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I AM A COLLEGE GRADUATE: POSTSECONDARY EXPERIENCES AS DESCRIBED BY ADULTS WITH AUTISM SPECTRUM DISORDERS

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ABSTRACT

As the number of individuals with autism spectrum disorders (ASD) attending postsecondary education increases, so does the need for first-hand information regarding experiences and barriers. This study uses phenomenological methodology to examine the postsecondary education experiences of adults with ASD who obtained a college degree. Previous research identified that individuals with ASD enrolled in college at lesser rates than individuals with other types of disabilities. This pilot qualitative study examined the experiences of six college graduates with ASD as they described their experiences in PSE. Participants described their academic, social, and sensory experiences. Study results indicate that PSE students with ASD benefitted from academic accommodations such as preferential seating or extended time on tests. Implications for professionals and suggestions for future research are included.

Contribution/Originality: This study contributes to existing literature by providing first hand descriptions of the postsecondary experience directly from individuals with ASD who have successfully completed postsecondary education.

1. INTRODUCTION

Approximately 50,000 young adults with Autism Spectrum Disorders (ASD) turn 18 each year in the United States. Following high school graduation, the socially normative next-step for young adults is enrollment in some type of postsecondary education (PSE) or to obtain employment. While the rates of individuals with ASD who are enrolling in PSE following their graduation from high school are increasing, these PSE enrollment numbers remain substantially lower than that of the general population (Van Bergeijk *et al.*, 2008; Ford, 2009; Barnhill, 2016). Furthermore, Cederlund *et al.* (2008) reported fewer than 40% of high school students with ASD ever attend any type of PSE and only a very few complete PSE and earn a degree. A common societal misperception regarding ASD is that all individuals with ASD have a co-morbid cognitive impairment; while the reality is over half of individuals with an ASD diagnosis have average to above-average intellectual capabilities (Mayes and Calhoun, 2003; Control and Prevention, 2014).

Current Centers of Disease Control (CDC) data estimate that one in 59 children born in the United States will be diagnosed with an ASD (Centers for Disease Control and Prevention, 2018) are defined as a group of lifelong develop-mental disabilities that causes significant social impairments, communication deficits, and behavioral challenges (CDCP, 2018). ASD is diagnosed across all racial, ethnic, and socioeconomic groups. Over time, there

have been multiple changes to the criteria for ASD diagnosis. In 1994, the Diagnostic and Statistical Manual of Mental Disorders (DSM-4; American Psychiatric Association [APA]) labeled the category of people with ASD and average or above average intellectual abilities as having Asperger syndrome (AS). An AS diagnosis required that individuals demonstrate impairments in social functioning, some type of restricted or repetitive behavior, and normal language development (American Psychiatric Association, 1994). Most recently, the DSM-V removed the category of AS entirely (APA, 2013). Individuals who would have previously been diagnosed with AS will now likely fall under the umbrella diagnosis of ASD or to a new DSM-V diagnosis of Social Pragmatic Disorder (APA, 2013). The participants in the current study fall into these described diagnostic categories, with several publicly identifying as an "Aspy" in relation to their previous AS diagnosis. This paper will identify participants as simply being an individual with ASD, rather than using social pragmatic disorder or AS in order to best align with the current diagnostic terminology in the DSM-V.

Young adults with ASD who enroll in PSE following high school graduation may face communication, behavioral and social skill challenges. These challenges may contribute to the low postsecondary education rates for individuals with ASD when compared to individuals belonging to other disability categories (Hendricks, 2010; Cimera *et al*., 2013). Prior research demonstrates that over 50% of youth with ASD report not being engaged in any type of PSE or employment in the first two years following their graduation from high school (Shattuck and Narendorf, 2012). Students with ASD who are academically capable of PSE may still be unable to complete PSE due to excessive stress, high levels of dependence on their families, and the social isolation associated with PSE (Howlin *et al*., 2004); (Van Bergeijk *et al*., 2008). PSE specific issues for individuals with ASD have been noted to potentially include learning style differences, the need for sameness, lack of organization, and sensory problems (Camarena and Sarigiani, 2009).

Literature demonstrates that individuals with ASD who pursue PSE may have poor communication skills as well as poor planning and organizational abilities (Adreon and Durocher, 2007). These social skill difficulties can lead to difficulties understanding course instructions, and may create problems in planning, organizing, and completing required course assignments (Cai and Richdale, 2016). Therefore, college students with ASD may require academic accommodations to succeed. Previous studies have suggested that extended time on tests, reduced course loads, class registration assistance, and preferential classroom seating may be beneficial to a student with ASD (Smith, 2007). When seeking academic accommodations in PSE, unlike high school, students must initiate, self-disclose their diagnosis, and advocate for the accommodations that are required for academic success. The level of self-determination required to initiate the provision of accommodations at the PSE level necessitates individuals with ASD have an accurate understanding of their strengths, weaknesses, and support needs (Roberts, 2010).

Individuals with ASD often continue to struggle socially throughout adulthood. Social skill challenges related to nonverbal communication and pragmatic language can affect their ability to navigate the complex social world (Dillon, 2007). Such challenges can contribute to greater feelings of frustration and isolation in PSE. Students with higher levels of autism traits reported more loneliness and higher levels of social anxiety (Freeth *et al*., 2012). White *et al*. (2011) reported that individuals demonstrating greater levels of traits associated with ASD were socially isolated. One study found that PSE students with ASD often reported lower quality of life ratings due to increased anxiety, loneliness, and social anxiety (Reed *et al*., 2016). These serious mental health concerns may fall under the radar of the university staff and faculty if the student with ASD is preforming well from an academic viewpoint.

Sensory differences are also a common occurrence for individuals with ASD. Research documents that sensory abnormalities occur in over 90% of individuals with ASD (Leekam *et al*., 2007). Sensory sensitives can occur within the auditory, visual, tactile, olfactory, or oral systems. Sensory difficulties affect each individual differently, while some individuals with ASD are hypersensitive to a sensory input, others with ASD can be hyposensitive to an identical sensory experience. The inability to regulate personal responses to offending sensory modalities is a known problem for people with ASD (Zachor and Ben-Itzchak, 2014). Individuals with ASD can become so

distressed with a sensory irritant that they may not be able to verbalize the cause of their distress (Leekam *et al.*, 2007). Oftentimes, sensory issues such as the noise an air conditioner unit makes while running or a peer's perfume that can be bothersome to an individual with ASD, such noises or smells may not even be noticeable to an individual that is not on the autism spectrum.

2. METHODOLOGY

The purpose of this study was to describe the academic and social postsecondary experiences (PSE) of adult college graduates with Autism Spectrum Disorders (ASD). To accomplish this, a qualitative, phenomenological approach was utilized to collect, summarize, and report data from the perspective of six adult college graduates with ASD regarding their experiences in PSE. Phenomenological research necessitates the gathering of data from a small number of participants through extensive interviews to identify the essence of their lived experience (Creswell, 2013). Phenomenology is useful to explore and describe a phenomenon that has been experienced by a heterogeneous population, in this study, the PSE experiences of adults with ASD (Creswell, 2013).

2.1. Participants

Criteria for participation in this study were: (1) minimum of 18 years old, (2) the participant must be their own legal guardian, (3) have a documented ASD diagnosis from an education or health professional (AS included), and finally (4) the participant must be a college graduate (minimum of an associate's degree). The study participants were recruited through the researcher's professional relationship with two social skill development programs specific to adults with ASD. Participants were recruited through emails and personal contacts. The two social skills development groups were located in a large southern metropolitan area and a mid-size Midwestern city. At the time of data collection, the participants were between the ages of twenty-six and thirty-seven years old, with a mean participant age of thirty. One study participant was female and the other five participants were male. The gender make-up of the sample reflects the typical population of adults with ASD, as ASD affects males almost five times more than girls (Control and Prevention, 2014). Of the six participants, one had an associate's degree, four bachelor's degrees, and one participant had completed a master's degree. Diversity was present in the type of postsecondary institution attended by the participants.

All six participants self-identified as white/Caucasian. The age at which each participant obtained their ASD diagnosis varied, with four study participants receiving their ASD diagnosis in childhood and two participants reporting initially being diagnosed with ASD as an adult. The six study participants self-reported a diagnosis of Asperger Syndrome (AS) rather than autism or autism spectrum disorder. While the most recent edition of the *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.) no longer considers AS a stand-alone diagnosis (APA, 2013) prior to 2013, AS was diagnosed in individuals who demonstrated significant and sustained impairments in social functioning as well as restricted behaviors or interests, similar to those with ASD. However, individuals with AS, by *DSM-IV* definition, must exhibit average or above average intellectual abilities (APA, 2000).

2.2. Data Collection

Interview Protocol. The researcher developed the interview protocol based on key experiences identified in traditional postsecondary settings as established from the literature. The interview questions were developed utilizing the research question, existing ASD literature, phenomenological methodology, experts in the field, and individuals with ASD. Prior to data collection, three professionals whose work is primarily with adults with ASD and two adults with ASD matching the study inclusion criteria vetted the interview questions and provided feedback to the researcher regarding the clarity and flow of the protocol.

Interview Procedures. A university institutional review board approved all study procedures. Informed consent documents were reviewed with each participant and all data were kept confidential and anonymized. Data

were gathered and analyzed from in-depth semi-structured interviews that focused on the PSE experiences of adult college graduates with ASD. The interviews were audio recorded and the researcher kept a field note journal throughout the process. The participant interviews varied in length depending on the participant, with the average interview time being approximately 40 minutes. The interviews were completed over an eight-week timeline at mutually agreed upon private conference rooms. The sole researcher completed each of the interviews.

2.3. Data Analysis

Following the interviews, the researcher listened to the audio recordings of each interview while taking additional field notes of thoughts, reactions, or questions. The researcher listened to each interview multiple times to become familiar with the words of the participants and develop a holistic sense of the experience (Hycner, 1999). The digitally recorded interview sessions were transcribed by a third-party transcription service. Study participants were mailed a copy of their transcribed interview to check for accuracy. This additional step adds to the credibility of the research and mediates researcher bias (Shenton, 2004). The researcher assigned participants a pseudonym to protect their confidentiality in the data. Giorgi (1994) suggests phenomenological researchers "dwell with data, allowing time for intuitions to develop, and penetrating the data to a depth that is appropriate" (p. 208). To remain true to the essence of phenomenology, the researcher could keep the "voice" of the participants in this research; participant perspectives were not abstracted out through the researcher's analysis.

Next, the researcher utilized a general inductive analysis to summarize the overall patterns and similarities amongst all the participant interviews in order to describe the commonalities in PSE experiences of individuals with ASD (Thomas, 2006). Using general inductive analysis the researcher was able to create a connection between the research interest area and the data gathered in a way that is transparent to out-siders as well as defensible in construct (Thomas, 2006). The researcher identified statements specific to the lived experiences regarding PSE barriers and how they affected the experiences of individuals with ASD as meaning units. From the meaning units emerged the textual themes of (1) postsecondary education (2) academic accommodations, (3) self-disclosure, (4) communication, and (5) sensory challenges.

Each participant's overall PSE experiences were described in brief summary format using data gathered from both the demographic form and content from the participant's interview. Next, the researcher summarized the overall patterns and similarities amongst all the participant interviews to describe accurately the PSE experiences of adults with ASD. The researcher described the phenomena being studied precisely as it was presented, not adding or subtracting from what was given by the participants (Giorgi, 1994). Since the researcher acted as an instrument of analysis in all parts of this qualitative research study, bracketing was used to decrease researcher bias and increase the validity of the results (Tufford and Newman, 2010). The researcher used field notes as a form of bracketing. The researcher took note of their preconceptions, role conflicts, and personal value systems in all phases of the study. The researcher also met with a senior researcher to review field notes and transcript theme analysis to recognize and limit bias as well as to confirm the findings.

Participant Profiles. The study participants are described in the order in which they were interviewed. Pseudonyms were assigned to participants to protect their privacy.

Brice, 27, obtained a Bachelor's degree in zoology from a large public state university. Brice lived at his parents' home while attending PSE. Brice reported having no employment experience prior to graduating high school and enrolling in college. While in college, Brice worked in a campus research lab. Brice reported that he chose to study zoology because he liked animals.

Cassie is a 35-year-old female who has earned a Bachelor's degree in accounting. Cassie began her post-secondary education at a local community college where she initially studied astrophysics. She reported having a special interest in space. Cassie reported that she excelled in her math and science courses while attending the community college. Cassie continued her course work toward obtaining a bachelor's degree in astrophysics by

transferring to a large four-year public state university. However, she found the large university classroom environment and coursework overwhelming and decided to leave that university to complete a bachelor's degree in accounting online. Cassie lived independently in an apartment while in college.

Daniel is a 37-year-old male who completed his master's degree in computer science from a mid-size public state university. Daniel initially attended college courses at a local university while he was still at-tending high school as part of a dual enrollment program. Once he graduated from high school, Daniel was accepted and enrolled in a large state university that is known for its academic rigor and highly competitive engineering program. He into the dorms to attend the large state university. After a year, Daniel and his parents decided he should move home and continue his PSE at a mid-size state institution nearby.

Evan is a 26-year-old male who earned an Associate's degree in computer support from a small, rural, technical college. Following high school, Evan attended a residential program for adults with disabilities that required living onsite and learning independent living and vocational skills. Evan reported that he was asked to leave this program due to his poor attitude. Upon returning home from the program, he enrolled in PSE at a local technical college. Initially, Evan completed his courses online. Once he had gained confidence in his academic abilities, he transitioned to attending in-person courses at the same small technical college. Evan lived at his parent's home while attending PSE.

Finn is a 30-year-old male who earned a Bachelor's degree in drafting. Finn enrolled in a small technical university following high school. Finn lived at his parent's home while attending PSE. Finn reported having no employment prior to college or while he was engaged in postsecondary education. Finn excelled academically and graduated with a bachelor's degree.

Gabe is a 26-year-old male who earned a bachelor's degree in art from a small liberal arts university. Gabe moved into the college dorms at a small two-year community college following high school graduation. Upon completion of his associate's degree, Gabe transferred to a different small liberal arts public college where he studied art for three additional years to complete his Bachelor's degree in art. Gabe lived in college dorms for a total of five years at two different universities.

3. RESULTS

Five themes describing the PSE experiences of adults with ASD and a college degree emerged from the participant interviews: (1) postsecondary education, (2) academic accommodations, (3) self-disclosure, (4) communication, and (5) sensory challenges. Participants reported attending various types of colleges ranging from two-year technical universities to large four-year state institutions, and completing various degrees within the past 3-18 years in multiple states.

3.1. Postsecondary Education

It is only recently that individuals with AS or ASDs have continued to PSE following high school graduation. However, the numbers of students in this population enrolling in postsecondary education is increasing steadily (Ford, 2009). While many individuals with ASD are intellectually capable of PSE, they may still require accommodations to succeed. There are many decisions that are made by all students entering college, what type of college to attend, where they will live, and what they will study.

Each of the participants were questioned about when they first starting thinking of college or why thy decided to attend PSE. Finn described his decision to enroll in college by stating, "Well, I figured since everyone else is doing it, I should, as well". Cassie described her family as "very poor" and not having any pressure or expectation that she should attend college.

Evan explained that his parents encouraged and supported his desire to attend college. He described wanting to continue his education and specifically had an interest in working with computers. Evan further explained that he

did not want to take out students loans so he applied for scholarships and grants. He was limited in the number of PSE institutions he would considered attending because he "wasn't comfortable driving out of town on my own". Fortunately, there was a small technical university located in his town that offered courses in his field of interest and would accept the scholarship he was awarded.

Daniel attended PSE courses at a local university while he was still attending high school as part of a dual enrollment program. Once he graduated from high school, Daniel was accepted and enrolled in a large university well known for its academic rigor and highly competitive engineering program. When describing his transition to life in PSE and the changing academic expectations, Daniel reported that he struggled to wake himself for morning classes and often missed classes. Daniel was one of the two study participants who moved into the college dorms and away from home following high school graduation. It is apparent from his statement above that the transition away from home meant that fewer supports were available to him in his everyday life to assist with tasks such as waking in a timely manner in order to arrive at his classes on time.

Daniel also described the experience of being required to take courses as part of his degree program that he was disinterested in completing. While it is typical that students pursuing a college degree are required to complete certain prerequisite classes that are outside of the individual's specific interest and academic major, Daniel explained that he struggled to motivate himself academically in courses where he saw no practical utility for the material he was being taught. He reported struggling in some classes, "Especially if it involved an area I wasn't familiar with, or wasn't sure what the practical applications of it were or if they were asking questions about data structures I rarely used". This disinterest in certain classes that he felt were unimportant, led to his earning poor grades, which ultimately resulted in Daniel's parents to urging him to move home and continue PSE at a college nearby so they could continue provide additional supports for him.

Cassie initially started attending PSE at a nearby community college where she took courses aligned with her goal to study astrophysics. She reported earning straight A's in her math and science courses including "four-pointing through calculus". Cassie then decided to continue her course work toward obtaining a bachelor's degree at a large four-year public state university. She described her experience in transfer-ring from a small community college, where she excelled academically and socially, to a very large institution:

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

3.2. Academic Accommodations

Evan reported that the accommodations he received, such as walking out of the classroom when he needed to calm down, were effective in helping him achieve his academic goals. He described the majority of his professors as understanding and accommodating; however, Evan reported one negative experience involving requesting course accommodations. Evan described this negative experience with an "old fashioned" professor who was not willing to provide Evan with flexibility in the assignments or deadlines to accommodate his ASD diagnosis. Evan reported withdrawing from that course because he was not able to reach a compromise with the specific professor and retaking the course the following semester with another professor who was agreeable to his accommodations.

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

While each of the six study participants successfully completed postsecondary education, it was not without much effort and perseverance. The participants attended multiple college environments, both online and face-to-face. Overall, the participants who utilized a disability support center to obtain accommodations reported the accommodations assisted them in their academic pursuits.

3.3. Self-Disclosure

Students in PSE are not mandated to disclose their ASD diagnosis to their PSE classmates or to the school itself. Nationally, around half of PSE students with ASDs choose to disclose their ASD diagnosis to their university and peers (Newman *et al*., 2009). Many factors can influence a student's decision to disclose this information or not. Study participants had various opinions regarding when and how to tell their peers about their diagnosis. One participant, Cassie, obtained her ASD diagnosis following completion of PSE, so self-disclosure was not a concept she had considered.

Initially, Evan chose to take his college courses virtually in an online format. Once he became comfortable with the online course format and academic expectations, Evan decided to attend PSE courses in-person at the same university where he initially took his online courses. Evan described the process he used to disclose of his ASD diagnosis to his peers:

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

Daniel explained that his peers were not aware of his ASD diagnosis. He detailed his experiences with group projects at a medium-sized public state university while pursuing a bachelor's degree in computer sciences. Daniel explained that while he "got along" with his postsecondary peers better than he did with his peers in high school, that group projects were very difficult for him because he had "a hard time figuring out my place in the group,… if I was supposed to do anything". Daniel's situation illustrates a social barrier he faced while attempting to be a productive group member in PSE courses. Since his fellow students were not aware of his ASD diagnosis or his social skill difficulties, they may have been frustrated by Daniel's lack of participation in the group project.

3.4. Communication

Social communication impairment is considered a defining characteristic of ASD. This includes difficulty with reciprocal conversation, socially awkward behavior, and an inability to read non-verbal body language (Volkmar *et al*., 2005). Social communication has been identified as the big-gest challenge for young adults adapting to PSE (Baker and Welkowitz, 2005). Social communication is necessary for students as PSE involves a complex social landscape. Cassie reported that the peer interaction necessary for group assignments was a more positive experience online as compared to what she experienced during in-person courses. She described the differences and advantages of working in groups in online courses as opposed to in-person group work. She described:

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

Daniel also expressed how his social challenges interfered with peer communication, "I didn't do small talk with them [peers] often. On occasion maybe, but not often. I'm not very good with that".

Evan explained how he describes his communication as an individual with ASD. He stated that he wishes he "didn't have so much social awkwardness" and that he feels like he does not "really have the ability to read people and it's kind of stressful".

Gabe attended two colleges over the course of his five-year PSE experience. At both colleges, Gabe lived in the on-campus dorms. When asked about his social life in college Gabe reported that he had difficulty making friends and spent most of his time alone in his dorm room.

Cassie stated that if she were asked her opinion, she would advise other individuals with ASD who were interested in postsecondary education to ensure at least part of their postsecondary experience was at an in person college or university setting. Cassie reported, "I wouldn't ever encourage anyone with ASD to complete their entire degree online. I think you have to learn those social skills with other people."

3.5. Sensory Concerns

Five of the six study participants described having experienced sensory sensitivities to auditory factors. Specifically, Brice, Daniel, Gabe, and Cassie described that hearing people conversing nearby, as a background noise while they work on academics is particularly distracting and irritating to them. Brice explained, "If the noise level gets too bad, it's like having too many competing things going on in my mind at once". Brice further described noise as a sensory difficulty: "noise is a distraction for me, like too many people talking at once. It's too stressful for me to have multiple people talking in multiple places [in a classroom]." Gabe stated that he has asked peers, "Please keep your voice at a moderate level", when his peers vocal volume was above the level he could comfortably tolerate.

Beyond auditory sensitivities, participants described the additional sensory irritants that they encountered in PSE. Daniel reported an olfactory aversion to strong perfume that he experienced in classroom settings. Cassie and Gabe both reported experiencing sensory sensitivities to distracting light sources in various classroom settings. Cassie and Evan also reported tactile sensitivities, which could affect activities such as science labs where students are required to wear safety apparel like gloves and goggles. Finn was the only participant who did not report having any type of sensory sensitivities that affected his PSE experience.

Cassie detailed the impact of her sensory issues as they related to the academic settings she attended. Cassie experienced multiple college environments; she initially attended a small community college near her home, later she transferred to a large public state university in different part of the state, and finally after struggling at the large state university, Cassie chose to complete her bachelor's degree in accounting from an online university. When Cassie was asked to describe what it was like to experience sensory concerns in a large classroom setting, she elaborated:

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

4. DISCUSSION

This study utilized data from participant interviews to illustrate the unique barriers faced by individuals with ASD in PSE. As a phenomenological study, the purpose of this paper is to obtain insight into the lived experience of the study participants; it is not to generate wider explanations that are generalizable to the entire population diagnosed with ASD (Reeves *et al.*, 2008). Participants reported PSE struggles related to academics, sensory

factors, and communication. Those who sought out academic accommodations found them to be beneficial to their academic success.

4.1. Postsecondary Education

Three study participants (Cassie, Daniel, & Gabe) described academic struggles related to their PSE experience. For Daniel, this related to his lack of completing course work in required/prerequisite courses when he was disinterested in the course content. Cassie explained that she had struggled academically due to sensory concerns following her transfer from a community college to a large university setting. Gabe mentioned that he dropped a pottery class because his schedule that semester was too overwhelming. The remaining three participants made no mention of academic struggle. These finding aligns with literature documenting that individuals with ASD are quite capable of academic work in PSE (Myles and Adreon, 2001). Daniel explained that he struggled to wake himself up on time for morning courses, which align with executive functioning struggles that can acts as a barriers to success for students with ASDs is similar to other research findings (Cai and Richdale, 2016).

4.2. Sensory Factors

Participants described sensory barriers that they encountered while enrolled in PSE. The participants described the impact of their sensory differences in PSE. Five of the six participants in this study re-ported having auditory sensory sensitivities that negatively affected their postsecondary experiences. Several participants utilized accommodations to help them block out or tolerate the auditory irritants such as fans, space heaters, or applications on their personal cell phone. Thus, PSE faculty and staff need to be aware that sensory concerns are common among individuals with ASD and be prepared to assist the individual with tools to help either remove sensory concerns or assist the individual in tolerating them. The participants in this study would likely have benefited from coping and anxiety management skills to assist them in dealing with their sensory sensitivities.

4.3. Self-Disclosure

Consistent with the findings from other studies that report only around half of PSE students with ASDs nationally disclose their disability to their institution (Newman *et al.*, 2009) this study found that three of the six participants disclosed their diagnosis while seeking academic accommodations (Evan, Finn, & Gabe). Finn explained that disclosing his ASD diagnosis was necessary so PSE instructors and professors know "about my disability and whether I'm capable of doing this or that, and what to do when I have a misunderstanding". The importance of educating and empowering clients with ASD who are enrolled in PSE to advocate for themselves and their needs cannot be understated. Without self-disclosure and self-advocacy, individuals with ASD may not receive academic accommodations vital to achieving PSE success. Meyer (2010) reported that individuals with ASD who are able to self-advocate effectively often have outcomes that are more successful.

4.4. Communication

Social deficit areas related to self-concept, self-awareness, social perception, and social interaction greatly affected the participants in this study. PSE offers individuals an age-appropriate social environment where individuals with ASD interact with others and can practice the social skills that will be necessary in their adult life (Hart *et al.*, 2010). Multiple study participants mentioned peer interactions where they struggled to appropriately engage with their peers. PSE may be the first time young adults with ASD have been exposed to large class settings, with the potential that the course is taught by instructors who are not native English speakers, and may have academic peers who are diverse based on age, backgrounds, or ethnicities. Participants experienced barriers related to etiquette and understanding social norms; these missed social opportunities demonstrate the "missing link" between academic success and social skills (Camarena and Sarigiani, 2009).

Many PSE institutions are currently or have developed specialized social skill programing to assist students with ASD. For example, Michigan State University has the Building Opportunities for Networking and Discovery (BOND) program specific to students with ASD. The BOND program is voluntary and facilitates social skill development, coping skills, and provides academic support (RCPD, 2017). The participants in this study could have benefited from ASD specific interventions to assist them educationally and socially. PSE institutions must continue to develop and provide ongoing education to faculty and staff regarding the unique communication style of individuals with ASD. The provision of practical communication instruction also should include information on assisting individuals ASD with group projects and assignments. As discussed, students with disabilities at the graduate and doctoral level may not disclose their disability for a variety of reasons. One of the main concerns students have surrounding disclosure is their instructor or faculty members perception of disability and their potential biases. University faculty must be cognizant of their internal biases towards disabilities and their perceptions of accommodations in order to be effective collaborators and mentors with students who have a disability. While accommodating students, it is imperative that faculty also maintain the same level of expectations for students with disabilities. University faculty and instructors must also be knowledgeable about the resources available to students with disabilities in order to direct students who may be struggling. University faculty members can work to increase the flexibility of doctoral curriculum even if that lengthens the time of a student's program (Rose, 2010). Faculty and course instructors should work to ensure their online and live courses are accessible for students with disabilities and diverse learning styles. This may require additional education on Universal Design for Instruction (UDI) or other inclusive pedagogical strategies to implement in course design. Practitioners also includes professionals working in university disability service centers. These professionals must continually work to educate staff and faculty at the university while engaging and providing resources to students with disabilities.

5. LIMITATIONS

As with all studies, there are limitations specific to this study that must be identified. The study participants were recruited using the researcher's familiarity with two social skill improvement organizations. Therefore, individuals enrolled in the programing decided voluntarily to improve their social situations, and may have a unique perspective when compared to an individual with ASD who does not believe they might need additional social skills assistance. There was no racial/ethnic diversity in the sample as all six participants identified themselves as White/Caucasian, thus limiting the individual differences and diversity characteristics of the sample. There was variability in both the participant's individual and familial socio-economic position. In addition, it is important to note the period and cohort effects when interpreting the data gathered. Many participants in this study were not able to access the early intervention services and PSE resources that are currently available. In addition, while two of the participants described the academic accommodations they received, there were no participants that were engaged in an ASD specific college accommodation program such as those that can be found in PSE today.

6. CONCLUSION

The findings in this study demonstrate the challenges individuals with ASD face while attending PSE. Given the current rates of ASD diagnosis, and the continuing number of young adults with ASD who are enrolling in PSE, urgent attention should be paid to ensuring PSE success within this population. Quality of life discrepancies are well documented for individuals with ASD, with most of the research showing that adults with ASD report poor quality of life (Henninger and Taylor, 2013). One factor that has been shown to increase the quality of life for adults with ASD is employment. Those who complete PSE are more likely to be employed than individuals without PSE (Migliore *et al.*, 2012).

Research demonstrates that individuals with ASD who attend PSE have increased independence, self-determination, and self-confidence (Hart *et al*., 2010). The individual with ASD may benefit lifelong from their PSE experience, because of this, it is vital that appropriate attention and research is ongoing to create systems that assist adults with ASD as they transition from high school to PSE.

University faculty or disability service professionals can assist individuals with ASD in PSE by using a flexible approach individualized to each student. Support services may assist students who are struggling with social interactions through role-play and social situation scenarios (Wolf *et al*., 2009). Professionals can also practice using open-ended questions with PSE students with ASD to increase their comfort level and confidence with these types of questions (Meyer, 2010). Scripting answers to common questions or situations is another approach that a counselor could use with this population (Wolf *et al*., 2009).

College staff and faculty should be prepared to support the academic goals and vocational aspirations of individuals with ASD. However, they must keep in mind that a special interest area or desired degree field may not have realistic job opportunities. Greater research focus needs to be paid to students with ASD as they transition from high school to PSE and grapple with choices such as location of college they would like to attend, type of college courses that are most effective for their learning styles and sensory needs. One participant in the study, Brice, stated that professionals working with individuals with ASD: "[professionals] should have high expectations [for the individuals with ASD] and should not give up on somebody even if they are not being very motivated".

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