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Students with Asperger's Syndrome

Transitioning to Postsecondary Education: What are the Common Issues?

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TABLE OF CONTENTS

Abstract.....	pp. 3
Chapter One: Introduction.....	pp. 4
Chapter Two: Review of the Literature.....	pp. 8
Section 504 of the Rehabilitation Act.....	pp. 9
Autism Spectrum Disorder and Asperger's Syndrome.....	pp. 12
Asperger's Syndrome and Postsecondary Education.....	pp. 14
Interventions for ASD.....	pp. 16
Outcomes.....	pp. 18
Rationale of the Present Study.....	pp. 19
Chapter Three: Methodology.....	pp. 21
Chapter Four: Results.....	pp. 25
Chapter Five: Discussion.....	pp. 34
References.....	pp. 39

ABSTRACT

This study explored the common issues that emerged during a peer coaching intervention program for students with Asperger's Syndrome (AS). Nineteen undergraduate college students with AS (4 females, 15 males, age range: 18 – 23 years) participated in the Spectrum Support Pilot (i.e., peer coaching intervention program), and seven second-year graduate students (7 females, age range: 23 – 26 years) within the School Psychology program at the same university served as peer coaches. Peer coaches wrote DAP (Description, Assessment, Plan) notes, which provided qualitative information about each meeting with their students. DAP notes were coded for common themes; the following seven themes emerged from the notes, indicating that these were areas of difficulties for students with AS: (a) organization and time management; (b) emotional control and anxiety; (c) social interaction and communication; (d) behavior; (e) adaptive and independent living; (f) self-advocacy; and (g) flexibility and adaptability. Exploring common issues that students with AS face in postsecondary education can provide postsecondary institutions with a better understanding of these students' unique difficulties so that they can better support them.

CHAPTER ONE

Introduction

Many students transitioning to postsecondary education face challenges adjusting to their new setting. Students with disabilities, however, face additional challenges and barriers adapting to postsecondary education. Postsecondary institutions have made considerable efforts to improve the transition process for students with disabilities by making accommodations to support their education (Wells et al., 2003); however research suggests that students with disabilities continue to lag behind their nondisabled peers (Murray, 2003; Blackorby & Wagner, 1996).

Postsecondary students with disabilities can receive services under Section 504 of the Rehabilitation Act of 1973. Section 504 laws do not require institutions to provide individualized education to students with disabilities. Instead institutions are only required to provide services or accommodations that will support their education. Section 504 laws require that students with disabilities not be discriminated against or excluded from any program. This law does take steps toward leveling the playing field for students who have a physical or mental disability, but the accommodations and services provided in college focus on broad academic needs rather than the specific needs of the student or his or her disability. As a result, students with disabilities in postsecondary education are expected to meet the same academic standards as nondisabled students, despite no change to the curriculum or instruction (Eckes & Ochoa, 2005).

One disability that has increased application to postsecondary education is Autism Spectrum Disorder. Autism Spectrum Disorder (ASD) is a behaviorally-defined disorder with deficits in social communication and behavior. Autism Spectrum Disorder is an umbrella term that includes Asperger's Syndrome (AS), which is often synonymous with High Functioning

Autism. According to the Diagnostic and Statistical Manual for Mental Disorders-IV-TR (DSM-IV-TR) those with AS have severe and sustained impairment in social interactions and in behavior (American Psychiatric Association, 2000). Despite social and behavioral difficulties, those with AS do not have deficits in their cognitive abilities, and in fact, usually have average to above average intelligence (Bedrossian & Pennamon, 2007). Because of their cognitive ability, those with AS may have an acute self-awareness of their social differences and lack of connectedness, leading to low self-esteem, increased social anxiety, and increased withdrawal from peers (Jobe & White, 2007). Being self-aware of their differences and alienation, being unable to overcome their difficulties, and having feelings of loneliness may lead to other psychological problems, such as anxiety or depression (Bedrossian & Pennamon, 2007; Jobe & White, 2007).

Because of their cognitive abilities, postsecondary education has become an increasingly viable option for students with AS (Smith, 2007; Taylor, 2005). However, because of their social communication and behavioral difficulties, college life may be extremely difficult to adjust to. Further, these social and behavioral difficulties may subsequently interfere with their success and academic performance (Dillon, 2007; Glennon, 2001; VanBergeijk, Klin, & Volkmar, 2008). In order to support their education and transition to college, it is important to address the specific difficulties of those with AS. Yet, because Section 504 laws only require services to address general academic needs, not individualized needs, these laws may not be enough to ensure that these students succeed.

Little is known about the unique challenges and needs of those with AS transitioning to postsecondary institutions (Adreon & Durocher, 2007; VanBergeijk et al., 2008). As a result, there is limited research on interventions or programs that have attempted to address the

difficulties of those with AS. Mentor programs have been used effectively for students with disabilities who have a variety of difficulties, including social and behavioral (Dillon, 2007). A mentor or a coach allows for individualized and flexible support (Dillon, 2007) to address the unique challenges of students with AS. Taylor (2005) also suggested a tutor for personal issues and other difficulties that a student may experience beyond the academic piece of postsecondary education. Similarly, Williams (1995) suggested that a "buddy system" for younger children with AS, which would allow a student with AS to have a peer who models behavior, looks out for them, and assists them socially. Also, Stoddart (1998) suggests an individualized therapy approach, by meeting to discuss day-to-day issues, allowing the student with AS to understand social interactions in an applied setting and to understand social rules and norms in situations.

With the additional social and behavioral difficulties for students with AS, it seems that services that are limited to academic difficulties are insufficient in supporting the postsecondary education of students with AS. As previously stated, research suggests using mentors, personal tutors, buddy systems, or individualized therapy. No outcome research was noted, but taking a peer intervention approach that incorporates these aforementioned components may prove to be effective in students' with AS transition to postsecondary education. The present study provided college students with AS with an intervention program that utilized a peer coach and sought to facilitate the transition to postsecondary education.

The purpose of the present study was to explore the common issues that emerged during the peer coaching experience. Two specific research questions were addressed in this study: Did the issues that are common to the disorder, such as impairments in social interaction and behavioral difficulties, emerge during the peer coaching experience? What other issues, if any, related to their transition emerged?

This study explored the common issues that emerged during the peer coaching experience by analyzing weekly progress notes. The effectiveness of the peer coaching experience in terms of the students' adaptation to college was not evaluated. Further, diagnosis of ASD was not confirmed by the institution and instead was based on documentation provided by the student.

Definition of Terms

Autism Spectrum Disorder: A pervasive developmental disorder with impairments in social interactions, communication, and behavior. The disorders range from severe, Autistic Disorder to a milder form, Asperger's Syndrome (American Psychiatric Association, 2000).

Asperger's Syndrome: An Autism Spectrum Disorder with impairments in social communication and behavior. Asperger's Syndrome is the mildest form of the Autism Spectrum Disorders, with no language or cognitive delays.

Peer Coach: An individual in approximately the same age cohort who assists a peer in areas that the peer coach is efficient in.

Postsecondary education: Education that is completed after high school graduation.

CHAPTER TWO

Review of the Literature

As a student transitions from high school to postsecondary education, the experience can be challenging, but for a student with a disability, the experience can be even harder to navigate. Although there is a rise in students with disabilities entering postsecondary education (Eckes & Ochoa, 2005), research suggests that students with disabilities lag behind and have poorer outcomes than those without disabilities (Murray, 2003; Blackorby & Wagner, 1996). One must question, therefore, how extensive are transition services for students with disabilities entering postsecondary education?

All students with a disability and an Individualized Education Program (IEP) must have a transition plan in effect no later than the age of 16, according to the Individuals with Disabilities Education Act (IDEA) (deFur, 2003; Cummings, Maddux, & Casey, 2000). The transition component of the IEP aims to improve the outcomes of those with disabilities, as they move from high school to postsecondary education, and/or employment, and/or independent living, and/or community participation (deFur, 2003). The transition plan identifies specific activities that will support the individual's movement into his or her adult life. The transition plan must include measurable postsecondary goals and a clear path for the student to follow in order to reach his or her goals and to make the transition easier. Services, support systems, and agencies are all identified and coordinated so that the student can receive the necessary resources to achieve their goals (deFur, 2003).

Transition services focus on the academic and functional achievement of the student, while also considering the student's strengths, interests, and preferences. The transition plan is developed by a team, which includes the student, his or her family, educators (e.g. special

education, regular education, school counselor), and a transition specialist (Eckes & Ochoa, 2005). The student's participation in developing the transition plan is important so that the student's preferences are accounted for. The student's participation is also important for developing his/her self-advocacy skills, which facilitates his/her independence in adulthood.

Section 504 of the Rehabilitation Act

An IEP is individualized to meet the specific needs of a student. Despite individual differences among services in an IEP, the overall structure of the services under IDEA is similar for each student while in high school. This is to say, that the universal structure provides all students who have been identified with having a disability with an individualized school based program intended to meet the unique needs of each student. However, this comprehensive structure no longer applies once an adolescent graduates from high school, and IDEA regulations no longer apply (Wittenburg, Golden, & Fishman, 2002). Postsecondary institutions, on the other hand, are covered under Section 504 of the Rehabilitation Act of 1973. Unlike IDEA, Section 504 laws do not require institutions to provide individualized education to students with disabilities. Under IDEA regulations, the goal is that students with disabilities are provided with a free and appropriate education, just as their nondisabled peers. In contrast, Section 504 only regulates equal access to education (Bedrossian & Pennamon, 2007; Eckes & Ochoa, 2005). This means that students with disabilities can receive accommodations to support their education, but they cannot receive individualized curriculum or instruction – a support that they could receive through high school under IDEA regulations.

The services provided by postsecondary institutions are not individualized, and instead, are adjustments that provide an equal academic opportunity to all students with a disability. Such services include extended time for tests, note-takers, or tape recordings of lectures, and

must be appropriate and reasonable accommodations. This is not an individualized instructional program, but instead, a set of adjustments to the pre-existing practices of the institution.

Students with disabilities in postsecondary institutions are required to self-identify as a student with a disability in order to receive accommodations to support his/her education. That is, postsecondary institutions are not required to seek out students with disabilities, as K-12 schools that fall under IDEA are required. Additionally, postsecondary institutions are not required to conduct psychological assessments or evaluations to determine what type of learning environment is best suited for them. Although postsecondary institutions are not required to conduct assessments in order to determine a disability, students entering postsecondary education need proper documentation supporting that they have a disability. If they do not have documentation (as many K-12 schools do not re-evaluate juniors and seniors), then a reassessment is required in order to receive any accommodations. The reassessment may be financially burdensome, and the time-consuming reassessment may lead to a delay of accommodations during a student's first semester at college, a time when support and accommodations may be most important. Since postsecondary institutions are not required to seek out students with disabilities, all of the responsibility is transferred over to the student (Bedrossian & Pennamon, 2007, Eckes & Ochoa, 2005; Madaus & Shaw, 2006). The social and communication skills required to self-identify and self-advocate in order to access services can be a major challenge for students with disabilities. In sum, students with disabilities are responsible for identifying themselves as such and advocating for themselves, things that they may not be able or ready to do (Bedrossian & Pennamon, 2007).

Section 504 laws also state that students with disabilities cannot be discriminated against because of their disability. Although students with disabilities are protected from discrimination

under Section 504, that is not to say that there may be unintentional discrimination based purely on lack of knowledge. Postsecondary educators are not required to have background or take any classes related to special education. Therefore, postsecondary educators may not have the knowledge or skills to be able to make reasonable accommodations for a student in their class with a disability. Educators of college level classes have a very different curriculum than educators of high school classes, and when many of the classes are content and fact driven, it is difficult to implement any innovative learning techniques in order to address the learning style of a student with a disability (Eckes & Ochoa, 2005).

Besides unintentional discrimination, Hindes and Mather (2007) found that educators had more negative attitudes towards psychiatric disabilities and accommodations than mobility and sensory disabilities. Educators are more willing to include students with milder disabilities, mostly because accommodations for individuals with mobility and sensory disabilities are easier to implement (Hindes & Mather, 2007). A different curriculum coupled with the instructors' potential lack of knowledge or negative attitude, could result in unsuccessful outcomes for students with disabilities.

Wells, Sandefur, and Hogan (2003) examined outcomes of youth with disabilities, and found that presence of a disability and type of disability play a role in predicting personal outcome. Youth with disabilities were more likely to be single, living at home, and not involved in education or employment relative to youth without disabilities. Further, the type of disability also impacted personal outcome. Individuals with mental retardation or multiple disabilities were more likely to be dependent on their families than individuals with a learning disability, and individuals with mobility and sensory disabilities were more likely to pursue some level of postsecondary education than individuals with learning disabilities. It is clear that differences

exist among disabilities, and these differences can have different impacts on personal success. Further, individuals with different disabilities may have different learning styles or the disability may impact classroom performance differently. In this way, it seems implausible that the same mere strategy of note-taking or extended time would be equally effective among all disability groups. This indicates a need for postsecondary institutions to recognize the differences among disability groups and provide accommodations based on the specific disability that a student may have.

Students with disabilities in postsecondary education must meet the same academic standards as nondisabled students, with no change to the curriculum or instruction. However, the supports and services that students with disabilities receive in college are not individualized and are far less extensive than those offered in high school. Although institutions have made significant efforts to accommodate students with disabilities and their needs (Wells et al., 2003), many barriers to succeeding in postsecondary education still exist. Increased understanding of specific disabilities and the differences among disabilities is required before individuals with disabilities can overcome the barriers preventing them from full acceptance in college and success after college (Hindes & Mather, 2007).

Autism Spectrum Disorder and Asperger's Syndrome

Students with Autism Spectrum Disorder have increased among the application pool to postsecondary education. Autism Spectrum Disorder (ASD) is a behaviorally defined disorder with deficits in social interactions and communication, and behavior. ASD is more common than previously thought, with 1 in 100 individuals being identified as having the disorder (Kogan et al., 2009). Autism Spectrum Disorder is an umbrella term that includes Asperger's Syndrome (AS). Asperger's Syndrome is often synonymous with High Functioning Autism. Individuals

with AS are on the Autism Spectrum, but their difficulties and impairments are not as severe as those with Autism. Those with AS do not have the cognitive impairments or the language delays that those with Autism have (American Psychiatric Association, 2000).

According to the Diagnostic and Statistical Manual for Mental Disorders-IV-TR (DSM-IV-TR), those with AS have severe and sustained impairment in social interactions and significant delay in pragmatic language. Impairment in social interactions is marked by impairment in the use of nonverbal behaviors (i.e. eye contact, facial expression, body postures, and gestures to regulate social interaction), the failure to develop relationships with peers that is appropriate to their developmental level, a lack of spontaneous seeking to share enjoyment, interests, or achievements, or a lack of social or emotional reciprocity (American Psychiatric Association, 2000; Bedrossian & Pennamon, 2007). Individuals with AS have a hard time understanding social cues, such as body language or facial expressions. They have a literal way of thinking so it is hard for them to understand abstract language, sarcasm, jokes, or idiomatic expressions. For this reason, conversations may be very hard to understand and to engage in. There are also impairments in behavior, shown by restricted, repetitive, and stereotypical patterns of behavior, interests, and activities. They may have preoccupations or obsessions with different subjects, and as a result much of the conversation may be one-sided and focused on one particular subject (Bedrossian & Pennamon, 2007). Because of a lack of understanding social cues, they may not be able to notice when someone is uninterested in what they have to say (i.e. the topic that the individual with AS has latched onto).

Despite many social and behavioral deficits, those with AS do not have deficits in their cognitive abilities, and in fact usually have average to above average intelligence (Bedrossian & Pennamon, 2007). Despite average to above average intelligence, individuals with AS have

deficits in executive functioning, which tap higher order cognitive abilities. They exhibit deficits in planning, working memory, and cognitive flexibility (Kleihhans, Akshoomoff & Delis, 2005; Verté, Geurts, Roeyers, Oosterlaan & Sergeant, 2006). Due to inflexibility, finding another or new way of doing something may be difficult for individuals with AS. They prefer sameness and predictability, therefore, unexpected or small changes in the environment or in their routine may be difficult for them.

The behaviors and interactions of those with AS may be viewed as odd, therefore, individuals with AS may become ostracized and alienated by their peers. Further, because those with AS usually have average to above average intelligence, they may have an acute self-awareness of their social differences and lack of connectedness (Jobe & White, 2007).

Individuals with AS have the desire for companionship but often do not have the ability to achieve it, leading to low self-esteem, increased social anxiety, and increased withdrawal from peers. Being self-aware of their differences and social difficulties, being unable to overcome these difficulties, and feelings of chronic loneliness may lead to other psychological problems, such as anxiety or depression (Bedrossian & Pennamon, 2007; Jobe & White, 2007; Vickerstaff, Heriot, Wong, Lopes, & Dossetor, 2006).

Asperger's Syndrome and Postsecondary Education

Postsecondary education has become an increasingly viable option for students with AS because of their average to above average cognitive level (Smith, 2007; Taylor, 2005).

Transitioning to college life is hard enough, but add the challenges of having a disability, and it can be even harder to navigate. They must learn to be responsible their academics and self-advocate, manage unstructured time, adapt to a new routine, and learn to live independently (Janiga & Costenbader, 2002). However, one of the most difficult and daunting parts of college

life for a student with AS is the social life and their frequent inability to become socially connected (Jobe & White, 2007). It is important to address the social difficulties of those with AS, since research suggests that a lack of relationships is related to poor school performance (Jobe & White, 2007). Individuals with AS have many non-academic issues and disabilities, which may subsequently, interfere with their postsecondary success and academic performance (Dillon, 2007; Glennon, 2001; VanBergeijk, Klin, & Volkmar, 2008).

Numerous studies have looked at the difficulties associated with transitioning to college and the needs of those with disabilities; however, far less is known about the unique challenges and needs of those with AS (Adreon & Durocher, 2007; VanBergeijk et al., 2008). This may be due to lack of research, since it was once believed that individuals with ASD were not suitable for college, or because of a lack of students self-identifying as a student with a disability. Since these students may be fearful of the social stigma, they may choose to remain unidentified, preventing any services or accommodations and allowing their struggle to go unrecognized. Further, students with AS may not have the communication or social skills that are needed to self-identify and self-advocate. With a rapidly growing increase of college attendance and a lack of knowledge about these students' unique needs and difficulties, it can be assumed that many of them are falling behind and may not be getting the services they need. Because these individuals are on the higher functioning end of ASD due to higher cognitive abilities, Barnhill (2007) stated that those with AS may have not always received the kind of support or services they need. Their average to above average cognitive abilities may allow them to attend college, but services are not addressing the social and behavioral difficulties that these students need, regardless of their intelligence. A lack of specific services and accommodations coupled with the already

difficult transition to college, Section 504 of the Rehabilitation Act may not be enough for these students to succeed.

Institutions provide the same accommodations that are provided for all other students with disabilities. General, unspecified accommodations may not satisfy the specific needs of students with AS. The unique syndrome requires unique accommodations that universal services may not be able to address. Students with AS receive services that do not address the social and behavioral difficulties and because students with AS often have above average intelligence, solely academic accommodations may not be enough for these students to succeed in postsecondary education. Further, academic difficulties may be caused by these other underlying difficulties. Services that address these underlying issues may lead to better academic outcomes than services that purely focus on academic accommodations.

Interventions for ASD

Mentor programs have been used effectively for students with disabilities who have a variety of needs (Dillon, 2007). Because students with AS are different from other students with other types of disabilities, and have variability among themselves, services must be individualized. Having a mentor or a coach will allow that individualized and flexible support (Dillon, 2007). Further, Taylor (2005) discussed the importance of postsecondary institutions in the United Kingdom to recognize the needs of students with ASD, since these institutions seem to be ill equipped to teach students with ASD. Taylor (2005) suggests that students with ASD may require more personal support instead of purely academic support. A tutor for personal issues would attempt to reduce some of the stress and difficulties that a student with ASD may experience beyond the academic piece of postsecondary education. Similarly, Murray (2003) outlined protective factors for youth with disabilities in their transition to adult life. One of the

most important protective factors is a clear focus on building academic, social, and emotional competencies. Although not specifically outlined for students with AS, Murray (2003) indicates that focusing on emotional and social difficulties is just as important as focusing on academic competencies.

The goal of postsecondary institutions is to educate their students, but with behavioral and social impairments, students with AS may not be reaching these goals. Providing academic supports may not be enough for these students, indicating the need for institutions to recognize the need for behavioral and social supports. VanBergeijk et al. (2008) advise institutions to address these specific difficulties in order to accomplish their chief mission of educating all students equally. For younger children with AS, Williams (1995) suggested that a “buddy system” would allow a student with AS to have a peer who models behavior, looks out for them, and assists them socially. Although not implemented in postsecondary education, this model may benefit students in higher education who may require additional personal support to help with their transition to college life.

Stoddart (1998) defines social worker roles in the treatment of AS, which includes individual therapy. Counseling to help the student with social skills and coping strategies can be simplified into helping a student develop insight into their behaviors. Meeting to discuss day-to-day issues allows the student with AS to understand social interactions in an applied setting and to understand social rules and norms. It is important for postsecondary institutions to recognize the importance of therapy to help with the social and behavioral problems that are associated with AS.

It is imperative that students with disabilities, and specifically those with AS, develop or strengthen the skills necessary to be self-advocates. Since students with AS have difficulties in

communication, it may be extremely difficult or even impossible for students to speak up and receive services. Many transition plans in high school focus on self-advocacy skills, which may get a student into the disability services offices, but it may not get them through the rest of college. Students need to speak up to professors since their behaviors may be misinterpreted, students need to talk to advisors about classes, and they may need to associate with Residence Life to address living situations. Social supports are necessary for college students with AS so that they can address social and behavioral difficulties and advocate for better awareness and understanding from professors and their peers.

Outcomes

Autism Spectrum Disorder is a lifelong developmental disorder. Numerous studies have looked at the outcomes of those with ASD, also addressing what type of intervention would be most beneficial to improve adult outcomes. Barnhill (2007) examined the literature regarding adult outcomes of those with AS. Individuals with AS have reported difficulty in employment, specifically finding and maintaining jobs. The term malemployment, coined by Romoser (2000), was used to describe the employment situation for those with ASD. That is, most individuals with ASD are working at a job that is far below their skill and ability level, and working at a task for which they are unsuited. These employment difficulties begin with the job interview, where it may be hard for individuals with AS to engage in reciprocal conversation and therefore engage in the interview (Barnhill, 2007). Individuals with AS may have the cognitive abilities for a job, but not the social skills to market themselves. Therefore, they may be accepting and working at jobs that they are unsuited for and are below their skill level (Barnhill, 2007).

Most students transitioning to college are learning how to be independent and live on their own for the first time. For students with AS, this new responsibility can be overwhelming.

Transitioning and learning how to take care of themselves is extremely difficult and the inability to do so is one of the hallmarks of the disability. Howlin, Goode, Hutton, and Rutter (2004) examined adult outcomes for children with ASD. Specifically, one area they looked at was independent living. Of the 68 individuals in the study, only 3 individuals lived by themselves with only limited parental support. More than one-third of the group still lived at home and a majority of these individuals remained highly dependent on their families (Howlin et al., 2004). The study also estimated overall social competence and found that almost half of the individuals were rated "poor" – with very limited autonomy.

Given that individuals with AS have, by virtue of the disorder, behavioral and social difficulties, it seems that transition services that are limited to Section 504 are insufficient. Research on effective interventions for students in college with AS is limited or nonexistent. As previously stated, research suggests using mentors, buddy systems, personal tutors, or individualized therapy. No outcome research was noted; however, taking a peer intervention approach that incorporates these aforementioned components may prove to be effective in students' with AS transition to postsecondary education. The present study applied an intervention program that utilized a peer coach, which sought to facilitate the transition to postsecondary education for those with AS.

Rationale of the Present Study

The purpose of the present study was to explore the common issues that emerged during the peer coaching experience. Did the issues that are common to the disorder, such as impairments in social interaction and behavioral difficulties, emerge during the peer coaching experience? What other issues, if any, related to their transition emerged? Exploring what types of issues emerged during the peer coaching experience can provide professionals and

postsecondary institutions with a better understanding of what specific difficulties students with AS face when transitioning to and adapting to college.

CHAPTER 3

Methodology

*Participants**Students*

Nineteen undergraduate college students with Asperger's Syndrome from a technical university that is based on a quarter system in western New York participated in the Spectrum Support Pilot (i.e., peer coaching program) (4 females, 15 males, age range: 18 – 23 years). All 19 students voluntarily signed up for the program. Six of the students participated in the program last year (2 females, 4 males), although they were provided with different peer coaches than the current study. Eight students were considered second or third year students at the university (2 females, 6 males) and eleven students were first year students (2 females, 9 males). Three students were Deaf or Hard of Hearing and 16 students spoke English. All students were Caucasian. Three students took a Leave of Absence and three students left the Spectrum Support Pilot, but remained in college.

Inclusionary Criteria

To be included in the program, students had to meet diagnostic criteria for an Autism Spectrum Disorder. An ASD diagnosis was based on documentation provided to the Disability Services Office by the student and could have included psychological/neuropsychological evaluations or letters from a treating doctor, counselor, psychologist, or psychiatrist. Presentation of an IEP or a 504 plan was not accepted as documentation. The documentation had to be from high school or later, although earlier documentation did not result in exclusion from the program.

Peer Coaches

Seven advanced, second-year graduate students within the School Psychology program at the same technical university served as peer coaches. Their ages ranged from 23 – 26 years. The peer coaches volunteered to participate in the Spectrum Support Pilot as peer coaches. All peer coaches were female and received one college credit per quarter and an hourly wage for their participation in the program. Each peer coach was assigned two or three students. Peer coaches had knowledge of ASD based on their graduate training, and also participated in a 6-hour training session on ASD and difficulties with transition to college.

Measures

Peer coaches wrote weekly progress notes in the following format: Description, Assessment, and Plan (DAP). This method was suggested for use by a clinical psychologist at the campus' counseling center. DAP notes taken by the peer coaches provided qualitative information about each meeting with the students. The notes contained descriptions about what occurred during each meeting and any interventions used or suggested with the student (Description), assessment of how the student is doing based on the peer coach's opinion (Assessment), and plan of what the peer coach and the student will focus or work on the following meeting (Plan).

Procedure

This study was based on data that was collected throughout the year as part of students' participation in the Spectrum Support Pilot. The Spectrum Support Pilot was a grant-funded program by the National Science Foundation implemented to help college students with AS adjust to postsecondary education. Students registered for accommodations through the Disability Services Office at the university, and if an Autism Spectrum Disorder (ASD) diagnosis was provided to the office, students were invited to join the Spectrum Support Pilot.

Students were given information about the program and two consent forms. One form indicated that the student's participation is voluntary and that the student can withdraw from the program at any time. The second form was a release of information to a list of specified people involved in the program (peer coach, Director of Disability Services, Case Manager, Chair of the School Psychology program). As part of the Spectrum Support Pilot requirements, the proposal was approved by the university's Institutional Review Board.

If participants met criteria for ASD and provided consent, students participated in the Spectrum Support Pilot. Each student was provided with one peer coach. The peer coaches contacted the students and set up a weekly meeting time most convenient to them. The peer coaches attempted to meet weekly for one hour at various locations on campus. The peer coaches helped in the students' transition to college by discussing and monitoring their academic, social, emotional, and behavioral progress and by individually tailoring interventions to address concerns as they arise. Meetings were informal and unstructured in nature and after each meeting, peer coaches wrote DAP notes from that meeting. As part of the students' participation in the Spectrum Support Pilot, social gatherings were planned throughout the academic year (e.g., game night) in order to promote interaction with others in the program.

Peer coaches also had weekly meetings with the Chair of the School Psychology program and staff from the Disability Services Office for supervision purposes. Weekly meetings were held to discuss the students' progress, to address any concerns, and so that peer coaches could seek advice on specific interventions to use with their students.

Peer coaches attempted to meet with their students for one hour weekly during the fall quarter, but if students demonstrated progress during winter or spring quarter, meetings were decreased to bi-weekly or shorter duration meetings at the students' approval.

Statistical Analysis

Confidentiality was maintained by removing all identifying information from the DAP notes for both the peer coaches and the students. Peer coaches were numbered 1-7 and students were lettered a-g. The key was then destroyed. The DAP notes became available to the researcher by being involved in the one credit class that all seven peer coaches had to register for. The DAP notes were kept in a private file on the researcher's computer in which only the researcher had access to.

Qualitative analysis of the DAP notes was completed in order to discover any common or reoccurring themes centered on issues pertaining to the students' transition to college. More specifically, to determine if the issues or problematic areas related to AS, such as communication, social skills, adaptive skills, and independent living, came up and needed to be addressed by the peer coaches. Analysis of the DAP notes looked at any common or reoccurring concerns or issues over the school year.

DAP notes were arranged in chronological order by peer coach and student. As per Creswell (2008), they were read through repeatedly. Text was underlined and key words were labeled with codes. Codes were examined for overlap and were then narrowed down to develop broad themes.

CHAPTER FOUR

Results

A total of 295 DAP notes were analyzed. The number of DAP notes per peer coach ranged from 21 – 57, with an average of 42 across all peer coaches. Seven themes emerged from the DAP notes, indicating that these themes were issues or areas of difficulties for students with AS that they wanted help with from the peer coaches. The themes are as follows: (a) organization and time management; (b) emotional control and anxiety; (c) social interaction and communication; (d) behavior; (e) adaptive and independent living; (f) self-advocacy; and (g) flexibility and adaptability.

Organization and Time Management

All nineteen students faced challenges related to organization and time management skills. Specifically, students frequently missed or were late to scheduled peer coaching meetings, failed to attend classes or meetings, turned in assignments late, were ill-prepared for tests or projects due to lack of planning, lost papers or assignments, and failed to check e-mail responses. One student had “several courses which had online discussion elements with 50-250 unread discussion messages in them” and another peer coach wrote that, “when we opened his email, there were over 350 emails since the summer that he had not seen or read.”

Many of the students in the program also had difficulty planning ahead. For instance, students failed to schedule appointments with advisors in order to register for classes, contact peers in a timely fashion for projects, contact peer coaches far enough in advance when a meeting was going to be missed, and failed to set alarms in time for classes or meetings. One peer coach wrote, “We were scheduled to meet at 12pm in the afternoon. After waiting for 15 minutes past our scheduled time, I decided to call him. He answered and said that he had just

woken up and would be there in a few minutes.” One peer coach had to consistently call or text message the student before every meeting to remind him to come or to remind him to let her know if he cannot make the meeting.

Many students failed to connect how their lack of preparedness and organization affected their academics. One student “had been missing classes and had not yet set up his coaching session that is mandatory for the course.” Some students often missed assignments or tests and did not understand the repercussions of doing so. A peer coach stated:

I think that he doesn't realize that it is different from high school and that you have to work harder to be successful. It seems like he has trouble understanding and planning for things coming up in school. I am also concerned that he is either missing his classes and therefore didn't know he had exams in them or he is going in ill-prepared because he doesn't know what is coming up.

Some students were also unaware of the social implications due to their lack of time management skills. For instance, one peer coach stated, “I called him when he did not show up on time and found out that he went back to his dorm to take a nap.” Another peer coach wrote:

Today we had a scheduled meeting at 9:30 in the library. We moved our meeting time up a half an hour because she thought it would fit better in her day. She started texting me at 9am to tell me that she would probably be late because of the weather. At 9:30 I texted her asking how late she was planning on being. She informed me that she was planning on being very late and asked where the financial aid office was because she was going there first.

While some students were unaware of the social repercussions of being late and the interpretation of coming off rude, other students were apologetic and understanding of their actions. One peer coach wrote, “She was 10 minutes late. She mentioned that her alarm did not go off and she had just woken up 20 minutes prior to the meeting. She also said that she was very disappointed with herself about being late.” Another peer coach wrote:

She texted me back and said she was so sorry that she lost track of time and profusely apologized for not letting me know. It doesn't seem like she's trying to ignore me and

she always seems very sorry for missing meetings, so I think it may be that she is forgetful and stressed with work since it's the end of the quarter.

Emotional Control and Anxiety

Many of the students felt frustrated, anxious, nervous, and overwhelmed throughout the year. These feelings are typical for many college students; however, some students dealt with these feelings in inappropriate or unhealthy ways. Some students had outbursts of yelling, crying, and swearing and some incidents resulted in hurting themselves. One peer coach wrote:

Later that day I saw him on campus and I asked how he was feeling and he was noticeably upset and stressed out. He said he was "terrible." He was swearing and rubbing his head a lot and I told him to take a couple deep breaths. He was stressed out about his roommate situation and because of that, he had "writer's block", and wasn't able to finish a paper that was due in an hour.

Some students were aware of their anxiety and five students went to the counseling center at one point during the year, either on their own or with suggestions from their peer coach. One peer coach wrote, "When asked about any difficult emotional situations she had over the past week, she mentioned a panic attack and the incident with her department. She stated that during those times she is very aware of her feelings but cannot verbalize them appropriately." Another peer coach wrote:

I asked him if he would like to go to the counseling center because they can help him sort out some of these issues, better than I can, and it will make him feel a lot better and he agreed. On our walk over there I asked him if he ever thought about hurting himself and he showed me his hand which had a bite mark on it, and he said he bit himself. I asked if he would do anything more, and he said no, but said that he sometimes punches himself when he's really upset.

Almost all students were able to resolve their emotional difficulties either with their peer coach or with the counseling center; however, three students took a Leave of Absence from the university. Their respective peer coaches indicated that they did not think these students were emotionally ready or mature enough to deal with the demands of college. One peer coach wrote,

“It doesn't make me think that he will be able to handle the demands of any quarter at this point.”

Social Interaction and Communication

All students had difficulties with social interactions and communication. Specifically students had difficulty interacting and talking to others. This was especially difficult with the nature of most college courses, where group projects are required. Some students struggled academically when group projects were assigned. Other students could not or did not want to talk to peers or professors when additional help or explanations were needed regarding assignments. Difficulty making friends was also a main theme. While some students were bothered by their lack of friendships and inability to talk to their peers, others did not care for or avoided social interactions with their peers. One peer coach stated, “She does not want to focus on social aspects right now because she wants to focus on school. She reported that she enjoys being alone” and “He also continues to make excuses for not socializing, and seems hesitant to engage in any opportunities to have social interactions.” Other students had a desire for friendships and one peer coach wrote, “He said that he goes to the activities and likes to be around his peers, but that he is by himself and wishes he had friends to sit with during the events.” Another peer coach stated, “He seems upset by the current state of his social life and would like for things to be different.” One student recognized their desire to be connected and even asked for the peer coach's help, “When I asked her what she wanted to work on she said she wants to get more connected and involved on campus.”

Besides having difficulties with socializing with peers and making friends, almost every student had difficulties with communication. Students had difficulty maintaining eye contact during a conversation, holding a conversation, and acting in socially appropriate ways when

communicating. A peer coach wrote, "He is very uncomfortable with initiating conversation with people. He says that it takes him a long time to figure out what he wants to say and feels uncomfortable doing it." Another peer coach wrote that during an on-campus interview, "A main point the interviewer made to him was that he did not make eye contact. When he speaks to you his body is usually turned to right and he looks off the side." Another peer coach wrote:

I noticed that he started the conversation a little abruptly and he made very little eye contact. He was fidgety while talking and played with his hat. He mainly looked around the room while talking to me.

Some students also had difficulty acting in socially appropriate ways when communicating with others and were unaware of their place in the conversation. One peer coach wrote, "At one point she started singing and screaming very loudly" and another wrote, "She appeared to be unaware of her actions and seemed to expect the other student to take responsibility of the conversation."

Behavior

Most students had difficulties with behaviors, including repetitive behaviors and restricted interests. One student exhibited slight repetitive behaviors by pacing when he was nervous or stressed during a conversation. Many other students had restricted patterns of interests, where they were very interested in gaming and computers. None of the students brought their gaming and computer interests into the peer coach meetings; however, peer coaches noted that their interests were obsessive at times and were interfering with their daily life and academics. Some students would spend all night on their computer or playing games, affecting their sleeping schedule and their academics. Students were tired for classes, would oversleep and miss classes, or would be late on assignments due to spending hours on the computer, rather than doing work.

Peer coaches did not work on these behaviors with their students directly. The focus wasn't to change these behaviors and "obsessions", but instead it was to help the students adapt to and manage the consequences of these behaviors.

Adaptive and Independent Living

Almost all of the students presented with adaptive or independent living difficulties. For some, these difficulties surrounded hygiene and self-care. Some did not shower regularly, do laundry, or keep themselves groomed and presentable. One peer coach wrote:

This week his hygiene has taken a turn for the worse. I could smell him from across the table and his nails have still not been cut and are dirty. I talked to him about getting himself organized and ready for his meeting with his parents. I suggested that in order to show that he wants to be here and can handle being here, he should clean up his room, self, and academic materials.

Students who had hygiene difficulties were unaware of the way they presented themselves and didn't understand how others perceived them, or why they or their room smelled.

Other independent living difficulties included learning how to manage a new routine and sleeping schedule. Some students would stay up too late, resulting in them oversleeping and missing classes, or being extremely tired throughout the day. Of the students who had difficulty managing their sleeping schedule, most attributed it to spending hours on their computer and playing video games. Peer coaches stated, "He needs to manage his time better on the internet because he has been staying up too late on his computer;" "He said that he stayed up until 6am this past night on Youtube watching videos about a video game. He said that not only was he exhausted but that he felt guilty for doing it;" "He also talked about having irregular sleep patterns because he often goes to bed very late after playing computer games online into the wee hours of the night."

Self-advocacy

Students had difficulty with communicating with others, which affected their ability to advocate for themselves. Many of the students had difficulty talking to professors or advisors, accessing or asking for accommodations, and performing other behaviors that were required of college students. Students often relied on peer coaches when it came to accessing accommodations such as tutoring, academic accommodations (note-takers, extended time for tests, etc.), and when getting information on finding jobs, interviews, and co-ops. While most of the self-advocacy difficulties surrounded academic needs, some students had difficulty talking to their roommates about their wants and needs, and talking to other university departments such as finance and technical support. One peer coach wrote:

He came up with the idea that he should notify his teachers, but then asked me if I could do it for him. I told him that I could not do it for him and it was his responsibility to do this. He later texted me because he was having difficulty logging into his email and asked if I could again email them for him and look up their email addresses. I again told him that I could not and reminded him that he could reset his RIT password and remedy the problem. Later, I heard from him again asking me to figure out who his English teacher was.

A majority of the students asked their peer coaches for help in accessing supports and resources, which displays self-advocacy skills. Students brought questions and concerns to the meeting, but at times, expected the peer coach to do much of the work thereafter. Many peer coaches helped students draft emails to professors and would be the first person to get things started when accommodations or other resources were needed (e.g., contacting the Director of Disability Services).

Flexibility and Adaptability

Many students had difficulty with being flexible to others' opinions and ideas, to new ways of doing things, and other changes in their environment. Many students struggled with a rigid way of thinking or were unable to put themselves in someone else's shoes. Specifically,

some students had a hard time understanding why they had to take certain classes that they weren't interested in. One peer coach wrote, "She talked a lot about how unfair it is that she has to take some of her classes that are not related to her major." Further, students had difficulties with assignments or tests that were given last minute, such as a pop quizzes. Assignments that were more open to interpretation and creative in nature were also difficult for many students. Peer coaches wrote, "He couldn't understand how to do the homework assignments for Engineering because they involved coming up with questions to ask a presenter in class. He could not understand how you were supposed to know what to ask someone before listening to what they have to say;" "He is having a hard time with the assignments because they are more free-thought and free-flowing assignments. They are not assignments that have only one way to approach them. He is struggling with his aspect." The inflexibility affected their academics and their ability to complete assignments that were more creative in nature.

Another theme that was common to almost all of the students was the inability to be flexible in their thinking. This included an inability to deal with and adjust to changes in the environment, to accept others' views or ways of doing things, or to try new things. A peer coach wrote, "We discussed putting himself in other people's shoes, even for incidents he considers insignificant. He said that he has trouble with understanding and identifying other people's emotions." Another student had a hard time adjusting to a change in the set meeting:

I decided to change the location of our meeting because of an appointment that I had right before meeting with him. He was really thrown off by this and almost didn't come to the meeting because he was confused and didn't understand why I wanted to move our meeting place.

Rigidity and inflexibility not only affected students' academics, but also their living situations and relationships with peers. One peer coach wrote:

He can be rather critical about things and I'm trying to open his view to where things work out sometimes as well. He does have some unrealistic expectations for a roommate, to where he thinks everyone should go to bed when he goes to bed, he thinks everyone should have the same study habits and he'd like a car and furniture to be provided for him. I'm a little nervous that if all of these things don't go according to his plan that he will be disappointed even if some things are much better.

Another peer coach wrote, "His rigidity sometimes gets in the way of him trying things and perhaps how he interacts with others in a living situation because if things aren't done the way he thinks they should be he thinks they're wrong."

In general, most students were not able to think of things in a different way or change their views. Peer coaches stated, "Probably one of his greatest difficulties is in rigidity of thought. Although we try to explore an issue from many different sides, he always returns to his past experiences;" "He doesn't not seem to have the ability to flexibly think about problems and try to make them better;" "He seems to have a very rigid way of thinking and is not willing to expand his thinking outside of that."

CHAPTER FIVE

Discussion

The number of students with AS entering postsecondary education is increasing (Smith, 2007) and although institutions have made considerable efforts to improve the transition process and accommodate the needs of students with disabilities (Wells et al., 2003), students with AS still face many challenges in college. Little is known about the unique challenges that these students face and of effective intervention programs, although the majority of the available research identifies and suggests using social supports for students with AS (Adreon & Durocher, 2007; Dillon, 2007; Stoddart, 1998; Taylor, 2005; VanBergeijk et al., 2008; Williams, 1995). Therefore, the current study utilized an intervention program that offered students with AS social support, or a peer coach. The purpose of the study was to examine and explore the common issues and challenges unique to AS that emerged during the peer coaching experience.

The issues that emerged from the DAP notes were similar to the research regarding students with AS and their adaptation to postsecondary life. That is, students with AS have the cognitive ability to attend college, but have barriers such as social communication and behavioral difficulties that may interfere with their success (Dillon, 2007; Glennon, 2001; VanBergeijk, Klin, & Volkmar, 2008). Providing students with a peer coach allowed students to address their social and behavioral difficulties, with the aim of facilitating their transition to college.

Because the number of students with AS attending college is increasing, there is limited research on the unique challenges that they face in college beyond the difficulties that the DSM-IV-TR (2000) defines (Adreon & Durocher, 2007; VanBergeijk et al., 2008). Seven themes emerged from the DAP notes, indicating that these areas are difficulties that students with AS face when transitioning to college: (a) organization and time management; (b) emotional control

and anxiety; (c) social interaction and communication; (d) behavior; (e) adaptive and independent living; (f) self-advocacy; and (g) flexibility and adaptability. These results are highly similar to those found in a study done by Eastman (2010). Eastman's (2010) approach was slightly different as peer coaches were asked to reflect upon seven open-ended questions, whereas the present study used actual case notes from the peer coaches as they went through the peer coaching experience. Because similar themes were found across both studies, it reaffirms the stability of these themes.

Students had difficulties interacting and communicating with others, and had repetitive, restricted, and stereotyped behaviors, interests, and activities; impairments required for an AS diagnosis. Similar to previous research, students were rigid and inflexible in their thinking (Kleihans, Akshoomoff & Delis, 2005; Verté, Geurts, Roeyers, Oosterlaan & Sergeant, 2006) and also had issues dealing with anxiety and other emotional issues (Bedrossian & Pennamon, 2007; Jobe & White, 2007; Vickerstaff, Heriot, Wong, Lopes, & Dossetor, 2006).

In accordance with the clinical definition of AS in the DSM-IV-TR (2000), students had social interaction, communication, and behavioral difficulties. Students had difficulty holding conversations, developing friends, and acting in socially appropriate ways. Students also had behavioral difficulties, such as restricted patterns of interest in intensity and focus (i.e. video and computer games). However, behavioral difficulties were not seen in all of the students' DAP notes, indicating that it was not a high priority concern. Instead, there were other issues that came up during the peer coaching experience that needed to be addressed by the peer coaches in order to facilitate the students' transition to postsecondary education. In other words, the behavioral impairments that the DSM-IV-TR (2000) identifies as one of the main components of an AS diagnosis was not noted as an issue in the transition to postsecondary education. When

adapting to college, there were many other challenges unique to these students that interfered with their transition.

The DSM-IV-TR's (2000) clinical definition for AS states, "There is no clinically significant delay in cognitive development or in the development of age-appropriate self-help skills, adaptive behavior (other than in social interaction), and curiosity about the environment in childhood" (American Psychiatric Association, 2000). Students were enrolled in a highly esteemed postsecondary institution, indicating no cognitive delays; however, students exhibited deficits in self-help and adaptive skills, contradicting the clinical definition for AS. For example, students had difficulty managing their day and sleep schedule, had difficulty advocating for themselves, and neglected to wash regularly, wash their clothes, and keep themselves clean and presentable. While the present study did not determine the clinical significance of these impairments, it can be suggested that these deficits in self-help and adaptive skills significantly impaired students' functioning due to the fact that these issues were far more common when compared to behavioral concerns, which is an AS diagnoses component.

The themes that emerged during the peer coaching experience suggest that these are issues unique to students with AS in college. Each peer coach addressed issues that were common among all of the students involved in the program, indicating that these are challenges faced by most students with AS in college. Research indicates that students with AS experience unique challenges in college that are not typically supported by postsecondary institutions. Although efficacy of the peer coaching program was not evaluated, it can be proposed that this peer coaching model is an effective support and intervention for students with AS in college because it focused on issues that are unique to AS. With knowledge of the specific challenges students face, high schools may be able to create more detailed and specific transition plans, in

order to better prepare students for postsecondary education. For example, students may benefit from classes or a program that focuses on self-help behaviors that are required of a college student. Further, these findings may inform other postsecondary institutions about the need for peer coaches and other supports to address the unique challenges that students with AS face. By understanding the difficulties that students with AS have, institutions can develop training programs for peer coaches that focus on these specific issues.

Limitations

Limitations of the study exist and may be addressed in future research. First, the current study consisted of a small sample size, with peer coaches and students being from a postsecondary institution that was on a quarter system. That is, each quarter lasted ten weeks, as opposed to the typical semester system of fifteen weeks. The decreased amount of time for acclimation to classes and the faster paced nature of the quarter system may have impacted students' ability to adjust, manage their time, and control their anxiety. Therefore, results may not generalize to populations that attend a postsecondary institution that is on a semester system. Students' anxiety level, time management, and organization skills may have been more of an issue given the nature of the specific institution.

Another limitation was an inconsistency in DAP note writing. Peer coaches may have written the DAP notes at different times throughout the school year, and as a result, some may have been more retrospective and therefore not a complete and accurate picture of the students' challenges at the time. Also, peer coaches had varying views and assessments of their students and their progress. What may have been a serious issue for one student, may not have been as serious for another student given the peer coaches idea of seriousness, and the peer coaches idea of what is typical for a college student. Therefore, the analysis of the DAP notes may not have

accurately depicted the intensity of the issues faced by the students. Other issues may have been left out completely in the DAP notes, simply because the peer coach did not believe it was a deficit related to AS and therefore not a priority to be worked on.

Lastly, the study cannot affirm or disaffirm the effectiveness of a peer coach, it can only suggest. Although having a peer coach may have allowed students to focus on challenges that may have gone unaddressed, the efficacy of having a peer coach in term of their adaptation to college was not looked at.

Future Research

Students with AS face significant challenges when transitioning to postsecondary education, and many times these barriers continue to impact and impede their success all throughout their educational career. Future research should continue to explore the issues that students with AS face in college and work to develop interventions and techniques that address these issues. The efficacy of the peer coaching model should be evaluated, and other interventions should be developed and investigated to find which interventions are most beneficial and successful in addressing the unique needs of students with AS. Having a better understanding of their needs as well as the utility of interventions can provide postsecondary institutions with ideas on how to support students with AS so that they can be successful in their postsecondary education.

References

- Adreon, D., & Durocher, J. (2007). Evaluating the college transition needs of individuals with high-functioning autism spectrum disorders. *Intervention in School and Clinic, 42*, 271-279.
- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed., text revision). Washington, DC: American Psychiatric Association.
- Baker, R. & Bohdan S. (1989). Student adaptation to college questionnaire: Manual. Los Angeles, California: Western Psychological Services.
- Barnhill, G. (2007). Outcomes in adults with Asperger syndrome. *Focus on Autism and Other Developmental Disabilities, 22*, 116-126.
- Bedrossian, L., & Pennamon, R. (2007). *College students with Asperger syndrome: Practical strategies for academic and social success*. Horsham, PA: LRP Publications.
- Blackorby, J., & Wagner, M. (1996). Longitudinal postschool outcomes of youth with disabilities: Findings from the national longitudinal transition study. *Exceptional Children, 62*, 399-413.
- Creswell, J. (2008). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (pp. 243-270). New Jersey: Pearson Education, Inc.
- Cummings, R., Maddux, C., & Casey, J. (2000). Individualized transition planning for students with learning disabilities. *The Career Development Quarterly, 49*, 60-72.
- deFur, S. (2003). IEP transition planning: From compliance to quality. *Exceptionality, 11*, 115-128.
- Dillon, M. (2007). Creating supports for college students with Asperger syndrome through collaboration. *College Student Journal, 41*, 499-504.

- Eastman, K. (2010). The experience of a peer coaching program on student's with Asperger's transition to postsecondary education. (Unpublished master's thesis). Rochester Institute of Technology, Rochester, NY.
- Eckes, S., & Ochoa, T. (2005). Students with disabilities: Transitioning from high school to higher education. *American Secondary Education, 33*, 6-20.
- Glennon, T. (2001). The stress of the university experience for students with Asperger syndrome. *Work: Journal of Prevention, Assessment & Rehabilitation, 17*, 183-190.
- Hindes, Y. & Mather, J. (2007). Inclusive education at the post-secondary level: Attitudes of students and professors. *Exceptionality Education Canada, 17*, 107-128.
- Howlin, P., Goode, S., Hutton, J., & Rutter, M. (2004). Adult outcome for children with autism. *Journal of Child Psychology and Psychiatry, 45*, 212-229.
- Janiga, S., & Costenbader, V. (2002). The transition from high school to postsecondary education for students with learning disabilities: A survey of college service coordinators. *Journal of Learning Disabilities, 35*, 462-468.
- Jobe, L., & White, S. (2007). Loneliness, social relationships, and a broader autism phenotype in college students. *Personality and Individual Differences, 42*, 1479-1489.
- Kleihans, N., Akshoomoff, N., & Delis, D. (2005). Executive functions in autism and Asperger's disorder: Flexibility, fluency, and inhibition. *Developmental Neuropsychology, 27*, 379-401.
- Kogan, M., Blumberg, S., Schieve, L., Boyle, C., Perrin, J., Ghandour, R. et al. (2009). Prevalence of parent-reported diagnosis of autism spectrum disorder among children in the US. *Pediatrics, 124*, 1395-1403.

- Madaus, J., & Shaw, S. (2006). The impact of the IDEA 2004 on transition to college for students with learning disabilities. *Learning Disabilities Research and Practice, 21*, 273-281.
- Murray, C. (2003). Risk factors, protective factors, vulnerability, and resilience: A framework for understanding and supporting the adult transitions of youth with high-incidence disabilities. *Remedial and Special Education, 24*, 16-26.
- Smith, C. (2007). Support services for students with Asperger's syndrome in higher education. *College Student Journal, 41*, 515-531.
- Stoddart, K. (1998). The treatment of high-functioning pervasive developmental disorder and Asperger's disorder: Defining the social work role. *Focus on Autism and Other Developmental Disabilities, 13*, 45-52.
- Taylor, M. (2005). Teaching students with autistic spectrum disorders in HE. *Education and Training, 47*, 484-495.
- VanBergeijk, E., Klin, A., & Volkmar, F. (2008). Supporting more able students on the autism spectrum: College and beyond. *Journal of Autism and Developmental Disorders, 38*, 1359-1370.
- Verté, S., Geurts, H., Roeyers, H., Oosterlaan, J., & Sergeant, J. (2006). Executive functioning in children with an autism spectrum disorder: Can we differentiate within the spectrum? *Journal of Autism and Developmental Disorders, 36*, 351-372.
- Vickerstaff, S., Heriot, S., Wong, M., Lopes, A., & Dossetor, D. (2006). Intellectual ability, self-perceived social competence, and depressive symptomatology in children with high-functioning autistic spectrum disorders. *Journal of Autism and Developmental Disorders, 37*, 1647-1664.

Wells, T., Sandefur, G., & Hogan, D. (2003). What happens after the high school years among young persons with disabilities? *Social Forces*, 82, 803-832.

Williams, K. (1995). Understanding the student with Asperger syndrome: Guidelines for teachers. *Focus on Autistic Behavior*, 10, 9-16.

Wittenburg, D., Golden, T., & Fishman, M. (2002). Transition options for youth with disabilities: An overview of the programs and policies that affect the transition from school. *Journal of Vocational Rehabilitation*, 17, 195-206.