception" (Attwood, 2006, p. 129). Research has shown that "although high-functioning people with autism and Asperger syndrome may succeed as adults, such achievements rarely come easily" (Howlin, 2000, p. 79).

When considering the anxiety of individuals with AD it is important to consider that when under stress the brain areas typically involved in executive functioning actually tend to function less efficiently and effectively (Ogden, Minton, & Pain, 2006). As the level of anxiety increases individuals tend to have less access to our higher order cognitive abilities. Individuals with AD have been shown to exhibit some deficits in executive functioning (Ozonoff et al., 2000) and these deficits impact social and academic performance. These deficits in executive functioning may explain some of the stereotyped, fixed interests often demonstrated by this population. The interests may provide a means for the individual to organize and establish

boundaries to compensate for a day-to-day experience that they find quite confusing and to address heightened levels of anxiety. The impact of stress and anxiety on this population may increase disruption in executive functioning more than is presently acknowledged.

Considering the frequency that symptoms of depression are reported in individuals with AD, it is also important to examine how this population explains the occurrence of negative experiences. Barnhill and Myles (2001) investigated the attributional style of 33 adolescents with AD and found a significant relationship between attributional style and depression. One third of the sample demonstrated a very pessimistic, failure prone style when assessed using the Children's Attributional Style Questionnaire (CASQ; Seligman et al., 1984). The participants demonstrated a tendency to hold themselves responsible for negative experiences and to associate these events with stable and global factors. There was evidence of a learned helplessness style, or feeling that the individual had little control over the outcome of events. With this mindset, an individual may be less likely to persevere in difficult situations or seek out assistance because they perceive little opportunity for change or improvement. Also of interest, in this research project was the finding that 70% of the participants were taking antidepressant medication. Only 9% of the sample reported more depressive symptoms than their same age peers and the pharmacological interventions likely had some impacts on the number of depressive symptoms reported by the participants. However, the use of the pharmacological intervention did not appear to alter their attributional style (Barnhill & Myles, 2001). Continued difficulties in social situations, despite a desire to build relationships, may leave the individual with AD feeling that they are destined to be alone. This attributional style may make individuals more likely to isolate themselves, further distancing themselves from peers, and reinforcing the idea that they cannot be successful with others.

A look at interventions in the schools. Due to the increase in the number of students diagnosed with AD and the often perplexing balance of intellectual abilities and deficits of this population, the school has become an important setting for implementation of interventions designed to foster social and academic growth. These interventions are integral during middle school and high school where social and academic demands are increased substantially. Additionally, because many individuals with AD are not identified until later in their school experience than students on the lower functioning end of the autism spectrum, many miss the opportunity for earlier intervention in elementary school.

In adolescence, the students' difficulties navigating social experiences often become more pronounced (Farrugia & Hudson, 2006). Presently, most of the interventions utilized in the school revolve around instruction and development of social competence. Many programs have been developed which are designed to improve social skills, theory of mind abilities, and difficulties related to social integration with peers (Rao, Beidel, & Murray, 2008). Most of the programs are driven by the idea that students with AD simply do not possess the behavioral repertoire to initiate and sustain positive social interactions. These programs can focus on numerous areas of social skill development and may involve guided instruction, modeling, role play, and feedback sessions in a safe, secure environment (Attwood, 2000). These skills are often practiced in a group setting, where skills can be practiced with peers in more naturalistic exercises. Programs which include a group format also create opportunities for students with similar characteristics to share their understanding and experience of AD.

These programs continue to show up in various settings, but there remains a lack of agreement about procedures and appropriate implementation of these programs. At present, many of the programs are not manualized or empirically evaluated and do not include

satisfactory measures of social skills (White, Keonig, & Scahill, 2007). Additionally, at this time there is no single comprehensive treatment program that has been designed specifically for students with AD (Toth & King, 2008). However, several promising interventions have been established which integrate knowledge of the disorder, including both strengths and weakness associated with autism and AD (White at al., 2007).

Bock (2007) completed the social-behavioral learning strategy intervention (SODA) with 4 elementary school children with AD and found that students showed improvements in cooperative learning activities, participation in organized sports, and socializing with peers. In a randomized controlled trial investigating the use of a computer program to improve the ability of students on the autism spectrum to recognize and predict the emotions of others, some positive effects were also demonstrated (Silver & Oakes, 2001). The students, ages 12-18 used the computer program a total of ten times and over the course of the study showed a decrease in the number of errors made when engaging in the various tasks designed to improve theory of mind abilities. The use of computer interventions with students with AD seems to be a valuable tool. When working on computers, only the necessary information is presented on the screen, which may help the student to focus and avoid being distracted by irrelevant stimuli. Additionally, the program can be designed to proceed at different speeds with ample opportunity for the practicing of tasks. The computer's responses are also consistent and follow simple rules which may help the student to avoid becoming overwhelmed.

However, Rao at al. (2008) completed a review of the literature pertaining to social skills training programs and found a lack of empirical support and a need for more randomized controlled trials of these programs. Of primary importance in these social skills training groups is the ability of the students to generalize what they have learned from the classroom to interactions

in their day-to-day lives. Typical social interactions are a dynamic process that require the ability to quickly and accurately decipher a considerable amount of verbal and nonverbal information. It appears that many students with AD can acquire essential knowledge about verbal and nonverbal communication, but frequently struggle to utilize this knowledge in their daily lives (Rao et al., 2008). The students can gather an intellectual understanding of social skills and appropriate social behavior, but experience considerable difficulty using this information efficiently when conversing in real life situations. A significant disadvantage of the social skills training programs is that they utilize simplified stimuli without real-world distractions.

In developing appropriate interventions for the academic setting, it is important to integrate knowledge about the often heightened anxiety and specific attributional styles that are often displayed by individuals with AD. As levels of anxiety increase it is possible that executive functioning decreases, interfering with planning and organization of actions. Additionally, previous failures in attempts to build bonds with peers may leave students with a learned helplessness style and the perception that they cannot alter their present situation rendering social skills training ineffective. As new interventions are developed, a greater concern for the mental health of this population may take precedence over the improvement of social skills. Knowledge of social codes can be acquired but the efficient and accurate expression of these skills may be concealed due to elevated anxiety and depressed mood.

Developing an Empathic Understanding

The Work of Hans Asperger

The present confusion regarding this diagnosis highlights the need to re-examine the original descriptions and lessons of Hans Asperger. His writings cover the core criteria outlined in the DSM-IV-TR, but also delve deeper into several areas that the present manual overlooks.

The Austrian physician believed that to understand this population we must work to develop an empathic understanding of the lived experiences of those diagnosed with AD (Frith, 1991).

Asperger contended that AD should be viewed as a “constitutionally given personality type, albeit a pathological one” (Frith, 2004, p.626). He understood AD as a variant of normal personality, which he referred to as “autistic psychopathy.” The term psychopathy was selected because of his belief that AD was a life-long, developmental disorder (Frith, 2004).

Asperger believed that to be successful in the educational setting, children with AD required a strengths-based approach, where teachers and support staff utilized knowledge of the student's strengths to diminish the impact of their weaknesses (Frith, 1991). Asperger described these strengths as directly linked to or interwoven with the weaknesses of children with AD. He believed that to develop an accurate perception of the personality of the student with AD, attention must be given to both the deficits and strengths of the individual. In fact, the characteristics which contribute to considerable frustration in one situation may under different circumstances allow for original and creative developments. Additionally, without the appropriate supports, their clumsy manner of maneuvering social situations may leave the student with AD vulnerable to considerable bullying from peers and frequent misunderstanding by adults.

From his detailed observations and analysis, Asperger reported significant improvements over the course of development and emphasized that individuals with AD held considerable value to society (Frith, 1991). While they often approach situations with idiosyncratic problem solving strategies, their original manner of thinking holds the potential to unlock previously unidentified solutions (Frith, 1991). When considering the cognitive abilities of individuals with AD it is important to remember that at this time researchers have not identified a specific profile

on intelligence tests that can confirm or reject diagnosis (Attwood, 2006). Additionally, the circumscribed interests which are typically viewed as problem behaviors may provide a glimpse into their future professional pursuits and important clues about effective instruction for students with AD. Understanding Hans Asperger's desire to develop a complete picture of this population and avoid pathologizing these students is essential to reduce the likelihood that these individuals feel defined by the diagnostic label and lose their sense of individuality.

The Deficit Model

Another issue contributing to this incomplete description of AD is the fact that this disorder has been defined primarily by the deficit model (Winter-Messiers et al., 2007). Specifically, individuals with AD are often characterized by those behaviors which are absent or in terms of their inadequacies. While these deficits are integral to understanding the condition, there is tremendous value in the exploration of the strengths of this population. From his observations of children on the autism spectrum, Hans Asperger proposed that individuals working with students with AD require a comprehensive understanding of the disorder (Frith, 1991). Asperger also believed that the identification and incorporation of these special interests could contribute to exceptional accomplishments.

To gather an understanding of their strengths, it is necessary to examine the special interest areas (SIA) of individuals with AD. At present, there is a paucity of research about the SIA and how these interests may contribute to performance in the educational setting (Winter-Messiers et al., 2007). The DSM-IV-TR refers to the SIA as restricted, repetitive patterns of behavior, interests, and activities and states that they often contribute to significant problems in social and occupational functioning (APA, 2000). It is recognized that individuals with AD may accumulate a great deal of information and be able to talk at great lengths about

these areas of interest. At times it may appear that individuals have little awareness or concern for social expectations when engaged in their SIA. However, several authors have begun to look at the SIA as instrumental to the success of individuals with AD (Attwood, 2006; Winter-Messiers, 2007; Winter-Messiers et al., 2007)

Winter-Messiers (2007), in a qualitative study of 23 students with AD demonstrated that capitalizing on the SIA of this population had the potential to reveal strengths and abilities that otherwise might be easily overlooked. The self-image and self-esteem of the participants seemed to be influenced by their SIA, and engagement in activities that incorporated their SIA contributed to a more optimistic perception of their abilities (Winter-Messiers, 2007). At times, access to the SIA could soothe the anxious child during stressful experiences. The researchers also found that access to SIA contributed to a reduction in several of the typical deficit areas associated with AD. Specifically, when talking about their SIA the students tended to display more age appropriate social interactions (Winter-Messiers, 2007). This included greater interest in the sharing of their ideas with others, demonstration of the ability to discern social cues, and more appropriate nonverbal communication. Improvements were also seen in their expression of emotions, sensory and fine motor experiences, executive functioning, and academic skills (Winter-Messiers, 2007). This research points to the importance of getting to know the SIA of students and how it may impact their performance in the academic setting. This knowledge is essential for students with AD to display their true academic abilities. While teachers and family member may at times be frustrated by the all-consuming nature of these SIAs, using this knowledge to adjust the curriculum to the needs of students with AD may allow for more positive reinforcement of the skills that they possess.

This research also highlights the importance of the consideration of mental health issues

when assessing any learning difficulties and designing any interventions with this population. It has been shown that individuals with AD are prone to anxiety and depression (Ghaziuddin et al., 1998; Tantam, 1991). This may be related to a perceived lack of control in their day-to-day lives. The student with AD may exist in a world of sensory and social information that is at times beyond their comprehension. However, with access to their SIA students with AD can cope more adequately to stressful experiences and develop a greater sense of control over their environment.

Qualitative Research

In order to confront the current confusion about AD, it seems imperative that individuals working with this population investigate, through qualitative research and the examination of written accounts, the trials and tribulations of individuals who have grown up with this disorder. Due to the high rates of mood disorders and reported loneliness of individuals with Autism Spectrum Disorders, it seems necessary to gather insight into their lived experiences (Hurlbutt & Chalmers, 2002). The views and perspectives of individuals diagnosed with AD, can contribute a wealth of information about the needs of this population. Additionally, this research allows for a glimpse into the subjective experiences of those who have faced the challenges associated with AD. Minkes, Robinson, and Weston (1994) wrote about the importance of empowering those with disabilities by seeking out their views and perspectives on treatment organization and planning. Until recently their perspectives have been left out of the literature, but the few stories of individuals with AD that have emerged provide incredible insight into this complex disorder.

These qualitative research endeavors may be particularly significant in work with individuals with AD. In their review of the personal stories of adults with autism, Hurlbutt and Chalmers (2002) found that the participants in their study believed they should be sought out for consultation on issues related to autism spectrum disorders. Individuals spoke about the

importance of the AD diagnosis and how this information allowed for some explanation of the consistent failures they experienced in trying to integrate with their peers in school and employment. Adults on the spectrum have also demonstrated the ability to speak quite clearly about both positive and negative components of the disorder and provide insight into the supports that are the most beneficial (Muller et al., 2003). The review of the personal stories of adults with autism points to the fact that many of these individuals are not looking to change who they are, but instead are hoping for greater acceptance of their strengths and limitations (Hurlbutt & Chalmers, 2002). In some instances it seemed that the participants embraced the disorder and saw it as an important and cherished part of their personality. A previous research project examining young adults with learning disabilities, found that those students who were performing well had knowledge and a certain levels of acceptance of their disability, but did not feel that the disability defined them (Speckman, Goldberg, & Herman, 1992). Teachers, parents, and clinicians working to understand this population must not lose sight of the individual behind the diagnosis. The development of interventions for this population must include reference to the diagnostic criteria, but must also embrace the personality and unique qualities of the individual.

In an examination of the personal statements of individuals with AD, Jones and Mendel (2001) found that the participants consistently expressed a desire for social interaction and relationships. This seems to be in direct opposition to a considerable amount of the research pertaining to this population. The investigators came to the conclusion from their analysis that “the view of people with Asperger’s Syndrome as having little or no interest in social relationships is simply not sustainable” (Jones & Meldal, 2001, p. 39). While individuals on the lower functioning end of the autism spectrum often seem devoid of the desire to build connections with others, individuals with AD crave these relationships but their efforts are often

hampered by their ineffective management of reciprocal communication. This study highlights the need to differentiate the social limitations often seen in this population from a lack of interest in the development of relationships.

Portway and Johnson (2003) completed a qualitative research project where they interviewed 18 individuals aged 18 to 35 with a diagnosis of AD and the parents of these participants. They sought to acquire insight into the experiences of these individuals from early childhood into adulthood. The stories from the participants provided evidence that these individuals appeared normal to the general public, yet experienced a great deal of trouble fitting in with their peers. The participants described themselves as "living on the edge of society" because they never felt they could truly connect with their peers (Portway & Johnson, 2003, p. 441). However, since they looked normal and showed some success in their academic pursuits they often did not receive the academic and emotional support they needed.

The participants described incidents of being excluded from peer interactions, and they labeled themselves as different, but in most instances they were confused as to why they struggled to make acquaintances. One participant in the study wrote "I remember feeling quite uncomfortable around people, straight away I realized I was not right, it was just a sort of vague uncomfortable feeling that grew as I grew" (Portway & Johnson, 2003, p. 439). As social expectations increased, their beliefs that they were somehow different from their peers also seemed to increase. "Secondary school memories recalled by some participants were particularly harrowing and all viewed this period in their lives with considerable negativism" (Portway & Johnson, 2003, p. 438). The school years were some of the most frustrating and seemed to increase in difficulty as the students moved into middle school and high school. As the social and academic demands increased, the deficits associated with AD became more evident. Parents of

these students also indicated that their children were frequently misunderstood, bullied, and excluded by both peers and teachers during their educational experience (Portway & Johnson, 2003). It seems that the bustling social scene found in middle schools and high schools conflicted with the students' desire for a predictable environment.

In another qualitative study, information was gathered through online surveys from adults with AD and caregivers of students with AD. The researchers sought out information about the obstacles experienced and positive instructional practices. The participants indicated a need for teachers and support personnel to exhibit a greater understanding of the various components of AD, while still maintaining an appreciation of the student as an individual (Sciutto, Richwine, Mentrikoski, & Niedzwiecki, 2012). There was evidence of a need for recognition of the strengths that many of these students possess and utilization of these strengths to improve their academic experience. The respondents also conveyed that in working with the student with AD there was a need for teachers to recognize that information is acquired in different ways by different students and that these differences were not an indication of an impairment (Sciutto et al., 2012). Instructors that accepted these differences and allowed for flexibility in their teaching seemed to contribute to more positive experiences for the student (Sciutto Sciutto et al., 2012).

In Camarena and Sarigiana's (2009) qualitative research project, students with AD and their parents were interviewed about aspirations for attending college and asked for suggestions about what might assist in the transition to college. Parents reported that academic accommodations and instruction that considered the students unique academic needs were instrumental to success. They stated that this would require teachers and support staff to have specific training in instruction for students with AD. Parents also suggested that teachers and support staff should exhibit some flexibility in the required curriculum and course selection

should include consideration of the student's SIA (Camarena & Sarigiana, 2009). The issue found to be of the greatest importance in regards to preparation for the transition to college included access to social supports. Parents also reported that to ensure the provision of appropriate services, they had to vigilantly advocate for their children and that the schools frequently struggled to provide appropriate accommodations (Camarena & Sarigiana, 2009).

These descriptions provide powerful insight into the struggles that many students with AD face in the educational setting. It is quite clear that many individuals with AD experience the feeling of being somehow different than their peers, despite considerable effort to engage with others. The consistent frustration in the social sphere may contribute to individuals increasingly withdrawing from interactions with others and further solidifying their feelings of isolation. The average or above average abilities in some domains may actually decrease the assistance or support they receive because they are not identified as different and are believed to be able to cope with the expectations of mainstream schooling. As a result, the specific needs of this population may be overlooked. By allowing these voices to be heard teacher and caregivers may begin to comprehend this complicated story and develop interventions and accommodations that will improve their quality of life.

The in-depth exploration of the narratives of each participant provides the opportunity to identify and describe the resources that facilitated their navigation of the educational system. The supports and resources that the students recognized as instrumental to their own success provides clues as to how schools may become better attuned to the needs of this population. Once schools are better informed about how to address the particular social, emotional, and academic needs, more students with AD may finish high school and make the transition to college or university. With greater knowledge of the factors which students found both detrimental and instrumental to

their success, we may learn to harness and use the specific cognitive strengths of each individual to help each student feel more competent in the educational setting.

Research Questions

This study was designed to examine the personal accounts of college students diagnosed with Asperger's Disorder regarding their education, social relations, and development during adolescence. Of primary importance to this research project were the factors that contributed to their success, the supports that they utilized, and where they encountered the greatest difficulties. The research questions for this doctoral project were as follows:

- 1) What factors facilitated the students' completion of their high school education and transition to college or university?
- 2) How were the educational, social, and emotional needs of these students addressed or not addressed during middle school and high school?
- 3) How were the students able to manage the deficits and capitalize on the strengths associated with AD, as they navigated middle school and high school?

Ontology

The design of this qualitative study corresponded with the basic tenets of the constructivist paradigm. This paradigm was developed from the philosophical writings on hermeneutics (Mertens, 2005). The constructivist paradigm posits that reality and knowledge are socially constructed (Mertens, 2005). Additionally, this theory purports that researchers are instrumental to the process of molding and establishing knowledge, and to understand the actual experiences of the participants the researcher must gain an understanding of the participants' points of view. I attempted to delve into the subjective stories of the individuals diagnosed with AD and to understand their personal experiences during late childhood and adolescence. Using a

constructivist paradigm as the guiding framework for this study, I sought to provide the participants the opportunity to classify the significant elements that were worthy of investigation. The students with AD were also encouraged to explain how they came to understand their diagnosis, which in reality is a socially constructed phenomenon.

Epistemology

The constructivist paradigm allows for interactions between the researcher and participants. The interviewer and those interviewed work closely together and influence each other (Mertens, 2005). To find answers about socially constructed perceptions I facilitated a discourse with the people being interviewed. The participants guided the discussions and emphasized points that they felt embodied their experiences. My efforts to understand the social world of the individual with AD was motivated by a desire to provide school systems and clinical professionals with useful information about the accommodations that are needed to improve student success in the educational setting. These data may allow for more efficient and appropriate management of the often misunderstood behaviors of this population.

Because I was an actively engaged participant in the dialogue with the subject, I consistently worked to consider my subjective views in the production of this research project. Through the careful monitoring of data collection and analysis procedures, I attempted to provide an accurate account of each participant's experience. This included clearly identifying how my own values and biases may have affected the interpretation of the subject's reality.

For five years I worked in an educational setting with individuals with a variety of disorders. These experiences were integral to the design and implementation of this research project. I continually reflected on how this prior employment impacted my receptivity to the personal stories of the participants and appreciation of their unique educational experiences. In

the exploration of each participant's narrative, I remained cognizant of any attempt to compare these stories to a previously established model of AD.

Methodology

This research project was intended to be descriptive with special attention devoted to the personal narratives and reflections of the participants. The objective was to provide a glimpse into the subjective experience of the participants and to assist family members, teachers, and clinicians to understand this complex disorder. A multiple case study approach was implemented in the present study, using semistructured interviews to gather information about how college students diagnosed with AD understood and constructed their worlds. These narratives provided critical information about how the participants viewed or defined themselves. Participant reflections included reconstructions of life events and information that allowed for placement of the experience in a particular social context. Through the use of the case report approach the participants arranged the sequences of events and dictated what was essential in their story. This framework provided valuable insight into how these individuals with AD navigated conflict and what supports were utilized as they navigated their educational experiences.

Methods

Participants

The case study research design typically calls for the in-depth interviewing and recording of the stories of a single case or multiple cases (Creswell, 2007). This project included a sample of 10 individuals. The individuals for the study were identified through a criterion sampling technique. The participants included five individuals enrolled at a community college and five individuals currently attending a four year college or university. The participants had completed varying amounts of their post-secondary education. All individuals reported that they were

previously diagnosed with AD. Participants ranged in age from 18-26 years. The median age of the participants was 21 years of age. The students had been exposed to a range of educational experiences during middle school and high school. In this sample: (a) one student was home schooled, (b) two students attended private schools for students with an AD diagnosis, and (c) one student participated in a special education program designed specifically for students on the autism spectrum that was housed in their public school. Six students received services through the special education department but received most of their instruction in the general education classroom. The sample included 7 males and 3 females. AD is two to three times more common in males than females in the general population (Myles & Simpson, 1998).

The recruitment process began with efforts to gain approval from colleges and universities to distribute information asking for volunteers and explaining the purpose of the study. Contacts were made with the disability services centers at these colleges and universities. The search for participants was initially limited to colleges and universities in Massachusetts and New Hampshire. One student attending school in Rhode Island contacted me after she heard about the study from an individual working at the Autism Support Group in Massachusetts. Additionally, participants were recruited through ASD support centers including North Shore Arc's Autism Support Group, Asperations, and the Asperger's Association of New England. These sites were contacted by phone and provided with a description of the research project. Individuals who were identified as interested in participating were asked to contact the researcher for an initial conversation about the design and purpose of the research project. This conversation was utilized to establish the meeting time, site for the interview, and to discuss informed consent for participation in this research project. Individuals who participated in the interview were provided with a \$20 Amazon gift card for their contribution to the research

project.

Participants were provided with a consent form before participating in the study to ensure that they understood the purpose and methods of the project. It was made evident to the students that their participation in the project was voluntary and that they could leave the project at any time without consequence. To ensure that confidentiality was maintained, the information coded during the data collection procedures was housed in a locked, secure filing cabinet. The researcher and the members of his Doctoral Dissertation Committee were the only individuals with access to these records. There were no anticipated risks associated with participation in this study, though it is recognized that the disclosure of personal information can bring forth emotional distress. As a result, the researcher was prepared to provide participants with referrals to local mental health agencies, including college disability and counseling services centers, if they voiced a desire to seek services. See Appendix A for a copy of the informed consent form.

The collection of the personal reflections of college students with AD was significant for several reasons. The use of qualitative research with college students with AD was particularly intriguing because these students found a way to succeed despite the variety of challenges that adolescents face as they navigate the developmental period between childhood and adulthood. The move to college also typically requires increased independence as the student moves away from home. While middle school and high school have specific times for classes, in college students often have considerably more free time and must learn to balance their responsibilities. Additionally, as students move on to college, they are faced with greater social challenges and social inadequacies may become more evident.

Due to the relative newness of this diagnosis, students with AD presently participating in postsecondary education are some of the first to be exposed to modern diagnostic criteria and

interventions designed for AD. Only about 25% of youths with disabilities make the move to a college or university after completing high school (Getzel & Thoma, 2008). A large percentage of youths with disabilities express aspirations to attend college, but often these desires are disrupted as they approach high school graduation. In a research project that included tenth graders with a variety of disabilities, 77% of the sample reported a desire to attend college (Hitchings, Retish, & Horvath, 2005). However, the number of youths reporting this desire decreased over the next two years (Hitchings, Retish, & Horvath, 2005). Additionally, it is estimated that 25-30% of students with AD complete high school and only a quarter of these individuals go on to college (Ozonoff, Dawson, McPartland, 2002). Students with AD presently attending college have managed a variety of stressors in middle school and high school, and have knowledge of the skills and supports which contributed to their success.

Data Collection

Initially each participant was provided with a demographic questionnaire to complete. The questionnaire included questions about age, gender, race/ethnicity, and the age when the individual was first diagnosed with AD. This provided some basic information about the participant and helped to refine the questions asked during the interview. See Appendix B for a copy of the demographic questionnaire. The researcher then conducted a semistructured interview with each participant. All semistructured interviews were guided by an interview protocol that was organized around a set of open-ended questions. See Appendix C for a copy of the interview protocol. The interviews began with open-ended questions which were followed by probing questions. The probing questions were employed to gain greater insight into issues relevant to the identified research questions. The stories that were gathered from these interviews included information about their day to day life. The researcher looked specifically to gain

insight into how the individuals described their educational and interpersonal experiences. Of particular interest was how the participants handled conflict or stressful situations. Coping strategies and supportive measures were documented. Observations of mood, appearance, and behavior during the meetings were recorded by the interviewer.

The questions outlined in the interview protocol included some topics directly related to specific research questions, but the format was changed slightly as the conversations progressed and participants identified important components of their educational experience. There was some variability in the length of the interviews. Some individuals were more verbose and provided a richer description of their experiences. The shortest interview lasted for one hour, while the longest lasted two hours. Before the interviews took place the researcher spoke with each participant to determine a comfortable environment in which to hold the meeting, because some individuals with AD experience difficulty with transitions and feel more comfortable and work more efficiently in a familiar environment (Portway & Johnson, 2003). For most of the interviews, a room was reserved at a public library, located near the primary residence of the participant. In one instance the interview took place in the disability service office at the university where the student was enrolled. Three interviews took place at the researcher's office, at a community mental health center.

Before the interview each participant was provided with information about the format of the interview and potential topics. This allowed the participants to come to the first meeting with a clear understanding of the procedures and facilitated rapport building. Each meeting was recorded and soon after the recording was transcribed verbatim and identifying information was removed. The participants were informed that the digital recordings would be deleted once the project was completed and passed by the dissertation committee. Digitally recording the

interviews provided the researcher with the opportunity to access the original conversation and to clarify portions of the transcript.

Data Analysis

The analysis of data in a qualitative study is quite different than most quantitative research projects. In qualitative research this process is not restricted to the final stages of the project (Mertens, 2005). Instead data analysis is a continual process that affects all stages of the research project. The process of data analysis was clearly outlined, but did not abide by rigid guidelines. Initially each narrative was read and elements of importance were identified. These pieces were then chunked into categories. These categories were then compared and new themes generated. These data were then compared with previous research and used to identify interventions and supports of significant value to teachers and support staff working with students with AD.

I used a series of tasks to guide data analysis which occurred throughout the data collection process. Initially, I replayed each interview from the digital recorder and transcribed the conversation. Each interview was entered into a computer file. At this stage I began to note initial impressions as they became evident during the transcription process.

Level I—identification of relevant components of the narrative. Once the transcriptions were complete I carefully read each of the narratives, spending considerable time with each transcript before moving on to the next. Initially, I went through the transcriptions to identify important ideas. With each transcript, I then begin to group specific ideas and created handwritten notes in the left margin to identify items that were perceived to be of interest or significant. I attempted to designate important components of the text and identify any specific relationships among events. General impressions and patterns that emerged, along with

commonalities and differences among cases were noted. Each narrative was broken down into more succinct and meaningful segments through the identification of specific categories. The patterns and themes that emerged during the analysis of the initial conversations contributed to the alteration of the phrasing of some questions utilized during the remaining interviews. These alterations were implemented to promote a more comprehensive understanding of how each student navigated both middle school and high school.

Level II—sorting of themes and development of codes. Next, a variety of codes were developed to organize the notes from within the left hand margin and the highlighted text. These codes were used to categorize words, phrases, and passages that were deemed relevant to the research project. I then returned to the coded transcripts and organized the coded information into related groups. These related groups of data were then reviewed and used to identify specific themes that emerged from the interviews. Once the themes were identified I reviewed the coded data and related groups of information to assess which themes were well supported. As I became more familiar with the material I was able to decipher both major and minor themes from the text. I looked specifically to identify repetitions in metaphors, transitions, and theory related material.

In the next stage themes were sorted or filtered and compared to the goals of the research project. A hierarchy of themes was constructed and the themes which were relevant to the study were incorporated. To facilitate this process various matrix data displays were utilized to examine themes that emerge from the summarized data. See Appendix F for data displays. The matrix data displays allow for the focused and systematic display of pertinent information from the numerous pages of text that were gathered during participant interviews. The matrices contained defined rows and columns and the format was driven by the specific research

questions outlined in this project. The data entered into matrices include specific points in the interviews where themes were identified.

These matrices were utilized at different stages of the data analysis process. Initially, the matrices assisted in the clarification of the basic relationships among events and eventually assisted in the identification of more causal explanations (Miles & Huberman, 1994). It is important to note that these matrices required clarification and any conclusions drawn from the matrices were included in “analytic text” (Miles & Huberman, 1994, p. 100). Analytic text includes typed descriptions of the essential components of the data display. The researcher recorded how he understood the data, connected important points, and developed interpretations of the data. This process allowed for further summarization and identification of additional themes of categories. The themes that were sorted and verified for each interview could then be compared to the results from the other participants to identify themes or categories which were present across cases.

Level III—formulation of interpretations. As selected themes were sorted the researcher began to formulate interpretations of the various findings and compared information to the theoretical literature (Smith, 2003). To accomplish this task the researcher needed a solid understanding of the available research on students with AD and the narratives that the participants provided. This required frequent re-examinations of the original transcripts to clarify whether identified themes and categories were accurately connected to specific passages or phrases from the text. The themes that emerged from the various narratives were then compared and modified as ideas were generated from the re-reading of each participant's story.

Additionally, feedback from participants about the formulations derived from the narratives was sought out through “member checks.” Each participant was e-mailed a copy of the

summary from his or her individual interview. The summary included a description of key points and themes that were identified during the analysis of their individual interview. Each participant was provided with up to two weeks to review the summary from their interview. This provided an opportunity to clarify whether formulations generated by the researcher were consistent with the ideas expressed by the participants. Of the 10 interviews that were completed I received feedback from 9 of the participants about the summaries from their interviews. After two weeks the remaining student was sent a reminder email about the need for their feedback, but the researcher was unable to contact this individual. As a result, 1 of the 10 participants did not provide any feedback that could be included in the results section of this project.

Procedures for Quality Control

To ensure the quality of this qualitative research project, the principles delineated by Guba and Lincoln (1989) were considered during both data collection and data analysis, including (a) credibility, (b) transferability, (c) dependability, (d) confirmability, and (e) authenticity. The first concept under consideration was credibility, which has been related to the internal validity measure in quantitative research (Guba & Lincoln, 1989). Credibility is a gauge of the precision with which the researcher portrays the socially constructed perspectives and world views of the participant (Mertens, 2005). To ensure credibility was maintained the researcher practiced prolonged and substantial engagement with the participants and member checks (Mertens, 2005).

Mertens (2005) does not identify a specific amount of time that is required to meet credibility requirement, but indicates that once themes begin to repeat themselves that it might be acceptable to leave the site. I worked closely with each participant until they had the opportunity to adequately describe their experiences growing up with AD. Initially, the development of

rapport with each participant was essential to ensure that they felt comfortable enough to respond to questions about their educational experiences. Throughout the interview it was also important to assess the participants comfort level and level of fatigue. The use of a semistructured interview protocol allowed the participants to identify components of their experience that they believed were essential to their academic success and eventual acceptance into college or university.

Another critical component of this project was member checks. "Member checking," which Guba and Lincoln (1989) point to as "the most critical technique for establishing credibility," (p. 314) was utilized to gather the participants' views of the researcher's findings and interpretations. Participants were provided with a summary of the data to review. This strategy allowed the researcher to query participants about the formulations that have been derived from the narratives (Mertens, 2005). After the interview the researcher provided participants with an informal summary of the collected data and allowed time for feedback. Each participant was emailed a copy of the summary from their individual interview. Each participant was provided with up to two weeks to review the summary. This provided an opportunity to clarify whether formulations generated by the researcher were consistent with the ideas expressed by the participants.

Guba and Lincoln (1989) also devised the concept of transferability and associate it with the term external validity. External validity is related to how the results of the study can be applied to similar groups in different settings. In the present study the researcher interviewed individuals who previously were exposed to different academic accommodations during middle school and high school and who currently attend different colleges or universities in Massachusetts, New Hampshire, and Rhode Island. Additionally, I provided elaborate

descriptions of each participant from the information gathered during the interviews. This includes details pertaining to time, place, context, and culture (Mertens, 2005). A semi-structured format was utilized when interviewing the participants. Open ended questions allowed participants to present their point of view and provide evidence of how they interpreted their experiences. The clear depictions of these stories allow the reader to decide if the results can be generalized to other settings. However, due to the small number of participants it may be difficult to generalize the results to other students with AD. The small sample size must be considered when reviewing the conclusions that emerged from the data and the inferences that were developed pertaining to the accommodations that may prove helpful for this population. However, the study generated ideas which will allow for more focused and controlled research with larger samples.

Guba and Lincoln (1989) relate the concept of dependability to the term reliability which is frequently referred to in quantitative research and is associated with consistency over time and different raters. This project was guided by the principles of constructivist paradigm, which contends that reality is socially constructed. Therefore, elements of the study were expected to change (Mertens, 2005). As I met with each participant and gained a greater appreciation for their perspective of what it means to be a student with AD, I adjusted the phrasing of certain questions used during the interview to better investigate the details related to their educational experience. I found that I needed to simplify some of the language in the interviews to make sure that the questions were easily understood. I also provided additional time for them to answer the final question from the interview, which inquired about additional information they believed was important for teachers and school personnel to know about students with AD. To ensure that others could identify any alterations from the original design, the reasons for any changes in

procedures were clearly outlined and recorded.

Additionally, the synthesis of data and categorization of themes was subjected to a peer review by a colleague. This colleague reviewed the emerging constructs and critiqued whether the process of the study was consistent and stable over time. The peer reviewer ensured that any changes in procedure were clearly explained and identified. The peer reviewer was provided with a selection of the summarized transcripts and had the opportunity to examine the themes that were identified. The peer reviewer then provided feedback about whether the identified themes could be traced back to the text and whether the procedures had been identified and followed precisely. This helped to clarify whether the identified themes were based on the information presented by the participants and were not biased by my expectations or what I anticipated to uncover from the analysis of the interviews.

Guba and Lincoln (1989) established the term confirmability to be used similarly to the concept of objectivity from more quantitatively based research projects. Confirmability pertains to whether the researcher's explanations are relevant to and representative of the findings from the project. To ensure confirmability I meticulously record the data analysis process and maintained a "chain of evidence" (Yin, 2009). This includes the electronic and hard copies of interview transcripts, the coding of transcripts, selection of themes from the transcripts, and the synthesis of data to generate inferences. The delineation of the procedures that lead to the specific results ensures that an independent reviewer could discover the sequence of data collection, trace the path of specific findings from the research project, and ascertain similar findings from the data (Mertens, 2005). This includes information used in the analysis of various codes and themes from the interviews.

The researcher is considered authentic in the research project if he is able to present the

material in a way that incorporates the perceptions of the researcher with those of the participants and holds true to the concepts outlined in previous research on the topic (Mertens, 2005). To assess the authenticity of this research project I worked to examine whether or not I was giving precedence to any one perspective. I was forced to examine my own biases and see if they had affected the interpretation of the participants' narratives because the case study technique demands a great deal of interaction between the interviewer and interviewee. I examined how my values and beliefs might have impacted how the stories of each participant were portrayed. I worked carefully to provide an accurate picture of the participants' subjective experiences through consistent review of the transcriptions and the interpretations that I derived from the transcriptions. This also included a careful consideration of their perspectives and their socially constructed reality. The authenticity of this project was also assessed through the use of member checks and peer review.

Reporting of Results

In reviewing the interviews of the college students who participated in this study, a number of important topics and ideas emerged pertaining to their experiences in middle school and high school. To isolate the ideas and themes in need of further examination the original questions which provided the foundation for this project were consistently referenced throughout the data analysis process. Through a series of comparisons and analyses across the 10 cases, specific themes surfaced which highlighted the needs of this population and corresponded with the previously established goals of this research project.

Factors that Facilitated the Students' Completion of their High School Education

It became apparent that the identification of the symptoms and eventual diagnosis of AD was an essential step in the recognition of the needs of each individual. The diagnosis provided

valuable information for both the student and those supporting the student in regard to how the components of this disorder might impact a student's performance in the classroom. In several interviews, students reported that they were labeled with other diagnoses prior to being diagnosed with AD and that this often contributed to confusion for both the student and those who supported the student. Medications and interventions not specifically formulated to address issues relevant to AD were frequently employed and sometimes contributed to significant side effects and little reduction in frustration for the individual. In some instances students were labeled as lazy or unmotivated by teachers and school personnel before the diagnosis of AD was established.

In many instances, the diagnosis provided some relief as students were able to have some explanation for why they exhibited certain behaviors or felt different from their peers. The establishment of the diagnosis allowed the difficulties they experienced in the development and maintenance of relationships with peers to be put in a new perspective. They could begin to see the possibility for growth in deficit areas through instruction and appropriate supports. Additionally, the difficulties they experienced were reinterpreted as a product of the disorder and personal blame could be minimized. These findings indicate the importance of early identification and a greater understanding of how the various components of AD can impact a student's behavior and overall presentation:

Well, I've always known I've been different. I know how cliché it sounds to say that line out loud. Even before my mom started taking me from one kind of thing to another I wasn't like other kids. I always knew there was something wrong with me, or different for the very least. So, nothing really seemed to fit, no medication would work, no psychology was effective. It was at least knowing what I had that helped a lot in coming to grips with it, because not knowing was worse.

The diagnosis in many instances opened up opportunities to participate in special

education services and the development of an Individualized Education Plan (IEP). The IEP provided access to accommodations in the classroom and the possibility of an educational experience that was adjusted to their learning needs. In most instances, the students participated in an evaluation for special education services and this provided information about their cognitive and achievement abilities, allowing for further refinement of their IEP. Additionally, involvement in special education services required review of their progress annually and a re-evaluation every three years to further assess their academic and cognitive abilities.

In many instances, the establishment of the diagnosis of AD and eventual enrollment in special education services allowed for students to feel connected with others with specific learning needs. The social difficulties and the inconsistencies in the classroom frequently contributed to students feeling isolated and reinforced the idea that they could not be as successful as their peers. However, after the diagnosis was established and services were initiated, the student could witness and understand that they were not alone in these difficulties:

I think it was the kinship of sitting around other people who were struggling just as much as I was. And just the vibe coming off in the room, we are all struggling but we are all fine. Where in other situations where I would take tests in the regular education classroom and I would be worried too much about like what is the point of doing this, everyone else in here is smarter than I am. They know what they are doing, so it was definitely the aura of sitting in a room with everyone else that was struggling.

Participation in special education services allowed students with AD to interact and observe students with a variety of learning needs. This contributed to an understanding of the idea that all students present with a combination of strengths and weaknesses. Their unique learning styles or means for acquiring knowledge could be viewed more positively and did not necessarily have to indicate a limited capacity for success in the educational setting. Additionally, after the diagnosis was established a number of students participated in activities outside of the school where they attended social groups or activities for students on the autism spectrum. At these events they

could hear about the stories of other students with similar social and academic needs.

Participation in these activities allowed students to feel connected and united with others as they developed an appreciation for the diversity of learning and social needs of students on the autism spectrum.

Meeting Educational, Social, and Emotional Needs of these Students with AD

Role of the teacher. A theme that was evident throughout a number of the interviews was the need for more flexibility in the classroom and a greater appreciation for the different learning styles of each student. Teachers cannot assume that each student diagnosed with AD will present similarly or encode information in the same manner. In the interviews, some students were primarily auditory learners, while others reported that the utilization of visual cues assisted with memorization and recall. One student's strategy for gathering information from lectures was misunderstood and contributed to punishment from teachers:

The best way to pay attention is to not be paying any attention at all. If I let my ears take in the entire lecture and let my eye do anything else I can take it in a lot better. So in middle school I picked up the trick of hiding a book beneath my desk and reading while the teacher would lecture. They did not like that, they did not think I was paying attention and often accused me of cheating when I did well on tests, but it is just how I took in information.

Students with AD also appear to benefit from having close relationships with their teachers, where the teacher can become aware of their specific areas of strength and weakness.

Continually, students found more comfort and more positive results in the classrooms where they felt a connection with their teacher and the teacher had an appreciation for their specific learning style. There was not one particular teaching style that emerged from the interviews as being the most effective. However, there was consistency in the notion that students felt that they often took in information differently than many of their peers and there was a need for greater flexibility in how information was disseminated to students. Through interaction with the student

and consultation with parents and other support personnel the teacher could develop a greater appreciation for the student's unique style of acquiring skills. With this information they might integrate areas of strength or specific areas of interest into the curriculum, allowing for students to become engrossed in their work and to experience increased feelings of self-efficacy within school.

Introduction of assignments. Of particular importance for many students was the manner in which assignments were introduced and the support the students received during the initiation of these tasks. A number of students described a sense of being lost or confused after instructions were provided and the need to seek out assistance for clarification:

For me, sometimes I need people to explain things to me differently than someone else to understand the assignment and what is the first step I will do with this assignment or project. Because sometimes I get stuck or frozen up and can't find a way to successfully start a task.

This student consistently reported that he simply needed a slightly altered instruction at the beginning of assignments in some classes. Without this individual attention and rephrasing of the instructions he was often lost and struggled to make progress on his work:

I need to know the name of the forest because all I'm going to see are the trees. I might need a slightly different way to think about something, like how to approach some sort of math problem. I need a place to start, I mean well sometimes I'll have an idea, but if you just say do a ten page essay on what you learned, I'm like I need a starting point. I need a spark, one rock in the sea to start building off of.

There often was a preference for directions to be broken down into smaller parts and a desire for alternate explanations. At times students required specific guidance in how to start assignments because the procedures for initiating the task were not evident to them. There seemed to be some difficulty with the isolation or integration of ideas in those initial stages of the projects or assignments. However, with some rephrasing of the instructions and specific prompts to

previously acquired knowledge the students were typically able to manage the task more efficiently and effectively. Strategies to manage these difficulties frequently included graphic organizers or outlines pertaining to the procedures for how to approach a project.

Accommodations. Providing a copy of the notes for class lessons or partially filled in notes for lectures was reported as a particularly helpful accommodation that many of the students received in school. Writing for these students was frequently reported as quite laborious and several students indicated that their notes were often illegible. Without prepared notes, they sometimes struggled to keep up with the lectures because they were required to listen and take notes at the same time. This may be related to the fact that some individuals with AD struggle with fine motor difficulties. The recording of notes during lectures requires the integration of both verbal reasoning and fine motor skills.

There were also a number of other supports or services that students received in school that they found helpful. Several students with AD found that they benefitted from having the option to complete tasks outside of the general education classroom. For some students this included small group instruction in the academic areas in which they consistently struggled. Others preferred the opportunity to spend significant parts of their school day in a special education classroom where they received supports in all academic areas and strategies to address social difficulties. Still other students used the special education classroom simply as a place to take tests and quizzes. Reportedly this allowed for improved concentration and focus, because there were fewer distractions. Also, there was decreased pressure to complete work at a pace similar to their peers.

Consistently students reported that they often took longer than their peers to complete test and quizzes and that this contributed to frustration and decreased self-confidence. They were

able to provide the correct answers, but simply struggled to demonstrate their abilities at a pace similar to their peers. Completion of assignments in the special education room allowed for extra time and increased individualized instruction, which many students reported as instrumental to their success. In addition, several students reported that while in the general education classroom they were frequently hesitant to seek out clarification on assignments. Teachers often seemed frustrated with the questions they posed and consistently were not able to provide the instructions in a more clear and concise manner. While in the special education room students felt that they were encouraged to express concerns or to request assistance when they were struggling.

The special education room also served as a place to relax and take breaks during the school day. For some students a place to relax was the most important accommodation as it provided a respite from the often overly stimulating environment of the general education classroom. A typical school day includes a number of transitions that students are expected to manage independently. Students must consider the supplies they need for each class and to shift cognitive sets as they move from one subject area to the next. While in school the student must also devote attention to tasks for extended periods of time and manage a combination of structured and unstructured periods of time with peers. As a result, the efforts to manage a typical day was often quite taxing for the student with AD and the special education room served as a safe, supportive environment where the student could regroup. Teachers and staff in the special education room frequently assisted students with organization and with conflicts with other students, and directed them to coping strategies to manage elevated levels of anxiety. Once students calmed down they could then return to the general education classroom feeling prepared and supported.

Participation in special education services also sometimes allowed for support from a

teaching assistant or teacher's aid in the classroom. This individual could provide assistance in a variety of areas depending on the needs of the student. In some instances this included efforts to address organizational issues and check-ins with students to assess their level of comfort in a particular situation. Many of the students reported that they were more comfortable asking questions to a teaching assistant or special education staff members than their regular classroom teachers. The teaching assistant provided guidance for how to initiate tasks and alternate explanations of assignments. Of particular importance was the opportunity to assist students with AD when activities required students to work in groups or with a partner. Finding partners and working collaboratively on a group project was frequently identified as a challenging endeavor. But having a teaching assistant provide some guidance and helping them to find a compassionate peer to work with often decreased anxiety and helped students navigate these social interactions more appropriately.

In some instances the students reported that they had access to a teacher's aid but did not require a great deal of support to meet academic demands. However, it seemed that the students found it comforting to have someone with whom they were familiar to assist them with organization and to provide prompts to important items that required their attention. Also, it was sometimes easier to speak with a teacher's aid with knowledge of their particular learning style and who could provide instructions based on this knowledge. Support staff could also assist students with transitions by preparing them for unfamiliar situations that occurred throughout the school day.

Several students from the study also participated in school programs developed specifically to assist students on the autism spectrum. These programs typically provided a small classroom setting, with several teaching assistants available to address questions or concerns. In

some of these settings, the students had access to quiet spaces, where they could take breaks or complete work with fewer distractions than in the regular classroom. Of primary importance seemed to be the fact that in these environments the students felt comfortable and they believed that teachers knew them well. This included knowledge of the students as an individual and what supports were needed to allow them to access the curriculum. The teachers also appeared to be most effective when they had experience working with students on the autism spectrum and knowledge of the strengths and weaknesses of these students.

Some students felt that the teachers in these classrooms acted proactively, monitoring the emotional states of the students. The teachers could then direct them to take breaks, inquire about their emotional state, or give them a simple prompt to resume their work. The teachers could anticipate where the students might have difficulty and prepare them for unfamiliar situations that might arise throughout the day. Additionally, they could provide guidance in how to address social problems that arose throughout the day and give feedback about the student's social functioning.

Social difficulties. Each interviewee included details of difficult experiences with peers and struggles in interpersonal interactions. Students in many instances felt isolated and in some situations initiated behaviors that pushed others away because they simply did not have the knowledge of how to be involved with peers in an unfamiliar setting:

I didn't know how to deal with other people, so I stopped dealing with people. I would intentionally do things that would push people away. I wouldn't bathe for example. So I developed a smell and people would stay away from me. So I did everything I could to distance myself from people and give them a reason to leave me alone.

These difficulties point to the need for adult support to address the social deficits and help students to build relationships. In many of the interviews, the students reported that they

participated in social skills groups either in school or through agencies outside of their school. The groups varied considerably in their format. Some provided direct instruction and opportunities to role-play scenarios while others simply were open formats where students mingled together with little guidance.

Social skills groups. In some instances, the students reported that the groups allowed for considerable growth in social skills and provided the foundation for future relationships with other group members. In the more structured groups student practiced games like charades and watched videos to explore social interactions and the wealth of information that is provided through nonverbal communication. The students also practiced conversations and receive feedback about whether they remained cognizant of how their manner of interacting impacted the other individuals involved the conversation. The continued practice and exploration of these ideas allowed individuals to feel more confident in initiating conversations with others and provided some guidance in how to behave in a more socially acceptable manner:

I think the most help was my social skills class. It was a really good skills class. Ms. B, was the one who taught it and she was good at doing it. She did a mix of getting us to eat in a group during lunch and she would show us movies that had prominent people who had Aspergers. We could talk about the dos and don'ts in social skills. We did sort of mock conversations and sort of...what would you do in this situation sort of thing.

Opportunities to review films and actors portraying characters also contributed to the accumulation of ideas about how to behave in different situations. One student spoke about his ability to reference previously viewed movies and utilize images from scenes in these movie to understand how to best manage an interpersonal situation:

So what I would do is go back in my mind and go back into my database of all these responses that I should do in these certain situations that I have seen in films. Because in films I could instantly see that by this person doing this action what repercussions did they have later on for them...So that was what I would use, so if anybody was crying I would pull up every image I've ever seen of anyone crying and what was the response of

the person closest to them.

Students with AD may have difficulty understanding how another person may be feeling in a given situation, but can utilize previously viewed scenes depicting how to respond in a social situation and utilize this knowledge to manage the interaction appropriately.

Other methods for improving social skills. It is important to note that some individuals also expressed that they learned to interact more effectively through other means besides social skills groups. Theatre and acting opportunities proved to be a valuable method to learn about relationships and to gain greater awareness of how their actions or behaviors might be perceived by others. The process of taking on a role and attempting to present a particular character provided the opportunity for students to look at a situation from another person's perspective. Through instruction and practice students learned to better monitor themselves and work to present themselves in a more socially appropriate way. Also, watching others portraying a character allowed for opportunities to reflect on a character's behavior and to witness the demonstration of emotions. Several students reported a fondness for acting and discussed how they felt like they were consistently playing a character and considering how to demonstrate more socially acceptable behavior:

I had this wonderful teacher who I went to once a week and she helped me to come out of my shell even more. When I first went to her and I talked, which was rare you could barely hear me. She got me speaking and thinking about movement, her acting group really helped me to understand about body language and movement. Like I need to look at people because how else would anyone know I was talking to this person?

Additionally, a variety of games or activities provided opportunities to practice interactions with others in a safe environment. Students found that they could often integrate themselves into group activities more easily when they shared a similar interest in a game or activity. The games provided a familiar format for them to build from in their relationships with

others. Particularly important was the idea that the game provided a specific set of rules which the student could rely on for direction on how to act or behave. The rule book for each game indicated specific steps or procedures that each participant could follow and provided a level of predictability. This is in stark contrast to what the student with AD experienced in social interaction, where there is no specific rule book that dictates how to behave or respond while engaged in a conversation:

I was able to spend time together with people, without actually focusing on the people. I could spend time focusing on the cards and the games and I could wile away afternoons with people I didn't know or friends without ever looking anyone in the face once. Since then I have branched out into another game called dungeons and dragons and that got me into the group of friends that I have now. Because again I can spend entire days with these people while talking about something completely different.

The game provided a format that was predictable and this allowed the student to start to engage with peers and feel like he could interact successfully:

And I think that the thing with playing video games that people on the spectrum have talked about and I agree with them on, it is that sense of having full familiarity with something and knowing that this button does this, this button does that, it's a very rule, math based mindset or just, I know what every combination of buttons does. It is having that knowledge that there is at least one world where I can properly work and flourish in.

Bullying. A number of student also reported problems with bullying throughout their middle school experience, which contributed to considerable frustration. They typically did not feel like they were well supported in the management of these issues. In some instances they actually felt that they were identified as the problem because they struggled to express their feelings and the impact of their interpersonal difficulties. The students were unsure of how to manage the stress and at times they acted aggressively and experienced significant punishments from school officials. Their efforts to manage the bullying often contributed to further isolation and apprehension about engaging with others. Important to note is that the middle school years

were often associated with the greatest amount of bullying and these difficulties seemed to dissipate as the students moved into the later stages of high school. These differences may be related to developmental changes and the greater maturity of students in high school:

In middle school it was still you're my friend, you're not my friend, those are the boundaries. In high school people were trying to get things done and I think simply I was a capable person, who didn't ask for much, which meant I was useful to a lot of people. As such, people started to like me because of what I was doing.

With adult support several students found increased pleasure in their social interactions and improved self-confidence when they were able to become part of a group or organization. In some instances these groups included other students with AD, while some participants found connections with peers through after school clubs and extracurricular activities. Students learned that they could be successful in these situations and that others valued their contributions. While previously they had felt confused and out of place when trying to engage with others, with guidance and support some students were able to develop a supportive group of friends in school. While typically it was not easy, the opportunity to be a part of a group allowed students to see the benefits of connecting with others through positive relationships. Additionally, finding the group of accepting peers often contributed to greater self-confidence and a heightened sense of satisfaction with their high school experience.

Emotional difficulties. A majority of the students reported some concerns related to anxiety. Anxiety appears to be a prevalent issue that needs to be addressed to maximize the potential of these students. While they may have possessed an average to above average IQ, the elevated anxiety seemed to impact their capacity to access the curriculum and demonstrate their knowledge. Elevated levels of anxiety were demonstrated in a variety of ways for the various participants. Some students became disregulated or experienced panic attacks, while others withdrew and isolated themselves to avoid potentially uncomfortable situations. Some students

exhibited an increase in motor or phonic tics or sought out sensory stimulation to quiet the physiological upheaval they experienced.

Several of the students indicated that the general education classroom was a particularly difficult environment to manage and was viewed with considerable trepidation. The students often did not feel that they possessed the skills to independently manage the combination of everyday interactions with peers and the academic expectations. In many instances students were expected to engage in activities with partners or in group projects which required skills that they did not possess. Unfamiliar situations or events at school also tended to provide considerable difficulties and contributed to an increase in anxiety for these individuals. The students expressed that in these circumstances they felt unprepared and without a reference for how to act or what to expect from the situation. In some instances simply the wording or requirements of particular assignments could be overwhelming and contribute to emotional disruption:

During the MCAS testing (a test given to all students in Massachusetts), one of the MCAS things was about a medieval army killing each other and I went...crazy, well not crazy, but I kind of got anxiety and it was...and I couldn't deal with it correctly. So they took it away and said we will work on it tomorrow. And then the next day they said start where you left off and then I started panicking again.

In this situation the staff did not understand that the test materials were contributing to the emotional disruption and they continued to expose the student to the material:

And the teachers would get frustrated with me because they didn't understand, the other students would get frustrated because I couldn't communicate with them...socially. I couldn't socialize in an unsafe environment, which for me was a bunch of loud, rowdy kids I didn't know well and I didn't have the skills to start a conversation. So I would just be frozen up with social anxiety.

The narratives revealed that many of these students were forced to manage elevated levels of anxiety for most of their educational experience. Due to difficulties with the identification of their own emotions and difficulties describing their feelings to others these students frequently

struggled without much direct intervention from teachers or parents. With greater awareness of the prevalence of this issue, more direct support and treatment of the anxiety can be provided to students with AD to ensure that anxiety does not impact their ability to access the curriculum.

Sensory difficulties. It is also important for teachers and support staff to be aware of any sensory difficulties or sensitivities that might be impacting their students with AD. A majority of the students reported some issues related to the integration of information received from one or more of their senses. These issues must be addressed for the student to be able to function socially and consistently access the curriculum. In some instances the issues related to sensory sensitivity proved to be quite overwhelming and distracting:

I also don't like being wet, I can generally deal with it if it is just my skin, but wet clothing is just terrible. I focus on it, if I have, like if I splash my pants, there is a tiny part of my brain saying wet pants, wet pants, wet pants, and if it is on my skin it just distracts my attention so much that I lose track of everything around me, until I've dealt with it.

However, with some simple preparation, students can be less preoccupied with possible sensory disturbances. Several students reported that they were allowed to transition between classes either a couple of minutes earlier than their peers, or a couple of minutes later than their peers.

With this accommodation in place they were not forced to navigate the busy and loud hallways at the same time as a majority of the student body. This issue is particularly prevalent in middle school and high school where the student body is typically larger than in elementary school.

Also, some simple modification proved helpful for some students to manage the frequently reported difficulties with fire alarms and the school cafeteria:

One other thing I forgot to say is they would warn me before fire drills and even let me leave the building before the alarm went off, so that was very helpful with the anxiety. Also, I was anxious in the cafeteria with all the kids and the noises. More the noises than the smells, but the smells could be kind of bad. So more than half of the 8th grade year I ate with the inclusion teacher and several other adults.

There is the possibility that early intervention might also prove helpful to address some sensory

issues, so that they have less of an impact on a students functioning in adolescence.

Desensitization strategies made a previously unbearable stimulus less distracting and anxiety provoking for one student in particular. The participant reported that when she was a child her parents ran brushes over her arms each night and this helped to reduce her sensitivity to various types of clothing.

Managing deficits and capitalizing on strengths

There is a continuing need for school personnel to understand that students with AD are “twice-exceptional learners” (Bianco et al., 2009). These students can present with impressive strengths and specific weaknesses, which may make the planning for and provision of the appropriate services quite difficult. Knowing the individual student is instrumental to understanding how to meet his or her needs in the school environment. This includes an awareness of how the symptoms of AD are demonstrated and the range of academic strengths and weaknesses each student possesses. With this knowledge teachers may be more likely to find ways for these students to express their strengths and to be completely involved in classroom activities. When students with AD are provided with supports that allow them to engage in class they can often provide opinions or ideas which might be overlooked by others:

Well in language arts one of the things is I don't think of it like other people, but I am insightful in other ways. For example, in talking about it I will come up with things that other people don't think of when I read it and I might introduce a new ideas.

Interactions with adults. Several students spoke about positive relationships with adults, particularly teachers who took action to minimize the frustration and anxiety that they experienced. It may be important to involve students in activities where they can converse with adults as several students reported that were more comfortable communicating with adults than others their own age throughout most of their lives. The students often found their interactions

with adults to be enlightening, where interactions with other students their age tended to revolve around topics they found frivolous. They seemed to be uninterested in many of the topics which their peers discussed, which often wavered with changing trends and relationships:

Well, I prefer to be around people who are adults and are older. They are easier to understand....they weren't worried about this classroom because they hated it, or this person because of their relationship. It was all this stuff that blew over in a matter of days, but when I would talk to someone older there was always substance and there was sustenance to it and that was always a great thing.

These conversations with adults provided opportunities to feel connected with another person in the school environment and also allowed for the teachers to gather insight into the specific needs of the student. In several instances the teachers became aware of particularly stressful situations for the student and took steps to address the conflicts appropriately. By addressing the stressors the students became more comfortable in the school environment and were able to more actively engage in classroom activities because they were less preoccupied with these stressors.

Additionally, by engaging the student in conversation about their interests the teachers became aware of capacities which might have been overlooked or gone unrecognized. In some instances the teachers were able to integrate this information into classroom assignments and students were able to become completely engrossed in the topic.

Parental support. Additionally, the support of parental figures was also consistently reported as a crucial ingredient to the success of these students. In many instances parents advocated in the schools for appropriate accommodations and often had consistent contact with the school personnel to ensure that the accommodations were being utilized within the classroom. At times, parents had to address misconceptions of their children who often were labeled as lazy or simply unmotivated. Frequently parents researched the diagnosis or sought out information and then brought this information to teachers to provide insight into their child's

behavior or educational needs. Besides providing access to literature on the topic of AD the parents also provided teachers and support staff with insights into the daily functioning of their child and information about learning styles and special interests.

Parents were also frequently burdened with the task of explaining the diagnosis of AD to the student. This included providing the student with information about both the strengths and weaknesses associated with the diagnosis. Parents provided details about the specific diagnostic criteria and how they contributed to difficulties both in the school setting and in the community. The parents were also responsible for finding opportunities for social skills development outside of the school and managing the emotional disruption that resulted from the stressors that students experienced in the school environment. Particularly important was recognition of their strengths and identification of activities that might allow for the demonstration of these skills. While at times the activities appeared unusual, the students consistently indicated that their parents were accepting of their eccentricities and found ways for them to express their interests.

Parents were also typically responsible for guiding the search for the appropriate college or university for their child. Parents often sought out and contacted members of the disability services departments at colleges or universities to inquire about the supports available for students with AD and to gain insight into how their child might adapt to the novel environment. A number of the students stated that their parents discussed the benefits of additional training and education and how college might allow them to increase their focus in special interest areas. In most instances, the participants expressed that they never felt forced to enroll in college level classes and that they were provided with guidance and support as they contemplated the decision. Additionally, the fact that the students were previously diagnosed with AD was not presented as an impediment to this endeavor or a reason to not pursue goals for the future.

Discussion

The stories that emerged from these interviews indicate that the school environment presents a variety of challenges and also a wealth of opportunities to assist students with AD. The challenges that arise are not limited to the social difficulties that are often associated with AD, but also include problems accessing the curriculum along with elevated levels of anxiety or depression. However, with the appropriate level of support, guided by an appreciation for the various components of AD, these students can find success in the educational setting and make the transition to college. Additionally, these students can become valuable members of the school environment and their unique processing abilities can contribute to opinions and perspective that allow for insights that might be overlooked by other students. This corresponds with the ideas of Hans Asperger, who argued that individuals with AD have capacities and potential which are of considerable value to society (Frith, 2004)

When considering the factors that can facilitate the success of students with AD, of primary importance is the development of a school environment that nurtures the diversity of learning styles and abilities of its students. There seems to be a demand for a greater appreciation of the range of abilities that students possess. This includes an acknowledgement that intelligence is a complex construct that is not easily measured and that can be expressed through a range of abilities (Flanagan & Harrison, 2005).

Teachers and support staff play an integral role in the development of this more accepting culture within the school system and the dissemination of the idea that all students present with a combination of strengths and weaknesses. While this idea may be evident to adults, students are constantly using their peers as a reference point and may not be cognizant of the fact that students process different types of information with different levels of efficiency and

effectiveness. The promotion of this idea may allow students of varying intellectual abilities and learning styles to feel connected to other students and less isolated during their academic pursuits. This may also reduce the chance that they will compare themselves unfavorably to their peers because they feel less skilled or intelligent. In the interviews the students consistently expressed that participation in special education services provided some relief because it allowed them to work with other students with specific learning needs and to see that they were not alone in their academic struggles. They could see that teaching strategies frequently required adjustment and catering to other students' capabilities and learning styles. Additionally, adjustments of the school culture may also allow for a reduction in bullying for students who are ostracized because they present as socially odd or strange (Little, 2001).

It is also of great importance for teachers and support staff to acknowledge that each student with AD is unique and that they must get to know the individual to understand how they take in information and how they demonstrate the symptoms associated with AD. Some students may learn well when exposed to lectures and others may require a combination of auditory and visual instruction. Some students may be overwhelmed by various sensory stimuli, while others experience only minor disruption or no disruption at all. Additionally, in some instances students with AD benefit from the support of a teaching assistant who consistently checks-in, while others can function more independently and benefit from having established times where they can seek out assistance. In the qualitative study complete by Sciutto, Richwine, Mentrikoski, and Niedzwiecki (2012) participants who included individuals with AD and caregivers of students with AD indicated that teachers played an integral role for the student. The teachers tended to be more accessible to the student when they were accepting of different methods of problem solving and did not push the students to conform to more traditional styles of learning.

Within the school system, there seems to be a need for increased creativity and flexibility with the methods utilized to disseminate information to students (Sciutto et al., 2012). Teachers must continually be looking to assess the level of understanding of the students within their classrooms. Particularly for students with AD, this understanding can be enhanced through open communication with parents, who can impart information about the unique presentation of their child. Effective collaboration between parents and teachers has been shown to be particularly helpful for students with an ASD in managing the demands of mainstream schools (Ruble & Dalrymple, 2002). This kind of specialized instruction within the school will also likely require additional training for teachers and staff pertaining to AD. This may include information about the diagnostic criteria as well as recent research projects related to AD. Information from programs designed specifically for the education of students with AD would likely increase the teachers' ability to understand the unique presentation of students with AD.

The findings also point to the fact that teachers have a unique opportunity to develop relationships with students with AD and gain insight into their strengths and areas of concern. All the participants reported some positive relationships with teachers and in many instances emphasized that it was easier to talk to adults than to other students in school. In several instances these relationships developed through opportunities to spend time individually with the adult where they could be actively engaged in conversation. These conversations allowed for the student to express interests and also provided insight into where the teacher could intervene to address specific areas of concern. In several situations this included providing students with opportunities to talk during their lunch period, in a calm environment away from the bustling school cafeteria. These conversations allowed the teacher to gather a greater understanding of the student and provided an opportunity for the student to feel understood by and connected to

someone in their school.

There is also a need for direct instruction and support in the development of more age appropriate social skills and the management of relationships for students with AD. While initially it may not be evident, most students with AD desire interactions with peers, but struggle consistently to develop these relationships (Frith, 2004). These difficulties likely stem from deficits in theory of mind abilities and difficulties integrating the combination of nonverbal and verbal information conveyed during conversations (Attwood, 2007). Students with AD cannot typically be expected to manage the social challenges of middle school and high school without adult intervention. Each student interviewed expressed difficulties managing interpersonal experiences with peers and in many instances these experiences contributed to the students feeling like they were somehow flawed. They often thought of themselves as outsiders looking in at a world that was unpredictable and in many instances quite frightening. The experiences with peers often contributed to self-doubt and increasing isolation as they worked unsuccessfully to establish relationships. It has been well documented that social ability can have a significant impact on a student's academic achievement (Welsh, Parke, Widaman, & O'Neil, 2001).

However, with opportunities to participate in specific social skills groups, after school clubs, extracurricular activities, and theatre or drama productions many students found increasing levels of comfort in social interactions. It is important to note that many students did not find or volunteer to participate in these activities on their own, but were guided there by parents or caring staff members. Several students seemed drawn to acting and expressed that they themselves often felt like they were playing a character as they navigated social situations. The use of drama and theatre in the promotion of more socially appropriate behavior may be an important intervention to examine in future research endeavors. Through theatre groups and

social skills groups that provided direct instruction, the students gained a heightened understanding of how to take another person's perspective and the importance of paying attention to both the verbal and nonverbal information conveyed during interactions. Additionally, time to review difficult social interactions with supportive adults was voiced as an important component of social development for several students. These conversations allowed for discussion of how they misinterpreted events and exploration of the consequences of their behavior. This information points to the importance of adult involvement in the development of peer relationships for students with AD.

The students interviewed for this research project indicated that throughout their middle school and high schools years they experienced a range of difficulties and challenges. The schools they attended provided varying levels of support and a variety of accommodations to address both academic and social/emotional difficulties. In many instances the students found the supports they received were helpful, but school personnel struggled to identify and utilize the students' strengths to aid in their progress. However, students with AD can truly flourish in the education setting if teachers work to understand the student through collaboration with parents and careful examination of each student's learning style. A balance of knowledge about the diagnosis and appreciation for the unique qualities of the individual will allow for these students to access the curriculum and be productive students in the educational setting.

The release of the forthcoming edition of the Diagnostic and Statistical Manual (DSM) from the American Psychiatric Association will likely contribute to new challenges for teachers and parents in the implementation of effective strategies for students with AD. It has been proposed that in this next edition AD, pervasive developmental disorder- not otherwise specified (PDD-NOS), and autistic disorder will no longer be recognized as diagnostic categories. These

diagnostic labels will be merged and will fall under the new category of autism spectrum disorder (ASD); Happe, 2011). These changes will inevitably group together a large number of students with a variety of needs and abilities. Combining all individuals on the autism spectrum into one category will potentially impact the identification of students with AD because their difficulties are typically not as evident as those displayed by students on the lower functioning end of the autism spectrum. This may delay the introduction of appropriate services and accommodations for these students. Also, a majority of the students interviewed for this research project indicated that the diagnosis of AD contributed to a sense of clarity about themselves and a strong affiliation with peers with similar difficulties. Students with symptoms currently associated with AD may not feel the same sense of connection with the general autism spectrum population. However, it is also important to recognize that significant problems have been identified with the current diagnostic criteria utilized to diagnose AD (Attwood, 2007). Over the next few years, the diagnosis will continue to evolve along with our understanding of how the social, sensory, and emotional challenges currently associated with AD impact student success in the classroom.

Limitations of the Research and Recommendations for Future Research Projects

When examining the results of this research project it is important to note that only 10 students were interviewed. Future research endeavors with the AD population might investigate the lived experiences of a greater number of students than were included in this particular study. With a larger sample size the results may have greater generalizability to other students with AD. Another limitation of this study may be that the students were talking about past events and it is difficult to assess the accuracy of these accounts. However, for this research project I was determined to gather information about the students' perspective on these experiences and how

they internalized the experiences, so exact accounts may not have been vital to the results. In future research projects it may be important to gain insights from teachers in general education classrooms and those working in special education services, as this study included information from only students.

These professionals may be able to provide details about specific accommodations and services that have been utilized with the AD population and specific interventions that they have found to be useful. This information could also provide guidance in how these interventions could be applied in the school setting to address both academic and social/emotional difficulties. This information could be helpful for the planning and implementation of programs to address the growing number of students identified with AD. Additionally, teachers could provide information about their relationships with students and how they provided opportunities for the students' special interests to be demonstrated.

It might also be beneficial to gather insight from administrators in the school setting to gain insight into how the schools are managing the increasing numbers of student with AD and the trainings teachers are required to have before beginning their work with this population. School systems must be actively planning for how to manage the growing number of students with AD. This is a complicated endeavor as students with AD present with different abilities and deficits. The variability within this disorder further solidifies the importance of examining the specific needs of each individual student. Schools need to consider how to manage the variety of learning needs and whether students require services primarily in the general education classroom, primarily in the special education department, or through partial inclusion programs.

Gathering information from the parents of these students would also likely be an important component of future research projects. Parents often are responsible for advocating for

the child in the educational setting and in many instances have developed a unique understanding of the diagnosis through their observations. Parents may also be able to provide information about valuable resources that they have utilized and specific challenges that they have encountered. Parents would also be able to provide information about the onset of symptoms and specifics about the most challenging behaviors to manage.

Additional, research pertaining to the effectiveness of social skills groups and current interventions utilized to address social skill deficits is also of great importance. Problems with peers and in interpersonal relationships were frequently reported by the research participants. Currently there is confusion about the how to address these difficulties, which impact academic, social, and emotional functioning. Future research projects should be designed to investigate the success of specific interventions implemented in the school. It would be important for these projects to include a means to measure whether the student was able to transfer the skills acquired through the intervention to real life social situations.

Due to the elevated levels of anxiety that were reported by the participants, future research projects may also want to look at the impact of anxiety on the academic functioning of students with AD and interventions to improve the students' ability to monitor and manage emotions. It may be important to look further at the impact of anxiety on executive functioning and how this may contribute to difficulties initiating tasks and completing work independently. Without the appropriate supports in place students may struggle to consistently access the curriculum and demonstrate the cognitive abilities they possess because they are overwhelmed by feelings of nervousness or worry.

It should also be noted that the individual participants were not required to provide a formal letter from the diagnosing clinician who established the diagnosis of AD. On the

recruitment form and consent form it was clearly indicated that students should have a previously established diagnosis of AD. Participants were also asked to provide the name of the individual who established the diagnosis and the age when they were diagnosed on the demographic form. In several instances the students were unable to provide this information and were unsure of where to procure this information. In some instances the diagnosis occurred when the student was quite young and they did not have clear memories of when the evaluation that took place or who actually completed the evaluation.

As a result, there was no formal way to verify that the participants had a formal diagnosis of AD. However, students for this study were recruited through groups such as the Asperger's Association of New England, the Autism Resource Center, and the Aspirations group which all provide services to students with AD and students on the autism spectrum. Also, in several instances directors of college academic services departments contacted students with whom they worked and knew had the diagnosis to provide them with information about this research project. The fact that some students may not actually have had a diagnosis of AD may impact how easily the results of this study may be generalized to students with AD. However, the themes that emerged from these stories likely will provide valuable information for teachers and professionals working with students with AD and students who present with similar characteristics to students with AD.

Conclusion

AD is a complicated disorder which has frequently been misunderstood and continues to evolve as a diagnostic category (Happe, 2011). The growing number of students presenting with the symptoms associated with AD indicates that schools play an important role in the success and the level of happiness of students with AD. This research project was developed to

investigate the lived experiences of college students with a previously identified diagnosis of AD. The aim of this study was to gain a greater understanding of how these students managed the academic and social demands of middle school and high school. Of particular importance were the transitional years during adolescence, where social competence becomes increasingly important and students are expected to function more independently in the classroom.

The students' narratives indicated that the establishment of the diagnosis of AD was vital to their success and often provided an explanation for the social and academic difficulties that they experienced. The diagnosis allowed the students to see that other students experienced similar struggles and this often contributed to them feeling less isolated from their peers. The students also reported that teachers and family members played an integral role in their success. Teachers who made an extra effort to understand the strengths and capacities of the student often contributed to that student feeling supported and successful in the school environment. Parents frequently were advocates in the educational setting and in many instances sought out information about the diagnosis to provide to both the student and professionals working in the school system. The narratives clearly demonstrated that teachers and support personnel must work closely with parents to consistently assess the academic, social, and emotional development of each student with AD. Through the careful consideration of the specific components of AD and the unique presentation of each student, appropriate academic accommodations and supports were implemented which contributed to improved academic performance for a majority of the participants.

I hope that the analysis of these narratives will prove to be helpful for teachers and support personnel working in the school system as they plan and develop interventions for students diagnosed with AD. The personal accounts of these individuals provided a glimpse into

the lived experiences of the students and the triumphs and struggles they experienced as they navigated middle school and high school. With this information and continued exploration of interventions for students with AD these students may be able to more consistently express the array of strengths and talents that they possess and feel less defined by their weaknesses.

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Appendix A

Informed Consent Document

Project Title: A Look into the Lived Experiences of College Students with Asperger's Disorder

Project Investigator: Joshua B. Lafortune, MA
Doctoral Candidate
Antioch University New England
508-373-7983
jlafortune@antioch.edu

Dissertation Chair: Kathi Borden, PhD
Professor and Chairperson
Clinical Psychology Department
Antioch University New England
(603)283-2191

1. Joshua B. Lafortune, a doctoral candidate in clinical psychology at Antioch University New England, is asking me to participate in a research project about what helps people with Asperger's disorder succeed in school. I understand that I will be asked questions about the difficulties I faced and supports I used when trying to meet the demands of middle school and high school.
2. As a participant in the study, I will be asked to take part in one interview. The interview is expected to last no more than an hour and a half. The interview will be conducted in a public place and during a time that works with my schedule. An audio recording will be made of the interview and after the interview the researcher will type the entire conversation on his computer. The goal of the interview is to provide information about important factors that impacted my academic success and transition into college/university.
3. I will also be asked to take part in "Member Checking," which is a way for the researcher to find out my thoughts about his summary of my interview. I will be given a summary of the information from the interview to review. I will have two weeks to review the summary of my interview and then will be contacted by the researcher to discuss my ideas. Comments received from the Member Checking process will be reviewed and the summary will be revised to include my comments.
4. I have rights as a research volunteer. Taking part in this study is voluntary. I may refuse to enter it or may stop at any time without any penalty to myself.
5. My information will be protected. My interview recording and transcript will be typed into Joshua's computer and will be labeled with a participant number rather than my name. The recording from the interview will be erased once the study is completed. All

interview transcripts will be kept in a locked file cabinet which will not be accessible to anyone other than the researcher and his faculty supervisor. No information identifying me as a participant in this study will appear in any presentation or publication of the findings.

6. There are no expected risks associated with participation in this research project, but if I become uncomfortable the researcher will provide contact information for local mental health agencies and the college/university counseling center.
7. I may benefit from participation in this study. I may learn about myself and how I benefited from support systems in middle school and high school. In addition, education and mental health professionals may learn how to help students with Asperger's disorder succeed in school.
8. I will be provided with a \$20 Amazon.com gift card for my participation in the study.
9. I understand that I may request a summary of the results of this study by providing my email address in writing to Joshua Lafortune.

If you have any questions or concerns about participating in this research you may contact me at jlafortune@antioch.edu or 508-373-7983.

If you have any questions about your rights as a research participant, you may contact Kevin Lyness, Chair of the Antioch University New England Internal Review Board (IRB) at klyness@antioch.edu or 603-283-2149.

Consent Statement:

I have read and understood the information above and discussed this information with Joshua Lafortune (the researcher). The researcher has given me a copy of this form and has answered all the questions I had to my satisfaction. I consent to take part in a study to examine my experiences growing up with Asperger's Disorder.

Please indicate your consent to the interview by signing below:

Signature

Date

Printed name of person above

Witness

Date

Email Address: _____

I would__ would not__ like to receive a summary of the results of this study.

Appendix B**Demographic Questionnaire**

Name: _____

Age: ____

What is your gender: Male ____

Female ____

Race/ethnicity: How do you describe yourself? (please check the one option that best describes you)

- American Indian / Native American ____
- Asian ____
- Black / African American ____
- Hispanic / Latino ____
- White / Caucasian ____
- Pacific Islander ____
- Other ____

When were you diagnosed with Asperger's Disorder: _____

Who made the diagnosis: _____

Type of high school: Public ____
Private ____Current Living Situation: At home ____
On campus ____
Off campus housing ____
Other ____ (Please specify) _____Did your parents go to college? Mother- Yes ____ No ____ Don't know ____
Father- Yes ____ No ____ Don't know ____

Do you have any siblings who have gone to college or are currently in college?

Yes ____

No ____

I'm the oldest child in my family ____

Appendix C

Interview Protocol

Date of Interview:

Time of Interview:

Location:

Interviewer:

Interviewee:

The goal of this interview is for us to have a conversation about your experiences during middle school and high school. I am particularly interested in gathering information about your perception of the factors that contributed to your academic success and ability to move on to college/university.

1. First, when did you first learn that you were diagnosed with Asperger's Disorder?

Prompts

- Who informed you of the diagnosis?
- Who diagnosed you with Asperger's disorder?
- What prompted the evaluation?

2. What was your reaction to the diagnosis?

Prompts

- What information were you given about AD?
- How was the disorder described to you?
- What did the establishment of a specific diagnosis mean to you?
- How did you feel after hearing about the diagnosis?

3. Could you tell me about the reaction of others who knew about the diagnosis?

Prompts

- What was the reaction of your family members?
- What was the reaction of teachers and support staff?
- Did you tell your friends/peers about the diagnosis?
- Did the diagnosis help others to understand your academic needs?

3. I am curious about your understanding of how the components of this disorder have impacted your academic experience?

Prompts

- What symptoms have you found the most difficult to manage?
- Were your strengths utilized to facilitate your progress in school?
- Were the deficits associated with AD recognized? By whom?
- Were appropriate accommodations implemented?
- Did you receive any services through the special education department at your school?
- Were you on an IEP or 504 Plan?

4. I was wondering if you could to tell me more about your experiences in the classroom during middle school?

Prompts

- What did you like about your school?
- What did you dislike about your school?
- Tell me about your level of happiness during this time?
- What were your academic strengths/weaknesses?
- Do you remember any issues that surfaced because of difficulties related to sensory sensitivity?
- Were there particular teaching styles that were the most effective for you?
- Were there particular support services that seemed the most effective for you?
- Could you tell me about a teacher or staff member who was particularly helpful?
- What was helpful about that person?
- Were their particular academic supports that you wish you received?

5. Now I was hoping you could speak about your time in high school?

Prompts

- What did you like about your school?
- What did you dislike about your school?
- Tell me about your level of happiness during this time?
- What were your academic strengths/weaknesses?
- Do you remember any issues that surfaced because of difficulties related to sensory sensitivity?
- Were there particular teaching styles that seemed the most effective?
- Were there particular support services that seemed the most effective for you?
- Could you tell me about a teacher or staff member who was particularly helpful?
- What was helpful about that person?
- Were their particular academic supports that you wish you received?

6. Could you tell me about some of the obstacles that you encountered in middle school?

Prompts

- Did you manage these obstacles independently or did you receive support?
- Were there supports available that could have minimized the impact of these obstacles?
- How difficult to manage were these obstacles?

- Were these obstacles related to misunderstandings about AD?

7. Could you tell me about some of the obstacles that you encountered in high school?

Prompts

- Did you manage these obstacles independently or did you receive support?
- Were there supports available that could have minimized the impact of these obstacles?
- How difficult to manage were these obstacles?
- Were these obstacles related to misunderstandings about AD?

8. Could you tell me about your interests, hobbies, and the activities that you participated in during middle school?

Prompts

- Would you consider any of these interests to be areas of particular strength?
- Did they contribute to your success?
- What were other reactions to these interest areas?
- Were you encouraged to pursue these areas of interest or special talents? If yes... how?

9. Could you tell me about your interests, hobbies, and the activities that you participated in during high school?

Prompts

- Would you consider any of these interests to be areas of particular strength?
- Did they contribute to your success?
- What were other reactions to these interest areas?
- Were you encouraged to pursue these areas of interest or special talents? If yes... how?

10. Next, I was hoping that you could tell me a little about your relationships with peers during middle school.

Prompts

- Did you feel that you were somehow different than your peers?
- Were there particular peers who were instrumental during this time?
- How were they helpful?
- How did they support your progression through school?
- Did you find it easy or difficult to make friends?
- How important were your relationships with peers?
- Did you receive support to improve interpersonal interactions?

10. Next, I was hoping that you could tell me a little about your relationships with peers during high school.

Prompts

- Did you feel that you were somehow different than your peers?
- Were there peers who were particularly helpful or supportive during this time?
- How were they helpful or supportive?
- How did they support your progression through school?
- Did you find it easy or difficult to make friends?
- How important were your relationships with peers?
- Did you receive support to improve interpersonal interactions?

11. Could you tell me about your relationships with adults during middle school?

Prompts

- Were there adults who were particularly helpful or supportive during this time?
- How were they helpful?
- How did they support your progress through school?
- How important were your relationships with adults?

12. Could you tell me about your relationships with adults during high school?

Prompts

- Were there adults who were particularly helpful or supportive during this time?
- How were they helpful?
- How did they support your progress through school?
- How important were your relationships with adults?

13. Could you tell me about your decision to go to college?

Prompts

- How did you choose the institution you are currently attending?
- Did you research the support programs that were available?
- What factors impacted your decision?
- What were your family's expectations around attending college?
- How did your diagnosis impact this decision?

14. Is there anything else you care to share with me about your experiences in middle school and high school?

(Thank individual for participating in this interview. Assure him or her of confidentiality of responses and discuss potential for feedback during member checks.)

Notes or observations during interview:

Appendix D

Letter to Disability Service Administrators

Dear Disability Service Administrators,

My name is Josh Lafortune and I am a graduate student at Antioch University New England, currently working on my dissertation. The title of my dissertation is "A look into the lived experiences of college students with Asperger's Disorder."

I am sending out this email because I am looking to contact colleges and universities in NH and Massachusetts to locate possible participants for my study. I hope that you will pass on information about my research project to interested individuals.

For my study I will interview college students with Asperger's Disorder to learn about their experiences in middle school and high school and how they made the transition to college/university. Through these interviews I hope to gain insight into the supports and resources that were instrumental to their success. Many of these individuals have exceptional abilities and because of these strengths it would seem like they could be very successful in college. But in many instances they do not make the move to college/university and they do not have the opportunity to participate in the enriching experience of post secondary education.

I plan to interview around 10 students from colleges and universities in NH and Massachusetts. Each student must have a diagnosis of Asperger's Disorder. I am anticipating that each participant will be interviewed once, for approximately an hour. Each student will receive a \$20 gift certificate for their contribution to the study.

If you would be able to help me to make contact with any students at area colleges or universities it would be greatly appreciated. You can contact me through email at jblafort@yahoo.com or by phone 508-373-7983 if you have any questions or concerns. I have attached a copy of a flyer that I hope you will provide to students who might be interested in participating in this study. Once they have this information they can contact me directly if they would like to participate.

Thank you for your time,

Josh Lafortune

Appendix E**Sample Letter to Potential Participants**

Dear College Students at _____ College/University,

My name is Josh Lafortune and I am a graduate student at Antioch University New England. I am working on a study to examine the experiences of college students with Asperger's Disorder. The study will focus on the resources and supports that students found valuable while they were in middle school and high school. The study involves a 1 hour interview and participants will receive a \$20 Amazon.com gift card for their contribution to this research project. To participate, students must be between the ages of 18-25 and have a previous diagnosis of Asperger's Disorder.

If you are interested in participating in this study you can contact me at 508-373-7983 or through email at jlafortune@antioch.edu.

Thank you for your time,

Josh Lafortune

Appendix F

Figure 1. **Conceptual Cluster Matrix: Supports and Stresses in School and in Peer Relationship**

	Academic	Social
Support	Interview 2, pg. 5, 8, 12 Interview 3, pg. 7 Interview 4, pg. 4, 6, 11 Interview 5, pg 8, 11 Interview 6, pg. 6 Interview 8, pg. 1, 12 Interview 9, pg. 9 Interview 10, pg 7	Interview 1, pg 6 Interview 2, pg. 9 Interview 3, pg. 2, 3, 6 Interview 5, pg 15 Interview 8, pg. 3, 5 Interview 9, pg. 6, 9, 10
Stressors	Interview 2, pg. 2 Interview 3, pg. 5, 8 Interview 4, pg 2, 5, 6 Interview 5, pg. 17, 18 Interview 7, pg 2, 6 Interview 9, pg. 5, 6 Interview 10, pg. 3	Interview 2, pg 9, 10 Interview 3, pg 2,5, 11 Interview 4, pg. 2, 5, 10 Interview 5, pg. 2,5, 14 Interview 6, pg. 5, 11 Interview 7, pg. 4, 8, 10, 15 Interview 8, pg. 6 Interview 9, pg. 1,3, 10, 17 Interview 10, pg. 2, 3, 7, 9

from Miles & Huberman (1994)

Figure 2. **Partially-Ordered Matrix: Minor Themes and Evidence Supporting Themes**

	Theme I.- Important accommodations include breaks, extra time, and study guides	Theme II.- Opportunities to complete work outside of general education class area important	Theme III. – Students benefits to support in classroom	Theme IV.- Bullying was a significant problem
Evidence	Interview 2, pg.6 Interview 3, pg.7 Interview 4, pg.4, 11 Interview 5, pg.8, 11 Interview 6, pg.6 Interview 8, pg.1, 21 Interview 9, pg.9 Interview 10, pg. 7	Interview 2,pg.5, 8, 12 Interview 4, pg. 11 Interview 7, pg. 9 Interview 9, pg. 7, 8, 9 Interview 10, pg. 8	Interview 3, pg 7 Interview 4, pg. 4, 6 Interview 5, pg. 12 Interview 6, pg. 7 Interview 7, pg. 4, 8 Interview 8, pg. 8 Interview 9, pg. 8 Interview 10, pg. 8, 13	Interview 2, pg. 7 Interview 3, pg. 2 Interview 4, pg. 7 Interview 5, pg. 5 Interview 7, pg. 5 Interview 10, pg. 9

	Theme V.- Theatre assisted with social skill development	Theme VI.- Need for directions to be broken down	Theme VII.- Sensory issues need to be addressed	Theme VIII.- Outside social skills groups were important
Evidence	Interview 3, pg. 3 Interview 5, pg. 15 Interview 9, pg. 6, 7	Interview 2, pg. 2 Interview 3, pg. 5 Interview 4, pg.	Interview 1, pg. 4 Interview 2, pg. 8 Interview 3, pg.	Interview 1, pg. 8 Interview 2, pg. 9 Interview 3, pg 2, 6 Interview 8, pg.

		2, 5, 6 Interview 7, pg. 2, 6 Interview 9, pg. 12 Interview 10, pg. 3	10 Interview 5, pg. 3, 10 Interview 7, pg. 7, 10 Interview 8, pg. 5 Interview 10, pg. 2, 6	3, 5 Interview 9, pg. 9, 10
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	Theme IX.- Unfamiliar settings often were difficult to navigate	Theme X.- Anxiety is a prevalent issue	Theme XI.- Using visual models and concrete examples helped students	XII. - Recognition of strengths is important and can contribute to improved performance
Evidence	Interview 1. pg. 6 Interview 2, pg. 9 Interview 3, pg. 2, 6 Interview 8, pg. 3, 5 Interview 9, pg. 9, 10	Interview 2, pg. 2, 3 Interview 3, pg. 2, 10 Interview 4, pg. 7 Interview 6, pg. 13 Interview 7, pg. 3, 7, 9 Interview 9, pg. 4 Interview 10, pg. 4	Interview 2, pg. 13 Interview 3, pg. 5 Interview 7, pg. 7 Interview 9, pg. 13	Interview 1, pg. 11 Interview 3, pg. 7 Interview 5, pg. 15, 16 Interview 9, pg. 12, 13, 14

	Theme XII. – Students with AD often struggle to elaborate	Theme XIII. – Students with AD often provide insights that others overlook	Theme XIV. – Group work is often difficult to manage
Evidence	Interview 1, pg. 5 Interview 5, pg. 6 Interview 8, pg. 5, 9 Interview 10, pg. 6,14	Interview 3, pg. 8 Interview 5, 17, 18 Interview 9, pg. 5, 6	Interview 4, pg. 2 Interview 5, pg. 9, 10 Interview 7, pg. 13

Figure 3. **Partially-Ordered Matrix: Major Themes and Evidence Supporting Themes**

	Theme I.- The establishment of the diagnosis was important because it provided clarity and relief	Theme II - Adult support is needed to manage social difficulties	Theme II. – Teachers need knowledge of the diagnosis and the individual student
Evidence	Interview 3, pg. 9, 11, 14 Interview 4, pg. 1, 5 Interview 5, pg. 2, 20 Interview 6, pg. 7 Interview 7, pg. 1 Interview 8, pg. 2, 3 Interview 9, pg. 2, 9, 19 Interview 10, pg. 6, 14	Interview 2, pg. 9, 11 Interview 3, pg. 2, 5, 6 Interview 4, pg. 2, 5, 10 Interview 5, pg. 2, 5, 14 Interview 6, pg. 5, 11 Interview 7, pg. 4, 8 Interview 8, pg. 6 Interview 9, pg. 1, 3, 10 Interview 10, pg. 2, 3, 9, 11, 14	Interview 1, pg. 6 Interview 2, pg. 2, 7, 9 Interview 3, pg. 1, 5 Interview 4, pg. 5, 8 Interview 5, pg. 4, 13, 14 Interview 6, pg. 8 Interview 7, pg. 10, 11, 13

from Miles & Huberman (1994)