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ABSTRACT

Autism spectrum disorder (ASD) is the fastest growing developmental disability. In light of the increasing diagnostic rate, a growing number of individuals with ASD are reaching young adulthood and attending college. In response to this, colleges and universities have begun designing and implementing unique programs for these students. However, there is a lack of overall empirical research regarding the specific needs of these students as well as little to no research on students with ASD in a faith-based university setting. Through a convenience sample of 273 students, this study seeks to investigate the needs of students with autism at a private Christian university in Texas. The exploratory study uses a quantitative survey to address six aspects of the university experience (helpful services, difficulties in college, college experience: academic, college experience: social, college experience: other, and spiritual satisfaction). Utilizing independent samples t-tests and a multiple linear regression, the social aspect of the college experience was identified as being a significant challenge for students with autism spectrum disorder. In addition, challenges with inherent self-worth were identified. While limitations exist, this study offers valuable insight into the interaction between autism and a Christian university context. Recommendations were made for faith-based institutions to help begin the process of creating a more equitable and satisfying college experience for students with autism.

Needs Assessment: Autism Spectrum Disorder and Christian Higher Education

A Thesis

Presented to

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In Partial Fulfillment

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By

Abbey Lynn Green

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To my students—

Your vulnerability, bravery, and resilience have taught me more than you will ever know.

Thank you for allowing me to be a part of your journey.

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“I will sing the Lord's praise, for He has been good to me.”

Psalm 13:6

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CHAPTER I

INTRODUCTION

Autism spectrum disorder (ASD) is the fastest growing developmental disability (Boyle et al., 2011). According to a recent study conducted in 2014 by the Centers for Disease Control (CDC), it is estimated that 1 in 59 children are diagnosed with autism (Baio et al., 2018). This represents the highest percentage of national prevalence since ASD has been publicly tracked beginning in 2000. Furthermore, it marks a 15% increase in just two years since the previous study conducted in 2012 (Autism Speaks, 2018). It is projected that half a million youth with autism will enter into adulthood over the next decade (Roux, Shattuck, Rast, Rava, & Anderson, 2015). In light of the increasing diagnostic rate, more individuals with high-functioning autism are entering into university settings (Gurbuz, Hanley, & Riby, 2019; Madaus, 2011; White, Ollendick, & Bray, 2011). Of the approximately 50,000 individuals with autism who turn 18 years old each year and enter into adulthood, one third go on to attend college. Of that third, less than 20% have graduated or are on track to graduate after five years (Autism Speaks, 2018; Buechler, 2017).

Despite challenges, an increasing number of students with autism are entering into higher education (Smith, 2007). In response to this changing landscape, colleges and universities around the country have begun designing and implementing programs to specifically serve students with autism (Barnill, 2016; Borrell, 2018; Rando, Huber, & Oswald, 2016). A dearth of research exists describing the specific supports needed for

this population, including individualized support plans (Anderson, Carter & Stephenson, 2018; Barnhill, 2016; Dipeolu, Storlie, & Johnson, 2015; Leblanc, Riley & Goldsmith, 2015; Nuske, Rillotta, Bellon, & Richdale, 2019; Schall & Todd McDonough, 2010; Schlabach, 2008; Shook Torres, 2014), additional academic support (Rando et al., 2016; Schlabach, 2008; Thomeer, McDonald, Rogers, & Lopata, 2019; Van Hees, Moyson, Roeyers, 2015), unique social support (Dipleou et al., 2015; Rando et al., 2016; Shook Torres, 2014), and continued support from family (Schlabach, 2008; Shook Torres, 2014).

Currently, more than 60 programs exist to serve this student population at both two- and four-year universities, ranging in cost, admission requirements, and breadth of services offered (Borrell, 2018; College Autism Spectrum, n.d.). Of these existing programs, four are located on Catholic university campuses, and one is on a Christian university campus. However, upon further investigation, none of these programs include spirituality as a factor in service provision.

Research Gap

Young adults with autism face unique challenges in the transition from high school to a university setting. While most existing programs are being implemented at public universities, there is little to no existing empirical research on implementing these types of programs in a private Christian university setting. Though there are similarities between Christian universities and state universities, the mission of Christian higher education changes the way that disabilities are understood and reinforces the value of providing excellent services to this population (Annandale & Carter, 2014; Schreiner, 2018). Christian higher education exists as salt and light in the world—a collection of

institutions that serve to reflect the call of Christ to preserve, enhance, and illuminate the world (Beeke & Smalley, 2019). In other words, its purpose uniquely invites students beyond preparation for a career and into consideration of how to bring the goodness of Christ into the world (Schreiner, 2018). Because there are differences in how individuals with autism understand the character of God and participate in Christianity, it is worth considering how a Christian institution can better meet the holistic needs of students with ASD.

Present Study

Thus, this research seeks to fill that gap by conducting a needs assessment of students with ASD on a Christian college campus. Survey questions were centered around investigating the physical, academic, social and spiritual needs of these students. The findings were then compared to the responses of students who have a disability other than autism spectrum disorder to see if there are notable differences. The results of this study will serve as the foundation for the formation of an ASD-specific program on a mid-sized Christian university's campus. In addition, this study contributes to the growing broad pool of research on best practices for how to serve college students with autism. The findings offer guidance to disability services offices on Christian college campuses serving students with ASD, providing a unique consideration of spiritual needs alongside other important areas (academic, social, etc.).

CHAPTER II

LITERATURE REVIEW

Literature Review Search Strategy

The following literature review aims to examine the holistic needs of college students with autism spectrum disorder. In addition, it seeks to understand how the context of a Christian university may impact those needs, giving particular attention to physical, mental, and spiritual realms. In order to obtain articles for this review, peer-reviewed articles published in academic journals from 2001 to 2019 were included. The researcher used a filter to ensure the sources utilized were peer-reviewed. The ACU Brown Library OneSearch Database was utilized with the following search terms: “autism spectrum disorder,” “high functioning autism spectrum disorder,” “autism spectrum disorder” and “higher education,” “autism spectrum disorder” and “Christianity,” “autism spectrum disorder” and “Christian higher education,” “disability services” and “Christian higher education,” “disabilities” and “Christianity,” “Christian higher education” and “inclusion special education.” Alternative words used for autism spectrum disorder within the searches included: “Asperger’s Syndrome,” “high functioning autism spectrum disorder” and “Level 1 autism spectrum disorder.”

Disability Services in Higher Education

Students with disabilities face greater challenges in their transition to higher education than students without disabilities and therefore need greater levels of support

(Glennon, 2001; Schreuer & Sachs, 2014). Over the last 25 years, disability services in higher education has grown into an established profession to assist in ensuring access for an increasingly large and diverse population of students (Madaus, 2011). This growth can be attributed to federal regulations that have increased public awareness of disability rights and subsequently pushed institutions of higher education to develop additional programs that comply with the law (Americans With Disabilities Act, 1990; Madaus, 2011).

Thus, it is important to understand the two most influential pieces of federal legislation on disability service provision in higher education. Section 504 of the Rehabilitation Act of 1973 forbids any program that receives federal funding, including institutions of higher education, from denying individuals with disabilities the opportunity to participate and/or receive the benefits of the program (U.S. Department of Education, 1998). In the case of higher education, this further mandates the provision of accommodations and other auxiliary aids to students with disabilities, serving as a way to “level the playing field” (ASHE Higher Education Report, 2013). Building upon the framework of Section 504, the Americans with Disabilities Act (ADA) was passed in 1990 to further increase students with disabilities’ access to higher education settings (ASHE Higher Education Report, 2013; Glennon, 2001; Shaw & Dukes, 2001).

Additionally, after being amended in 2008, ADA law defined *disability* as “a physical or mental impairment that substantially limits one or more activities of an individual” (Title 42, Chapter 126, Section 12102). This definition has become standard precedence for what constitutes a disability and has forced institutions to consider how to support all

major life activities of students on campus, not just in classroom settings (Glennon, 2001).

In light of this definition of disability, there are a number of best practices that have been established in working with individuals with disabilities in the context of higher education. The Association on Higher Education and Disability (AHEAD) provides program standards for universities' disability service offices to ensure that minimum service requirements are being met (Shaw & Dukes, 2005). While universities may exceed those requirements, providing reasonable accommodations in the classroom and on-campus facilities is a widespread practice that has become standard in serving college students with disabilities (Schreuer & Sachs, 2014; Shaw & Dukes, 2005; Smith, 2007). These accommodations serve to help integrate students with disabilities into on-campus life and provide support where needed (Leyser & Romi, 2008; Shaw & Dukes 2001; Shreuer & Sachs, 2014). In a 2014 study, Shreuer and Sachs found a clear benefit to students who received both universal (facility) and personal (academic) accommodations. Shaw and Dukes (2005) seconded this notion through their study of performance indicators for disability service programs, validating universities' provision of different services provided to students with disabilities.

In addition to accommodations, faculty education is another essential standard practice for providing services to students with disabilities on a college campus. Because of their close proximity to students, faculty are a key partner in making sure that students have what they need (Shaw & Dukes, 2005). Not only is it critical for faculty and staff to understand and accept students with disabilities, it is also necessary for them to have tools to better teach students with disabilities (Hendricks & Wehman, 2009; Paskins,

2018; Shaw & Dukes, 2001). One-on-one meetings with disability services' staff are noted to be helpful in assisting faculty with individual student situations, while professional development settings are suggested to be effective for increasing awareness of more inclusive teaching styles and course accessibility (ASHE Report, 2013; Shaw & Dukes, 2001).

Autism Spectrum Disorder

Autism spectrum disorder (ASD) is a common developmental disability that impacts an individual's communication abilities, social connections, and behavior (CDC, 2019). Because it encompasses a spectrum, manifestations of the disorder vary greatly from person to person (American Psychiatric Association, 2013). Typically, symptoms are most marked in early developmental phases; however, in the case of higher-functioning individuals, impairments may not reveal themselves until later when demands are greater than capacity (American Psychiatric Association, 2013; Weiss, Baker, & Butter, 2016). Despite challenges, most individuals with ASD continue to learn and compensate for their neurological differences throughout the course of their adolescent and adult life (American Psychiatric Association, 2013).

While individuals on the spectrum express a variety of symptoms at varying levels, it is valuable to understand the primary characteristics of ASD. Communication challenges are universal in individuals with ASD (American Psychiatric Association, 2013; Shore & Rastelli, 2006). These challenges include both verbal communication, such as having a conversation with someone, and nonverbal communication, such as making eye contact. Communication deficits are subsequently linked to overarching social connection challenges as individuals lack awareness of how to adjust their

behavior to various social contexts (American Psychiatric Association, 2013; Dipeolu et al., 2015). This often leads to a label of “socially awkward” by typically developing peers and adults (Grossman, 2015).

In addition to communication difficulties and social deficits, restricted and/or repetitive behavior, interests, or activities is a core characteristic of ASD (American Psychiatric Association, 2013; CDC, 2019; Sussman, 2015). This can manifest itself in repetitive motor movements, ritualized patterns, insistence upon routine, and strong attachments to objects among other things (American Psychiatric Association, 2013; Shore & Rastelli, 2006). Subsequently, change in a person with autism’s life often results in distress in varying degrees, depending on the severity of the disorder (American Psychiatric Association, 2013). Coupled with social and communication deficits, restricted behavior serves as another reinforcer of difference between individuals with Autism and their typically developing peers (Grossman, 2015).

While this rigidity and social and communication deficits serve as the primary characteristics of ASD, there are also secondary characteristics, such as sensory sensitivities, that may be present in the individual (Schall & Todd McDonough, 2010). Giving attention to the varying severity of these combined symptoms, the *Diagnostic and Statistical Manual of Mental Disorder* (American Psychiatric Association, 2013) includes what was previously known as high-functioning autism, Asperger’s disorder, Kanner’s autism, atypical autism, pervasive developmental disorder not otherwise specified, and infantile autism all under the continuum of autism spectrum disorder. In doing so, severity levels were developed for the disorder that have corresponding social communication and repetitive behaviors associated with each.

Level 1 ASD

While high-functioning ASD (HFASD) no longer exists as is in the diagnostic manual, it corresponds well with the newly established Level 1 of ASD. It is noted that individuals with a previously established diagnosis of high-functioning ASD or Asperger's Syndrome should be given a diagnosis of Level 1 ASD according to updated diagnostic criteria (American Psychiatric Association, 2013). For the purpose of this paper, literature was examined under titles of Level 1 ASD, Asperger's Syndrome, and high-functioning ASD. The term *Level 1 ASD* will be used from now on.

Individuals with Level 1 ASD are characterized as being high-functioning, which is defined by the presence of the core characteristics of ASD and an IQ of greater than 70, indicating no co-occurring intellectual disabilities (American Psychological Association, 2013; Charman et al., 2011). Given that these individuals are a part of the lowest level of the spectrum, their challenges with communication, social interactions, and repetitive behaviors are often less noticeable than individuals with Level 2 or 3 ASD (American Psychological Association, 2013; Glennon, 2001). What makes this especially challenging is that individuals do not often look disabled from the outset. Thus, they may be labeled as different or awkward due to their flawed attempts at social interaction by typically developing peers (Baren-Cohen, 2000; Glennon, 2001; Shore & Rastelli, 2006). Additionally, individuals with Level 1 ASD still have challenges with emotional regulation. Similar to other levels, engagement in restrictive or repetitive behaviors is common to cope with social anxiety, pain, and sensory sensitivity (Manor-Binyamini & Scheiber-Divon, 2019).

Level 1 ASD: Unique strengths

However, individuals with Level 1 ASD are noted to have unique strengths. Often, these individuals are intellectually gifted (Glennon, 2001). Their ability to stay focused on tasks of interest to them, notice patterns, and remember facts can be an asset in the workplace (Lorenz & Heintz, 2014). In addition, individuals with Level 1 ASD have intense passions that allow them to engage in social connection with those who have similar interests (Glennon, 2001). This social connection is something that may be a deep desire for some individuals, while not attractive to others (Baren-Cohen, 2000; Dachez & Ndobu, 2018; Glennon, 2001). Thus, with additional support, individuals with Level 1 ASD can use their unique strengths to be successful in settings such as higher education and the workplace (Dipleou et al., 2015).

Autism Spectrum Disorder: Needs and Challenges

In light of the rise of ASD diagnoses, more students with ASD are entering into higher education settings (Dipeolu et al., 2015; Paskins, Brady, & Shulz, 2018; Van Hees, Moyson, & Roeyers, 2015; White et al., 2016). With support, students with autism spectrum disorder can be successful in college (Shook Torres, 2014; Barnhill, 2016; Dipeolu et al., 2015). Thus, a variety of research has been conducted to examine the specific needs, challenges, and interventions for this unique population in the context of a university setting. These will be examined below.

Needs

Students with autism spectrum disorder have unique needs that fall outside of the typical services offered by on-campus disability services offices (Anderson, Carter & Stephenson, 2018; Nuske et al., 2019; Shook Torres, 2014; Schlabach, 2008; Smith,

2007). While most campuses offer accommodations equivalent to those the student with ASD received in high school, university services, as a whole, often fall short of the level of assistance that is actually needed (Anderson & Butt, 2017). It is further agreed upon in the literature that students on the spectrum need this added support to be individualized to their unique needs (Barnhill, 2016; LeBlanc et al., 2015; Nuske, Rillotta, Bellon, & Richdale, 2019; Schlabach, 2008). Because of the nature of ASD, students find the most success in programs that are flexible and allow the student to be at the center of the process (Barnhill, 2016; Glennon, 2001; Hendricks & Wehman, 2009). In addition, providing services that address the whole being of the student in a comprehensive manner is correlated with students with ASD finding success in a university environment (Barnhill, 2016; LeBlanc et al., 2015; Van Hees et al., 2015).

Academic support. Offering academic assistance is a critical piece of providing comprehensive support for the needs of students with ASD. Though these students can be academically successful in their own right, additional services in this area are noted to be helpful in navigating gaps in executive functioning that are common in this population (Adreon & Stella Durocher, 2007; Anderson, Carter, & Stephenson, 2018; Schlabach, 2008; Van Hees et al., 2015). This most often includes the provision of academic accommodations, such as extended testing time, to which all students with disabilities have the right under ADA law (Adreon & Stella Durocher, 2007; ASHE Education Report, 2013; Van Hees et al., 2015). However, there are considerable recommendations for providing further accommodations specifically for students with autism such as flexibility in due dates, take-home tests, assistance with choosing classes, and allowing students to avoid group projects (Adreon & Stella Durocher, 2007; Anderson et al., 2018;

Van Hees et al., 2015). These take into account the sensory, self-regulation, and self-determination challenges that are core characteristics of ASD (Anderson et al., 2018; White et al., 2016).

Social support. While academics may not be an issue for some students with autism, navigating the social landscape of a university setting is a universal challenge for this population. Social deficits are a core piece of the diagnostic criteria for Level 1 ASD, making them a known influence on the college experience (American Psychiatric Association, 2013; Kuder & Accardo, 2018). Thus, students with ASD run the risk of loneliness and social isolation because of their communication and relationship building differences (Adreon & Stella Durocher, 2007; Anderson et al., 2018). However, despite challenges they may face, most students with ASD desire the community and connection that are part of the overall college experience (Van Hees et al., 2015). Therefore, students with ASD need opportunities to practice their communication skills through age-appropriate interactions in both academic and non-academic settings to help increase their interpersonal competence and level of comfort with intimate conversations (White et al., 2015). The challenge with this is working to ensure that students with ASD are not identified by their diagnosis as this has the potential to harm their relationships with their non-ASD peers (Glennon, 2001).

Familial support. The support of parents and family is noted to be both a need and a benefit to college students with ASD (Barnhill, 2016; Schlabach, 2008; Shook Torres, 2014). In the initial transition from high school to college, assistance from parents can help individuals with ASD discern which school is the best fit for their individual needs (Shook Torres, 2014; VanBergeik, Klin, & Volkmar, 2008). Once students are

settled and attending classes, the reinforcement from parents can continue to serve students with ASD by providing encouragement and social support as their child experiences new stressors and circumstances (Shook Torres, 2014). However, the literature cautions against parents being too involved in the lives of their students with ASD (Dallas, Ramisch, & McGowan, 2015; Schlabach, 2008). While they can provide valuable information, parents who are overprotective of their children can create difficulties for disabilities services staff (Shook Torres, 2014). Even though the support of family and parents can be beneficial, students with ASD still need to be treated as adults and empowered over time to make decisions with less and less input from family (LeBlanc, 2015; Nuske et al., 2019; Pinder-Amaker, 2014; Shook Torres, 2014).

Challenges

Students with autism spectrum disorder face unique challenges in their transition from high school to college. These challenges are helpful to examine as they, in conjunction with the previously discussed needs, help to create a fuller picture of how to support this population.

Change. The amount of change involved in the transition from high school to college can be challenging for any student. Given the core characteristics of ASD, this transition tends to be even more difficult for students with this diagnosis (American Psychological Association, 2013; Hendricks & Wehman, 2016; LeBlanc et al., 2015; Rando et al., 2016). Having to adjust to a new environment with new people, academic responsibilities, and social demands can be incredibly overwhelming to students with ASD (Adreon & Stella Durocher, 2007; Glennon, 2001). In addition, students are newly responsible for managing their own daily needs (Barnhill, 2016; Glennon, 2001). This

may be their first experience with doing so, which can result in disorganization, anxiety and other mental health concerns, personal hygiene issues, and struggles with time management (Anderson et al., 2018; Glennon, 2001; Pinder-Amaker, 2014; Schlabach, 2008).

Social settings. Social settings are noted to be one of the greatest challenges with college students with ASD (Glennon, 2001; White et al., 2016). University campuses have social norms that can be extremely difficult to navigate given the social deficits of ASD (Dipeolu et al., 2015; Glennon 2001; Van Hees et al., 2015). Without being able to read social cues or nonverbal communication patterns, students struggle with knowing when and how to ask questions and respond to others (Glennon, 2001; Van Hees et al., 2015). In addition, students with Level 1 ASD are often aware of their social challenges, which makes them less confident in their ability to engage with others (Glennon, 2001; Van Hees et al., 2015). Typical university requirements such as on-campus living and dining may further exacerbate these difficulties, as they place students in environments that require both social skills and sensory regulation (Paskins, 2018). Roommates in particular are noted to be a stressor for students with autism, as they often need quiet space with a predictable routine, which cannot be guaranteed in a shared space (Adreon & Stella Durocher, 2007; Barnhill, 2016; Schlabach, 2008). The resulting shame, frustration, and confusion from failed social interactions, coupled with other new stressors, often leads to anxiety and other mental health concerns for these students (Glennon, 2001; Koegel, Ashbaugh, Koegel, Detar, & Regester, 2013).

Self-disclosure. Self-disclosure is another notable challenge for college students with ASD (Anderson et al., 2017; Van Hees et al., 2015; White et al., 2016). Once

students exit the public-school system, it becomes their responsibility to disclose their diagnosis to the disability services office in order to receive any accommodations.

Without innate home and school supports, this may be the first time that a student with ASD has to advocate for themselves and their needs (Adreon & Stella Durocher, 2007).

Given that Level 1 ASD is a hidden disability, students may be reluctant to reveal their diagnosis, especially if they can manage without support (Glennon, 2001; Van Hees et al., 2015). Often, students do not disclose their condition until they cannot handle the stress of a university setting any longer and then try to find on-campus support (Van Hees et al., 2015). Those students who disclose late are noted to access fewer supports overall as well as report a negative college experience (Anderson et al., 2017). Through education on ASD, faculty and staff can help create environments where students feel safe to disclose their condition and subsequently receive support for their unique needs (Nuske et al., 2019; Van Hees et al., 2015).

Christianity and Autism

Because of the core characteristics of the disorder, individuals with autism often face challenges in participating in faith and in faith communities (Bustion, 2017; Carter & Boehm, 2019; Shaap-Jonker, Sizoo, van Schothorst, & Corveleyn, 2013). Given the increase in diagnoses of autism spectrum disorder, Christian faith communities, including universities, can expect to be affected by it in some way (Macaskill, 2018; Marker, Weeks, & Kraegel, 2007). In light of this, it is important to understand these difficulties so that churches and other faith-based institutions can adapt in responsive ways (Liu, Carter, Boehm, Annandale, & Taylor, 2014).

One of the core characteristics of ASD includes social communication deficits, which includes “developing, maintaining, and understanding relationships” (American Psychological Association, 2013, p. 50). While these deficits are primarily applied to human relationships, they also extend into relationship with God (Shaap-Jonker et al., 2013). Individuals with autism are noted to perceive God with more negative aspects (ruling, dogmatic, punisher, etc.) than others (Shaap-Jonker et al., 2013). Subsequently, God, and relationship with God, can be a source of anxiety much like interpersonal human relationships (Glennon, 2001; Koegel et al., 2013; Shaap-Jonker et al., 2013). In their study of young adults with intellectual disabilities, Carter and Boehm (2019) found that young adults with autism had less involvement and lower ratings of religious faith than other young adults with disabilities. This was reflective of how the challenges of ASD can impact individuals’ participation in a variety of settings, including church and school. In addition to social deficits, concrete thinking and sensory processing have also been noted to be barriers to individuals with autism finding connection to faith or a faith community. Because Christianity is largely symbolic, it can be challenging for those with autism to grasp given their characteristic literal thinking patterns (Carlisle, 2016; Marker et al., 2007).

However, Carlisle (2016) disagrees with the incompatibility of Christianity and autism, citing the ethnographic experience of those with autism who have found peace and strength in their relationship with God. While agreeing there are barriers to inclusion in the church for this population, she notes that Jesus is present and alive in these individuals just as with any other believers. Similarly, Shaap-Jonker and colleagues (2013) found that the level of importance placed on faith impacted how individuals with

ASD perceived God. If faith was important, participants viewed God as a guide and helper versus a ruler or punisher. Instead of creating a narrative for individuals with autism, there is evidence of the importance of allowing them to tell their own story of faith (Bustion, 2017). Their faith expression and faith values have been found to be more similar than different to those without disabilities (Liu et al., 2014).

The Church's Response

While individuals with ASD often find personal faith to be important to them, finding belonging in a church is noted to be a challenge (Bustion, 2017; Macaskill, 2018). In light of differences in behavior and communication, individuals with autism may not be accepted in a church setting (Carter et al., 2015; Macaskill, 2018). Despite having knowledge that could be contributed to the community, they instead may be perceived as unlikeable or uncharismatic because they do not abide by social and behavioral norms (Macaskill, 2018). Oftentimes, this leads families to feel that their congregation may passively accept individuals with ASD but lack commitment to actively including them in the body (Carter, Boehm, Annandale, & Taylor, 2016). In a portion of these cases, parents may continue to be involved in the congregation, while the child does not participate at all (Ault, Collins & Carter, 2013). In addition to these communication challenges, church contexts also create sensory challenges for individuals with ASD, as they require individuals to cope with uncomfortable levels of noise and socializing (Carlisle, 2016). Thus, it is noted that individuals and families with ASD may choose to instead meet with God alone or in other contexts such as online communities that better suit their needs (Bustion, 2017; Carlisle, 2016).

Furthermore, it is important to note that churches can be a part of bringing joy or hardship on families with members that have ASD (Carter, Boehm, Annandale, & Taylor, 2016; Terry, 2014). There are valuable resources available to faith communities to help create space for people with autism as well as equip congregations to support these families (Terry, 2014). Training of congregation leaders is a suggested practice to increase inclusion of individuals with ASD in church settings (Carter & Boehm, 2019; Liu et al., 2014). Understanding the core characteristics of autism, such as rigid thinking, may allow for adaptation of metaphorical lessons or curriculum in ways that are more concrete (Carter et al., 2016; Liu et al., 2014; Marker et al., 2017). Furthermore, with this understanding, congregation leaders may be more equipped to use scripture as a way to help young adults with ASD navigate deeper questions they may have about the origin and purpose of their disability (Macaskill, 2018; Marker et al., 2017).

The Church's Response: Listening

Yet, the most critical piece in this process of building inclusion is noted to be the creation of space for individuals with ASD to share about their faith experience and how that has shaped the things that they value (Carlisle, 2016; Carter & Boehm, 2019; Liu et al., 2014; Macaskill, 2018). Instead of making assumptions, it is important to ask good questions so that the individual is at the center of the conversation (Carter & Boehm, 2019). Support can be provided through fostering friendship that allows for listening and understanding the experiences of those who have been most impacted by the disorder (Liu et al., 2014).

Disabilities and Christian Higher Education

While there is literature surrounding the interaction between Christianity and autism and suggestions for how to increase inclusion in the church, there is little existing research on the integration of students with any kind of disability into Christian higher education. Annandale and Carter (2014) did examine how disabilities are handled and experienced in seminaries across the country. However, students in these programs reported feeling unprepared to pastor individuals or families with disabilities. Furthermore, students in the program who had a disability themselves had difficulties with securing appropriate accommodations on-campus. While Christians are noted to be supportive of classroom inclusion for students with disabilities, there is still more work to be done to educate faculty, staff, and other students around the challenges and techniques associated with this (Leysner & Romi, 2008).

A Different Mission

This calls attention to the different mission of Christian higher education (Glanzer, 2013; Schreiner, 2018;). The focus of these institutions is largely on shaping students in the image of God to engage in the work of Christ in the world (Glanzer, 2013; Schreiner, 2018). In order to bring this transformation to fruition in the lives of students, Christian universities must engage well in the experiences of the students on their campus (Schreiner, 2018). However, students with autism often feel unseen and unheard in their struggles with college life (Schlabach, 2008; Shook Torres, 2014; Van Hees et al., 2015). Furthermore, in light of the core characteristics of the disorder and its interaction with faith, Christian students with autism may not respond to the efforts of the university in the same way neurotypical students would (Bustion, 2017; Liu et al., 2014, Terry, 2014).

Thus, this lends evidence to a disparity between the mission of Christian higher education and its fulfillment in the lives of students with disabilities.

Inclusion

Given the unique mission of Christian higher education, parents of students with disabilities as well as students themselves may have different expectations regarding how they will be served and treated on campus. Scripture teaches messages about loving one's neighbor, valuing the diversity of the church body, recognizing the image of God in all people, and being doers of the word. All of these notions seem to lend evidence to the importance of including those who have disabilities such as autism in the Christian life (Oosterhuis, 2002). Coupled with the evidence-based education model of "full inclusion," which merges what has been deemed as "special" education with "normal" education, Christian schools offer a unique context for students with disabilities to be welcomed and loved in the classroom (Pudlas, 2004). However, successful disability programming can only be achieved when the need to serve these students is embraced as a part of the education culture (Lane, 2017). Thus, expectations, while warranted in their context, may be poorly met.

What Has Been Done

Overall, there is a lack of empirical research around the needs and effectiveness of interventions that are being implemented to serve students with ASD on college campuses (White et al., 2016; Paskins, 2018; Paskins et al., 2018). Because of things like lack of funding and staff, many schools choose to serve this unique population through the same existing programs offered to all students who have a disability (Barnhill, 2016). However, literature is beginning to appear on the programs implemented by select

schools to specifically address the needs of students with autism spectrum disorder (Pinder-Amaker, 2014). While not exhaustive, this research offers a helpful foundation for consideration.

While differing in size and scope, peer mentoring programs in which a student with ASD is paired with a neurotypical student have been noted to be effective pieces of providing services to this population (Barnhill, 2016; Koegel et al., 2013; Longtin, 2014; Paskins et al., 2015). As part of a grant-funded pilot program, Longtin (2014) evaluated the effectiveness of using interdisciplinary peer mentorship as a way to increase students with ASD's social functioning (Paskins et al., 2018). Both mentors and mentees reported that they benefited from their experience in the program. Similarly, Koegel et al. (2013) utilized peer mentorship as a piece of a larger structured social planning intervention which increased student's social activity participation and overall quality of life. Other studies found peer mentorship to help increase students with ASD's GPA and decrease their behavioral issues (Koegel et al., 2013; Paskins et al., 2018; Rando et al., 2016). While these lend evidence to the benefits of peer mentorship for students with ASD, it should be noted that these studies are limited by their sample size (Paskins et al., 2018).

In addition to peer mentoring, social support groups have been implemented as an evidence-based intervention for students with ASD (Barnhill, 2016; Paskins, 2018; Pinder-Amaker, 2014). Given that navigating the social landscape of a university is noted to be one of the most challenging aspects for college students with autism, creating opportunities for students to practice their social skills is valuable to their success (Glennon, 2001; Koegel et al., 2013; Pinder-Amaker, 2014; White et al., 2016). Some schools have implemented this through a social skills seminar, offering the students course

credit while also giving them a chance to engage with one another in a college classroom setting (Barnhill, 2016). Pinder-Amaker (2014) expands on this with a recommendation for having trained staff present for psychoeducational group meetings to offer direct feedback and support to students as they practice in between sessions. On the other hand, while agreeing that social support is necessary, Barnhill (2016) notes that groups of this nature can be challenging to implement and difficult to maintain; therefore, alternate formats of providing social skills training should be considered.

Both social skills groups and peer mentoring by neurotypical peers can be pieces of overarching transitional support programs that are backed by the literature as effective ways to support college students with ASD (Barnhill, 2016; Pinder-Amaker, 2014; Rando et al., 2016). Many students with ASD may not even consider continuing their education; however, transition supports can help make the jump from high school to college a more realistic opportunity (Shook Torres, 2014). These programs often begin while admitted students are still in high school as a way to connect secondary educational services to upcoming post-secondary services (Pinder-Amaker, 2014). High school counselors often serve as a referral source for students and can subsequently provide another layer of knowledge and support in the transition from high school to college (Schlabach, 2008).

In addition to peer mentoring and social groups, Pinder-Amaker (2014) recommends incorporating a summer experience as a way to help students become acquainted with relevant services, familiar with the campus, and educated on various topics that pertain to the college experience. Similarly, Rando et al. (2016) implemented transition services for their students with autism. However, while still meeting with students in the summer, intensive daily services were not provided until the student

arrived on campus. The summer meeting simply served as a time of evaluation and assessment of the incoming student's needs. The first year of the program saw an increase in GPA and high retention rates for students who participated. While these programs take different approaches, both offer connection to a student with ASD's high school experience as a way to create a more seamless transition experience.

Conclusion to Literature Review

This literature review sought to examine the holistic needs and challenges of college students with autism spectrum disorder. The need for various individualized supports around academic and social settings from family and on-campus offices were identified. Challenges with navigating social settings, handling change, and engaging in necessary self-disclosure were also examined. In addition, this chapter further explored how fulfilling the unique mission of a Christian university may be difficult for students with autism spectrum disorder by considering the interactions between the characteristics of the disorder and faith. While the research suggests that institutions of Christian higher education have a unique mission of inviting students into being a part of God's work in the world, there is little to no existing research that specifically addresses how this impacts the experience and subsequent needs of students with autism spectrum disorder. This research seeks to fill that gap by beginning to explore the needs of students with ASD on a Christian college campus.

CHAPTER III
METHODOLOGY

Introduction to the Methodology

The purpose of the present study is to investigate the needs of students with autism spectrum disorder (ASD) on a Christian college campus. Based on the literature review, students with ASD have needs that fall outside of what is typically provided by a university's disability services office. This section aims to explore that notion in the context of a private Christian university setting.

Research Design

The present study is a descriptive study aiming to explore the needs of students with autism spectrum disorder on a Christian college campus. Exploratory research is conducted when little to no scientific knowledge exists on a subject, but there is a belief that there are pieces worth discovering (Stibbens, 2011). Not much is currently known about the needs of students with ASD on a Christian college campus, but review of the literature indicates that further exploration may fill a gap in knowledge. The present study utilized quantitative methods to explore if students with ASD have different needs than students with other disabilities. Surveys were distributed to students with a disability on a mid-sized 4-year private Christian college campus through an email containing a link to a Google Form. The present study had minimum level of research interference, as the researcher attempted to understand the perceived needs of students with ASD.

Sampling

The population of the current study is college students who have a disability as defined by the Americans with Disabilities Act of 1991. A desirable sampling frame for this study would have been a list of all students in the country who fit the criteria. However, convenience sampling was utilized because there was no such list. The researcher identified possible sources to identify students who fit to this criterion and attend a mid-sized four-year private Christian university. Convenience sampling helps with the preliminary explorations of descriptive research (Orcher, 2014). To be included in this study, students must (1) be 18 years old or older, and 2) have a disability as established by the Americans with Disabilities Act.

Instruments

In the absence of existing measures for students with autism on a Christian college campus, the survey instrument for this study was designed by the researcher as a compilation of three existing surveys (Elias & White, 2017; Gelbar, Shefyck, & Reichow, 2015; Liu et al., 2014; White et al., 2016). Permission was obtained over email from Elias (2016) to utilize a survey designed to investigate the needs of college students with ASD. In consultation with the literature, the survey authors, thesis committee members, and two current college students with autism spectrum disorder, these surveys were adapted to fit the context of a Christian university.

Helpful Services

All types of therapies and services utilized were adapted from White et al.'s (2016) survey of college students with ASD. Two pertinent campus-specific resources, tutoring and SOAR, were added. The services were then divided into services students

have received from the university and services they are receiving in the community or in their hometown. The list of potential services also originated from White et al.'s (2016) study. Therapy targeting emotion regulation and weekly supportive therapy were combined in an effort to reduce the length of the overall survey. The scores of the twelve items were calculated into the mean, ranging from 1 to 5 (1 being not helpful, 5 being very helpful). A higher score indicates that respondents felt the item had the potential to be helpful to them during their time on campus.

Difficulties on Campus

Areas of potential difficulty were taken from the same survey as a way to address the challenges students are facing on campus. The researcher removed "Co-occurring Psychiatric Disorders" from the table because it had potential to confuse to students who may not know what that means or have a co-occurring disorder. The researcher accidentally left off "Support groups with other students with shared disability" when building the survey. The scores of the fourteen items were calculated into the mean, ranging from 1 to 5 (1 being never a problem, 5 being always a problem). A higher score indicates that the item is more often a problem for the respondents.

College Experience

To explore the experiences of college students with autism was available online, the college experience items were adapted from Gelbrar et al.'s (2015) College ASD survey. The original version of the survey included 35 Likert-scale questions addressing various aspects of the college experience. Items specifically related to ASD such as "career counselors are knowledgeable about autism spectrum disorder" were removed because the survey is being distributed to all students with disabilities rather than just

those with ASD. Items were combined if they were centered around a similar topic (e.g., I feel lonely, I feel depressed, I feel isolated) to reduce the length of the survey. “I have support from my family” was added to address the role of familial support as noted in the literature. The college experience items were separated into social aspects, academic aspects, and other personal aspects. The scores of twelve social aspect items, nine academic items, and four other items were calculated into the mean, ranging from 1 to 5 (1 being strongly disagree, 5 being strongly agree). A higher score indicates that respondents agree more strongly with the item under consideration.

Satisfaction of Spirituality

Open-ended questions from Liu et al.’s (2015) study of the importance of faith in young adults with autism were transformed into Likert scales. Questions were added specifically related to campus practices (chapel, small groups, etc.) to capture the experience of students with disabilities. Additionally, questions were broadened to include spiritual as well as religious practices to include students who do not identify with a specific religion. The scores of the seven items were calculated into the mean, ranging from 1 to 5 (1 being strongly disagree, 5 being strongly agree). A higher score indicates that students more strongly agree with the item being considered.

Sociodemographic Information

Finally, demographic information was collected. Information included gender, age, race, major, classification, religious affiliation, and any diagnoses.

Ethical Considerations

The principal investigator applied to the Institutional Review Board of Abilene Christian University for the approval of study as exempt status given that information

was collected through survey procedures in an educational context (see Appendix A). The study was approved on November 22, 2019.

As part of the IRB application process, the researcher completed the “Vulnerable Populations” form and the “Limited Review” section. Because the subjects of the study were students, they are considered to be a vulnerable population, so extra precautions needed to be taken to protect them. Similarly, because of the small number of students with certain disabilities, the limited review was completed to ensure that their answers could not be somehow traced back to them.

Furthermore, privacy, and confidentiality were maintained and assured by obtaining subjects’ informed consent to participate in the research before data collection. All participants were informed of their right to not participate with no penalty as well as their right to withdraw from the survey at any time. When a participant did not give consent, the survey session was ended. Once collected, data was stored on a secure, password-protected computer. With the completion of the project, the data will be deleted after it is stored for the required three years.

Data Collection

After obtaining approval (see Appendix A), data was collected through an online survey. The survey was formulated using Google Forms due to financial considerations. The instrument included several demographics questions: race, gender, classification (in school), disability, age, major, religious affiliation. The survey also had sections containing Likert scales addressing campus and community services utilized, desired services, challenges, successes, and the interaction between faith and disabilities. One

open-ended question was placed after each scale section to allow for students to provide further explanation or ideas.

No identifying information was requested in order to protect the confidentiality of students participating. The researcher obtained access to the email addresses of all students registered with the Alpha Scholars program through FileMaker reports with supervisor permission. In addition, flyers were posted around campus and in two campus wide emails to recruit students who may have a disability but are not registered with the disability services office. An email was sent three times to all Alpha Scholars and additionally to any student who elected to participate that included consent measures and a link to the actual survey. Consent to participate in the study was obtained prior to the individual completing the survey. Once the surveys had been completed, the researcher stored the data on a password-protected computer. The data was then be transferred into a statistical analysis system. Once this was completed, the survey information was removed from the researcher's computer. Upon completion of the project, the statistical file will be deleted after three years.

Data was collected from February 3, 2020, to February 14, 2020. Of the 273 students who were contacted to participate, 102 completed the informed consent process and participated in the survey, yielding an overall response rate of 37.3%. Twelve out of 273 students who were contacted had a reported diagnosis of autism spectrum disorder, 8 of which completed the informed consent and participated in the survey. This represents two-thirds (66.7%) of the students with autism registered with the disability services office on campus.

Data Analysis

Quantitative results of the survey were analyzed using the SPSS statistical software. Descriptive statistics were utilized for all demographic characteristics of the sample. Independent samples t-tests were run to compare the mean scores of dependent variables (e.g., helpful services, difficulties, social experience, academic experience, and satisfaction with spirituality) between the responses of students with ASD and those with other disabilities. Multiple regression analyses were conducted to examine the effect of ASD on dependent variables after taking into account other possible related factors. Finally, the responses to the open-ended questions (area of greatest challenge and area of greatest strength) were sorted into social, personal, and academic categories and examined for frequency amongst both groups (students with autism, students without autism).

CHAPTER IV

FINDINGS

Participants

From the survey invitation of 273 students, 102 cases were collected. After removing two cases that included excessive missing data, the working sample contains 100 responses. Table 1 outlines the demographic information of participants, who are college students with disabilities. The descriptive statistics showed that 81 of the respondents were female (81%), 18 were male (18%), and 1 identified as other (1%). Participants were predominately White (78%), with Hispanic/Latino (9%) being the second largest race represented in the study. The average age of participants was 20.81, while first- and second-year students represented 61% (30% and 31%) of the overall sample. 39% of the respondents were majoring in a discipline related to Science/Medicine, which is slightly greater than double the next largest category (Business, 18%). Nearly half of the participants identified as Christian (non-denominational) (42%), while Baptist (21%) and Church of Christ (19%) combined comprised an additional 40% of overall respondents' religious affiliation. As mentioned above 8 students identified as having ASD, while 92 identified with other diagnoses.

Table 1

Characteristics of the Sample (N=100)

Variable	Category or Range	<i>N or M</i>	<i>% or SD</i>
Age	17~62	20.81	5.14
Classification	First Year in School	31	31.0
	Second Year in School	30	30.0
	Third Year in School	18	18.0
	Fourth Year in School	14	14.0
	Fifth Year or Longer	4	4.0
	Residential Graduate Student	1	1.0
	Online Graduate Student	2	2.0
Gender	Female	81	81.0
	Male	18	18.0
	Other	1	1.0
Race	Black or African American	6	6.0
	Hispanic/Latino	9	9.0
	Asian/Asian American	4	4.0
	Native American/Pacific Islander	2	2.0
	Bi-Racial	1	1.0
	White	78	78.0
Major	Business	18	18.0
	Computer Science/Engineering	3	3.0
	Education	8	8.0
	Liberal Arts/Humanities	14	14.0
	Social Science/Law	16	16.0
	Science/Medicine	39	39.0
	Undeclared/Other	2	2.0
Religion	Anglican/Episcopal/Catholic	4	4.0
	Atheist/Agnostic/Nothing in Particular	5	5.0
	Baptist	21	21.0
	Christian (non-denominational)	42	42.0
	Church of Christ	19	19.0
	Mormon	1	1.0
	Protestant/Lutheran/Methodist	6	6.0
Other	2	2.0	
Autism	Autism	8	8.0
	Non-autistic disabilities	92	92.0

Helpful Services

Table 2 presents information about the perceived helpfulness of potential on-campus services. The collective group of respondents had somewhat positive perceptions of the services ($M = 3.44$). The group of non-autistic students had a slightly higher score ($M = 3.47$) compared to the group of autistic students ($M = 3.09$). However, the difference between these groups was not statistically significant ($t = -1.09, p = 0.28$), meaning that the difference in the sample does not indicate a real difference in the population. Because this set of questions is not necessarily a scale to measure a construct, the comparison for each individual item was conducted to explore for any meaningful information. None of the individual items resulted in a statistically significant difference between the groups.

Table 2

Helpful Services

DV & Items	Whole		Autism		Non-autism		Diff	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i>
<i>Mean of Items</i>	3.44	0.95	3.09	1.03	3.47	.94	-1.09	.28
Transition services	3.90	1.16	3.75	1.39	3.91	1.14		ns
Tutoring	4.02	1.14	3.38	0.92	4.08	1.14		ns
Speech therapy	2.88	1.38	2.63	1.19	2.91	1.40		ns
Assistive technologies (smart pens, reader pens, etc.)	3.25	1.38	2.63	1.30	3.31	1.38		ns
Social interaction training (e.g., how to make and keep friends)	3.02	1.30	2.88	1.36	3.03	1.31		ns
Weekly supportive therapy	3.73	1.19	3.25	1.16	3.78	1.19		ns
Career counseling (help with finding jobs)	3.77	1.32	3.13	1.55	3.83	1.30		ns
Independent living training	3.17	1.46	2.38	0.92	3.24	1.49		ns
Peer mentoring	3.12	1.40	3.00	1.51	3.13	1.40		ns
Frequent check-ins with support staff	3.40	1.35	3.50	1.31	3.40	1.36		ns
Opportunities to interact socially with other students	3.48	1.41	3.63	1.77	3.47	1.39		ns
Modified living arrangements (e.g., single room)	3.48	1.50	3.00	1.51	3.53	1.50		ns

Note: Individual item ($N= 93\sim 100$), Mean ($N=100$); Possible range: 1 (not at all helpful) through 5 (extremely helpful)

Difficulties in College

Table 3 presents information about difficulties in college. The group overall experienced some difficulties ($M = 2.53$). The group of students with autism had slightly more difficulties score ($M = 2.54$) than the group of non-autistic students ($M = 2.52$).

However, the difference between these groups was not statistically significant ($t = .09$, $p = 0.93$), meaning that the difference in the sample does not indicate a real difference in the overall population. Because this set of questions is not necessarily a scale to measure a construct, a comparison for each individual item was conducted to explore for any additional meaningful information. For one of the items, there was a statistical difference between the groups: the group of non-autistic students had a higher score ($M = 3.46$) compared to the autism group ($M = 2.50$). The difference between these groups was statistically significant ($p < .05$). The autism group seems to experience less difficulties regarding paying attention in class than the counterpart.

Table 3

Difficulties in College

Item & DV	Whole		Autism		Non-autism		Diff	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i>
<i>Mean of Items</i>	2.53	0.82	2.54	0.92	2.52	0.81	0.09	0.93
Self-advocacy (speaking up for yourself)	2.65	1.28	2.63	1.41	2.66	1.27		ns
Time management (e.g., missing due dates)	2.87	1.32	3.13	1.55	2.84	1.31		ns
Motivation (e.g., do not see the point in doing certain things in school)	3.02	1.41	3.50	1.41	2.98	1.41		ns
Goals (e.g., lack of clear educational goals)	2.44	1.20	2.88	1.25	2.41	1.19		ns
Managing intense emotions (e.g., emotion control/regulation)	2.67	1.35	3.13	1.81	2.63	1.30		ns
Stress associated with school demands	3.73	1.14	3.63	1.41	3.74	1.13		ns
Conduct and behavioral issues	1.43	0.90	1.25	0.46	1.44	0.93		ns
Attention (e.g., not maintaining focus or attention in class)	3.38	1.17	2.50	0.93	3.46	1.16		sig
Managing life tasks (e.g., poor time management, organization, getting to class)	2.71	1.37	2.25	1.39	2.75	1.37		ns
Social interactions (e.g., making friends)	2.18	1.33	2.50	1.51	2.15	1.32		ns
Social support (e.g., lonely, isolated)	2.41	1.32	3.00	1.51	2.36	1.30		ns
Managing personal/adaptive skills	1.82	1.14	1.88	1.13	1.81	1.14		ns
Taking care of living arrangements (e.g., paying bills/rent)	2.00	1.21	1.38	0.74	2.05	1.23		ns
Closeness to family (e.g., feeling homesick, missing family)	2.18	1.18	2.00	1.41	2.20	1.17		ns

Note: Individual item (N=98~99), Mean (N=99); Possible range: 1=never a problem through 5=always a problem

College Experience: Social Aspect

Table 4 outlines the social aspect of the college experience. This section differs from the previous section by addressing more specific social challenges (e.g., I have made friends) rather than broad difficulties (e.g., paying attention in class). The entirety of the sample reported a marginally positive social experience overall ($M = 3.76$). However, the group of students with autism had a less positive social experience in college ($M = 3.32$) than the group of non-autistic students ($M = 3.80$). The difference between these two groups was statistically significant ($p < .05$), meaning that the difference in the sample is likely not due to chance. This suggests that students with autism seem to experience more challenges around navigating the social aspects of the college experience than students who are not autistic.

Because this set of questions is not necessarily a scale to measure a construct, a comparison for each individual item was conducted to explore for any additional meaningful information. For three of the items, a statistical difference between the two groups was found. Students without autism had a higher score ($M = 3.98$) than students with autism ($M = 2.88$) regarding the item: It is easy to get along with my roommate. The difference between these two groups was statistically significant ($p < .05$). This indicates that students without autism find it easier to get along with their roommates than students with autism. Additionally, there was a statistical difference between the two groups for the item: I have friends that often contact me. Students with autism scored lower ($M = 2.75$) than students without autism ($M = 3.99$). The difference between these two groups was statistically significant ($p < .05$). This finding suggests that students without autism have more regular contact with friends than students with autism. The item 'I feel

comfortable disclosing my diagnosis to people on campus’ also resulted in a statistical difference between the two groups. Students without autism scored higher ($M=3.60$) than students with autism ($M=2.50$). The difference between these two groups was statistically significant ($p < .05$). This suggests that students with autism feel less comfortable disclosing their diagnosis to various individuals on campus than students without autism.

Table 4

College Experience – Social Aspect

	Whole		Autism		Non-autism		Diff	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i>
<i>Mean of Items</i>	3.76	0.51	3.32	0.51	3.80	0.39	-2.57	.01
I have the social skills to succeed in college.	4.01	1.08	3.38	1.04	4.07	1.41		ns
I feel connected to my college campus.	3.76	1.06	3.50	1.06	3.78	1.07		ns
It is easy to get along with my roommate.	3.89	1.30	2.88	1.27	3.98	1.25		sig
I have made new friends in college.	4.51	0.79	4.38	0.78	4.52	0.92		ns
I have friends that often contact me.	3.89	1.26	2.75	1.18	3.99	1.58		sig
I talk to other students who are in my classes.	4.10	0.99	3.50	0.97	4.16	1.07		ns
I enjoy living in the dorm.	3.53	1.22	3.00	1.24	3.57	0.93		ns
I eat alone on campus.	2.53	1.34	2.88	1.37	2.50	0.99		ns
People are nice to me.	4.30	0.79	4.00	0.78	4.33	0.93		ns
I feel lonely.	2.53	1.32	2.88	1.31	2.49	1.46		ns
I feel comfortable with disclosing my diagnosis with people on campus.	3.51	1.36	2.50	1.32	3.60	1.41		sig
I have support from my family.	4.44	1.07	4.25	1.04	4.46	1.39		ns

Note: Individual item ($N: 98\sim99$), Mean ($N=99$); Possible range: 1 (Strongly disagree) through 5 (Strongly agree)

College Experience: Academic Aspect

Table 5 explores the academic aspect of the of the college experience. Overall, the whole group felt marginally positive about their ability to be successful academically ($M=3.42$). The group of students without autism felt less positive about their academic abilities ($M=3.31$) than the group of the students with autism ($M=3.43$). However, the difference between these groups was not statistically significant ($t = -.43, p = 0.66$), meaning that the difference in the sample does not indicate a real difference in the overall population.

Because this set of questions is not necessarily a scale to measure a construct, a comparison for each individual item was conducted to explore for any additional meaningful information. For three of the items, a statistical difference between the two groups was found. “I have the academic skills to succeed in college” resulted in nearly a full number value difference between the students with autism ($M=4.13$) and the students without autism ($M=3.25$). The difference between these groups was statistically significant ($p < .05$). This suggests that students with autism feel more positive about their academic skill than students without autism. The second item that resulted in a statistically difference is “College is harder than high school.” The group of non-autistic students had a higher score ($M = 2.88$) compared to the autism group ($M = 1.95$). The difference between these groups was statistically significant ($p < .05$). This indicates that students with autism feel more strongly that college is easier than high school versus their non-autistic peers. Finally, “It is easy to connect with my professors” yielded a statistical difference. Students with autism had a higher score ($M=3.99$) than students without autism ($M=3.00$). The difference between these groups was statistically significant

($p < .05$) and suggests that students with autism feel more comfortable connecting with their professors than students without autism.

Table 5

College Experience – Academic Aspect

	Whole		Autism		Non-autism		Diff	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i>
<i>Mean of Items</i>	3.42	0.71	3.43	0.69	3.31	0.97	-.43	.66
I have the academic skills to succeed in college.	4.06	1.00	4.13	0.91	3.25	1.58		sig
I manage my time effectively.	3.32	1.13	3.35	1.13	3.00	1.20		ns
College is harder than high school.	2.02	1.12	1.95	1.03	2.88	1.81		sig
I have good study habits.	3.46	1.05	3.47	1.05	3.38	1.19		
I find it easy to participate in group work during class.	3.46	1.26	3.46	1.25	3.50	1.51		ns
It is easy to connect with my professors.	3.91	1.08	3.99	1.05	3.00	1.07		sig
I find it easy to understand class lectures.	3.43	1.05	3.41	1.06	3.63	0.92		ns
I get good grades.	3.90	0.97	3.91	0.95	3.75	1.28		ns
My high school prepared me to be successful in college.	3.09	1.53	3.09	1.57	3.13	1.13		ns

Note: Individual item ($N: 98\sim 99$), Mean ($N=99$); Possible range: 1 through 5

College Experience: Other

For the rest of the items under the college experience, the mean score was not calculated because there were lack of conceptual relatedness among them. Table 6 outlines these additional items. For one of the items, “I can advocate for myself,” there was a statistical difference between the groups. The group of students with autism had a higher score ($M = 4.16$) compared to the score of the group of non-autistic students ($M = 3.13$). The difference between these groups was statistically significant ($p < .05$). This

indicates that the students with autism feel more comfortable advocating for themselves than the group of students without autism.

Table 6

College Experience – Other

	Whole		Autism		Non-autism		Diff	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i>
I can advocate for myself.	4.08	1.05	4.16	0.98	3.13	1.36		sig
I can cope effectively with stress and anxiety.	3.02	1.19	3.07	1.17	2.50	1.31		ns
I feel lost on campus. (have trouble finding things)	1.47	0.86	1.46	0.86	1.63	0.92		ns
I prefer to spend time in quiet places on campus.	3.51	1.33	3.51	1.33	3.50	1.51		ns

Note: Individual item (*N*: 98~99), Mean (*N*=99); Possible range: 1 (strongly disagree) through 5 (strongly agree)

Satisfaction with Spirituality

Table 7 addresses the various potential facets of spiritual satisfaction of students on campus. The whole group felt marginally positive overall about their spiritual life (*M*=3.63). Students without autism had a slightly higher score (*M*=3.67) than students with autism (*M*=3.23). However, the difference between these groups was not statistically significant ($t = -1.46, p = 0.15$), meaning that the difference in the sample does not indicate a real difference in the population. Because this set of questions is not necessarily a scale to measure a construct, the comparison for each individual item was conducted to explore for any meaningful information. For one of the items, “I am loved just as I am,” there was a statistical difference between the groups. Non-autistic students scored nearly a whole number value higher (*M*=4.30) than students with autism (*M*=3.38). The difference between these groups was statistically significant ($p < .05$).

This seems to indicate that students without autism feel more confident about their inherent value than students with autism.

Table 7

Satisfaction with Spirituality

	Whole		Autism		Non-autism		Diff	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i>
<i>Mean of Items</i>	3.63	0.81	3.23	1.06	3.67	0.78	-1.46	.15
I have religious or spiritual beliefs that are important to me.	4.40	1.05	3.88	1.64	4.45	0.98		ns
I have religious or spiritual practices that are important to me.	4.26	1.20	3.75	1.75	4.30	1.14		ns
I belong to a church community.	3.49	1.53	2.88	1.55	3.55	1.53		ns
I am spiritually fulfilled in chapel.	2.85	1.25	3.13	1.36	2.82	1.25		ns
I am a part of a small group.	2.56	1.56	2.25	1.58	2.58	1.57		ns
3	4.22	1.00	3.38	1.60	4.30	0.91		sig
My spiritual needs are being met on campus.	3.54	1.24	3.38	1.30	3.56	1.24		ns

Note: Individual item (*N*: 96~99), Mean (*N*=99); Possible range: 1 (strongly disagree) through 5 (strongly agree)

Effect of Other Factors on Each Dependent Variable

A multiple regression analysis was performed to examine to see if there are other potential factors that may explain the influence of autism on each dependent variable.

Because these analyses are not used for hypothesis testing but for exploring associations,

Table 8 presents basic information that shows the statistical significance. When multiple factors considered altogether, there is only one significant finding. The *t*-value (-2.71)

indicates that the students with autism felt less satisfied with the social aspect of college life than the group of students without autism. This result is consistent with the

independent samples *t*-test, suggesting autism was the major factor for the dependent variable even after controlling for the effect of gender and age.

Table 8

Multiple Linear Regression of Major Dependent Variables

	HelpfulService		DifficultMean		CollegeSocial Mean		CollegeAcade micMean		Spirituality	
	<i>t</i>	<i>p</i>	<i>t</i>	<i>p</i>	<i>t</i>	<i>p</i>	<i>t</i>	<i>p</i>	<i>t</i>	<i>p</i>
Female	-0.52	0.61	-0.53	0.60	-1.08	0.28	-1.81	0.07	0.13	0.90
Age	-1.62	0.11	-1.50	0.14	0.28	0.78	-0.03	0.98	1.84	0.07
Autism	-1.30	0.20	-0.21	0.83	-2.71	0.01	-0.87	0.39	-1.23	0.22

Open-Ended Questions

The survey included two open-ended questions. The answers of both questions were sorted into three categories: academic, social, and personal for two different groups: students with autism and students without autism. If a response contained more than one answer (i.e., grades and friends) the researcher counted it in each applicable category.

For the question “what are your greatest areas of success in college?”, out of 92 non-autistic students who completed the survey, more than half (*n*=49) provided meaningful answers to this question. Of all respondents, 47% cited one of their greatest areas of success to be academic, while 37% reported the social arena and an aspect of their personal character to be one of their greatest strengths. Of the students with autism who completed the survey (*N*=8), six of them answered the question. Out of six, 67% cited the social arena and academics while 33% noted an aspect of personal strength.

About a third students in the non-autistic group (*n*=26) provided meaningful answers to the second open-ended question of “Please describe any other difficulties or challenges you have faced (or are facing) during your time at a faith-based institution.” The other 26 cases were separated into social (e.g., friend trouble, talking with people),

personal (e.g., family issues, faith), and academic challenges (e.g., dealing with professors). If the response contained more than one answer (i.e., family issues and time management) the researcher counted it in each of the applicable categories. The results show the order of the challenges in college experience perceived by this group: 54% for personal issues, 37% for academic issues, and 23% for social issues. Two students with autism responded to this question. One of them cited a personal challenge, and the other reported a social challenge. Because of the small response rate, it is difficult to make a comparison to the group of students without autism.

CHAPTER V

DISCUSSION

Discussion of Major Findings

This study sought to explore the needs of college students with autism at a faith-based institution. A survey was created out of three existing surveys to examine the social, academic, and spiritual components of the overall college experience (Elias & White, 2017; Gelbrar et al., 2015; Liu et al., 2014; White et al., 2016). The researcher compared the responses of students who reported a diagnosis of autism spectrum disorder and other diagnoses to see if these students have different needs and/or have needs outside of what is typically provided by the on-campus disabilities services office. The results suggest that students with autism, while academically successful, have more challenges and are less satisfied with the social aspect of their college experience than students with other disabilities. Furthermore, students with autism report an uncertainty about their self-worth. Additional findings will be discussed in more detail below.

Helpful Services: No Group Difference

The survey addressed potential services that could be helpful to students on campus. No statistical difference was found in the perceptions of the helpfulness of potential services between students with autism and students without autism. While the literature notes that students with autism may need services that are different from other students (Anderson, Carter, & Stephenson, 2018; Anderson & Butt, 2017; Nuske et al., 2019; Schlabach, 2008; Shook Torres, 2014; Smith, 2007), this finding did not explicitly

reflect such a difference. Instead, it suggests that both students with autism and students with other disabilities do not agree or disagree with the helpfulness of potential services. In other words, the entire sample does not feel that more services are necessary but do not strongly oppose them either. The lack of difference in the two groups could indicate that for the most part, students feel like they have what they need. Furthermore, some of the services may not be necessary for either population of students.

Difficulties in College: No Group Difference

College students with autism spectrum disorder face a number of challenges during their time on campus (Adreon & Stella Durocher, 2007; Glennon, 2001; Hendricks & Wehman, 2016; LeBlanc et al., 2015; Rando et al., 2016). These difficulties were examined through the items listed in Table 3. There was no statistical difference between the amount of difficulties faced by students with autism and students with other disabilities. This finding does not necessarily contradict previous findings in the literature, as both groups did indicate certain areas of difficulty; however, it does suggest that students with autism face similar levels of difficulty as other students with disabilities. Thus, while all of the students have difficulties, the specific challenges may be unique. Further analysis should be conducted around difficulties between students with disabilities and students without disabilities to determine if having a disability is a significant factor.

The single Likert scale item in the section that yielded a statistically significant difference between the two groups pertained to paying attention in class. Students with autism reported having less difficulty paying attention than students with other disabilities. This finding is supported by the characteristics of autism spectrum disorder

outlined in the literature, which note restricted and/or repetitive behavior, interests, or activities to be a core characteristic of ASD (American Psychiatric Association, 2013; CDC, 2019; Sussman, 2015). These tendencies can manifest themselves in a variety of ways, such as having strong attachments or insistence on routine, which, combined with strong academic skills, has the potential to translate over into students' attentive behavior in the classroom (American Psychiatric Association, 2013; Shore & Rastelli, 2006). However, it is important to note that the group of students without autism do have a variety of other disabilities, some of which may have a direct impact on their ability to pay attention (e.g., ADHD/ADD). Thus, the characteristics of their diagnosis could lend themselves to a lower overall score on this particular item. This should be taken into consideration when examining this finding.

College Experience: Social Aspect—Group Difference

The social aspect of the college experience area was the only category of the survey that overall yielded a statistical difference between the responses of students with autism and students with other disabilities (see Table 4). While both groups fell in the more neutral range of the scale, students with autism felt less positively overall about their social abilities than other students. This confirms Van Hees et al.'s (2015) notion that students with autism recognize their difficulties with the social aspects of college. Furthermore, the findings of the multiple linear regression in Table 8 illustrate the depth of social challenges that students with autism face as it suggests that ASD plays a significant factor in the social aspect of college life. In other words, when controlling for other potential influences, autism was still a significant factor, leading to students with ASD feeling less satisfied with their social experience. Together, these results support the

findings of existing literature that one of the greatest areas of challenge for university students with autism spectrum disorder is navigating the social aspect of the college experience (Dipeolu et al., 2015; Glennon 2001; Van Hees et al., 2015; White et al., 2016).

The research study also contained two open-ended questions to allow participants the opportunity to share their greatest challenges and greatest successes as college students. It is difficult to compare and interpret the results between the two groups of students because of the pervasive unresponsiveness across both groups. However, almost double the number of students answered the question about strengths than the question about challenges, which speaks to the positivity and resilience of the overall population. Six of the eight students with autism did provide feedback about their greatest strengths.

Social support was identified as a strength in the qualitative data (four of the answers contained a social aspect), which represents a contradiction to the evidence of social challenges provided by the quantitative data. Literature highlighting college students with autism's desire for meaningful relationships and connection (Van Hees et al., 2015) may suggest that despite challenges in this area, citing social aspects as strengths are evidence of how hard students with autism are working to build friendships and be involved on campus just like any other student. They could consider this effort and engagement to be a strength as it is something that does not come naturally to them. Further qualitative research in this area could help to clarify this apparent contradiction.

Unique challenges. More specifically, the three items that yielded a statistical difference supported distinct challenges outlined in the literature within the social aspect: having a roommate (Adreon & Stella Durocher, 2007; Barnhill, 2016; Schlabach, 2008),

having and maintaining friendships (Glennon, 2001; Van Hees et al., 2015), and self-disclosing their diagnosis (Anderson et al., 2017; Van Hees et al., 2015; White et al., 2016). Students with autism disagreed with the survey items regarding the ease of having a roommate and having regular contact with friends, while students with other disabilities agreed with both statements. These findings lend evidence to the way the core characteristics of autism, namely social difficulties and insistence on routine, uniquely interact with the specific experiences of college (e.g., having to live with a roommate and making new friends) in ways that other disabilities do not (Adreon & Stella Durocher, 2007; Barnhill, 2016; Schlabach, 2008).

Diagnosis and shame. Similarly, students with autism disagreed with the statement regarding feeling comfortable disclosing their diagnosis to people on campus, while students with other disabilities felt more positive doing so. This finding is reflective of the shame students with autism feel about the social challenges they experience related to having autism (Glennon, 2001; Koegel et al., 2013). Because high-functioning ASD is often a “hidden,” disability, avoiding self-disclosure allows students to “fit in” and not be identified by their challenges (Glennon, 2001). It is worth investigating further in what situations students choose to disclose their diagnosis on campus and why, so that disabilities services offices can better support students in this area and better equip faculty and students to respond well to this self-disclosure.

College Experience: Academic Aspect—No Group Difference

The academic aspect of the college experience is noted to be an area of success for students with autism (Adreon & Stella Durocher, 2007; Anderson, Carter, & Stephenson, 2018; Schlabach, 2008; Van Hees et al., 2015). While the present study did

not find an overall statistical difference between the academic performance of students with autism and students with other disabilities, individual survey items did yield statistical differences that support this notion.

Academic skills. While students with other disabilities felt neutral about their ability to be academically successful, students with autism agreed that they had the academic skills to succeed in college. It is important to note that all of the students with autism who completed the survey do receive academic accommodations through the disability's services office. It is difficult to say whether students factored in their accommodations when completing this portion of the survey, which could have impacted the outcomes. Even so, this result is consistent with existing findings that with additional supports traditionally offered by the disability services office, college students with autism can be successful in their academics (Adreon & Stella Durocher, 2007; ASHE Education Report, 2013; Schlabach, 2008; Van Hees et al., 2015; White et al., 2016).

High school. The literature offers examples of various programs that contain a transition component for students with autism moving from high school to college (Barnhill, 2016; Pinder-Amaker, 2014; Rando et al., 2016; Schlabach, 2008). Both students with autism and students without autism agreed that transition services between high school and college would be helpful. However, students with autism strongly disagreed with the notion of college being harder than high school. Students with other disabilities neither agreed nor disagreed with that statement. While students with autism attending college will likely need help navigating other areas of transition, these findings indicate that academics may not need to be a prominent focus of programming.

Connection with professors. Interestingly, students with autism felt that it was easy to connect with their professors. The group of students with other disabilities felt that it was neither easy nor difficult to do so. While existing literature cites the difficulties students with autism have with social connection (Glennon, 2001; Van Hees et al., 2015), these studies are largely addressing social connection with peers rather than social connection with adults. Therefore, it is difficult to determine if this finding contradicts existing literature regarding peer-to-peer relationships or if it instead suggests that students with autism are more comfortable with adult interaction than peer interaction. Furthermore, the literature notes that faculty in Christian higher education have greater availability to care for students (Schreiner, 2018). Thus, it would be worth considering through further research if students with autism at secular universities also find connection with their faculty to be easy. This would help to clarify whether faculty at faith-based institutions are truly more caring towards their students or whether students with autism find better social connection amongst adult populations versus their peers.

College Experience: Other Aspects—No Group Difference

Other aspects of the college experience that did not fit into the academic and/or social categories were analyzed separately in Table 6. While there was no statistical difference overall between the two groups of students, there was a statistical difference on one item.

Students with autism agreed that they could advocate for themselves, while students with other disabilities neither agreed nor disagreed with the statement. This finding is surprising as the existing literature notes self-advocacy to be a challenge for college students with autism (Adreon & Stella Durocher, 2007). Additionally, as

previously discussed in this study, students with autism did not feel comfortable disclosing their diagnosis to people on campus. It is possible for students to advocate for themselves without disclosing their diagnosis, which could account for the discrepancy in score for these two items. Moreover, the item stated “I can advocate for myself,” which while addressing ability, does not address comfort level. Further research in this area could be helpful in clarifying between these two dispositions.

Satisfaction with Spirituality —No Group Difference

Because the university under consideration in this study is a faith-based institution, satisfaction with the spiritual component of the college experience was included as an area of interest. Christian higher education institutions are noted to have a different overarching mission than secular universities. Their focus is centered around shaping students in the image of God while helping prepare them to engage in the work of Christ in the world (Glanzer, 2013; Schreiner, 2018). While there was no overall statistical difference between the responses of students with autism and the responses of students with other disabilities in regard to their spiritual satisfaction, one individual item did yield statistically significant results. Students with autism neither disagreed nor agreed with the notion that they are loved just as they are. Students with other disabilities definitively agreed with the statement. In other words, this finding suggests that students with autism are unsure of whether or not they are loved exactly as they are. While disheartening, this uncertainty around self-worth is supported by various aspects of the literature. Oftentimes, people with autism face challenges with aspects faith and spirituality due to the characteristics of the disorder. The interpersonal challenges and rigid thinking which characterize ASD can also impact individuals’ relationship with

God, which can result in them viewing God more as a punisher or ruler and less as a father (Koegel et al., 2013; Shaap-Jonker et al., 2013). This perspective of God, coupled with the shame often generated by the deficits that accompany autism, offer an explanation for the differences in scores around self-perception between students with autism and students without autism (Glennon, 2001; Van Hees et al., 2015).

Implications of Findings

The present study explored the social, academic, and spiritual needs of students with autism spectrum disorder on a Christian college campus. Each area was analyzed through independent samples *t*-tests, comparing the responses of students with autism to the responses of students with other disabilities. A multiple regression analysis was performed to examine to see if there were other potential factors that may explain the influence of autism on each dependent variable. Finally, open-ended questions were divided into categories (social, academic, and spiritual) and analyzed for frequency by the researcher.

While the results of the study were supported by existing literature (Adreon & Stella Durocher, 2007; Barnhill, 2016; Dipeolu et al., 2015; Glennon, 2001; Van Hees et al., 2015; White et al., 2016;), the scope of the implications of this research is limited due to the small overall sample size that is represented. If the study was able to obtain a larger sample size of both groups—students with autism and students with other disabilities—the results may yield more conclusive evidence of the unique challenges that college students with autism face and therefore be more generalizable to the larger population.

Based on the results of this study, there are several notable implications—for both practice and policy—for the university at which the research was conducted.

Furthermore, there are additional ramifications for other universities who have students with autism on their campus. These implications are drawn from the items used to explore the social, academic, and spiritual aspects of the college experience for students with disabilities and the researchers experience in working with college students with autism. Broader implications may also be extended to other universities; however, caution should be utilized in generalizing the results due to the limitations associated with this study.

Implications for Practice

Implications for various aspects of practice and service delivery will be discussed below.

Disability services office. Overall, students with autism felt supported by their college campus. However, several recommendations can be made to the university's disability services office to ensure that this population is being served beyond just their academics. While different than the needs of other students with disabilities, the need for social support for this group of students is evident through their responses to the social items listed on the survey. The disability services office should consider creating programming that allows for students with autism to meet one another and practice engaging in social interactions. This can help equip students with tools that lead to a greater level of comfort with the social requirements of the college experience (e.g., having a roommate, talking with others in classes, etc.). Growing in their confidence with social interactions has the potential to also increase students with autism's perspectives of themselves (Rando et al., 2016). Other universities have addressed the social aspect of the college experience through peer mentorship, support groups, and offering a seminar

course specifically centered around communication problem solving (Barnhill, 2016; Pinder-Amaker, 2014; Rando et al., 2016). While these could be helpful, the researcher also recommends more covert avenues such as offering a weekly coffee hour and/or periodic game nights that are open to all students with disabilities.

More specifically, it is recommended that the disabilities services office give attention to building students self-advocacy skills as a part of their social programming. The literature suggests that students with autism often have challenges with both self-advocacy and self-disclosure (Rando et al., 2016). While the respondents with autism generally agreed with the sentiment that they can advocate for themselves, the survey did not address how often students engage in this activity, nor how comfortable they are with it. According to the data, they did, however, struggle with self-disclosing their diagnosis. Additionally, students in the non-autism group were unsure of their ability to advocate for themselves. Thus, attention to this valuable skill could benefit all students who are served by the program. While there are a variety of ways this could be accomplished, the researcher recommends utilizing monthly chapel meetings or hosting a bi-weekly skills group in which students have opportunities to both observe and practice engaging in this behavior.

Providing additional services to students with autism than what is currently offered by the disability services office calls attention to the need for additional resources. It is recommended that funding be raised through local foundations or diverted from another revenue stream within the department so that the appropriate tools (e.g., food, games, guest speakers, etc.) can be purchased to run programming. Furthermore, the disability services office should consider, given their current capacity and projected

growth of students with autism in college settings, whether it is necessary to hire additional staff to specifically attend to this population of students. The literature offers unique examples of other universities utilizing students as a way to run programming (e.g., peer mentoring groups) (Rando et al., 2016). This model should be considered by the university as additional full-time staff may not be financially feasible. The researcher also recommends utilizing the on-campus departments whose students may be interested in gaining experience in this area (e.g., special education, education, social work, psychology, speech pathology, child and family services, ministry). This would cut down on costs and also allow students a chance to engage in valuable professional development. Resources from various departments (computer science, information technology) could be utilized as well to build any online components of programming to reduce costs and offer a valuable opportunity for interdisciplinary collaboration. A partnership with the existing on-campus counseling center could also offer valuable mental health services to students with autism, as it is common to have a co-occurring condition such as ADHD, anxiety, or depression. More training may be needed for staff to ensure they have the proper tools to assist students dealing with multiple challenges.

Faith-based institutions. The literature makes a clear prediction that more and more students with autism spectrum disorder will be stepping into higher education settings in the coming years (Roux et al., 2015). The literature also discusses the challenges that individuals with autism have with both the university setting and in faith settings (Carter et al., 2016; Dipeolu et al., 2015; Glennon, 2001; Liu et al., 2014; Marker et al., 2017; Van Hees et al., 2015). Given that Christian higher education combines the two, it is important for the university under study to consider how best to serve the

increasing number of students with autism in their unique context. By supporting the work of the disability services office, the university can ensure that its unique mission is being accomplished in the lives of all of students. Additionally, as upper administration begins to think through their strategic plan that includes making upgrades to university facilities (i.e., residence halls) and elevating the student experience with mandatory experiential learning opportunities in the near future, students with autism and other disabilities should be considered.

Additionally, the university that serves as the context of this study has a chapel requirement for all of its students. Given how the core characteristics of autism spectrum disorder interact with faith settings, alternative options for students to receive their spiritual formation credit should be considered (Carter et al., 2016; Liu et al., 2014; Marker et al., 2017). The chapel office encourages small group or special interest chapels; thus, the disability services office could offer a weekly small group chapel for all of its' students with disabilities. This would create an opportunity for students to learn from one another as they share their stories and give students with autism another opportunity to meet other students and build important social connections. Further research could be beneficial around how students with autism interact with the required five semesters of Bible courses required by the university.

Faculty. With the increase in population of students with autism, it will be important for faculty members to be better informed of the core characteristics of the disorder and how it impacts the students in their classrooms. While according to the present study, students with ASD feel like they connect with their professors, there is still space for professional development for faculty in this area. It would be beneficial to hold

sessions in the on-campus professional development center around ways that faculty can promote inclusion and universal design in their classrooms, which would benefit all students with disabilities. Additionally, it would be worth considering holding a session where students with autism and faculty with autistic children could share more about their experiences so that faculty would have a more tangible picture of the way ASD interacts with the college experience. These sessions could be recorded and posted online so that any faculty members that did not get to attend still have access to the information and can make adjustments to their classroom environments as needed. Beyond this, invitations could be extended to faculty to participate in any programming (game nights, meals, etc.) being offered as a way for students to build connection and also practice their social skills.

Implications for Policy

The results of this study offer suggestions for policy at an agency level. Because recommendations are being made for programming to address the social deficits of students with autism, policy will need to be written to accompany its creation. These policies should supplement the existing policies of the disability services office to address any new structures or risks associated with additional programming.

Implications for Research

There are a number of limitations associated with the present study that should be noted. First, due to time constraints, there were elements of this project that could not be included and therefore serve as limitations. The researcher hoped to conduct focus groups with students who have been identified as having autism spectrum disorder to get a qualitative perspective of their experience. However, the results of the current study can

serve as the foundation of future focus groups by providing informed topics of discussion. Similarly, the researcher investigated the potential of including parents in the data collection process to address the perception and expectations of disability services in Christian higher education. Both of these will be suggested as future research to be conducted.

Although this study attempts to create knowledge for faith-based universities, the total survey results are not representative of the sample and therefore caution should be utilized in generalizing the results. A convenience sample was drawn from a single university located in Texas. The overall response rate was 37%. However, there are some strengths in the representativeness of this study. Of the 273 students who were contacted, 12 had a reported diagnosis of autism spectrum disorder and 66.7% ($n=8$) were included in this sample. The campus under study has approximately 3,500 undergraduate students. Given that 1 in 59 children are diagnosed with autism and of those diagnosed only one-third go to college (Baio et al., 2018), it would be reasonable to assume that around 20 students have ASD on campus. Thus, the eight out of the 12 identified who participated may be a good representative sample for this university.

There are a small number of identified students with ASD on campus. In addition, there could be other students that have autism spectrum disorder that have not been registered with the disability services office. The researcher also had poor access to an accurate email list of students registered with the disability's services office due to outdated technology; therefore, some students could have not been contacted to participate that met the criteria. Having a greater representation of the number of both students with disabilities students with autism could have led to more effective results.

However, due to time constraints, the researcher was only able to collect data for two weeks. It is likely that this sample is not representative of either group of students. Furthermore, there is a lack of diversity in the sample as the majority of respondents were white females which could skew the results of the study.

The survey being utilized also serves as a limitation. It was created by the researcher as a compilation of three existing surveys and therefore may need improvement in the instrument.

The researcher suggests that further research be conducted to examine the experience of students with autism at a faith-based university. Given that this study gave a quantitative perspective, a qualitative perspective achieved through focus groups would be beneficial in building an a more holistic understanding of the student experience for this unique population. Additionally, other studies have included the participation of parents along with students (White et al., 2016). Incorporating feedback from students' parents could provide valuable perspective on why the family chose to send their student to a faith-based university. This underlying motivation could provide better guidance around meeting the expectations of students with autism spectrum disorder in these unique contexts.

Although most of the literature discussed pertains to college students with diagnoses of high-functioning autism, the researcher did not request participants make this distinction in the current study. While it can be assumed that the majority of the students who reported a diagnosis of autism spectrum disorder are in fact high-functioning, caution should be utilized in making comparisons based on specific

diagnostic levels. Further research should be conducted making the distinction between students with high-functioning autism and students with moderate autism.

In addition to parents and students, the perspective of faculty could be beneficial as well. A simple survey could help the disability services office staff know where to focus their attention when it comes to helping educate faculty on important student issues like autism. Additionally, it would give faculty the opportunity to share what has been difficult for them in terms of accommodating students which can serve as suggestions for streamlining the overarching accommodations process.

Further research could be helpful regarding the co-morbidity of autism spectrum disorder and other common mental health conditions such as ADHD, anxiety, and depression, too. While it is recommended that a partnership be formulated with the on-campus counseling center to provide holistic mental health treatment to students with autism facing other mental health issues, having concrete information from students about how the co-occurring disorders impact their experience could be helpful. Questions of this nature could be easily included in any further qualitative research efforts.

Conclusions

This research study sought to examine the social, academic, and spiritual needs of students with autism at an institution of Christian higher education. Through an exploratory survey, the researcher gathered information about the experiences of students with disabilities on a Christian college campus. By comparing the responses of students with autism spectrum disorder and students with other disabilities, the researcher identified that while academically successful, students with autism are less satisfied and

have more difficulty navigating the social aspect of the college experience than students without autism.

The present study also identified a struggle with self-acceptance. While seemingly connected to faith communities, students with autism felt unsure of their worth. There is often an expectation of inclusion in Christian communities, that while warranted, may not be met in a higher education setting. Faith-based institutions need to consider what it looks like to see their unique mission through in the lives of students with autism so that they, too, are invited to participate in Christ's work in the world.

Because of the small sample size represented in this study, caution must be exercised in generalizing the results to a larger population. Despite limitations, implications for the university, its disabilities services office, and other faith-based institutions were drawn. If implemented, these implications could help to address the social needs that students with autism have and help to create a more equitable and enjoyable overall college experience. Future studies should examine the qualitative perspective of students with autism on a Christian college campus to offer a more holistic perspective of their needs.

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APPENDIX A

Institutional Review Board Letter

ABILENE CHRISTIAN UNIVERSITY

Educating Students for Christian Service and Leadership Throughout the World

Office of Research and Sponsored Programs
320 Hardin Administration Building, ACU Box 29103, Abilene, Texas 79699-9103
325-674-2885

November 22, 2019



Abbey Green
Department of Social Work
Abilene Christian University

Dear Abbey,

On behalf of the Institutional Review Board, I am pleased to inform you that your project titled "Needs Assessment: Autism Spectrum Disorder and Christian Higher Education",

(IRB# 19-129) is exempt from review under Federal Policy for the Protection of Human Subjects.

If at any time the details of this project change, please resubmit to the IRB so the committee can determine whether or not the exempt status is still applicable.

I wish you well with your work.

Sincerely,

Megan Roth

Megan Roth, Ph.D.
Director of Research and Sponsored Programs