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On-Campus Mental Health Service Use Among College Students With Autism: A Case Study Applying the Andersen Behavioral Model of Health Services Use

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Doctor of Education in Organizational Leadership

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On-Campus Mental Health Service Use Among College Students With Autism: A Case Study Applying the Andersen Behavioral Model of Health Services Use

A dissertation submitted in partial satisfaction
of the requirements for the degree of
Doctor of Education in Organizational Leadership

by

Estella C. Lilyquist

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Dedication

I want to dedicate my work to my children: Jacob, Emily, Matthew, Tyler, Presli, Ella, Tessa, and John. Thank you for believing in me and encouraging me to keep moving forward.

In the words of Princeton Professor John Nash's Nobel acceptance speech in the movie *A Beautiful Mind:*

"I am only here because of you. You are the reason I am. You are all my reasons."

Acknowledgments

I would like to first thank my chair, Dr. Scott Self, for his support, wisdom, and guidance from Day 1. Thank you for believing in me during those times when I found it difficult to believe in myself. I am so grateful for your encouragement throughout this journey. You knew I could do it. To the rest of my committee, Dr. Marisa Beard and Dr. Dianne Reed: it has been an honor to know you and work with you. I have learned so much from you both. Thank you for being such great teachers and mentors to me and the other students at ACU. To Dr. Dana McMichael, thank you for celebrating every step right along with me.

Abstract

The unique set of impairments and limitations presented by students with autism spectrum disorder (ASD) make the accessing of campus-based nonacademic resources more difficult and complicated than their typically developed peers. Each year, the rate of students entering college with disabilities continues to grow, but their mental well-being is relatively poor. The purpose of this qualitative case study was to apply the conceptual framework of the Andersen behavioral model of health services use (ABMHSU) to the experiences of college students with ASD to understand and predict their utilization of campus-provided mental health resources. The participants were seven college students with ASD who were currently receiving accommodations through Disability Services Program (pseudonym) at Tumbleweed University (pseudonym). Data were collected through demographic questionnaires and virtual interviews. The data were analyzed by breaking the interview responses down into predisposing, enabling, and need-based factors described in the ABMHSU. These data were compared to past literature also using the ABMHSU. The findings indicated that the predisposing factors that influence utilization were the presence of past illness, social structure, and attitudes toward health services. The enabling factors that influenced utilization were type of regular source of care and access to regular source of care. The need-based factors that influenced utilization were perceived general state, symptoms, and diagnosis. The main conclusion drawn from this study is that connecting students to counseling is not enough; they need to be encouraged to keep going. The participants indicated that the social impairments of ASD could make maintaining relationships and communicating difficult. Discovering the reasons for the discontinuation of the utilization of mental health services will help service program personnel anticipate them and encourage engagement.

Keywords: access, Andersen behavioral model of health services use, autism spectrum disorder (ASD), barriers, disability, enabling factors, mental health, mental health resources, need factors, predisposing factors

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Chapter 1: Introduction

Up to 433,000 people with autism spectrum disorder (ASD) have enrolled in U.S. colleges and universities as of 2020 (Viezel et al., 2020). As they begin to transition and adapt to their new way of life, other experiences may begin to appear, like stress, depression, anxiety, loneliness, or isolation (Schiltz et al., 2021). Anxiety and depression contribute to lower academic achievement (Pilar et al., 2020). All colleges have academic support services for their students, but students with ASD require more than just academic support (Barnhill, 2016). Mental health support is also important for this population. Many students with ASD also have one or more mental illnesses, such as mood or anxiety disorders (Viezel et al., 2020), putting them at much higher risk for self-harm and suicide (Cassidy et al., 2014).

Many colleges offer mental health resources (Barnhill, 2016); however, students with ASD may not even know about or understand the resources available to them (Schott et al., 2021). If they are aware, they might not know how to access them or find the process too overwhelming (Viezel et al., 2020). The advantages to utilizing mental health resources are many: Students that use counseling centers and other college-provided health support resources have better academic outcomes (Seon et al., 2019), and there is a positive link between good health and higher academic achievement (Vernet, 2021). Because of these factors, this information is crucial while planning and developing future mental health student support services on college campuses. The Andersen behavioral model of health services use can help to predict a student's use of mental health resources by examining the predisposing, enabling, and need factors that they present (Andersen, 1995).

Background on Autism

Over history, autism has been frequently misunderstood. The first time the term “autism” was used in 1906 was to describe what doctors considered symptoms of schizophrenia. In 1943, treatment of autism consisted of psychoanalytical treatment for the caregiver of children with autism and then the children were placed in institutions (Parisi & Parisi, 2019). Scientific breakthroughs in PET and CAT scans in the 1980s and the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-III) being published in 1980 led to the beginning of children being diagnosed with the disorder of autism instead of autism as a symptom in the early 1990s. Even then, autism was still misunderstood, and treatment consisted mostly of neurorehabilitation therapy and behavior therapy being the most prescribed (Parisi & Parisi, 2019). Today, autism is still not completely understood, and the primary focus on autism research has been given to low-functioning autism and autism in childhood (Paskins et al., 2018). The most recent update of the *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.) was published in 2013 and it has had a significant impact on autism (American Psychiatric Association, 2013). Now called “autism spectrum disorder” or ASD, it is currently defined as “complex neurodevelopmental disorders categorized by deficits in social interaction and communication as well as restrictive and repetitive behavior patterns” (American Psychiatric Association, 2013, p. 50).

Transitioning to College

Today, there are early diagnoses, awareness, and accommodations available, so many students with ASD consider college a viable option, whereas just decades ago, they could not (Barnhill, 2016). Going to college is a priority for students with ASD and their families, especially when the student has found academic success in high school (Chiang et al., 2012). Understanding ASD in college students is a challenge because the children that were diagnosed in the 1990s started college in the mid-2000s, so research is still being conducted and analyzed (Shattuck et al., 2012). The research literature currently explains ASD in clinical terms: symptoms for identification and diagnosis and ASD protocols for recognizing ASD in children. Little research exists on young adults with ASD and college and even less on their perspectives (Paskins et al., 2018).

Autistic students made up 10% of the nation's school-aged children with disabilities in 2017–2018, compared with only 1.5% in the 2000s (Schaeffer, 2020). The increase could be credited to recent disability laws like the Individuals With Disabilities Education Improvement Act (IDEIA) and the Americans With Disabilities Act (ADA; U.S. Department of Justice Civil Rights Division, n.d.). Colleges accept students based on academic merit and provide services and accommodations as they do for all students with disabilities (Pillay & Bhat, 2012). Like students with other types of disabilities, a large number of students with ASD face difficulty in transitioning to a college environment (Hendricks & Wehman, 2009). The transition to college usually consists of learning to be independent, completing more difficult coursework, managing time, and new social situations (Francis et al., 2019). All of these can cause stress and negatively impact a student's mental health (Dyson & Renk, 2006).

Current Accommodations and Service Use

Most colleges and universities offer basic mental health resources, either free or low in cost; however, many students choose not to use these services (Gallagher, 2012). College support services created for and used by students with ASD specifically are still in their infancy and collecting data from them is ongoing (Barnhill, 2016). Although much literature exists documenting the barriers and hardships known to students with disabilities while attending college, there is little recorded from the perspectives of the students with disabilities themselves and what supports serve them the best (Francis et al., 2019). Colleges have been learning how to accommodate and address the needs of students with ASD for years (Accardo et al., 2019); however, few colleges offer specific supports and accommodations for students with ASD (Barnhill, 2016). Most students with ASD that enroll in colleges can expect academic support and social skills assistance (Viezel et al., 2020). The problem for disability service providers is that there are no laws stating what reasonable accommodations should be, so most colleges focus on academic support to help students with ASD to successfully complete assignments, take tests, and prepare them for a career (Cullen, 2015). Some colleges also note that they purposefully wean students from support to help them to be more independent (Barnhill, 2016). Because of the unique emotional and mental difficulties expressed by students with ASD, weaning students from support is not sufficient to meet their needs (Viezel et al., 2020). The provided accommodations are only legally required to present disabled students with equal access to an education as their peers (Viezel et al., 2020), which mean some accommodations that are not academic in nature could not be provided at all. Only 36.7% of college students with ASD indicated that they felt they were getting the right amount of support and accommodations (Viezel et al., 2020). Research focused on the perspectives of college students with ASD has indicated that while they do benefit from academic support, they say that other services and accommodations would be helpful, particularly in times of high stress or when their mental health is affecting their success in college (Accardo et al., 2019). In order to determine the mental health supports that will best serve students with ASD, it is critical to identify and understand the mental issues that they are facing (McMorris et al., 2019). As more of the children originally diagnosed with ASD in the 1990s and 2000s become adults, the need for research on effective services for this population of students is great (Shattuck et al., 2012).

Andersen Behavioral Model of Health Services

The original behavioral model created by Ronald Andersen in the 1960s was designed to explain the family unit's use of health care. Over the last few decades, it has been continually updated and has shifted to the individual as the unit of analysis. He proposed that there is a combination of three factors that influence individual health care utilization: predisposing, enabling, and need (Andersen, 1995). Predisposing factors include individual demographics such as sex, race, and age (Pilar et al., 2020). A person's biology, social structure, culture, and social interactions are also considered predisposing factors (Andersen, 1995). Pertaining specifically to this study, predisposing characteristics of students with ASD also include "mental dysfunction (Rivnyak et al., 1989), cognitive impairment (Bass et al., 1992), and autonomy (DaVanzo, 1994)" (as cited in Andersen, 1995, p. 3).

Enabling factors such as information on health care (most college students use the internet), wait times, distance from the service, and social support can also influence the utilization of health resources (Vernet, 2021). College students that have social support frequently use counseling centers and health centers on campus, which has been linked to higher academic achievement (Seon et al., 2019). The quality of social relationships, which can be difficult to maintain for those with ASD (Viezel et al., 2020), can either help or hinder the student from utilizing services (Andersen, 1995).

The last factor, need, considers how people see their own health as a functional state. The individual experiences that they have of illness, pain, fear, and worries over symptoms have to be of enough magnitude for them to seek help with their health (Andersen, 1995). Self-monitoring is considered a higher-ordered cognitive processing ability and an executive function, which students with ASD experience difficulty using (Viezel et al., 2020). A student may not feel that their need is important enough to seek help when it really is.

Statement of the Problem

The unique set of impairments and limitations presented by students with ASD make the accessing of campus-based nonacademic resources more difficult and complicated than their typically developed peers (Viezel et al., 2020). Each year, the rate of students entering college with disabilities continues to grow (Francis et al., 2019), but their mental well-being is relatively poor (Lei et al., 2019). Though many colleges will provide reasonable accommodations and services for students with disabilities through the ADA (Americans With Disabilities Act of 1990, 1990), students with ASD have exceptional needs that cannot solely be met in the classroom (Barnhill, 2016). Some students with ASD may be unaware of the services available to them (Schott et al., 2021).

Specifically, the need for mental health support often goes unmet because, for most colleges, these programs are voluntary, and the student must seek out these resources on their own (Cullen, 2015). Research has positively linked autism and mental health (Schiltz et al., 2021). These students may begin to feel isolated as they are weaned away from the support they had been accustomed to throughout school before college (Schott et al., 2021). Seventy percent of individuals with ASD have also been diagnosed with one or more forms of mental illness, such as mood disorders, anxiety disorders, and depression disorders (McMorris et al., 2019). Many people with ASD describe difficulties accessing services due to their symptoms being minimized or only procuring access when they have already reached a crisis point. For college students with ASD, suicide is the second most common cause of death (Jackson et al., 2018), and these students are at a substantially higher risk of nonsuicidal self-harm (Cassidy et al., 2014).

Mental health services can yield positive results but are not always used by the college students who need them the most (Aldalaykeh et al., 2019). The Andersen behavioral model of health services use can be used to predict health service utilization (Andersen, 1995). The unique factors presented by college students with ASD in accessing mental health resources need to be better understood, and this model could provide some clues to doing that.

Purpose of the Study

The purpose of this qualitative case study was to describe the experiences of college students with ASD when assessing their need to use mental health resources. Andersen's behavioral model of health services use describes the combination of predisposing, enabling, and need-based factors a person considers before seeking health care (Andersen, 1995). This study applied this framework to students with ASD and their use of campus-provided mental health resources.

Research Questions

RQ1: How do the predisposing factors of students with ASD influence their decision to access mental health resources?

RQ2: How do the enabling factors of students with ASD influence their decision to access mental health resources?

RQ3: How do the need-based factors of students with ASD influence their decision to access mental health resources?

Definition of Key Terms

Andersen behavioral model of health services use. A theoretical model of behavior that proposes that health care utilization is influenced by the individual's predisposing, enabling, and need factors (Andersen, 1995).

Autism spectrum disorder. A developmental disorder characterized by impairments in communication skills, deficits in the understanding of social interactions, and repetitive behaviors (American Psychiatric Association, 2013).

Barriers. In this study, factors within an environment that, with or without their presence, can limit functioning and create disabilities for a person (Centers for Disease Control and Prevention, n.d.).

Disability. A physical or mental impairment that hinders a person from fully participating in major life events, has a record of having these impairments, or is observed by others with an impairment (Americans With Disabilities Act of 1990, 1990).

Enabling factors. Personal resources that each individual possesses such as health insurance, distance from health care, and possible wait times (Andersen, 1995).

Full access. In this study, a state of affairs that ensures equal opportunities for all students regardless of disability (Yell, 2016).

Mental health. A person's social, psychological, and emotional well-being. Mental health can influence how a person acts, feels, and thinks, and affects how they connect with others, deal with stress, and make good decisions (Centers for Disease Control and Prevention, n.d.).

Mental health resources. In this study, options including but not limited to treatment, therapy, medication, counseling, and management of mental health through a mental health professional (Centers for Disease Control and Prevention, n.d.).

Need factors. Urgency factors that each individual weighs on their perceived need to seek health care (Andersen, 1995).

Predisposing factors. In this study, the demographics of each individual such as but not limited to, biology, age, race, religious beliefs, and social status (Andersen, 1995).

Chapter Summary

The unique needs of college students with ASD are many, so the required support for them must be just as varied (Jackson et al., 2018). While they do receive many forms of academic accommodations at college, the importance of mental health support cannot be overlooked. Some of the reasons that many students with ASD will not complete college are mainly because they feel isolated, anxious, and depressed. Using the Andersen behavioral model for health services use, the predisposing, enabling, and need factors of service utilization can be identified and addressed. Colleges are encouraged to develop and introduce programs for students with ASD that will address anxiety and other mental health difficulties (Viezel et al., 2020). Mental health services for students with ASD could not only increase their self-esteem and confidence but could also increase college retention and completion rates, giving them a higher quality of life (Barnhill, 2016). These resources should also be easier to access and quicker to match students with the appropriate services that fit their needs (McMorris et al., 2019). Previous studies have indicated that poor mental health leads to unfavorable social and academic outcomes (Vernet, 2021). The students and their respective colleges both benefit when students utilize mental health resources (Pilar et al., 2020).

Chapter 2: Literature Review

Each year, an increasing number of students with ASD seek higher education (Underhill et al., 2019). Compared to early childhood and elementary school, little has been researched concerning ASD students in the college setting (Jackson et al., 2018). This study identified the predisposing, enabling, and need-based factors of college students with ASD that either facilitate or impede the use of mental health resources on their college campuses. This was accomplished by examining the prevalence of ASD among college students, establishing the relationship between ASD and mental health, and also by investigating the frequency of mental health issues among college students. The role of the COVID-19 pandemic on students' stress levels, concurrent mental health issues, and current college mental health utilization was addressed. An in-depth discussion of Andersen's behavioral model followed by descriptions of the determinants of health care use to be used for this study was explained.

Literature Search Methods

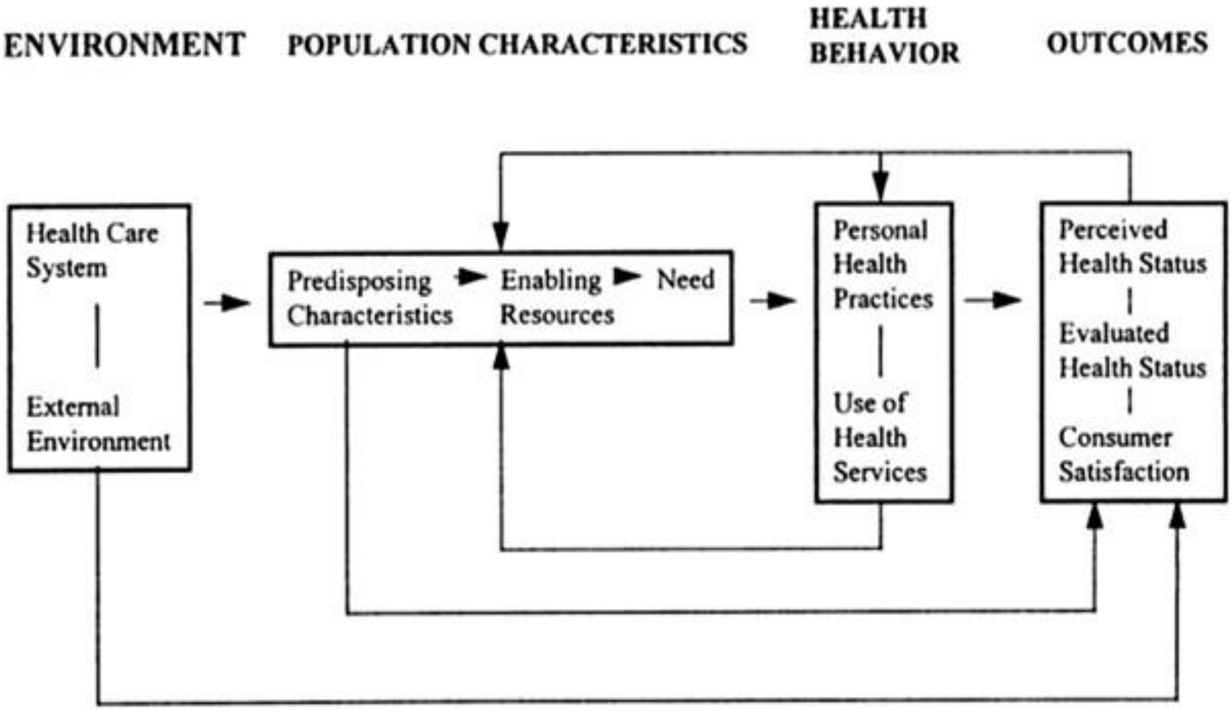
The literature search was conducted through Abilene Christian University's OneSearch**.** Only peer-reviewed and full-text articles were included in the search and dates from 2010 to the present were accepted (with the exception of articles concerning the framework). Four articles that were not available through OneSearch were requested through an interlibrary loan and provided by Abilene Christian University's librarian through email. The keywords used both individually and in conjunction with one another to conduct the search included: *autism*, *ASD*, *Asperger's*, *mental health*, *college students*, *college resources*, *COVID-19*, *anxiety*, *depression*, *loneliness*, *isolation*, *self-harm*, *suicide*, *academic outcomes*, *demographics*, *effectiveness*, *resource utilization*, *barriers*, *accessibility*, *Andersen behavioral model of health services use*, *predisposing factors*, *enabling factors*, and *need-based factors*.

Conceptual Framework

The Andersen behavioral model for health services use was first developed in 1968 by Ronald M. Andersen to both predict and explain the use of health care resources (Andersen, 1995). It was originally focused on the family unit's consumption of health care resources before the framework switched its focus to individual use (Pilar et al., 2020). Andersen believed that understanding why and how people choose to seek health care services could lead to the development of policies that would promote equitable access to them (Andersen, 1995). Briefly, it assumes that the individual conditions and characteristics a person possesses can contribute to their likeliness of utilizing health care resources (Andersen & Aday, 1978). These are the predisposing, enabling, and need factors that Andersen describes in the framework (see Figure 1).

Figure 1

Andersen's Behavioral Model of Health Services Use



Note. Andersen's behavioral model of health services use illustrates the many influences on health services use and consequently on a person's health status. Adapted from "Revisiting the Behavioral Model and Access to Medical Care: Does it Matter?," by R. M. Andersen, 1995, *Journal of Health and Social Behavior*, *36*(1), p. 8. (https://pubmed.ncbi.nlm.nih.gov/7738325/). Used with permission granted by Ronald Andersen.

Literature Review

An estimated 50,000 people with ASD will turn 18 every year, and college is a logical next step for many of them (Shattuck et al., 2012). Though many colleges provide reasonable accommodations and services for disabled students through the ADA (Americans With Disabilities Act of 1990, 1990), students with ASD have unique needs that go beyond the classroom, especially in the area of nonacademic support (Barnhill, 2016). Colleges are more likely to provide academic support services as accommodations than nonacademic ones, like social, emotional, or mental health support (Cullen, 2015). Research has positively linked autism and mental health (Schiltz et al., 2021). Mental health support is extremely important to college students with ASD because they usually also have challenges presented by the concurrence of other diagnoses, increased perception of loneliness and isolation, higher incidence of anxiety and depression (Accardo et al., 2019), as well as being at greater risk for suicide and self-harm (Cassidy et al., 2014). As a group, generally, young adults are healthy. When it comes to health care utilization, however, college-aged adults are in a weak position. The transition to both adulthood and college brings about more responsibility over both one’s health and health care decisions (Cavalhieri et al., 2019). The hallmarks of ASD include difficulties with communication and social interaction (American Psychiatric Association, 2013), making ASD itself a possible barrier to mental health care utilization. The Andersen behavioral model for health services use is a conceptual framework that suggests a series of predisposing, enabling, and need factors that are relevant to health care utilization (Andersen & Aday, 1978). These factors were thoroughly discussed as they relate directly to one’s ability and mindset when deciding to utilize health resources. Students with ASD may have challenges with both their ability and mindset because of the many variables and characteristics associated with ASD.

Prevalence of ASD in College Students

Individuals diagnosed with ASD struggle with atypical social development and nonverbal communication (American Psychiatric Association, 2013). ASD is a diagnosis given for life as it affects the individual for the rest of their life (Jackson et al., 2018). The definition and diagnosis of ASD have gone through many changes over the years in the *Diagnostic and Statistical Manual of Mental Disorders* as more is learned about it (American Psychiatric Association, 2013). The current edition is the fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-5)*, updated in May 2013, and has made significant revisions to how the disorder should be conceptualized (Brosnan & Mills, 2016). Before the publication of *DSM-5*, there was speculation and controversy about the diagnosis of autism and the criteria that would be used to make a diagnosis (Cullen, 2015). Today, according to *DSM-5*, ASD now covers autistic disorder, Asperger's disorder, Rett syndrome, childhood disintegrative disorder, and pervasive developmental disorder not otherwise specified (PDD-NOS; American Psychiatric Association, 2013).

In 2014, the Centers for Disease Control and Prevention (CDC) estimated that autism affected 1 in 68 people. In 2018, the CDC estimated 1 in 59 children would be diagnosed with autism (Centers for Disease Control and Prevention [CDC], 2014, 2018). The most recent estimates suggest that 1 in 54 children qualify for an autism diagnosis (Maenner et al., 2020). Diagnoses of ASD have risen considerably in recent years, and the rates are growing the fastest in the age 14–17 range (Baio, 2014). Early diagnosis and educational interventions have enabled many students with ASD to be mainstreamed into general education classrooms (Underhill et al., 2019). Students who attended regular high schools with their peers versus special schools performed at an above average academic level and were more likely to seek postsecondary education. High academic performance seems to be the key for high school students with ASD who want to graduate from high school and to further their education into college (Chiang et al., 2012). About 46% of all autistic individuals have an average or above average IQ (CDC, 2018). With the increased trend of ASD diagnosis, especially among those described as "higher functioning," it is expected that there will be an increase in students with ASD enrolling in college in the future (Paskins et al., 2018). In 2012, estimates were 34.7% of high school students with ASD are likely to apply to colleges within 6 years of leaving high school (Shattuck et al., 2012). That number has recently risen to 44% and is still expected to continue to rise (Jackson et al., 2018).

In the United States, it is projected that by 2028, there will be 20,310,000 students enrolled in colleges (Statista, 2020). An increasingly large number of students with ASD are completing high school with hopes of going to college (Cox et al., 2017). Every year, there has been an increase in the number of students with ASD enrolling in higher education (Shattuck et al., 2012). The National Center for Special Education Research predicts 200,000 college students with ASD in the next decade (Borrell, 2018). The exact percentage of college students with ASD is difficult to determine because of the reluctance of some students to register with their college disability services (Cullen, 2015). Although exact rates are unknown for this reason, some estimates suggest 1.9% of all undergraduates could meet the criteria for ASD (White et al., 2011).

The transition to early adulthood can prove difficult for all young people but could be especially challenging for students with ASD to navigate (CDC, 2018). The characteristics of ASD, especially the functioning and participation issues these students experience in higher education, have only been minimally investigated (Jansen et al., 2017). This makes it harder for higher education professionals to find assistance from the current body of literature on college students with ASD (Cox et al., 2017). The increasing number of students with ASD enrolling in college every year has resulted in increased attention and demand for how best to meet the needs of this fast-growing group of students (Accardo et al., 2019).

Relationship Between ASD and Mental Health

Research has positively linked autism and mental health (Schiltz et al., 2021). Between 40% and 70% of people living with ASD experience a mental health issue (McMorris et al., 2019). Compared to their peers without disabilities, students with ASD have an increased risk of depression, anxiety, and higher rates of dropping out of college before their degree is completed (Jackson et al., 2018). Many students with ASD also meet the diagnostic criteria for at least one other mental health condition in their lives (Jackson et al., 2018). Research has shown that people with ASD consistently experience deficits in regulating their emotions and that this may contribute to increased rates of psychiatric comorbidity (Charlton et al., 2020). On top of an already stressful diagnosis of ASD, almost 70% of people with ASD also report having one or more concurrent psychiatric diagnoses (Leyfer et al., 2006; Mazefsky et al., 2008; Simonoff et al., 2008; van Steensel et al., 2011). They can be considered "compromised by a double assault of illness" (Wachtel & Shorter, 2013, p. 408). A meta-analysis concluded that at least 40% of adolescents with ASD also meet the diagnostic criteria for an anxiety disorder (van Steensel et al., 2011), with a prevalence as high as 50% in other studies (Charlton et al., 2020). Other common mental health issues for people with ASD include panic disorders, obsessive-compulsive disorder (OCD), attention-deficit/hyperactivity disorder (ADHD), and mood disorders (McMorris et al., 2019). Even more serious is the long documented risk of psychosis in this population. If and when people with ASD experience psychosis, they need expeditious access to quality mental health services (Wachtel & Shorter, 2013). Due to the commonness of concurrent mental health issues with ASD, these students are at heightened risk of both academic and personal failure throughout their college years (Pinder-Amaker, 2014). Some research shows that students with ASD felt academically supported, but they did not feel that they were getting support for their concurring mental health conditions (Accardo et al., 2019). Despite being highly prevalent, concurrent mental health disorders are often left untreated in adolescents with ASD (Roux et al., 2015). Even if they might appear to be coping well, a positive relationship with someone else, especially a mental health professional, can be extremely beneficial to them in the event of a mental health crisis in the future (Viezel et al., 2020). When mental health services are utilized, people with ASD (even with psychosis) can live relatively normal lives to their benefit and to that of society (Wachtel & Shorter, 2013).

Frequency of Mental Health Issues in College Students

Colleges have realized the importance of mental health for students since the first mental health service was provided by Princeton University in 1910 (Kraft, 2011). Research has shown that 10%–50% of all college students meet the current criteria for one or more mental illnesses (Pilar et al., 2020). College students as a whole experience five common mental health issues, including anxiety, depression, AUD (alcohol use disorder), SLE (stressful life events), and antisocial behaviors (Bourdon et al., 2020). The prevalence of these interrelated concerns for the college population led to many studies on mental health service utilization in recent years (Bourdon et al., 2020). Pilar et al. (2020) and Bourdon et al. (2020) both concluded that male college students and students of color were less likely to seek help for their mental health. Conversely, Black students utilized campus crisis centers the most, indicating that they only seek assistance at the point of crisis (Sapadin & Hollander, 2022). Students of color were also more likely to engage in dangerous suicidal thoughts and behaviors (Liu et al., 2019). Students who reported suicide attempts and self-mutilation to cope with stress were also more likely to access crisis centers (Sapadin & Hollander, 2022). Students tend to seek out the most help for SLE that have physical symptoms, such as headaches, vomiting, and loss of appetite (Bourdon et al., 2020). In another study, high stress also played a role in the likeliness of suicide attempts and mental health diagnoses for students who reported only having one or two current stressful events bothering them (Liu et al., 2019). This is of importance to this current study because students with disabilities report more mental health concerns and stress than their typical peers (Minotti et al., 2021). Mental health access and utilization are important for college students. Research has shown that once they use services such as crisis centers and counseling, they are more likely to return. A study of 408 college students determined that over one-third of students who had a history of seeking counseling for a crisis were more likely to return for help (Sapadin & Hollander, 2022). These efforts by both the colleges and the students could increase overall use, improving students' lives and health.

Current Programs and Utilization

As more children with ASD exit high school and become young adults, there is an immediate need for more research concerning services and accommodations for this growing population (Shattuck et al., 2012), particularly for those that could improve their college experience (Paskins et al., 2018). A vital component of student retention, persistence, and graduation is ensuring that the needs of populations at risk, like those with ASD, are met (Bellon-Harn et al., 2018). One of the greatest needs is mental health concerns, which often go untreated in college students (Bourdon et al., 2020).

Meeting those needs could prove difficult as there is a great lack of studies on college students with ASD, and the most current studies are proving to be inconclusive. This means that most colleges and universities are going to be unprepared for the large numbers of students with ASD that will be enrolling on their campuses in the future (Paskins et al., 2018). One major study by Barnhill in 2016 examined programs and accommodations specifically for students with

ASD across colleges in the United States. The purpose of his research was to learn how colleges could best assist students with ASD both academically and socially. He discovered 30 colleges that had ASD-specific programs. Even though it had not been planned with the study, many of the colleges reported that they wanted to begin collecting outcome data for their students with ASD on graduation and employment (Barnhill, 2016).

As an update to Barnhill's (2016) research, Viezel et al.'s research team conducted the same study in 2020. They described the number of participating colleges with ASD-specific programs had nearly doubled from Barnhill's study 4 years earlier, suggesting that colleges were seeing the need and benefits of such programs for these students (Viezel et al., 2020). Although some institutions expressed interest in starting to gather long-term data outcomes of these programs (Barnhill, 2016), currently, there is only limited research on ASD programs that provide support outside of what is legally mandated (Barnhill, 2016; Viezel et al., 2020). In Barnhill's study, he left an open-ended option for colleges to include any accommodations not previously mentioned. Some colleges did indicate that they had a dedicated mental health counselor available for students with ASD (Barnhill, 2016). Several colleges provided mental health resources for students with ASD, with 72% reporting they made peer mentoring available, 54% provided social skills interventions, 50% listed individual counseling, and 47% listed group counseling (Viezel et al., 2020).

Mental health services on college campuses can vary greatly and they address mental health in different ways (Bourdon et al., 2020). To understand how students choose the appropriate service for their needs, one large university study tracked on-campus utilization of mental health resources by the symptoms that the 9,892 students were experiencing (Bourdon et al., 2020). The university listed four major campus services related to mental health: counseling services, health services, a wellness center, and general disability services. The top five listed symptoms by the students were anxiety, depression, antisocial behavior, significant life change, and alcohol use disorder. The study found that students who utilized the counseling center had high levels of anxiety and depression and had experienced significant life events. They also discovered that Black and Asian students were less likely than other races to use the counseling center. The health services center saw students experiencing significant life events and those students were mostly female. Asians were also less likely to use health services. The wellness center saw the highest number of students with alcohol use disorder, significant life events, and these students were Hispanic. The disability service center saw high numbers of students with anxiety, depression, antisocial behavior, and alcohol use disorder (Bourdon et al., 2020). Age was also a factor, as older students visited the disability center more frequently than younger students. Black students were also less likely to visit the disability service center (Bourdon et al., 2020). Much is still unknown about how, why, or where students choose to seek the mental health services that they need (Bourdon et al., 2020).

While it is still relatively unknown why students choose to use accommodations and services, some research is trying to determine why they do not. Lyman et al. (2016) examined barriers to accommodations by interviewing 16 students with disabilities. All of the students had been approved for at least one accommodation to participate. Many students noted that accommodations that they would have found helpful to them were not available. Others reported that accommodations available at other colleges were not available when they transferred. Some students found accommodations ineffective and just stopped using the ones that were not useful to them. Interestingly, others felt that they were not “disabled enough” to get accommodations. Disability types can range from learning to emotional to physical, etc. Not all disabilities are readily apparent to others, and some students expressed fear that their invisible disabilities would take resources from someone who really needed them (Lyman et al., 2016). With the many factors facing students with ASD, there is a strong need to continue researching ways to address the barriers that the students themselves have communicated to those that have asked (Paskins et al., 2018).

There is not going to be a one-size-fits-all program for services and accommodations for students with ASD. Colleges need to be flexible to meet this population's diverse needs (Bellon-Harn et al., 2018). The heterogeneity of students with ASD is great as they can possess astounding abilities and, at the same time, experience difficulties and challenges (Shattuck et al., 2012). There is a growing awareness among colleges to develop evidence-based interventions just as unique as the students who will use them (Paskins et al., 2018).

Academic Outcomes With Mental Health Care

It is predicted that by the year 2028, there will be 20,310,000 college students in the United States (Statista, 2020). Thirty-three percent of all high school students with ASD have plans to attend college within 6 years of graduation (Shattuck et al., 2012). College students with ASD are one of the major domains in education that continue to be understudied (Jansen et al., 2017). Research literature has repeatedly observed the relationship between general health, mental health, and academic performance (Vernet, 2021).

Although many students with ASD are intellectually capable of attending college, many either do not enroll or drop out from 2- and 4-year institutions (Bellon-Harn et al., 2018). Students with ASD possess many characteristics that could make college more difficult (Lubin & Brooks, 2021), but they also have many overlooked strengths that could be assets to them, such as their sharp diligence and immense desire to be accurate (Gobbo & Schmulsky, 2014). Social and communication deficits can commonly pose problems for students with ASD in any college course, particularly those that involve peer interaction or group work (Viezel et al., 2020). Getting students the help they need is sometimes a challenge in itself. In a study with 118 adults with ASD, it was determined that academically, they would only reveal their diagnoses of ASD as needed to get formal accommodations (Cox et al., 2017). Academic benefits can include things like extra time on assignments, distraction-free testing environments, or professor's notes (Accardo et al., 2019).

While most colleges provide academic support for students with disabilities, many are not addressing the nontraditional areas of social or emotional health and communication (Lubin & Brooks, 2021). Colleges are also beginning to see the benefits of and need for ASD-specific support (Viezel et al., 2020). In a large recent study of support programs for students with ASD in the United States, Viezel et al. (2020) found that 68.2% of the 55 programs provided students with ASD academic support, but only 54% of them had social skills interventions. These programs are now being urged to address anxiety and other mental health difficulties (Viezel et al., 2020). The feedback from Accardo et al.'s (2019) study of 48 students with ASD indicated that students requested more accommodations in times of stress, particularly when they felt that their mental health was impacting their chance of success. They also reported that their mental health directly affected their college performance by frequently feeling anxiety, depression, and stress (Accardo et al., 2019). This is why it is important to already have programs in place to address this population's social, emotional, and mental health needs (Viezel et al., 2020).

Accardo et al.'s (2019) study of 48 students with ASD was based on how students measured their success or failure in college. The study concluded that 79% of the students had a goal of attaining an undergraduate degree, and 19% had a goal of attaining a graduate degree

(Accardo et al., 2019). They perceived their success as containing both academic and nonacademic factors. The academic factors centered on grades, while the nonacademic factors were about balancing school and a social life and raising their self-awareness (Accardo et al., 2019). Accardo et al. (2019) identified barriers to success: students reported that their mental health challenges, including anxiety, fear, and stress, were obstacles to their success at college. McEwan and Downie (2013) also determined that students with psychological disorders (such as ASD) considered mental health a barrier to success in postsecondary education. Two categories of barriers were uncovered in this study. These include the following:

a. Lack of access from inexperience with the disability services being offered, and
b. Frequent internal and external distractions (McEwan & Downie, 2013).

There is a need for support systems to be in place for students with ASD to ensure success at college (Accardo et al., 2019). Cage and Howes (2020) studied why 14 students with ASD decided to drop out of college, finding a recurring theme of poor mental health, leaving them overwhelmed and with limited resources to cope with it (Cage & Howes, 2020). The lack of support, mental health issues, and the feeling of being an outsider were all reasons given for not completing college (Cage & Howes, 2020). Sometimes the outsider perception is real, but other times, it is created by invisible barriers (De Los Santos et al., 2019). With the increasingly large number of students with ASD entering college, more effort needs to be put into meeting their needs so the number of dropouts will begin to decrease (Lubin & Brooks, 2021). Colleges have a duty to students with ASD to make sure that they complete their degrees (Cage & Howes, 2020). One suggestion by researcher Schechter (2018) was to consider providing disability services information to students before they are even admitted. All students should have this information by orientation so that they can seek services early and prevent failure.

Nonacademic Benefits of Mental Health Care

The benefits of utilizing mental health care resources for students with ASD are not only academic. There are many benefits to these students outside of the classroom, such as self-confidence, well-being, and social functioning (Hastwell et al., 2017; Viezel et al., 2020). Social functioning is directly related to one's overall mental health (Viezel et al., 2020). Developing a social network is detrimental to adjusting to college life (Lei et al., 2019), and although students with ASD may desire social relationships, they often find them difficult to both initiate and maintain (Jackson et al., 2018). Some characteristics of ASD make socializing and communication more difficult (American Psychiatric Association, 2013). Resources that aid and encourage students to socialize and communicate with peers appear to have the greatest result in transitioning students with ASD to college life and easing their stress levels (Colclough, 2018).

Transitioning to college can be stressful for all students at some point, with or without a disability (LeGary, 2017). While there is still little research available on the social needs of college students with ASD from the students' perspectives themselves, what is available has many common themes. The social aspects of college life, such as communicating with peers, meeting people, or working on group assignments, seem to cause a great deal of anxiety and stress for most students with ASD (Cullen, 2015; Hastwell et al., 2017). To answer this need, researchers have been implementing programs and tools to aid students with these social difficulties. Lei et al. (2019) examined college students with ASD's perceived social support and the size of each participant's social support system via an online tool. They concluded that having a support system gave students the confidence to socialize and make new friends. Social systems not only lessened social distress but also helped students with other daily life activities creating an overall better transition to college (Lei et al., 2019). LeGary's (2017) study on perceived social support arrived at the same conclusion: 100% of the participants (10 out 10) who had perceived emotional support felt that it had reduced college-related stress and aided them academically.

The Cambridge Project established a social group on campus solely for ASD students to help the staff better understand the unique social issues that these students experience (Hastwell et al., 2017). The project staff observed the students enjoying fluid meeting structures, a wide range of activities to meet several different interests, and trips. The social group was a success in that it served as a catalyst for self-confidence for the participants and gave them a safe space to be themselves with advice from peers, advice, and understanding (Hastwell et al., 2017). Some students may feel more comfortable socially with staff or faculty than their peers. Personal connection with staff and faculty can be a valuable tool for helping students to learn to socialize and build confidence. Research has shown that connections with faculty help the student to create a foundation of support, which can encourage persistence (Milem & Berger, 1997). A positive relationship with a counselor or therapist can also be valuable, especially in a crisis (Viezel et al., 2020).

The experiences of college students with ASD are important and should be listened to. Their mental health can be improved by paying attention to what experiences they enjoy, which ones they avoid, and especially the ones they create for themselves (Colclough, 2018).

Impact of COVID-19

In March 2020, the World Health Organization officially declared the COVID-19 virus a pandemic. Colleges and universities quickly turned into epicenters of the pandemic (New York Times, 2020). COVID-19 made millions of people physically ill but also brought with it increased depressive symptoms and stress and greatly raised the demand for mental health care among young adults in higher education (Turner & Siegel, 2022). It also began to disrupt daily life for millions of people in several ways. It made transportation unsafe and mobility difficult for people who depended on public transport to get to and from medical care. Public modes of transportation were shut down, immediately followed by businesses in March 2020 (Pfeiffer et al., 2022). The Department of Health and Human Services determined that people with disabilities did not have accessible transportation during this time and that COVID-19 restrictions had a significant negative impact on those that needed medical care (Solomon et al., 2020). A mobility study on young adults with ASD concluded that mobility and voluntary participation decreased for both essential and nonessential activities immediately following the heavy COVID-19 restrictions in March 2020 (Pfeiffer et al., 2022).

Many people with ASD found a new world where there was a sudden lack of access to the health care and therapy regimens that they were used to receiving (Kaku et al., 2021). In a large study across three countries of the psychological impact of COVID-19 on adults with ASD, it was concluded that because of overwhelmed health care systems and social distancing restrictions, many of the participants lost some, if not all, of their support that they had been receiving before the pandemic (Oomen et al., 2021). In 2020, an online survey on a disability-focused website it was discovered that up to 33% of people with disabilities began skipping their doctor’s appointments, and 23% were completely going without their medication during the first months of the pandemic (Porath, 2020). Telehealth (virtual medical appointments) quickly became popular and that brought benefits and problems to people with ASD and their families. One study of 153 families with ASD found that 40% of those families found telehealth useful to them, a timesaver, and easily accessible; 80% of the families reported positive changes such as acquired language skills and improved speech (Kaku et al., 2021). Telehealth requires an internet connection and a screen for viewing via smartphone, computer, or tablet, so network connectivity issues could occasionally interrupt or end sessions between patient and doctor. However, individuals with ASD can also sometimes prefer screens to people, so increased screen time was not seen as a telehealth benefit to some families (Kaku et al., 2021).

While it is known that COVID-19 negatively affected mental health, it was not equally distributed among all populations (Oomen et al., 2021). Prior research has shown that trauma through a natural disaster has the greatest impact on mental health in marginalized populations and those who usually have limited to no access to socioeconomic resources (Goldmann & Galea, 2014). The COVID-19 pandemic created mass trauma and worsened sources of stress for many people with disabilities in the United States (Lund et al., 2020). For those with ASD, women were more likely to have their emotional and mental health more negatively impacted by COVID-19 causing distress than men, but both are at greater risk of COVID-related distress than their neurotypical peers (Adams et al., 2021). A study consisting of 1,044 participants with both ASD adults and non-ASD adults found that 75% of both groups reported feelings of depression and anxiety about COVID-19, and both groups were experiencing uncertainty about how long the pandemic would last and affect them (Oomen et al., 2021).

Many individuals with ASD had high levels of anxiety before the pandemic and became more susceptible to distress (Adams et al., 2021). A study conducted by the National Autistic Society reported that nine out of 10 people with ASD worried about their mental health during COVID-19 (National Autistic Society, 2020). The pandemic caused them to disrupt their schedules and routines (Oomen et al., 2021). They also had difficulty understanding the concept of COVID-19 and lockdowns, creating fear for them (Kaku et al., 2021). They experienced increased depression and anxiety as they had new worries about their health, their families, their pets, their jobs, and how to find medicine and food safely (Oomen et al., 2021). Students also reported feeling isolated and having limited space for productive coursework. Confidential telehealth visits could feel uncomfortable in front of others, as privacy during lockdowns could be hard to find (Turner & Siegel, 2022). Remote care was challenging as many mental health clinicians failed to establish a relationship or connect with students. They explained that it was hard to read physical cues without personally interacting with their clients. It was also hard to remotely get emergency help to students with immediate mental health crises such as being suicidal (Turner & Siegel, 2022). Telehealth benefitted students with a higher need for mental health care, and they could receive daily visits (Turner & Siegel, 2022).

While most of the effects of COVID on people with ASD and their mental health were negative, there were also some positive effects. People across the country were being forced to social distance and to isolate, things that are common to people with ASD. It created a feeling of solidarity (Oomen et al., 2021). The Simons Foundation Powering Autism Research (SPARK) conducted a survey with 8,000 families with ASD. Their findings were that the extra rest, increased time at home, telehealth appointments, and being with family helped their overall mental health (Chung, 2020). Calming home-based activities on a self-paced schedule without unfamiliar people or environments left people with ASD feeling more relaxed (Kaku et al., 2021). Some felt the pressure of their everyday life decrease and were relieved from social stress and sensory overload (Oomen et al., 2021). The vast differences in the experiences of people with ASD in the pandemic make it even more important to monitor and continue to provide support to them as many of them had been experiencing anxiety and other mental health issues before the pandemic (Adams et al., 2021).

Loneliness and Isolation

Students with ASD reported starting university with the hopes of making new friends. They often begin college with limited social experiences outside of friends and family (Hastwell et al., 2017). For both neurotypical people and people with ASD, psychological health and a good quality of life are positively linked to social experiences (Viezel et al., 2020). Social acceptance is especially important for people with ASD because of their increased perception of low self-esteem and poor confidence. They commonly feel ostracized and socially rejected due to challenges with communication (Viezel et al., 2020). Daily social interactions prove problematic and their constant attempts to fit in with their peers can lead them to give up and quit trying to seek friendships (Cullen, 2015). These negative social interactions are directly tied to mental well-being. Mental well-being is nurtured through social connection and deteriorated by loneliness (Schiltz et al., 2021). Students with ASD reported feeling isolated and lonely as they realized that there were differences between them and their peers (Cullen, 2015). Perceived as being on their own, lower social connectedness led to greater loneliness and the internalizing of negative feelings (Stice & Lavner, 2019). Feeling isolated led to disempowerment and time to reconcile having a disability and the toll that it takes on their identity (Francis et al., 2019). According to Hastwell et al. (2017), “It is a logical assumption that negative social interactions can be detrimental to personal well-being and mental health” (p. 102). The need for social support often goes unmet because, in college, these programs are voluntary, and the student must seek out social and emotional health resources on their own (Cullen, 2015). Developing and implementing social accommodations for the emotional and mental health of college students with ASD will be a challenge because of the students’ diversity in abilities, needs, and experiences (Cullen, 2015). “Social functioning is an important variable contributing to overall mental health" (Viezel et al., 2020, p. 235), and services must be created with the needs of the students as the main goal (Cullen, 2015), such as social groups and other social activities that relate to the students' positive well-being, sense of belonging, and confidence (Hastwell et al., 2017).

Anxiety and Depression

Loneliness and perceived isolation with internalized negative feelings over time could escalate to feelings of anxiety and depression (Schiltz et al., 2021). Some studies indicate that autistic traits associated with anxiety and depression can be affected by how much or how little social interaction and connectedness is present and perceived loneliness (Stice & Lavner, 2019). Students with ASD reported that their unmet emotional and social needs lead to stress, anxiety, and fear, all of which are obstacles to being successful in college (Accardo et al., 2019). Research suggests that college students with ASD are struggling more with anxiety and depression than their peers, leading to increased incidences of dropping out completely (Jackson et al., 2018). Some students with ASD are not sure where to go or what to do when they feel this way. They describe the failure of high schools and colleges to provide mental health support, especially in a crisis (Francis et al., 2019). A crisis can consist of a panic attack brought on by stress or heightened anxiety from social situations. It is important for colleges to take proactive steps to address external factors like bullying, humiliation, and social exclusion that are conducive to developing depression and anxiety in college students with ASD (Hastwell et al., 2017). Mental health supports that also encourage self-regulation and self-determination, like cognitive behavior therapy (CBT), have had promising results in reducing depression symptoms in college students with ASD. More research will be needed to confirm if it can also reduce anxiety symptoms (Capriola-Hall et al., 2021).

Self-Harm and Suicide

Lack of support for people with ASD has been positively linked to the increased risk of depression and suicidality (Cassidy et al., 2014). Compared to people with ASD that did not also have depression, people with ASD that did have depression were more likely to think about suicide, plan suicide, or attempt it (Cassidy et al., 2014). Compared to the general public, people with ASD were at nine times greater risk of thinking about ending their lives and those that planned or attempted suicide reported that they possessed more autistic traits than those that did not. These statistics suggest that depression is a significant risk factor for suicidality and nonsuicidal self-harm for people with ASD (Cassidy et al., 2014). There is not an abundance of research about adults' experiences with ASD and the need for support for mental health, self-harm, and suicidality. In a study of 200 adults with ASD, 164 had previously or currently thought about suicide, and 76 of those had not received any mental health support at all (Camm-Crosbie et al., 2019). Other research with 60 college student participants with ASD reported 76% of them had periods of time of suicidal behavior in their lives, and 20% reported that it was *likely* to *very likely* that they would attempt suicide again at some point (Jackson et al., 2018). Studies done on the link between self-injury and suicide in individuals with ASD concluded that self-injury is used most often in a depressive state, as a form of self-punishment, or a deterrent from suicide (Moseley et al., 2020). Research studies on the utilization of mental health resources for college students with ASD determined that the majority of students with ASD had more than one mental health diagnosis (anxiety disorder was the most common), and slightly more than half had utilized any kind of mental health support that was available to them. Many of the participants expressed that there were services that they felt would be helpful to them, but they experienced barriers to accessing them (McMorris et al., 2019). These studies indicate the need for faster and easier access to mental health services for college students with ASD before they reach the point of depression, desperation, and suicidality (McMorris et al., 2019).

Andersen Behavioral Model of Health Services Use

The behavioral model of health services use was developed in 1968 by Ronald Andersen, Ph.D., to understand family health care use (Andersen, 1995). He studied health care with a focus on access for over 45 years and has authored 25 books and 240 articles, most concerning access to health care. He is currently the Wasserman Professor Emeritus at the University of California, Los Angeles, in the departments of Health Services and Sociology (Andersen & Ashton, 2008).

Much of Andersen's life's work revolved around several goals. First, he wanted to define access to care in terms that could be used for social survey techniques. Next, he aimed to document and record the current utilization levels and access levels for the total U.S. population (including relevant subgroups). Lastly, he aspired to create a framework for understanding the different levels of access by those subgroups and propose ways to realize equality to care for them (Andersen & Aday, 1978). The purpose of the behavioral model of health services was to uncover the specific conditions that help or hinder health care utilization (Andersen, 1995). He called these the predisposing, enabling, and need-based variables exclusive to each individual after moving away from the family as the main unit of study (Andersen & Aday, 1978).

The model itself has undergone numerous updates as technology and social science have evolved (Andersen, 1995). Andersen has also considered the many criticisms of his model over the years and addressed them (Andersen, 1995). The third phase added health behaviors and outcomes, which include quality of life and disability (Andersen, 1995). The last version is the sixth update to the model completed in 2014 (Andersen et al., 2016). Several versions of this model could be useful for students with ASD and analyzing the characteristics they possess to realize access and utilization of mental health care. Several relevant quantitative studies have successfully applied Andersen's model to discover the conditions that facilitate or impede the use of specific services for a select group of people. There have been studies with people with ASD, studies with college students, and studies on mental health care resource use. To date, no qualitative studies apply Andersen's model to college students with ASD and mental health care.

Model Evolution. Dr. Ronald Andersen's behavioral model for health services use has gone through many revisions to keep current with both science and technology. In 1968, Andersen constructed an initial model called Andersen's behavioral model of families' use of health services to analyze the health care utilization of the family unit (Andersen, 1995). It consisted of three parts that all lead to health care use: predisposing, enabling, and need factors. He believed that he had found a simple way to understand a complex system (Andersen & Aday, 1978).

Phase 2 of the model began in the 1970s and included collaborators. This model included concepts like equity and mutability and the change from a family unit to an individual one (Andersen & Aday, 1978). It also considered measures of the health care system itself and added the component of health outcomes (Andersen, 1995). Phase 3 of revising the model took place in the 1980s and began to include ways to measure the health behaviors and personal practices of individuals (Gelberg et al., 2000). It also recognized that the external environment was a principal factor in service utilization (Andersen, 1995). During this phase, Andersen also developed his measures of access, which are still used in the current model (Andersen, 1995).

Phase 4 started in the 1990s and introduced feedback loops into the model (Andersen, 1995). For almost 20 years, Phase 4 was the most commonly used version of Andersen's model in a systematic review (Babitsch et al., 2012). Andersen lined up the environment with the original three factors, and took health behavior and outcomes all into account to create a dynamic picture of what an individual's health care utilization could look like (Andersen, 1995). Phase 5 was completed in the 2000s and included the interactions between health care providers and patients. The year 2000 also introduced the concept of a model dedicated solely to vulnerable populations as they possessed characteristics not represented in any previous model that could influence their use of health services. In collaboration with Gelberg and Leake, Andersen modified the framework of his model to create the behavioral model for vulnerable populations (Gelberg et al., 2000). Vulnerable domains were added to the model for the factors of the unique social structure, resources, health, and practices of many marginalized populations, such as the homeless, people with HIV, people with substance abuse issues, people with disabilities, etc. that otherwise would not be accounted for (Gelberg et al., 2000).

The final and current Andersen model is Phase 6, developed in 2014 by Andersen and colleagues Davidson and Sebastian; it added a genetic component to the predisposing factors (Andersen et al., 2016). It states that the existing conditions, enabling conditions, and need conditions lead to the resulting health outcomes, satisfaction of services rendered, and quality of life (Andersen et al., 2016). It is unknown if any other phases or alterations of this model will take place in the future.

Predisposing Factors. Andersen's behavioral model of health services use is broken down into three major components (characteristics, health behaviors, and outcomes) that have been determined to predict personal health practices, including health service use (Gelberg et al., 2000). It has also been shown to predict health services use among distinct groups of people by examining individual characteristics (Vernet, 2021). Characteristics include the predisposing, enabling, and need-based factors that predict health service use.

Predisposing factors indicate the propensity to use services more than others when a separate condition (or conditions) exists prior to specific illnesses (Andersen & Newman, 1973). Predisposing factors include demographics, social structure, and health beliefs about medical care (Gelberg et al., 2000). Demographics usually include biological imperatives, age, sex, past illness, and marital status (Andersen & Newman, 1973). Demographics can be comprised of a wide range of information, differing from study to study, depending on what the researcher is specifically looking for. The model can be tailored to specific populations (Gelberg et al., 2000).

Social structure is the second subfactor in measuring predisposing characteristics. Social factors describe a person's status in their community, how well they are able to cope with problems, and how they find resources to solve them (Andersen et al., 2016). The traditional measures for social structure are education, race, and occupation (Andersen, 1995). Some earlier versions of the model also include family size, religion, and ethnicity in their descriptions of social structure makeup (Andersen & Newman, 1973).

The last subfactor under predisposing characteristics is beliefs and attitudes toward medical care (Andersen et al., 2016). Health beliefs are what people think they already know about health and health services. It can influence their attitudes about using health services and even their perception of need (Andersen, 1995).

The most current model, developed in 2014, expands characteristics even more into contextual (community) predisposing characteristics and individual predisposing characteristics (Andersen et al., 2016). Both contextual and individual predisposing characteristics include demographics, social structure, and beliefs as subfactors. Individual predisposing characteristics also include genetics as a subfactor (Andersen et al., 2016). In 1995, Andersen predicted that a genetics subfactor would later be added to the predisposing characteristics through new research on gene mapping and gene therapy (Andersen, 1995). Genetic susceptibly also can influence needs by increasing the frequency of disease (Andersen et al., 2016).

Previous relevant research using Andersen's models or modified versions of Andersen's model all used different predisposing characteristics for variables in their studies. Vernet's (2021) study on the impact of health on college students' academic performance used the predisposing characteristics of age, race, ethnicity, gender, transgender, class status, and enrollment status. Pilar et al.'s (2020) research predicting the use of mental health resources by college students utilized the predisposing characteristics of age, gender, sexual orientation, relationship status, transfer status, veteran status, enrollment status, year in school, and willingness to seek mental health services. Quebles et al.'s (2020) study on behavioral issues in children with autism analyzed the predisposing factors only of race and ethnicity. Graham et al.'s (2017) study on mental health service use by individuals with depression examined the predisposing factors of age, marital status, education completed, sex, ethnicity, and occupation. These are the six most commonly used predisposing factors in research involving Andersen's models as was determined by a systematic review (Babitsch et al., 2012). No studies could be found containing the keywords autism, college students, and mental health together.

Enabling Factors. Even though some people are more predisposed to use services than others, there still must be a way or means for them to do so (Andersen & Newman, 1973). The next large characteristic category that influences health service use is the enabling factors (Andersen, 1995). Enabling factors are what make it possible for a person to receive health care services (Babitsch et al., 2012). Enabling factors assume that health care providers and health care facilities are available where people live and work and that people have the means to access and use them (Andersen, 1995). Under the enabling headline, Andersen's model lists financing and organization as subfactors (Andersen et al., 2016). Financing can be measured by a family's resources, such as income, personal or family resources, and the level of health insurance coverage provided (Andersen & Newman, 1973).

Organization is the second subfactor in measuring enabling characteristics. Organization was listed as "community" in the model until Phase 4 (Andersen, 1995). Organization includes measures of the ratio of health care practitioners and facilities to the population, the hospital bed to population ratio (Gelberg et al., 2000), the price of services, the region of the country that the service is provided, and whether a service is located in a rural or urban area (Andersen & Newman, 1973). Organization also considers identifying a regular source of care as well as the travel and wait times to that regular source of care (Andersen, 1995). The vulnerable populations model includes measurements of community crime rates, competing needs, receipt of public benefits, and access to social services in their measurements of organization (Gelberg et al., 2000).

The most up-to-date model expands characteristics into contextual (community) enabling characteristics and individual enabling characteristics (Andersen et al., 2016). Both contextual and individual enabling characteristics include financing and organization. Contextual enabling characteristics also include health policy as a subfactor (Andersen et al., 2016). Health policy constructed in both the private and public sectors can influence access (Andersen et al., 2016).

Previous relevant research using Andersen's models or modified versions of Andersen's model all used various enabling characteristics for variables in their studies. Vernet's (2021) study on the impact of health on college students' academic performance used the enabling characteristics of insurance status, type, and plan. They also examined if participants had received health or mental health information and how they received it. Also of importance to their study was the distance to care, the primary source of care, effects in choosing a source of care, time in the waiting area, and who was the primary appointment setter. Pilar et al.'s (2020) research predicted that the college students' use of mental health resources utilized the enabling characteristics of employment status, Greek life, health insurance, varsity athlete, intramural sports, institutional control, and religious affiliation. Enabling factors related to the campus were also listed, such as region, campus locale, student population, and Carnegie degree classification. Quebles et al.'s (2020) study on behavioral issues in children with autism analyzed the enabling factors only of the parental education level. Graham et al.'s (2017) study on mental health service use by individuals with depression examined the enabling factors of financial status, housing status, and social relationships through measurement of contact with family and friends. The three most commonly used enabling factors in research involving Andersen's models, as was determined by a systematic review, were income and financial status, whether the individual was insured, and the usual source of health care or primary doctor (Babitsch et al., 2012).

Need-Based Factors. The third and last large characteristic category is need-based factors. Assuming that predisposing and enabling factors are present, need represents the most urgent cause of health service use (Andersen & Newman, 1973). Labeled "illness level" until the fourth phase revision of the model, it is now called "need" (Andersen, 1995). The individual or their family must perceive illness in some way or understand that there is the probability of illness in the future to warrant use of health care services and then that illness is clinically judged on severity (Andersen & Newman, 1973).

The most recently updated model expands characteristics into contextual (community) need characteristics and individual need characteristics (Andersen et al., 2016). The contextual need characteristics are divided into environmental and population health indices subfactors. Environmental need considers the quality of housing, water, and air (Andersen et al., 2016). Other measures for environment can include death rates for job injuries, disease-related deaths, car accidents, firearms, and homicides (Andersen et al., 2016). Population health indices are the general indicators of health that might or might not be associated with the community. These include rates of mortality for infants, cancer, strokes, AIDS, and heart disease, to name a few (Andersen et al., 2016).

Individual need characteristics are divided into perceived need and evaluated need (Andersen, 1995). Perceived need is the self-perception that health services should be used (Gelberg et al., 2000). It is how people think about their own health and view their functional status (Andersen et al., 2016). Measures of perceived need can be sick days or time off from work, the symptoms a person lists over a given time period, or a self-report of their general health state (poor, fair, good, etc.; Andersen & Newman, 1973). Perceived need is the severity of pain or discomfort from symptoms that make service utilization explainable (Andersen et al., 2016). Evaluated needs are objective health evaluations (Gelberg et al., 2000). They represent the professional judgment of a patient’s health status given by a provider of health services (Andersen et al., 2016). Ideally, this would always include a physical examination, but alternative measures are also acceptable for the assessment of health (Andersen & Newman, 1973).

Previous relevant research using Andersen’s models or modified versions of Andersen’s model all used various need-based characteristics for variables in their studies (Babitsch et al., 2012). Vernet's (2021) study on the impact of health on college students' academic performance used the need-based characteristics of general health and mental health. General health was measured from excellent to poor and mental health was measured in total days within the last 30 days participants felt that they had poor mental health. Pilar et al.'s (2020) research predicting the use of mental health resources by college students utilized the need-based characteristics of whether students felt a variety of negative emotions, recent diagnoses or treatment for mental illness, difficult situations in the last 12 months, and impact on difficult times on academic performance. Quebles et al.'s (2020) study on behavioral issues in children with autism analyzed the need-based factors of behavioral challenges, total problem behaviors, hyperactivity, conduct problems, and sleep disturbances. Quebles et al. (2020) described the distinction between perceived need and evaluated need as especially helpful in their study because of the culturally shaped parental interpretations and it lessens physician bias. Graham et al.'s (2017) study on mental health service use by individuals with depression examined the need-based factors of psychological stress, mental health, general health assessment, depression and comorbidities, and the number of mental health disorders present. The systematic review of studies using any version of the Andersen model found that it was challenging to provide an overall assessment of need factors examined since it is likely that other studies on specific need factors were overlooked (Babitsch et al., 2012). All of the following studies were chosen because of their use of the Andersen model and their related subject matter to this research.

Health Behavior. After all of the contextual and individual factors are considered, they are compared to health behavior and outcomes (Andersen et al., 2016). Changes to the model in the 1990s were called Phase 3. Phase 3 introduced personal health behaviors, which were divided into two parts: personal health practices and use of health services (Andersen, 1995). Personal health behaviors are an individual's personal practices that can influence their health status (Lederle et al., 2021). Personal health behaviors include diet, exercise, and self-care practices that interact with health services and influence health outcomes (Centers for Disease Control and Prevention, 1990). The 2014 model revisions (Phase 6) added nutrition, stress reduction, alcohol and tobacco use, and adherence to medical regimens to the list (Andersen et al., 2016). If vulnerable populations were being studied, then the inclusion of food sources, hygiene, and unsafe sexual behaviors would be added to health behaviors to be measured (Gelberg et al., 2000).

Besides health practices, health behaviors were also measured by the use of health services (Andersen, 1995). The use of health services is one of the most important parts of this comprehensive model. The purpose of the original model was to predict health services use (Andersen et al., 2016). Previously divided into two parts, Phase 6 added a third component to health behaviors: process of medical care (Andersen et al., 2016). The medical care process includes the ways that the medical providers and staff interact with the patients and how they deliver care (Donabedian, 1980). Health care access is determined by the culmination of contextual factors, individual factors, health behaviors, and outcomes of the individual (Lederle et al., 2021).

Outcomes. Access to health care resources can be evaluated through outcomes (Andersen, 1978). "Consumer Satisfaction" was added to the model in Phase 2 in the 1970s (Andersen, 1995). It is the outcome and perception of the health services that were received (Andersen et al., 2016) called outcome indicators (Andersen, 1978). It was an umbrella term and considered convenience, availability, financing, provider characteristics, and quality in its measurement. In the 1980s, the name "Consumer Satisfaction" was changed to "Outcomes" to represent perceived health status, evaluated health status, and consumer satisfaction more accurately (Andersen, 1995). Andersen believed that health care utilization studies needed to examine health care service use in the context of health outcomes, not just consumer satisfaction (Andersen, 1995). Phase 4 of the model in the 1990s began to include a mutual influence between outcomes, the predisposing factors, the perceived need factors, and health behaviors called feedback loops (Andersen, 1995).

In 2014, the most comprehensive changes to the model took place and Phase 6 began. The 2014 model now includes quality of life listed under outcomes (Andersen et al., 2016). Andersen defended this decision by saying that quality of life was added because health behaviors do not just affect the individual's health, it can affect everything (Andersen et al., 2016). The outcomes measurement also includes perceived health status, activities of daily living, and disability. Feedback loops also became incredibly important to outcomes. Feedback gives insight to others on how access could be improved. Feedback can occur at the institution, community, or even national level to result in changes to organizations or processes to improve the care of patients (Andersen et al., 2016).

Andersen's models consider almost every factor that one can think of to describe and predict health services use. Shattuck et al. (2012) stated that by "including measures like social and economic factors into research, it enables the examination of the underlying mechanisms that give rise to unequal access and outcomes" (p. 288).

Model Criticisms

Although Andersen's models have been continually revised to keep up with a changing world, many researchers have criticisms of them. Lederle et al. (2021) conducted a review of 1,879 studies that used any version of Andersen's behavioral model of health services use. They concluded there was no way to account for every factor contributing to health care utilization. Many of the gaps that they suggested, such as cultural factors, HIV, lack of health care coverage, psychosocial factors, and barriers for minority groups, are accounted for in the vulnerable domains section of the behavioral model for vulnerable populations, coauthored by Andersen (Gelberg et al., 2000).

In 2019, Cavalhieri et al.'s research team also stated that Andersen's models simplified ethnicity as a factor in health care utilization and that it did not directly address discrimination in marginalized populations. They adjusted Andersen's model in their research to address it so that they could explore how discrimination affected the utilization of health care among young adults (Cavalhieri et al., 2019). Again, Andersen's vulnerable populations consider discrimination and minority status in their measurements (Gelberg et al., 2000).

Andersen himself is aware of and addresses the criticisms of his models. In 1995, he explained that his peers were implying his models did not consider the importance of culture or social networks. He replied that they were part of the social component of predisposing factors (Andersen, 1995). Social relations are also considered in enabling resources, as family and friends can influence a person to seek or not to seek health care (Andersen, 1995). The lack of inclusion of hereditary traits was also a criticism of Andersen's models (Andersen, 1995). Even before genetics was widely accepted and understood, Andersen predicted that they would eventually be added to predisposing characteristics in a future model, and they were (Andersen et al., 2016).

Chapter Summary

This literature review has addressed the prevalence of ASD in college students and the intricate relationship between ASD and mental health. The frequency of mental health issues among college students as a population demands that awareness be made about the warning signs of anxiety, depression, loneliness, isolation, and self-harm before it reaches catastrophic levels with suicide. Students experienced disruptions to their schedules, routines, and relationships during the COVID-19 pandemic (Turner & Siegel, 2022). Good mental health in college has many benefits for students with ASD, both academic and nonacademic (Accardo et al., 2019). It is also important to examine the current utilization of campus-provided mental health resources to determine patterns of use. Tumbleweed University (pseudonym) provides both counseling and psychiatric services. The history and application of the Andersen behavioral model of health services use was discussed, along with previous related research using this model and its criticisms. Understanding the predisposing, enabling, and need-based factors that college students with ASD possess when choosing to utilize campus-provided mental health resources reinforces the idea that identifying the students who are at the highest risk of mental illness should be able to receive those services easily and quickly.

Chapter 3: Research Method

College mental health resources are underutilized, often by those that would receive the most benefit from them (Aldalaykeh et al., 2019). The Andersen behavioral model for health services use has been used to predict future health care resource use (Andersen, 1995). In order to understand better how the factors that college students with ASD possess either facilitate or hinder their decision to access mental health resources on campus, a qualitative case study was conducted. This qualitative case study was designed to answer the research questions concerning the predisposing, enabling, and need-based factors described in the Andersen model but applied to college students with ASD. The following sections aim to describe the study by explaining the research design, methods used, the population and study samples, materials and instruments utilized, and the data collection and analysis procedures. Additionally, the researcher's role, ethical considerations, assumptions, limitations, and delimitations will be discussed in detail.

Research Design and Method

A qualitative, single case study was used to identify the predisposing, enabling, and need-based factors that can influence a college student with ASD's decision to utilize campus-provided mental health resources. Qualitative research was a suitable choice for increasing understanding of social phenomena and results in a depth of understanding when the primary purpose is to explore, describe, or explain (Leavy, 2017). Interpretive research, such as case studies, is built from thick descriptions (detailed records about the context, people, actions, and perceptions of the participants) as the basis for understanding what is going on (Locke, 2009). Case studies provide words rather than numbers to create a picture of a phenomenon (Merriam & Tisdell, 2016). They can be open-ended and flexible, especially when they concern one group of people or a specific place (Locke, 2009). This type of research is also preferred when researchers are more interested in examining the interpretation of the participants' experiences rather than proving a hypothesis (Merriam & Tisdell, 2016).

A qualitative case study was an appropriate research technique for this research study because it concerned one group of people (students with ASD) in one specific place (Disability Services Program at Tumbleweed University). This single case study was also descriptive in that it provided rich, thick descriptions of the participants' experiences so that the factors surrounding their use of the mental health resources provided by the campus could be better understood. According to Merriam & Tisdell (2016), "Rich, thick descriptions convey what the researcher has learned about a phenomenon" (p. 17). The research design also included quotes from field notes and the people interviewed contributing to a particularistic description of the data. This single case study was heuristic in that I included an analysis of my own experiences through reflective journaling as part of the data collected (Merriam & Tisdell, 2017).

Study Setting

Tumbleweed University (TU) is a large private institution in the southwest region of the United States. At the time of the study, TU had a total student population of approximately 5,700. The selection of TU as the site for this research study was due to the accessible population of the university's Disability Services Program (pseudonym) and the nature of the research questions involving college students with ASD. Direct observations of the participants in their natural settings helped me to understand their social life perspectives (Bailey, 2007). Social factors were being researched, so it was important to observe students where they were the most comfortable; as a result, students were observed via Zoom in a comfortable place of their choosing.

Population

The population for the case study was TU's Disability Services Program participants. The Disability Services Program is part of the university's Disabled Students Services (DSS). The program provides disabled students with "academic accommodations, academic coaching, tutoring, and mentoring with no cost to the students." From their website, their purpose is "helping qualified students to reduce barriers that might otherwise impede their success in higher education." The number of students who may be served through the Disability Services Program each year is limited to students who disclose their disabilities. Defining a population can be challenging but important because it will determine how the research findings will be used (Turner, 2020). The information gained from the research findings could be used to identify and address factors in students with ASD at the most risk of self-harm and suicidal thoughts and behaviors. Purposeful sampling aided this endeavor since I aimed to "discover, understand, and gain insight;" therefore, a sample was selected where the most can be learned from it (Merriam & Tisdell, 2016, p. 96). The population was the total number of active students who currently receive accommodations through the Disability Services Program. The population was 348 residential students, with 330 being undergraduates and 18 being graduate students.

Study Sample

The participants were the students with ASD in the Disability Services Program attending TU that were currently being served with accommodations and services. LeCompte and Schensul (2010) have called this selection of a sample criterion-based selection. I first decided what sample attributes were desired and set out to find the people and sites that met that specific criteria. The criteria to participate in the study were to be diagnosed with ASD, currently receiving services through the Disability Services Program at TU, have access to a computer or a smartphone to complete an interview, and be 18 years of age or older. Although it is impossible to know ahead of time when the point of saturation could occur (Merriam & Tisdell, 2016), I had originally estimated this study would more than likely reach saturation at 10 participants. However, saturation was reached at 7. Estimating the number of participants was appropriate, given that I knew this could be adjusted in the course of the investigation. Reaching the saturation point meant that no new information was likely to be discovered, and redundancy frequently appeared in responses to the interview questions (Merriam & Tisdell, 2016). The target participants were recruited through e-mail after permission was granted through the institutional review board (IRB). I recruited students for this study through the director of the Disability Services Program, who had agreed to serve in this recruiting capacity. There were 24 students with a disclosed disability of ASD in the Disability Services Program. They were all residential students.

Researcher's Role

As the researcher, I was the primary instrument used to collect and analyze data, as is customary for qualitative research (Merriam & Tisdell, 2016). Being a human instrument introduces shortcomings and biases in the study, so it was important to address them rather than try to eliminate them (Merriam & Tisdell, 2016). I had no personal or professional relationship with any of the study participants. The site for the study was selected for convenience only. I was aware of the supports and accommodations for special needs students in education being a parent of one. I have also observed firsthand the difficulties and struggles of my own child with a disability in a school system meant for typically developing children. The stigma alone keeps him from making friends, seeking help with problems, and feeling like an outsider. Being an advocate for special needs students in schools did not introduce bias to the study but made me an appropriate candidate for investigating it.

Materials and Instruments

This study utilized semistructured interview meetings through Zoom, a demographic questionnaire, and a reflexive journal. The demographic questionnaire was used to partially fulfill the predisposing factors research question. When specific information was desired from the participants, such as demographics, that part of the interview was more structured (Merriam & Tisdell, 2016). That was the only structured part of the interview. The demographic questionnaire can be found in Appendix A. A reflexive journal was a useful tool for me to attempt to remove bias and gain a greater understanding of the phenomenon. Dyment and O'Connell (2011) recognized the advantage of using a reflexive journal in research. They believed reflexive journaling led to greater learning by connecting theory and practice. The reflexive journal was used before any interviews took place and throughout the data collection and analysis process. For the discovery of the rest of the predisposing factors, the enabling factors, and the need-based factors, a semistructured interview took place with each participant via Zoom meetings. Interviews were necessary since behaviors, interpretations, and feelings could not be observed (Merriam & Tisdell, 2016). The interview protocol can be found in Appendix B.

Data Collection

The IRB approved the study on December 1, 2022 (see Appendix C). Potential participants from TU's Disability Services Program were sent an email invitation to participate in the study through the Disability Services Program director (see Appendix D). This recruitment email stated the four criteria for participation. After participants met the criteria and expressed their desire to participate, they were sent another email for informed consent (see Appendix E). They were electronically signed and returned to me. After informed consent had been signed, participants received the demographic questionnaire found in Appendix A. The questions asked participants things like their age, gender, and race. These, among others, were considered predisposing factors in Andersen's behavioral model for health services use because they represented the biological components that a person possesses that might indicate the likelihood that they would need health services (Hulka & Wheat, 1985). These questions were asked first to familiarize the researcher and the participant. These demographic questions were asked ahead of time to shorten the interview since the time each participant with ASD was willing to spend on face-to-face speaking was unknown. These questions were short, not probing nor profound, and took a few minutes to complete.

The interview questions were asked face-to-face over Zoom. Some participants were more comfortable without the camera. I had an opening script, a list of questions to guide the conversation, and a concluding script (Saldaña & Omasta, 2018). These questions covered the beliefs of the participants and their family history, community, and their thoughts on their disability diagnosis. Their current use of mental health resources on campus and off was also of interest to me as these were the need-based factors influencing their decision to seek help when they needed it. The interview protocol can be found in Appendix B. Each meeting lasted approximately 30 minutes, but as some participants had social limitations, the time was adjusted to be longer or shorter depending on their comfort level and their needs. Multiple sessions were offered if the interview needed to be cut short. Zoom meetings are considered "face-to-face" meetings, and it was anticipated that some participants might experience greater anxiety or encounter difficulty speaking, and a few did (American Psychiatric Association, 2013).

Semistructured interview questions were flexible in this instance in that they allowed an opportunity to follow up and probe according to the responses given (Kvale, 2018). The flexibility of interviews made it an appropriate tool in this study. I appropriately responded to the situation at hand, the participants' perspectives and views, and their ideas on the topics being discussed (Merriam & Tisdell, 2016).

All Zoom calls were recorded and manually transcribed by me for accuracy. After completing the transcription, a copy of the participant's interview transcript was emailed to them. Each participant had the opportunity to read the transcribed interview and let me know if it accurately represented the interview. Participants were also asked to add any additional comments to the transcript in a return email to me.

Analysis Procedures

Merriam and Tisdell (2016) described that the preferred way of analyzing data is simultaneously during data collection. They also suggest asking the right questions, exploring literature in the field, and visualizing what is being learned about the phenomenon as it is being recorded. Qualitative analysis procedures began with simultaneous analysis during the interview process. Each interview was transcribed and imbedded with field notes and memos as it was being completed.

The data analysis and interpretation steps outlined by Leavy (2017) created the framework for analysis in this study. The first step was preparing the data and organizing it. All transcribed interviews and their respective field notes and memos were organized into files numerically as each participant's information was confidential; they all received a number in order of participation and a pseudonym. Step 2 was the initial immersion into the data. All transcriptions, questionnaires, field notes, memos, and the reflexive journal were all read multiple times to get a feel for the data (Saldaña & Omasta, 2018). Notes were also taken at this time, specifically about points that needed to be remembered, and thoughts and ideas on the direction of the study were included, in alignment with Leavy (2017). The data that best represented the research questions were prioritized at this time (Saldaña & Omasta, 2018). The third step in Leavy's (2017) data analysis and interpretation strategy was coding. Coding was done by hand. Andersen's behavioral model for health services use divides the factors of utilization into three categories: predisposing, enabling, and need-based (Andersen, 1995). The research questions were based on these three categories, so the transcribed interviews and demographic questionnaires had their responses divided into which factor of utilization they represented:

- Predisposing factors were colored red.
- Enabling factors were colored yellow.
- Need-based factors were colored green.

This coding procedure was based on what I hoped to learn from the data (Leavy, 2017). The experiences of the participants themselves were also of value in determining future mental health resource use, so in vivo coding was used to maintain the participants' language giving them a voice (Leavy, 2017). The fourth step in the analyzation and interpretation process was to categorize and theme the data (Leavy, 2017).

In vivo coded responses from the transcripts were also categorized as *barriers*, *access*, *high risk*, and *low risk*. Memos were written during this phase, which will connect the meanings behind the codes and develop the emergence of themes. They also gave me greater insight into the data (Saldaña & Omasta, 2018). The data were then compared to past literature using versions of Andersen's model. Associating what factors influenced similar studies was useful in determining the strengths or weaknesses of those factors.

The last step of the process was the interpretation of the analysis (Leavy, 2017). This involved looking for patterns across the categories, codes, and notes. Data triangulation took place at this step utilizing all available forms of the data: interviews, field notes, questionnaires, memos, and the reflexive journal (Leavy, 2017). Each transcript's codes were placed into Andersen's model as described in the previous steps. Andersen's model states that service use is dependent on the predisposition to use services (predisposing factors), their ability to access services (enabling factors), and their illness level (need-based factors; Andersen, 1995). Predisposing, enabling, and need-based factors were rated low, medium, or high. Participants who possessed high predisposition factors, low enabling factors, and high need-based factors were at the highest risk and had the most need to seek services. The responses given by the participants in the transcript indicated the reasons why they did or did not seek help. These were the barriers. This could be helpful in the future for determining effective mental health resources for these students.

Quality Measures

Trustworthiness and Reliability

Trustworthiness was extremely important in this research because professionals must be able to trust the results of the studies. They are often involved in regular people's lives based on the findings of research. Doctors and teachers want to be able to apply interventions that they can have confidence in (Merriam & Tisdell, 2016). Trustworthiness and rigor in qualitative research can be shown through credibility, transferability, dependability, and confirmability (Shenton, 2004).

Credibility (Internal Validity)

As one of the strategies to enhance credibility, prior to the interviews of the participants, Merriam and Tisdell (2016) suggested “bracketing” by examining one’s own experiences with the phenomenon and setting those biases aside. This was achieved through reflexive journaling. Shenton (2004) recommended adopting well-established research methods and developing tactics to ensure honesty from the participants to aid a study’s credibility. Research methods from comparable studies have been examined for many months and were used to create a criterion sampling strategy. Participants were informed before the meeting that participation in this study was voluntary and the ones that were not genuinely interested would drop out before starting the interviews. The participants that were left were interested enough in the study to give honest answers to the research questions.

Transferability (External Validity)

Merriam and Tisdell (2016) stated that transferability is the extent that one study’s findings can be applied to other situations. The transferability of this study’s findings is listed in the limitations. It is possible that students with ASD in other comparably sized universities could experience the same results. Using the same methods but in a different environment could be of great value (Shenton, 2004). Services offered by universities and colleges can vary widely, and they each address students’ mental health in different ways (Bourdon et al., 2020). The findings from this study could be transferable to private mid-sized doctoral-level institutions with large-disability services programs.

Dependability (Reliability)

The three techniques to ensure reliability recommended by Merriam and Tisdell (2016) are triangulation, an audit trail, and researchers explaining their position with regard to the study.

Data triangulation came from participants with multiple perspectives. An audit trail describes how the data were collected, the categories named, and what decisions were made (Merriam & Tisdell, 2016), providing a running record of what was happening while it was happening and interactions with the data during interpretation and analysis. Therefore, a reflexive journal was employed throughout the study to detail my perspective, biases, and my own assumptions.

Confirmability (Objectivity)

Confirmability took place when the study's findings were found to be the culmination of the participants' experiences and not related to the researcher's biases or viewpoints (Shenton, 2004). Confirmability was achieved through member checking and using an audit trail, as previously described. After each interview was transcribed, a copy of the individual participant's transcript was emailed to them and checked for accuracy. I also asked if the transcript was correct and if there was any related information that they wished to add to the study for consideration. The aforementioned reflexive journal entailed my constant awareness that all actions taken with the participants, the data, and the study, in general, could affect the outcomes (Saldaña & Omasta, 2018).

Ethical Considerations

IRB approval was secured on December 1, 2022. Part of that approval was in completing training in ethical research practices. I completed all required IRB training in May 2022. Consideration was taken in advance for the possible risk and encumbrance that may occur with participation for those participating in the qualitative case study. Of particular importance was having the trust of the participants that I would not breach anonymity or confidentiality. Participants were all treated with respect. They were also given honesty at all times. Participants were given sufficient information to make an informed choice about joining the study (Crowe et al., 2011) and about how to drop out if they wished. Care was taken to ensure the anonymity of individual participants by allocating appropriate codes and withholding descriptive or identifying information (Crowe et al., 2011). Pseudonyms were given to the university and the Disability Services Program. All digital information, transcripts, and recordings are on a password-protected laptop. All related documents are kept in a single, locked filing cabinet, and I have the only key.

Assumptions

It can be assumed that all student participants had disclosed and documented their diagnosis of ASD as is required by Disability Services Program to receive accommodations and services. It can also be assumed that the student participants answered the interview questions honestly and to the best of their ability.

Limitations

The selected sample for this study was specifically students with ASD being served by the Disability Services Program. The findings from this research may not be applicable to students with ASD who also choose not to disclose their disability status or seek accommodations of any kind. The selection of a single educational setting like TU limits generalizability since some smaller universities may not offer the same amount or quality of mental health resources, and some larger universities may offer more types of mental health resources to their student body.

Delimitations

I had delimited the scope to college students with ASD. The Andersen behavioral model for health services use has primarily been used to predict health care use in general. This research applied the model to the use of mental health resources only, so it will not address other health-related issues. The model also addressed the specific factors of predisposing (demographics), social structure, beliefs, family, community, perceived need, and evaluated need. All other factors are not related to this study.

Chapter Summary

The purpose of this qualitative case study was to identify the predisposing, enabling, and need-based factors that either help or hinder college students with ASD from choosing to utilize university-provided mental health resources. The research questions surrounding these factors were guided by the interviews with the participants currently being served through Disability Services Program. The research design, methodology, procedures, materials, instruments used, and analysis procedures were all discussed in detail and justified. The assumptions, limitations, and delimitations were also conferred. The setting of TU and the population of the Disability Services Program with the specific sample of ASD students provided data that could one day assist universities. They could learn how to identify risk factors and make access to university-provided mental health resources easier, faster, and more useful for these students. Chapter 4 will discuss the findings of this research.

Chapter 4: Results

The purpose of this qualitative case study was to describe the experiences of college students with ASD when assessing their need to use campus-provided mental health resources. The findings of this study aimed to provide a clearer understanding of these experiences and to provide on-campus mental health service providers with information on what could make students with ASD more likely to seek help in the future. Mental health resources can only be successful at improving the lives of these students if they are utilized.

Andersen's behavioral model of health services use describes the combination of predisposing, enabling, and need-based factors a person considers before seeking health care (Andersen, 1995). This study applied this framework to students with ASD and their using campus-provided mental health resources through the following three research questions:

RQ1: How do the predisposing factors of students with ASD influence their decision to access mental health resources?

RQ2: How do the enabling factors of students with ASD influence their decision to access mental health resources?

RQ3: How do the need-based factors of students with ASD influence their decision to access mental health resources?

Data were collected, organized, and analyzed to answer these questions. The findings were presented by research question and then divided into the themes that emerged during the analysis for each one. Quotes from the participants were included in the findings to describe their experiences in their own words.

Participants

The participants for this qualitative case study were seven students with a disclosed disability of ASD currently receiving accommodations through the Disability Services Program at TU. This program was specifically chosen because of its direct interaction and dedication to students with disabilities. Other inclusion criteria were 18 years of age or older and willingness to complete an interview. Utilizing the director of the Disability Services Program for recruitment meant that I only had access to those students who wanted to participate in the study and signed informed consent forms. Each participant completed a demographic questionnaire and an interview over Zoom. Field notes on observations were taken during the interview concerning their general mood, body language, and the environment in the student's background (if their camera was on). Their demographic data were presented under Research Question 1, as demographics are considered a predisposing factor in Andersen's model.

Data Analysis

Data analysis was discussed at length in Chapter 3. Data analysis closely followed the steps provided by Leavy (2017). All data were prepared and organized. The interviews were transcribed and sent to each participant for accuracy. Field notes, corresponding entries from the reflexive journal, and each transcribed interview were put into a file folder for each participant. The initial immersion into the data included several reads and rereads of the interviews, reflexive journal, and field notes. Data prioritization occurred during this time and made the coding easier. The coding process included classifying the data into the three separate research question categories. Predisposing data were coded red, enabling data were coded yellow, and need-based data were coded green. The data were compared to previous literature that also used the Andersen model. Themes emerged under each research question as well as quotes from the participants that elaborated on the theme, exposing greater insight into them. Lastly, the findings were interpreted for each research question and the themes that emerged.

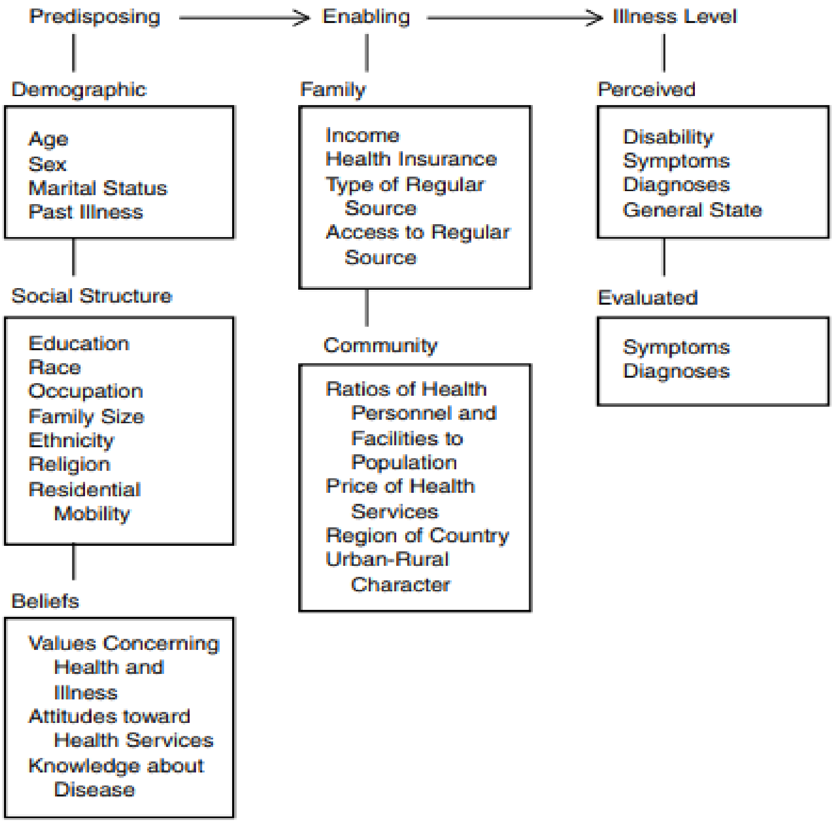
Overview of Findings

The relationships between the factors and the patterns that were discovered during analysis provided the evidence that the Andersen behavioral model for health services use can also be applicable for predicting campus-provided mental health resource use by college students with ASD. When broken down into predisposing, enabling, and need-based factors, the presence or absence of an individual determinant can influence a student to either get help with their mental health issues or not. The conclusion that can be drawn from this study is that given the factors that predict mental health resources use by students with ASD, those at highest risk for self-harm and suicide should be getting help, but they are choosing not to. The reasons that these particular participants gave are the barriers that could be addressed for the future development of policies and protocols for engaging with these students.

The themes that emerged corresponded with the findings from the literature, with a few exceptions. Most participants have experienced loneliness, anxiety, and depression along with ASD. Many were also struggling with other diagnoses and injuries that were also taking a toll on them physically as well as mentally. The COVID-19 pandemic had different effects on the participants. Some enjoyed staying away from others and some had severe reactions to social distancing from friends and family. As predicted, a student's support system goes a long way to determining if they seek help or not. Since the access to mental health resources was the same for each of the participants (on campus and through the app), it could be used as the independent variable and use was determined by their knowledge and perceived need of it. Each participant also felt that there were stereotypes and misunderstandings about ASD in general. A greater understanding of the thoughts, feelings, and experiences of this group of students was also gained. Figure 2 illustrates the Andersen behavioral model of health service use broken down into the three factors that determine health service use and then by individual determinants. These determinants were used to develop the interview questions and the demographic questionnaire and helped to organize the data.

Figure 2

Individual Determinants of Health Service Utilization



Note. Predisposing, enabling, and need-based factors are broken down into individual determinants. Adapted from “Societal and Individual Determinants of Medical Care Utilization in the United States,” by R. Andersen & J. F. Newman, 1973, *Milbank Memorial Fund Quarterly. Health and Society*, *51*(1), p. 107. (https://doi.org/10.2307/3349613). Used with permission granted by Ronald Andersen.

Participant Profiles

Participant: Megan

At the time of the study, Megan was a 21-year-old Caucasian woman and a senior at TU. She was a full-time student and lived on campus with three roommates. Originally from Texas, she stated that she was an only child and described herself as “a generally happy person.” Megan was the first to sign up for this study and the first to schedule and complete an interview. She chose to have her camera on for the interview and appeared very neat in appearance and cheerful. The space behind her was organized and clean. She was very soft-spoken and extremely polite and said that school always came easy to her and that she always got good grades but experienced difficulty with time limits on testing.

Megan described being diagnosed with ASD at the end of sixth or seventh grade and said it was a relief to her after feeling out of place for so long. She was also able to do her own research on autism and learn to embrace certain qualities about herself. She had also been diagnosed with a speech disability and body dysmorphia and disclosed taking a low-dose antidepressant for anxiety. She had a fear of needles and stated that it made her blood pressure get really high when she got her blood taken. She said she found a group of friends very easily at TU.

Megan’s mental health suffered when her close friend died of cancer and her great-grandmother passed 2 months later during COVID-19 lockdowns and was not able to go home. She was able to recognize when she needed help with her mental health and had tried counseling at TU through The Counseling Center. She also said that she felt uncomfortable making phone calls and that she could do therapy herself because she already knew what they were going to say. She had not used any campus-provided mental health resources in the 2 years prior to the study.

Participant: Cory

At the time of the study, Cory was a 21-year-old Caucasian man and a freshman at TU. He worked part-time as a tutor and lived off campus with his mother. He was originally from Michigan and had an immediate family of six (including himself). He described himself as a realist, neither an optimist nor a pessimist but focused on what is possible. Cory chose to keep his camera off and said that he was doing the interview in his car because it was where he felt the safest. He stated that he participated in research studies “a lot.” He was polite but made comments about not judging him for what he was saying and that he does not allow people that judge him in his life. He had a very tough exterior but was genuine in his narrative about the pain he felt every day.

He remembered everything about being diagnosed with ASD because it was recent. He was not evaluated as a child at the insistence of his mother that he not be labeled. He was evaluated for and diagnosed with ASD while enlisted in the Navy at age 19. Not long after the diagnosis, he was in a major car accident and fractured his spine, ending his naval career. He was on several medications for sleep, anxiety, and physical pain from his accident. He also had concurrent diagnoses of PTSD, major depressive disorder, and anxiety disorder. He described being lonely and depressed while at TU. He said that he did not have any friends and repeated a cycle of school, work, and home.

He had tried counseling at TU in the past but found the setting up of appointments tedious and frustrating. He stated that he had thoughts of suicide, self-harmed, and attempted suicide but chose not to elaborate on when or how. He recognized when he needed physical and mental help and would get help for his physical problems, but said he tended to avoid dealing with the mental ones. He was currently not using any campus-provided mental health resources at the time of this study.

Participant: Tina

Tina was a 19-year-old Caucasian woman who was a sophomore at TU at the time of this study. She lived on campus with a roommate. She was originally from Pennsylvania and had one brother. She listed her occupation as a math tutor and "party princess" and considered herself a pessimistic person. She chose to keep her camera off during the interview. She said that she was just diagnosed with ASD a year before this study. She mentioned that her brother was diagnosed as a teen before she was. She said her father was not supportive because he did not understand what autism was and her mother had problems of her own. She also said that her father considered people who are suicidal as "evil."

Tina had concurrent diagnoses of ADHD, generalized anxiety, and depression. She was taking medication for all of them. She described having panic attacks, experienced social awkwardness, and meltdowns. She was very thorough in describing how she researched autism and how it became a hyper-fixation to learn as much as she could about it. Tina described her freshman year and how she felt that she did not fit in with her friends and that they thought there was something wrong with her before she got diagnosed with ASD. She said that after her diagnosis, they treated her more like a child than a peer, and she started self-harming behaviors. She has had thoughts of suicide, self-harmed, and attempted suicide. She stated that she did not like hospitals. She started using The Counseling Center a year ago and had difficulty keeping the appointments and making new ones, so she quit trying. She expressed frustration dealing with the reception people several times. At the time of this study, she was currently not using any mental health resources on campus.

Participant: Kevin

At the time of this study, Kevin was a 21-year-old Caucasian man and a sophomore at TU. He lived on campus by himself. Originally from Texas, he came from a family of four (including himself). He was a full-time student and was not employed. Kevin chose to keep his camera off for the interview. He was not sure of a way to describe himself when asked. He was very polite and answered all of the questions as succinctly as he could. He did not elaborate very much on anything except when he discussed his mother.

He described being born with a rare blood disorder and a kidney disorder, then ASD as a young child, which traumatized his mother because it was a lot to deal with. He described the symptoms of ASD that he has the most trouble with being in crowds, flashing lights, and noise. He briefly talked about people saying mean things to him and how that hurts and makes him want to cry. He was not taking any medication and had no other concurrent mental health diagnosis. He stated that he did not have any problem going to a hospital or seeing doctors as he went a lot as a child. He said that he tried to be social on campus because that was what his mother wanted for him. He felt confident in the ability of TU to take care of him if he was ever in trouble and was aware of the programs available to him. He had never used any of the campus-provided mental health resources and relied on his trampoline, video games, and headphones to cope with his ASD symptoms.

Participant: Alex

At the time of this study, Alex was a 19-year-old African American man who was a freshman at TU. He rescheduled his interview twice, stating he forgot he had something to do and then something came up when he was sent a reminder. He lived on campus with a roommate. He was originally from Texas and came from a family of four (including himself). He listed TV broadcaster as his occupation. Alex chose to keep his camera off for the interview. He described himself as a generally happy person. He sounded very upbeat and eager to talk about his experiences.

He was diagnosed with ASD in the second grade and said it was a positive experience. He said that he had not taken the time to do any research on ASD on his own and he felt social anxiety and had trouble with loud noises for extended periods of time. He was only taking medication for asthma. He described feeling homesick and depressed while at TU so far but said that it was not so bad that he has had to go to counseling for it. He admitted to having suicidal thoughts but has never acted on them. He disclosed that he was able to talk to his parents while he was going through those feelings. He said he used to be the kind of person who put things off, but since COVID-19 happened, he was more diligent with his physical health. He has never used any of the campus-provided mental health resources but knows where they are located.

Participant: Jesse

At the time of this study, Jesse was a 25-year-old Caucasian man and a graduate student at TU seeking a master's degree. Jesse missed his first scheduled interview and said he forgot what day it was and that he tended to be very forgetful. He lived on campus by himself. He was originally from New York and disclosed that the move to his current state was specifically related to ASD. As a child, his family looked for a special private school for him to attend. He had an immediate family of five, including himself. He stated that he was remarkably close to his parents and his two siblings. He was currently working as a substitute teacher. Jesse kept his camera on and did his interview at a coffee shop with headphones. He described himself as a pretty happy person. He was extremely polite and very passionate about others having empathy for people with ASD.

He described in detail being treated differently because of his disability by teachers and administration in the third grade. He talked about being labeled and considered “too severe” to amount to anything. He also had concurrent diagnoses of ADHD and anxiety. He had a strong dislike of doctors and therapists because of his past experiences with evaluations and testing. He desired a lot of affirmation from the people that he surrounded himself with. He noted that a positive attitude and a positive environment would go a long way toward helping him at school. He expressed difficulty in asking for help in classes because he fears that maybe he asks for too much help.

He prefers to be alone and frequently walks on campus to alleviate his anxiety or leave social situations that are overwhelming. He had suicidal thoughts and has hurt himself to the point that he considered it attempted suicide during the part of his life that he said he was being labeled. He had tried counseling at TU a few times, but his family paid for a private psychiatrist that he was more comfortable with. His goal was to go into education and teach others that autism was not a label and that not all brains work the same. At the time of this study, he was not using any of the mental health resources provided by TU.

Participant: Quinn

At the time of the study, Quinn was a 20-year-old Caucasian woman and a sophomore at TU. She missed her first scheduled interview because of a “stressful day.” She comes from a family of four, including herself, and had an older sister who was also going to TU. Although her parents lived in the same town as TU, Quinn lived on campus by herself. She stated that she loves her parents, but they do not understand her, and she does not have a good relationship with her sister. She is originally from Texas and listed event staff for the university as her occupation.

Quinn chose to keep her camera on for the interview. She was very bubbly in personality and appeared on camera in front of a solid white wall with a lamp on. She said she was in-between stressed and happy at the time of the interview. She described being diagnosed with ASD as a freshman in high school, being quirky and silly, and not expecting an ASD diagnosis. She and her parents had never considered that ASD could have been what she had. She then went into detail about her sensory issues that involved food and sound. She described not being a typical stereotype of what people think someone with ASD looked like as she was very social and liked to be around people and also female.

She talked about having trouble forming relationships with other women and had many guy friends because those relationships came more easily to her. She stated that she loved researching autism and had declared communication sciences and disorders her major because of that. She eagerly anticipated working with others like herself. She said loneliness comes and goes, but it had been a while since she felt bad. She had a rough freshman year with finding friends and said she found her people when she joined her sorority. She said there are other young women in the sorority with ASD, so she had others to relate to. She stated that she attempted suicide in middle school and that the COVID-19 lockdowns brought back her self-harming behavior because she was depressed. At the time of the study, Quinn said that she was happy and saw no need for counseling or any other mental health intervention. She had used The Counseling Center once and was not using any campus-provided mental health resources at the time of this study.

Research Question 1

How do the predisposing factors of students with ASD influence their decision to access mental health resources?

Predisposing

The predisposing component of the model includes the variables that describe an individual's propensity to use services. They exist prior to needing services, hence "predisposing" (Aday & Andersen, 1974). The predisposing factors are divided into three major domains: demographic, social structure, and beliefs. Each domain is then broken into individual determinants. The following findings are organized by domain and then by the individual determinants under that domain and emerging themes (if any).

Demographic. The demographic domain is made up of four individual determinants: age, sex (gender), marital status, and past illness (Andersen & Newman, 1973). The study participants were made up of four men (Cory, Kevin, Alex, and Jesse) and three women (Megan, Tina, and Quinn). Tina felt that her gender played a role in her ability to receive health care. She stated,

> I feel like I need to have a man with me because they don't take me seriously as a woman, especially if they like, see autism. And they're like, "Oh, you're stupid." And then so they don't, like, listen to me. And so, I need someone to help advocate for me.

Age alone did not play a role in any participant's past counseling experiences or decisions for future ones. Age is not a specific reason to seek help, but people in different age groups would have varying levels of illness and patterns of health care (Andersen & Newman, 1973). There were two 19-year-olds (Tina and Alex), one 20-year-old (Quinn), three 21-year-olds (Megan, Cory, and Kevin), and one 25-year-old (Jesse) in this study. All participants stated that they had never been married, so no one else was making medical decisions for them.

Past illness is included in the predisposing category because evidence has repeatedly shown that those who have experienced health problems before will usually continue to seek medical care in the future (Andersen & Newman, 1973). All seven participants stated that they have had a major past illness or concurrent diagnoses with their ASD. They disclosed that they collectively had issues with severe allergies, body dysmorphia, speech diagnosis, chronic fatigue, asthma, IBS, anxiety disorder, ADHD, major depressive disorder, PTSD, GI problems, a rare blood disorder, kidney disorder, major car accident, chronic strep, and recurrent ear infections. Only three of the seven participants (Megan, Tina, and Cory) were currently taking any medication for their symptoms. Only one participant, Jesse, was currently utilizing mental health resources on a regular basis but that was through a private practice psychiatrist. When discussing living with ASD and mental health in general, some participants had blasé feelings about it. Tina said, “I kind of have a hard time. Taking my own problems seriously.” She also said, “I’m not really doing anything about it (mental health problems).” Cory said,

> I don’t feel things like normal people do where they know just what it is (that’s bothering them). I have to figure it out. I’ve always gone to the doctor for physical problems. I tend to avoid them for the mental.

Social Structure. The social structure domain is divided into seven individual determinants: education, race, occupation, family size, ethnicity, religion, and residential mobility (Andersen & Newman, 1973). Education plays a role in seeking medical care by suggesting the mentality, maturity level, and life experiences had by an individual (Andersen & Newman, 1973). The participants consisted of two freshmen (Cory and Alex), three sophomores

(Tina, Kevin, and Quinn), one senior (Megan), and one graduate student (Jesse). Several participants described their freshman year as the hardest for them. The theme of “first-year experiences” emerged from data analysis of the interviews.

Theme 1: First-Year Experiences by Students With ASD

Tina stated,

> In freshman year, I had friends … it turns out they thought I was annoying for a long time but never said anything. And part of me was like, *if I can give them a solid reason I’m, like, weird, maybe it would fix things*. Once I got diagnosed … it really didn’t help. It almost made them see me like a child they had to take care of rather than their friend. … They grew to resent me, and we fell out, and I self-harmed.

Cory described his first-year experiences, stating,

> I normally have a hard time just leaving my car to go to class and stuff like that ... Most people have their safe places, their house or their bed; for me, it’s my car because I was in the military ... Everything changed, everything moved, but I always had my car.

Alex said, “I do have friends, but the loneliness, I suppose, what I really felt … would be like homesickness.”

Quinn reported,

> When I was starting out, I was not clicking with people. I didn’t have very many friends. I was, like, what am I doing wrong? And, so, I rushed and joined things. I was, like, *in search of friends*, if you will.

None of the participants described their race or ethnicity playing a role in their decision to seek or not seek mental health resources. It was not discussed at all. There were no negative or positive experiences concerning race or ethnicity given by the participants, so these factors were not applicable to this study. The data were still gathered per the model, and there were six White participants and one African American participant.

The demographic questionnaire asked the participants to disclose their occupations (if they had one). Megan and Kevin replied as full-time students, Tina and Cory replied as tutors, Jesse replied as a substitute teacher, Quinn replied “event staff,” and Alex replied TV broadcaster. The five participants with jobs stated that they worked “part-time.” Jesse shared,

> I actually do want to go into special ed and get some credentials. I can make a difference and break the silence to make people realize that you need to invest in someone and affirm that they can make it … you need to be proactive.

Quinn said, “Communication sciences and disorders, that’s kind of my expertise. That’s the major I’m pursuing. I will hopefully get to work with people like me.”

Each participant was asked to describe the makeup of their immediate family. Tina, Kevin, Alex, and Quinn stated that there were four members in their family (including them): two parents and a sibling. Megan said her family consisted of both parents and her and that she was an only child. Jesse stated that he had five members in his family (including him): both parents and two siblings. Cory stated that there were six members (including him): both parents and three siblings in his family.

Family size can be included in the model because of the number of resources available to each family unit for health care. In this study, it was also interesting that some participants disclosed that they were the only ones in their family unit with ASD or that they had a sibling or parent that they also suspect has ASD. In most cases, it was a parent of the participant that sought out a diagnosis for neurodivergent behavior. Family structure plays a great role in whether the student gets support and feels comfortable asking for it in the future. Family was discussed in detail and brought up frequently by most of the participants. Family experiences is the second theme that emerged from data analysis.

Theme 2: Family Experiences

The importance of family experiences was a recurrent theme in the interviews. For example, Megan described her positive family experiences around diagnosis, stating,

> My mom worked in the special education department … and she learned a lot about autism. We always knew something was kind of different with me. So, I was diagnosed in sixth or seventh grade. And it was a big relief because I had gone all those years … feeling kind of out of place.

Similarly, Alex reported, “My mother and father realized that there were, may have been … some things that were off about me—like, neurologic? So, they took me to a specialist.” Tina, however, had a more mixed experience, noting,

> When I was a kid, my brother got diagnosed with Asperger’s, and my parents brought him to all of these like social skills programs. And my mom asked them about me. I went to my therapist and then by my second meeting … she’s, like, “That kind of sounds like spectrum behavior.” And I wasn’t, like, crazy. That made sense.
>
> I don’t have a good relationship with my dad at all. He’s a little bit emotionally abusive, but he’s also probably autistic … but if I try to bring that up, he sees it as an insult, and he has a really bad impression of autism. I have a good relationship with my mom, but she’s a passive wife. My dad believes depression is a choice: He thinks anyone who wants to kill themselves is sinful and evil.

Other participants also emphasized parent preferences as a driving factor. As Cory shared,

> My mother … believed that I was just special and that I was not disabled or broken or anything, and I just needed special taken care of. And so, she refused to get me tested for [autism] because she didn't want me to get labeled.

Kevin wanted very much to make his mother happy, saying, "Autism … affects my mom deeply because I've been through a lot. But my mom told me to be social. I'm a social person."

Jesse had a different experience than the other participants. He felt that his parents left his future up to the special school he attended. He stated,

> In third grade, the teachers took my parents and I into a meeting with the principal's office. And we were told that I might need some special assistance. And maybe they could give me that assistance based on what the diagnosis was … so they sent me to a special ed school. You can't just send a student there and just assume that the teacher is going to make it work. That's what my parents assumed. That they are going to figure me out and take care of every single thing that I struggle with.

Quinn described her family relationships as strained and said,

> I love my parents, but sometimes they don't understand me. I don't have the best relationship with my sister. We never really understood each other. Kind of get on each other's nerves. Always ready to go at each other.

Religion was on the demographic questionnaire as well.

- Three participants identified as *Christian* (Megan, Kevin, and Quinn).
- One identified *nondenominational Christian* (Tina).
- One identified as *Church of Christ* (Alex).
- One identified as *Episcopal* (Jesse).
- One did not disclose their religion.

Kevin described his church as a support system during COVID-19, stating, “My family and I were doing a lot of classes on a sheet of paper or on a website that our church gave us,” while Tina described feeling that God was sending her a sign. After experiencing some setbacks with scheduling counseling, she said, “Clearly, God doesn’t want me to have therapy” and accepted that as a good enough reason to quit trying.

Social structure for college students also includes their peers. Another theme that emerged was social experiences: finding a group to fit into and be accepted, a lack of acceptance by peers, or apathy toward socialization at all. The category that the participants fell under could influence feelings of loneliness, depression, increase isolation, or be a support system for the student.

Theme 3: Social Experiences

Megan’s experiences fell within the first category (finding a group to fit into and be accepted). Megan stated, “I was able to find a good group of friends.”

Quinn also described being social with her peers, saying,

> The reason that I didn’t strike people as having autism is because I’m very social. I like to hang out with people. I like to be where other people are. So, I’m not what you’d typically expect. I’m very chatty. I like to socialize.

She elaborated on her appreciation for her sorority and how it was different from her past relationships by stating,

> I’m a part of a sorority and I like my people: They’re really awesome. I really love them, so it’s better—better than it was. I’ve actually met some like me (because of the sorority). I’ve met a lot of people who have ASD. I think (the sorority) is more diverse than people think it is. We get a lot of different types of people. It’s really interesting to see how we

> interact with each other, but that's been a huge benefit to me. People that care about me and want to understand me and it's great. When I was socializing with my peers, I had friends, but not a lot of *real* friends—I had people that I hung out with and sort [of] accepted that I was just there. But deeper relationships are kind of new to me: It's only now I can say that I have felt that I have two-way relationships, not just one-sided. That's a pretty recent development in my life. But yeah, I've found myself more drawn to guys. I have a lot of men friends, [but] I've always had a hard time with girls ... Relationships with the same sex is not easy: Girls are confusing and socialization is weird for me. It's not always been words, it's [also] been trust.

Alex found he was only able to talk with his peers about certain things. He said, "I have mentors that I'm assigned to talk to, but there are some things I do feel more comfortable with only friends."

Kevin tried to be social, at the insistence of his mother, even though he felt uncomfortable around groups of people. He shared, "I have my own dorm, but I do have stress in my life and interact with people from time to time."

The second category (a lack of acceptance by peers) described the experiences of Jesse and Tina. Jesse stated, "I felt pretty isolated and alone." And expressed a desire to be more understood by his peers. Tina discovered that on her bad days, she could not confide in her friends, stating, "My friends are just … that didn't really work out. My friends have a lot of problems on their own, so I never want to bother them when I'm having a bad day."

Lastly, the category of apathy toward socialization described Cory. He said, "I don't participate much on campus. I don't have friends. I don't. I go to school, I go to work, and I go home."

The individual determinant of residential mobility in this study was not applicable as it is defined as the rate at which people change residences or have the ability to make their homes closer to the resources that they need. Everyone but Cory lives on campus and has not moved recently or plans to move in the near future.

Beliefs. Similar to the other predisposing variables, an individual's beliefs alone would not constitute a direct reason to seek care and use services. By including them in the model, they produce differences in tendency or preference toward the use of services (Andersen & Newman, 1973). The beliefs domain consists of three individual determinants: values concerning health and illness, attitudes toward health services, and knowledge about disease (Andersen & Newman, 1973).

The participants were asked in the demographic questionnaire about several aspects of their values on their own health, such as eating right, sleeping enough, exercising, drinking alcohol, smoking cigarettes and vaping, and their use of recreational (non-prescribed) drugs. It was also asked during the interview if they got a physical or check-up regularly. It is important that the participants place a high value on their physical health because that contributes to their mental well-being. Five participants stated that they follow a normal diet (Megan, Kevin, Alex, Jesse, and Quinn), and Tina and Cory follow a "Foodmap" or an "IBS diet." Five participants slept a normal amount (8 hours): Megan, Kevin, Alex, Jesse, and Quinn. Tina usually sleeps longer than normal, and Cory requires prescription medication to fall asleep at all. Three participants reported that they regularly exercise (Kevin, Jesse, and Quinn). Alex and Megan reported that they rarely exercise, and Cory reported never exercising. Tina also stated that she will exercise rarely or regularly, but it depends on the season. Four participants stated that they had never tried alcohol (Tina, Kevin, Alex, and Quinn). Megan and Jesse said that they rarely drink alcohol, and Cory said that he regularly drinks alcohol. Six participants have never smoked cigarettes or tried vaping; however, Cory says he vapes regularly. All seven participants have never tried recreational drugs or drugs that were not prescribed to them. Megan, Cory, and Tina disclosed that they still get a yearly check-up from a physician and four do not.

To find out the participants' attitudes toward health services, it was asked in the interview if they went to the doctor a lot as a child, how they felt about going to the doctor (or hospital), and if they sought help as soon as they realize they need it or tend to put it off. It was important to establish how they felt about the medical community, in general, to determine their likeliness to seek help for mental health issues. Many participants discussed their medical history at length and their feelings and experiences toward doctors and hospitals. The next theme that emerged from data analysis was medical experiences.

Theme 4: Medical Experiences

Megan described going to the doctor a lot as a child for sinus infections and now prefers telehealth if it is available. When telehealth is not an option, she tries to just get in and out, in part because of a fear of needles. She said,

> Last semester, I had some kind of virus. I'm really scared of needles. They had an alcohol, the kind of thing that they put on your finger … I associate alcohol with needles; they were trying to take my blood pressure and they had to take it again because it was stressing me out so much.

However, Megan stated that she felt that if she noticed she needed help, she could get it in a timely manner.

Tina described seeing a doctor as a child for regular yearly checkups. She stated that she does not like hospitals. She elaborated, "I haven't really been to the doctor since I got diagnosed, but I actually probably should because I've been having physical problems with chronic fatigue, dizziness, stuff like that." As a result, she recognizes something is wrong but will put it off until she cannot anymore.

Cory described seeing a doctor a lot as a child for bad GI tract problems. He has had multiple surgeries and describes his experience with hospitals as unpleasant. He said,

> I have episodes where I'm angry and irritable. Anesthesia immediately triggers me and then I go into this angry ball of I'm going to hit everything around me. Which is bad. I've had to have multiple surgeries, and because of that specific problem, I get horse tranquilizers when I wake up.

He stated that he tends to avoid getting help for mental issues but will take care of physical ones right away.

Kevin described being born with a rare blood disorder and a kidney disorder. He had no negative childhood or recent experiences with doctors or hospitals and did not mind going. He also stated that he would get help as soon as he felt that he needed it.

Alex described going to the doctor a lot as a child for asthma-related issues. He felt ambivalent about doctors and hospitals, stating, "It's not something that I want to do necessarily, but if I have to, I would." He also said, "I used that to be the type of person to put things off as long as possible, but in the day and age of COVID, you pretty much have to go straight to the hospital."

Jesse could not remember doctor's offices specifically, only lots of "evaluations and testing," stating,

> Most of my childhood was just experiencing test after test and being told I'd amount to this, or I'd amount to that, and I was going to struggle with this. This was going to be

> impossible for me. So, I have some pretty negative doctor experiences. You can tell how I feel about doctors now. I don't really like them, they … make me upset. If my health is in direct jeopardy, I will get help. I do have a resentment of doctors.

Quinn described going to the doctor a lot as a young child for chronic strep throat and, ultimately, a tonsillectomy. She said, "I was out of school a lot; my mother was worried I wouldn't finish first grade. Thankfully, I wasn't held back. I was seven. It was bad. My mom said I had a lot of ear infections." When asked about seeking help or putting it off, she said, "If it's something minor that I see as insignificant, I'll just say I'm ok, but sometimes that's dangerous and gets me into trouble sometimes. But it's more of that than the other [option]."

The last individual determinant for the beliefs domain was knowledge about disease. An individual needs to have a basic understanding of what it is they would be seeking help for or at least be able to recognize something is not right to make an informed decision. The participants all described being able to tell if something was wrong and if they would seek help immediately or put it off (see previous statements). The "disease" being examined in this study was autism, even though autism is not an illness. The model was created in the 1960s with blanket terms.

The interview questions, "How much do you know about autism?" and "Have you done any research on autism on your own?" were asked of each participant. Alex stated that he had not taken the time to research it, but he knew what it was. Six participants answered that they had some knowledge about autism and had done their own research. Kevin and Megan described autism as being explained to them by a life coach or a family member. Three participants described their experiences with validation after doing their own research.

Tina said, “It’s a hyper-fixation. In my spare time, I look up articles and analyze fictional characters, learn the symptoms, how they present, the sides of the spectrum, like excessive eye contact versus no eye contact. Things like that and stereotypes.”

Jesse shared,

> I went to like WebMD, something like that, and looked up the side effects. And I can confirm that all the stuff I struggle with daily. I’m also very forgetful, that’s also a side effect, too. I forget pretty much everything. Everything goes in one ear and out the other.

Quinn stated,

> I know a lot. I’ve done a lot of research on my own. And because when I was first diagnosed, I was like, I have no idea what this is. I have to do a little research myself. I’m a huge research nut. I like to go down rabbit holes and that’s what I call them and dive into research.

Research Question 1 Summary

How do the predisposing factors of students with ASD influence their decision to access mental health resources?

After the data analysis, the answer to this question was the presence of past illness, the social structure experiences of the participants, and the attitudes toward health services. The presence of past illness (and, in this study, the presence of a mental codiagnosis with ASD) would generally lead to a greater inclination to seek mental health resources and a higher risk of a mental health crisis. However, the social structure (social experiences) of the participants either supported the students’ positive mental health or contributed to feelings of loneliness and depression. Participants that had secured a group of friends or peers were not at elevated risk of a mental health crisis. Participants who expressed that they had no friends or who felt isolated were at a greater risk of poor mental health and crisis. The greatest predisposing factor influencing these students with ASD and their decision to access mental health resources was their attitudes toward health services described as medical experiences. Participants that have negative associations with hospitals and doctors were less likely to seek help of any kind. They were at higher risk of experiencing a mental health crisis and putting off care.

Research Question 2

How do the enabling factors of students with ASD influence their decision to access mental health resources?

Enabling

The enabling component of the model includes the variables that describe the means that an individual has available to them to be able to seek services. They are specific to the person as well as applied to their family. They also contain factors general to the community where the person lives (Aday & Andersen, 1974). The enabling factors are divided into two major domains: family and community. Each domain is then broken into its individual determinants.

Family. The family domain is made up of four individual determinants: income, health insurance, type of regular source, and access to regular source (Andersen & Newman, 1973). Income is a significant resource. As stated earlier, two participants listed their occupations as students, and the other five work part-time, so their income from a job would not be expected to be substantial.

Income was self-reported on the demographic questionnaire:

- Two participants reported a yearly income of *zero* (Megan and Kevin).
- One participant reported a yearly income of *$2,000* (Quinn).
- Two participants reported a yearly income of *$4,000* (Tina and Cory).

- Two participants chose not to disclose their income (Alex and Jesse).

When asked how the participants felt about paying for mental health resources, most of them felt that it was a service with value. Most of the participants said that the cost was billed directly to their account, so they did not have to deal with it directly.

Having a health insurance policy can be useful for major surgeries, accidents, and unexpected emergencies. In this study, it is important to note that the mental health resources available at TU state that they do not bill insurance companies directly. They only provide the receipt for the services that the student pays for by request if the student wants to make a claim on their own. The data were still gathered per the model. Six participants were still receiving health insurance through their parents' policies. Cory receives his health insurance from his time served in the military and said he does not pay for things and would rather not. He said, "I would pay if I didn't have another option, but because I have such good insurance, I would probably look for something that fell within the insurance line." Quinn expressed concern for when she is no longer on her parent's insurance, stating, "If I need to go, I can just go to the medical thing if I need to—my parents pay for that … when I get out of college, obviously, I'll have to find something."

The type of regular source included the entirety of health care resources available to the individual. This study examined the use of campus-provided mental health resources, so only those will be included. This consisted of Tumbleweed University Friends (TUF), The Counseling Center (TCC), The TU Psychology Department Clinic, and the HealthApp provided by Tumbleweed University. TUF, TCC, and the Psychology Department Clinic are in-person, on-campus mental health resources. HealthApp is a virtual or telehealth application. TUF is included in this section because some participants said it was their first step in getting counseling services.

TUF is a referral service that matches students with the resources that would be most helpful to them based on their needs. They referred students to TCC and the Psychology Department Clinic as needed. One participant described TUF and said, “They are like moms … If we are feeling something weird, or there’s something wrong with our bodies, or having emotional problems, we go to them.”

At the time of the study, TCC consisted of six licensed counselors and a psychiatrist. They match each student that comes to them with a therapist and counseling. Students with ASD specifically could benefit from their offerings of individual and group counseling, personal–social adjustment counseling, interpersonal relationships counseling, as well as a relaxation room and massage chair. TCC is also a medical clinic, so students with medication for their ASD could also get that taken care of and any physical manifestation of symptoms that they may experience or accidents or emergencies.

The Psychology Department Clinic was comprised of graduate students under the supervision of licensed psychologists and counselors at the time of this study. This option could be considered peer counseling as the counselors are also students themselves, and students with ASD may be more comfortable with that. Students with ASD could find many useful mental health resources here because the counselors specialize in issues with depression, anxiety, PTSD, stress, learning disabilities, and self-esteem. None of the participants had ever been to the clinic, and only one knew they were allowed to go there as TCC seems to be where the participants went for their counseling.

HealthApp provides TU students with virtual medical and mental health care anytime, anywhere. Students with ASD may feel less stress talking to a virtual counselor where they can turn their cameras off and not have to appear in person. HealthApp provides students with customized medical care, on-demand mental health support, scheduled counseling, psychiatry, and health coaching. All of these are great benefits for students with ASD. Out of the seven participants in this study, only three (Megan, Kevin, and Jesse) had ever heard of it, and none of the participants had used it.

Access to regular source implies equal access to all of the people using that resource. In this study, TCC, the Psychology Department Clinic, and the HealthApp are the on-campus mental health resources available to the participants. TCC and the Psychology Department Clinic are both within walking distance of the dorms. Six participants live on campus, and one does not (Cory). Four participants disclosed that they have a car (Megan, Cory, Kevin, and Jesse), and Quinn stated that she does not have a car but has access to rides when she needs them. Five participants knew the location of TCC (Megan, Tina, Alex, Jesse, and Quinn) and could describe how to get there. Operating hours are important for students to be aware of. TCC is open Monday through Friday, 8:00 a.m.–4:30 p.m. They are not open evenings, weekends, or holidays.

The Psychology Department Clinic is open on most evenings (excluding weekends and holidays). Their hours are Monday through Thursday, 8 a.m. to 9 p.m., and Friday, 8 a.m. to 5 p.m. The HealthApp and its resources are available to students 24 hours a day and 365 days a year. All participants were ok with waiting for an appointment for a regular problem, and all participants knew where the nearest local hospital was in case of an emergency.

Appointments at TCC require an intake form either to be filled out in person or online. Scheduling for new clients can take up to 48 hours. Their phone number is also provided on the TU website. To make an appointment at the Psychology Department Clinic, their phone number is provided on the TU website, and the clinic staff will ask for the student's basic information to assign them a counselor and determine availability. HealthApp requires finding the app on the app store, downloading it, and creating an account with a medical history profile. It also requires the student to create a username and password that they can remember. A credentialed health care professional could talk a student through the app or website if they are experiencing difficulty navigating it. When students log on to the app, they can see the faces and medical profiles of the providers available to them immediately. Students can choose a specific provider or the next available one. Students who choose “first available” typically speak to someone within 5–10 minutes.

The next emerging theme was counseling issues. Almost all of the participants described being frustrated with talking to people on the phone, making and keeping appointments, and not seeing a benefit to returning. Four of the participants have used campus-provided counseling services in the past (Megan, Tina, Jesse, and Quinn), and none are currently using them. One participant, Jesse, uses a private psychiatrist.

Theme 5: Counseling Issues

Megan and Tina found difficulty in initiating contact over the phone with the reception desk at TCC. Megan said,

> I really can’t stand doing phone calls. And I had to do phone calls to get that. I went to counseling probably one, one and [a] half semesters. I’ve been to counseling and therapy on and off throughout my life. And so I know everything they are going to ask, everything they are going to tell me, so I can kind of do it myself at this point.

Tina described a specific experience she encountered when making an appointment and then missing it. Tina stated,

> Calling on the phone to get an appointment. I make really bad phone calls talking to people at the reception desk. And sometimes they just assume the worst, like you’re

> trying to abuse the medical system, and they'll be very judgmental, like, why are you here? And it feels like bothering them.
>
> I went into a really depressive episode last semester and slept through an appointment and then I couldn't schedule another appointment because our schedules ended up not lining up anymore. So then I ended up trying a couple more times, and I just didn't get therapy all semester after homecoming. The next semester the schedule didn't line up with the lady I used to see, so they got me a new lady, and she moved her appointment times on me. They didn't tell me, and I ended up sitting in the waiting room for 45 minutes, and I was having a really bad day, and then came the snow. I guess this just isn't working out. Then I was crying in the lobby in my dorm. One of the residential advisors was like let me help you get therapy and she set me up at TCC again. So I have an appointment coming up, but it's hard, you know, to communicate with reception people. When I'm having my worst days, I just feel like my options are closed off, like therapy is something I have to schedule ahead of time, and the lady I'm connected with at TUF does more talking at me than really listening.

Unlike Megan and Tina, Cory was uncomfortable receiving phone calls concerning counseling. Cory said,

> I'm trying to get into it again. I've done quite a bit of it in the past. My therapists started ghosting me, so I'll get one or two appointments, and they won't respond to emails or phone calls and won't let me schedule another appointment. Kind of got reported my first semester by one of my professors for being unstable or something like that; they thought I was a risk, so I got reported to TUF. And the 40th time they called me, I think I blocked their number.

Another participant, Quinn, simply felt that the timing was off for needing counseling services. Quinn shared, “I went once last year, and I didn’t go back. It had to do with time and whatnot. It has never been so bad that I needed to go back.”

The COVID-19 pandemic affected access to many things for people around the world. This included a disruption to daily schedules, separation from friends and family, and increased stress in some cases. It affected the participants differently, but most of them noticed a change in their mental health. The next theme to emerge from the data is COVID-19 experiences.

Theme 6: COVID-19 Experiences

The pandemic did not seem to affect two of the participants, Cory and Kevin. Kevin found ways to continue his athletic program even though he could not physically go on campus. He said, “I was in athletics, so I just had to start exercising at home every day instead.”

Cory, who mentioned earlier in the interview that he did not participate on campus anyway, elaborated on the pandemic,

> I didn’t care. It didn’t really affect me. I didn’t really go places or want to go to large groups of people or anything like that anyway. I basically ignored it because I had a decently strong immune system and stuff like that. So, I think I got COVID once, and it didn’t really affect me much.

While Megan usually enjoyed staying home, she found herself in a difficult situation as the pandemic continued. Megan stated,

> I am a person who likes staying home. I was fine with it. The only time that it really impacted me was when I couldn’t go home during a hard time. My friend passed away, and my mom tested positive for COVID, so I couldn’t go home.

Alex began worrying about hygiene, his physical health, and his mental health. Alex said,

> Well, I had to adjust for sure. I had to pay more attention to sanitation habits because when the pandemic started, there was no vaccine. And like a simple like cold like a simple cough could turn very drastic. Well, just being in the house and suffering from cabin fever frequently. Like I don't want to say it drove me insane, but that's kind of accurate.

Quinn, who preferred crowds and socializing, described her pandemic experience as lonely and depressing. Quinn shared,

> I started hurting myself. During the lockdown during COVID when everything was shut down. I was really depressed because I couldn't go anywhere. I was stuck in my house with my family. I didn't want to be. I didn't have anybody. And people were kind of distant. And that was a thing for me. I did not do okay. I did not take that too well.

Community

The community domain is made up of four individual determinants: Ratios of Health Personnel and Facilities to Population, Price of Health Services, Region of Country, and Urban–Rural Character (Andersen & Newman, 1973). The Andersen model uses the ratio of health personnel and facilities compared to the population to determine scarcity. There student population at TU is 5,700; however, only half live on campus. There are three resources for mental health: TCC, Psychology Department Clinic, and HealthApp. TCC has six licensed counselors, including their director and a psychiatrist.

The Psychology Department Clinic varies in staff each semester as the number of qualified graduate students in that department fluctuates. HealthApp has 45 board-certified physicians, nurse practitioners, and physician assistants on call at all times as well as licensed therapists and counselors. HealthApp offers the smallest student to health care personnel ratio, but it is underutilized.

The price of mental health services varies among the resources available to the students. HealthApp is free for students. There is no cost for either medical or mental health services, with the exception of prescribed medication. Neither TCC nor the Psychology Department Clinic accepts insurance, so they expect payment at the time services are rendered. Prices at TCC state that a 50-minute counseling session is $35. Psychiatric service fees at TCC range from $40 to $150 for an office visit. They do offer a free, private online mental health assessment for students to get a picture of their mental health and decide if counseling is right for them. The Psychology Department Clinic charges $10 to $20 for an individual counseling session based on income. Group counseling is only $5 a session. Their assessments are both more extensive and more expensive. They range in price from $50 to $500 and take 2–8 hours. The assessment for autism is $500. Scholarships are available for students that need them.

The last two determinants for the community domain (region of country and urban–rural character) are not applicable to this case study because of its incredibly small scale of seven participants. In trying to determine health care service use for large populations, these determinants can usually be helpful. For data gathering purposes only, per the model, TU is found in the Central Great Plains ecoregion and has a suburban feel as it is quickly growing.

Research Question 2 Summary

How do the enabling factors of students with ASD influence their decision to access mental health resources?

After the data analysis, the answer to Research Question 2 was type of regular source and access to regular source. Students cannot use a resource that they do not know exists. HealthApp virtual counseling system seems like it would be the best fit for students who do not like phone calls or meeting in person, but most of the participants had never heard of it. Knowledge of that resource and how to reach it are the main enabling factors that influence college students with ASD and their decision to access mental health resources. Many participants described struggles accessing and keeping counseling appointments. Responsibility for keeping those appointments falls on the students; however, many were not satisfied with the current system involving phone calls beforehand because of their self-described "social awkwardness" from ASD.

The ratio of health personnel to the population may influence the student's willingness to seek counseling if there are not enough counselors and appointments to be made so that there are smaller numbers of availabilities. During the time of COVID-19 lockdowns, HealthApp was available for students experiencing stressful situations and feelings of loneliness and depression but was not known about or utilized. Determinants of income, price, and health insurance did not seem to influence the participants' decision to use mental health resources since the cost was attached to their student accounts and were not directly involving the participant in a monetary transaction. Most participants were not sure how much they paid (if anything) and assumed their parents covered it even if they were charged. Region of country and urban–rural character were not applicable.

Research Question 3

How do the need-based factors of students with ASD influence their decision to access mental health resources?

Need-Based

The need-based component of the model (called illness) includes the variables that describe how the individual perceives their need to seek out services. The illness level is the primary cause of getting those services (Aday & Andersen, 1974). The need-based factors are divided into two major domains: perceived and evaluated. Each domain is then broken into its individual determinants.

Perceived. The perceived domain contains four individual determinants: disability, symptoms, diagnoses, and general state. Disability in this model implies the number of disability days that the individual experiences. These days include time periods where the individual feels unable to function as they normally would and when they experience disruptions to activities of daily living (Andersen & Newman, 1973). For people with ASD, feeling unable to function and finding disruption to their daily activities because of symptoms could be constant every single day. They also described their experiences in college so far living with autism. The next theme is living with ASD.

Theme 7: Living With ASD

Megan, Tina, and Cory all described difficulty in being accepted and adapting to a college classroom. Megan felt singled out because of how her ASD symptoms presented. Megan stated,

> The most difficult thing is during classes. I am a person who doesn't look like I'm paying attention, but I have to do that to pay attention. And half the time, teachers still don't get that. And so there's been times the teacher will specifically call on me because they're assuming I'm not paying attention. But I can answer the questions. And it's just professors knowing that some students don't look like they're paying attention. But I've always kind of gotten in trouble for that since elementary.

Tina felt that her instructor did not understand ASD, and she thought that they did not want to accommodate her. Tina shared,

> I think neurodivergency in general and disability … there are a lot of professors, especially in the math department. I am a math major, and they are very anti-mental health or just get frustrated when they have to accommodate people.

Cory felt that there was a stereotype about students with ASD being lazy. He also described his struggle to go to classes and complete assignments. Cory said,

> The "they're just lazy" college students' ideal on that really infuriates me because it is a known fact that people with autism have a lower norepinephrine level, which is the hormone or drug or whatever you want to call it, that affects your motivation. So they have a lot harder time getting up and going and doing stuff like that. And they fight it every day to do that. And it's horribly discouraging to do that over and over again. And then you slip up once, and your professor calls you lazy and useless, and you're branded.

Kevin felt that the bullying he experienced was because people did not understand ASD and how deeply words can hurt. Kevin shared,

> Autism. It's really hard for me because you got people saying mean things all around me, it kinda hurts. But I try to stay strong. But everything inside me wants to cry. They said it is like a cancer, but it's not. It's something that happens.

Alex also felt that the general public does not understand ASD. Alex said,

> Sometimes when I've talked to other friends who've either suffered from autism themselves or knew someone like me. Sometimes people think when people with autism act out, that we are doing it to be disrespectful. They're doing it because they might not know how to act in a certain situation.

Jesse elaborated the most on his experiences as a person with ASD. It was his wish that people, especially those working with students with ASD, would educate themselves on ASD. Jesse shared,

> I wish they'd be more patient with us. I wish they would know how the brain works. They seem to know how the average brain works. They are taught the human brain works this way, and if it doesn't, then they are considered a problem. And that's what I was labeled as. I was labeled as a problem and a difficult, frustrating person to teach. So I feel like college professors have a very standardized assumption of how a human brain works when they're teaching. And I wish more teachers would be able to have some normative assumptions about students on a spectrum. They go into college and they are not prepared for it, and teachers are demanding and are supposed to be helping them and thinking they are on their side, but it's the complete opposite. Like it should be, I am grateful that this student is doing their best in college for what they can do.

Quinn was frustrated with the typical stereotypes of people with ASD. Quinn said,

> It's not a one size fits all type [of] thing. And I think that's what people think. When people think of autism, they think of the stereotype. They don't realize there is a spectrum. We all look different. Like I would say definitely for me, it's I have different struggles than my friends. People say, "Oh, it's not bad for you." And that makes me really mad because I'm like, "How dare you? You have no idea," I may not be like what you're thinking of, but that doesn't mean that I don't have problems of my own and things aren't challenging enough. There's so little research done on girls with autism, so that's such a new thing. Like in the 10 years and people are starting to notice. And it's

kind of crazy that it’s thinking that people only think it’s guys that have that. It just looks different.

The next individual determinant was symptoms. All of the participants experienced symptoms of ASD and were able to describe them. Several of these could interfere with a person’s ability to make phone calls, meet with strangers to discuss care, remember to keep appointments, and maintain a professional relationship with a counselor.

Symptoms of ASD experienced by the participants can be found in Table 1.

Table 1

Symptoms of ASD Experienced by Participants

Symptoms	*n*
Forgetful	2
General anxiety	5
Testing anxiety	5
Social anxiety	5
Social awkwardness	6
Issues staying focused	4
Overstimulation	4
Disliking crowds	3
Hate bright lights	2
Hate noise	5
Panic attacks	3
Sensory issues–clothing	2
Sensory issues–food	2
Sensory issues–human touch	1
Irritability	1
Apathy	1
Forming relationships	3
Depression	5
Loneliness	3
Suicide ideation	5
Self-harm	5
Attempted suicide	4

Most concerning is that over half of the participants have hurt themselves on purpose and have attempted to take their own life at least once. Some of them chose to elaborate for clarity.

Tina shared,

> Honestly, it started in middle school, but I didn't really have access to anything except like a butter knife. And then in high school, I found a razor, but I didn't really do much with it. But then in college, I guess it was around the time of the autism diagnosis, but also starting before it. But, you know, like my friends and stuff, I was like, self-harming. And then over the summer, I was working as a camp counselor sometimes, and I got really overstimulated and stressed. I would accidentally, not like accidentally, because it was like on purpose, but like it was like a weakness, I guess. And with, like my nails, like my fingernails, I would like cut my thighs, I guess. When I was, like, really stressed. And then I haven't really since, even though I've had a lot of wanting to. Because I had this thing called the Butterfly Project where you like draw a butterfly on yourself and you like name it after someone that you care about. And then like if you self-harm, then you kill the butterfly. And I really like butterflies. And I got a tattoo of a butterfly with a semicolon as its body. And so then, so now I'm just like, I can't kill it. I think about it every now and then, but I always come up with reasons why not to. Mostly like how the method would like, negatively impact my life. If I feel like I overdosed on meds and I survived, then no one would let me get Adderall again. And I kind of need that. And also, you know, there are some people that I don't want to make sad. I feel a responsibility to the people I love to stay alive. I didn't really have any this semester, I guess, at least not any like big ones. I've like passive suicidal ideation. Like, I'm not going to go kill myself. But I also don't really always look both ways when I cross a crosswalk.

Alex said, “I never, like, attempted to do it, but I had thoughts on how I would do it. Then I told my mother and father that I was having those issues at that time.”

Jesse stated, “For the part of my life I was living as a label, I had ideas about suicide. I wouldn’t do it too much, but I would bang my head against the wall.”

Quinn shared,

> That was back when I was in middle school, middle early high school. But it’s been a minute since any of that has actually come up. It’s been a while. I’m glad somebody who noticed something was wrong and told my parents despite my insistence that they didn’t.

Academic accommodations are provided to help students with ASD who experience symptoms like these with their classes. The participants are all currently receiving accommodations through the Disability Services Program. They all also disclosed which accommodations they were receiving. Disability Services Program also requires disclosure of a disability and a meeting with the student to figure out which accommodations would serve them the best. So, the participants do have some experience seeking help and using campus-provided resources, albeit academic ones.

The participants all explained the many ways that they cope with ASD since they are not currently using counseling. The last theme to emerge from the data was coping mechanisms.

Theme 8: Coping Mechanisms

Megan, Alex, and Quinn found that reaching out to others was helpful. Megan said, “I was able to find a good group of friends.”

Alex talked to trusted friends and family. He said, “I have mentors that I’m assigned to that I can talk to, and I told my mother and father when I was having serious issues.”

Quinn, who had joined a sorority, shared, “I’m a part of a sorority, and I like my people. They’re really awesome. I really love them. So it’s better. Better than it was.”

Cory said he had a military buddy to confide in but that he also created a safe space. He said, “My safe space is my car. And I have a really good friend from the military; we still talk, and he helped me through it.”

Two participants, Tina and Kevin, relied on technology to help them cope with ASD. Tina shared, “I get audiobooks to help with not being able to focus and my executive dysfunction.”

Kevin preferred his phone and video games. Kevin said, “The only thing that keeps me calm in crowds is my phone and headphones. My games help me escape from the pain … and to a world where’s [there] no pain.”

Jesse found solace in exercise. He explained how it helped his mental health sharing,

> I like the peace and quiet. I take breaks. I take walks pretty often. Even a 15-minute walk can reset me. I do that once every 3 or 4 hours, just take a walk and remove myself from some situations.

Also of importance to future decisions about mental health resources was the actual ASD diagnosis. The participants were asked if their original diagnosis of ASD was a positive or negative experience for them. Six participants indicated that getting a formal diagnosis was a positive experience for them and their families. However, Jesse described the process before diagnosis as “negative” and that it has changed the way that he feels about doctors. The last determinant for the perceived domain was general state. A measure of perceived health is a self-report of general state of health (for example, *poor*, *fair*, *good*, *excellent*, *other*). Megan, Kevin, Alex, Jesse, and Quinn self-reported their state of general health as *good*. Cory self-reported *poor* and Tina chose *other* and replied,

> I feel like crap every day, but I’m not fainting every other day or anything. I kinda want to go to the doctor, but I don’t need an emergency room or anything. I’m sorry, I never know how to categorize something so subjective as how one feels.

The participants were asked to describe themselves with a few words to assess general mental health. Megan stated that she is a generally happy person. Alex said that he was an optimistic person. Jesse considers himself a pretty happy person. Kevin had no comment to this question. Tina described herself as a pessimistic person. Cory said he is a realistic person. Quinn stated that she is mostly in between happy and stressed at the moment.

Evaluated. The evaluated domain is divided into two individual determinants: symptoms and diagnoses. These are the clinical judgments of the symptoms that the individual is experiencing and their evaluation of those symptoms with a diagnosis (Aday & Andersen, 1974). The Andersen model states that ideally, these would be gaged through physical examinations (or, for this case study, the actual mental health examinations). The author of the model, Dr. Ronald Andersen, also realizes that while that is usually not practical in most research designs, the diagnoses can be rated according to clinical judgment as to the probability of the need for service (Andersen & Newman, 1973).

The Counseling Center states on its website that they help students with issues surrounding student life but specifically named anxiety, depression, and self-doubt. Their goal states that their mission is to help students think and function more effectively and to have more control over their life. The Psychology Department Clinic listed counseling specialties for the following:

- Abuse (child and adult, emotional, physical, or sexual abuse)
- Anxiety or stress

- Chronic pain
- Depression
- Family of origin problems
- Learning disabilities
- Phobias
- Play therapy
- Posttraumatic stress disorder
- Relationship difficulties
- Self-esteem
- Smoking cessation

They also offer assessment and diagnosis for the following:

- ADD or ADHD
- Autism spectrum disorders
- Anxiety
- Behavioral difficulties
- Bipolar disorder
- Depression
- Employment assessments
- Giftedness
- Learning disabilities
- Oppositional defiant disorder

HealthApp provides students with HelpNow (24/7 immediate access to a mental health professional). Students use the platform to speak with mental health professionals about anything from anxiety to relationships to mental health crises.

The symptoms and experiences expressed by the participants nearly match perfectly with what is available to them through their campus: provided mental health resources. The evaluated need is great, and the probability of the need for those services should also be great, yet these services remain underutilized. None of the participants are currently using any of the campus-provided mental health resources.

Research Question 3 Summary

How do the need-based factors of students with ASD influence their decision to access mental health resources?

All four of the perceived individual determinants play a role in each participant's decision not to use campus-provided mental health resources. The diagnosis determinant in which the participants described life with ASD was especially telling because, in one way or another, they all feel misunderstood, harshly judged, and stereotyped. Their general state also contributes to this low self-esteem, particularly the participants who self-report their health as poor or as an unhappy person in general. These participants are at the highest risk for mental health crises because they care so little about themselves that they can hardly expect someone else to. The factor of symptoms for ASD was long, and any single one would be a good reason for getting counseling to help ease them. The evaluated factor of professionally identified symptoms and diagnoses would not influence the participant's willingness to seek them out. They already know they have ASD. They already know they suffer from symptoms. The clinical confirmation would have no bearing on whether they establish a counseling routine and keep it. However, clinical confirmation would be helpful in instances of undiagnosed ASD.

Conclusion

The purpose of this qualitative case study was to describe the experiences of college students with ASD when assessing their need to use campus-provided mental health resources. This was achieved through interviews with seven college students with ASD and the application of their data into the Andersen behavioral model of health services use nationally and internationally as a framework for health services utilization; this model also predicted the use of campus-provided mental health resources by students with ASD through examination of the predisposing, enabling, and need-based factors and answering the corresponding research question for each one. The findings of this study provided a better understanding of the experiences of this group of college students with ASD.

The predisposing factors most likely to influence access were the presence of past illness, the social structure or support system, and their attitudes toward health services. Past illness increased the likeliness that a person would seek help for a problem if it were ongoing. Autism is a lifelong disorder, as are many of the other disorders and illnesses compounded with it described by the participants. The social structure of the participants' life was particularly important. Students that felt included and part of a group had fewer symptoms of anxiety, depression, and loneliness. Participants who indicated that they were happy saw no need for mental health services. Students with few or no friends described feeling isolated, irritable, and overwhelmed. Without mental health services, they are at greater risk of suicidal ideation, self-harm, and suicide. The participants' attitudes toward health services were also a determining factor in seeking mental health care. Participants who have had bad experiences with doctors did not want to go back to any kind of health care professional except in the case of an emergency.

The enabling factors most likely to influence access to mental health care were the type of regular source and access to the regular source. Many of the participants were simply unaware of what mental health resources were available to them. They knew of TCC, but most of them did not know the Psychology Department Clinic was for student use. Only half of the participants had heard of HealthApp at all, and no one had used it for medical or mental health care even though it is free and available 24 hours a day, 7 days a week, and 365 days a year. The participants were made aware of its existence, and a few of them said it might be something that they would be interested in using in the future. The greatest enabling factor from the experiences of the participants that did try counseling was the difficulty in scheduling and keeping appointments since it involved speaking on the phone and putting them in social situations they were not comfortable in.

Lastly, the need-based factors that influenced access to mental health resources were general state, symptoms, original diagnosis, and the disability itself (the student's experiences living with ASD). General state was the self-reported state of the student's health. Participants who reported their physical health as *good* and described themselves as "happy" were less likely to see mental health care resources as useful. Participants who indicated that their physical health was *poor* and described themselves as "pessimistic" or "unhappy" had a greater need for services but were unlikely to utilize them because of low self-esteem and low self-worth. The participants' original diagnosis also formed early opinions of mental health care professionals. Students with positive experiences would likely return to counseling if they needed it, while those with negative associations would not. The symptoms experienced by each participant could also hinder access to care, as many of them expressed that they suffer from social anxiety, general anxiety, social awkwardness, trouble forming relationships, and dislike being in crowds. All of which makes placing a phone call, walking past crowds on campus, and talking to strangers difficult and unpleasant for most of them. The participants all described being discriminated against, misunderstood, stereotyped, and labeled as they felt that faculty and other students did not understand them.

The Andersen model stresses the access concept that certain groups of people have more or less access to care than others when access should not only be equal but fair (Aday & Andersen, 1974). The factors that contribute to that access tend to define those groups. The more malleable the factors can be, the more change comes about through the modification of policy and the implementation of new strategies and procedures.

Chapter 5 includes the discussion, conclusions, and recommendations for application and future research.

Chapter 5: Discussion, Conclusions, and Recommendations

The unique set of impairments and limitations presented by students with ASD make the accessing of campus-based nonacademic resources more difficult and complicated than their typically developed peers (Viezel et al., 2020). Each year, the rate of students entering college with disabilities continues to grow (Francis et al., 2019), but their mental well-being is relatively poor (Lei et al., 2019). Though many colleges provide reasonable accommodations and services for students with disabilities through the ADA (Americans With Disabilities Act of 1990, 1990), students with ASD have exceptional needs that cannot solely be met in the classroom (Barnhill, 2016). Some students with ASD may be unaware of the services available to them (Schott et al., 2021). Specifically, the need for mental health support often goes unmet because, for most colleges, these programs are voluntary, and the student must seek out these resources on their own (Cullen, 2015). Research has positively linked autism and mental health (Schiltz et al., 2021). Mental health services can yield positive results but are not always used by the college students who need them the most (Aldalaykeh et al., 2019). The Andersen behavioral model of health services use can be used to predict health service utilization (Andersen, 1995). This model is broken into three major factors, seven domains, and 28 individual determinants. Not all of the individual determinants were applicable to this study or relevant to the participants.

The purpose of this qualitative case study was to describe the experiences of college students with ASD when assessing their need to utilize campus-provided mental health resources. The three research questions were developed from the three major factors of the Andersen behavioral model of health services use: predisposing, enabling, and need-based.

RQ1: How do the predisposing factors of students with ASD influence their decision to access mental health resources?

RQ2: How do the enabling factors of students with ASD influence their decision to access mental health resources?

RQ3: How do the need-based factors of students with ASD influence their decision to access mental health resources?

A qualitative case study was an appropriate method for this study because it concerned one group of people (students with ASD) in one specific place (Disability Services Program at TU). Seven TU students with ASD currently receiving accommodations through the Disability Services Program were interviewed about their mental health history and current mental state. Specifically, the interviews with each participant created a powerful narrative and insight into understanding how they make their choices for care when it comes to their mental health.

The limitations of this study mainly concerned the study design, sample size, and the selection of a specific version of the Andersen behavioral model of health services use. The findings from this research may not be applicable to students with ASD who also choose not to disclose their disability status or seek accommodations of any kind. The selection of a single educational setting like TU limit generalizability since some smaller universities may not offer the same amount or quality of mental health resources, and some larger universities may offer more types of mental health resources to their student body.

The main findings of this study concerned the predisposing, enabling, and need-based factors from the Andersen behavioral model of health services use that influenced the decisions to seek campus-provided mental health care by college students with ASD. The predisposing factors that mattered the most were the presence of past illness, social structure, and attitudes toward health services. The enabling factors that had the most influence were the type of regular source and access to the regular source. The need-based factors that influenced the decision to seek help with mental health care were the general perceived physical state, the symptoms that are currently being experienced and past experiences as a person with ASD (including the original diagnosis). Eight themes emerged from data analysis that also contributed to understanding these phenomena.

The first section of this chapter discusses the findings in detail in relation to the literature review in Chapter 2, followed by the limitations and implications of this study. Recommendations for practical application and the need for future research are explained.

Discussion of Findings in Relation to Past Literature

The purpose of this study was to apply the Andersen behavioral model of health services use as a conceptual framework to the experiences of college students with ASD to understand and predict their utilization of campus-provided mental health resources. The findings indicated that there are several predisposing, enabling, and need-based factors that both facilitate students to seek help and impede them from seeking help for their mental health. The emergence of themes from the interviews was also helpful in determining future use.

RQ1: How do the predisposing factors of students with ASD influence their decision to access mental health resources?

The findings indicated that the predisposing factors that influence utilization were presence of past illness, social structure, and attitudes toward health services. The presence of past illness was supposed to be a major predisposing factor, according to Andersen. All seven participants stated that they had a major past illness or concurrent diagnosis with their ASD. Andersen has stated that the level of illness will usually correlate to the visits to a professional to receive care for it (Andersen & Aday, 1978). The sicker a person is, the more likely that they will have to continue to receive care. This result was mixed as some participants began counseling and quit while some did not bother to go at all, no matter how severe their past illness or coexisting diagnosis was. Some research has shown that students with ASD felt supported academically but did not feel that they were being supported through their mental health issues (Accardo et al., 2019). This proved true for this study as the participants were all receiving academic accommodations, but none were receiving help with their mental health on campus. Andersen also determined that age was a deciding predisposing factor in his model, that the older people get, the more care they need (Andersen & Aday, 1978). All participants were young adults, and their age did not factor into their decisions concerning their mental health. Social structure also played a vital role in utilizing mental health services; this will be discussed in the themes. Lastly, attitudes toward health services were the greatest predisposing factor influencing utilization and will also be discussed in themes.

RQ2: How do the enabling factors of students with ASD influence their decision to access mental health resources?

The findings determined that the enabling factors that influenced utilization were type of regular source of care and access to regular source of care. Mental health services on college campuses can vary greatly, and they address mental health in different ways (Bourdon et al., 2020). The participants had two in-person options for mental health services on campus and one virtual option for type of regular source of care. While most participants described using The Counseling Center, all seven were unaware that the Psychology Department Clinic was available to them. Only a few participants had heard of HealthApp, the virtual option, and no one had used it. Students cannot utilize a resource that they do not know about. Obviously, knowing what is available will influence the use. Andersen argued that the enabling variable that had the greatest impact on utilization was the presence of a familiar doctor in a familiar place or the regular source (Andersen & Aday, 1978). The meta-analysis on the Andersen model completed by Babitsch et al. (2012) also found that having a usual source of care led to increased service use. Theoretically, if students have a regular place to go and feel comfortable with their care, they will return. However, for this study, it was determined that access was the greatest factor in determining utilization. Access to regular source implies equal access to all of the people using that resource (Andersen, 1995). For people with ASD, it does not feel equal to them; it is an obstacle. Communicating their needs can be difficult, so a program that requires students to talk on the phone or explain what they are experiencing to a stranger can get the opposite result. Out of the participants that had tried counseling in the past, none of them are currently seeing a counselor on campus. They described their frustrations with phone calls and social awkwardness in their interviews.

RQ3: How do the need-based factors of students with ASD influence their decision to access mental health resources?

The findings indicated that the need-based factors that influenced utilization were perceived general state, symptoms, and diagnosis. Like the research of Graham et al. (2017), this study concluded that mental health need proved to be the strongest predictor of mental health service use. The perceived general state of the participants was how they thought about their own health and viewed their functional status (Andersen et al., 2016). The worse that people feel, the more likely they are to find relief from it. The participants who described their general state as poor and pessimistic were at the highest risk for mental health crisis and depression and low functionality but also least likely to seek care. However, Babitsch et al. (2012) determined that those with less than excellent self-reported health were significantly more likely to receive treatment. Out of the need-based factors, symptoms were the greatest predictor of mental health services use. Perceived need is the severity of the pain or discomfort from the symptoms that make service utilization explainable (Andersen et al., 2016). Participants experiencing many of the typical symptoms of ASD, especially social anxiety, were less likely to seek out help or even return to counseling. The hallmarks of ASD include difficulties with communication and social interaction (American Psychiatric Association, 2013), making ASD itself a possible barrier to mental health care utilization. Accardo et al.'s 2019 study, though, discovered that students with ASD requested more help in times of stress, particularly when they felt that their mental health was impacting their chance at success at college. The original diagnosis of ASD also mattered to the participants. They described the experience as either positive or negative and it influenced their opinions on counseling, therapy, and testing. Participants who found the process a positive experience had given counseling a chance. Participants who viewed the original diagnosis as negative have been hesitant to try it or see no need.

Discussion Concerning Model Language

Developed in the 1960s, the Andersen model has used some outdated terminology. The term “sex” in most versions of the model referred to only the biological differences between men and women (Colineaux et al., 2022). The term “gender” is used today and is a more inclusive term that refers to the observed, experienced, prescribed, or favored social differences of humans (Colineaux et al., 2022). The model was updated in the year 2000 version for vulnerable populations to “gender;” however, it still only included male and female for research. The aim of the model is to discover and change the inequalities among different populations and to make access to health care services both equal and fair. Not including every gender leaves many people out. Out of the five similar studies to this one, only two studies using the Andersen model used male, female, and transgender as their options for gender (Cavalhieri et al., 2019; Pilar et al., 2020). Pilar et al.'s (2020) study had 389 people identify as transgender, or 0.4% of their population. Cavalhieri et al.'s (2019) study had two people identify as transgender, or 1.1% of their population. Using the term "sex" for those studies would have left 391 people with the choice of not answering the question or having to lie, neither of which makes for good statistics. Gender should be left as an open-ended question so respondents can disclose their gender without having to choose from available options from the researcher.

The term "illness" in the Andersen models was also not appropriate for this study. While the models are not used for individual diseases or illnesses, they are beginning to be found useful for specific populations, such as the homeless (Gelberg et al., 2000). The population for this study included people with autism. Autism is not a disease or an illness and should be called "functional limitation." By adding "functional limitation" to the model instead of illness, it is possible that the Andersen model could predict health services use for many different forms of disabilities.

Lastly, the term "disability" is used in the model under need-based individual determinants. To clear up confusion, it does not mean permanent disabilities. The term refers only to the periods where the individual feels unable to function as they normally would and when they experience disruptions to activities of daily living (Andersen & Newman, 1973). People with autism are not considered incapacitated, as the model would suggest from the term alone. The model does propose that the greater an individual's disability (or incapacity from their illness), the greater their perceived need for services (Andersen & Aday, 1978).

Themes

The emergence of themes throughout data analysis also uncovered several factors that influenced the utilization of campus-provided mental health resources. These were things that the participants described as being meaningful to them and affected how they felt about themselves and others. It was interesting to get a small glimpse into how their thinking process worked and how they interpreted the world around them. They are broken down into the corresponding factors that they fall into in the model.

Predisposing Social Structure: First-Year Experiences

Some participants experienced a difficult first year at college. They described having trouble making friends and maintaining relationships. One participant felt homesick, and one only felt safe in his car. In their first year, on top of an already stressful situation, they also had to learn to advocate for their own health. The transition to both adulthood and college brings about more responsibility over both one's health and health care decisions (Cavalhieri et al., 2019). The research completed by Pilar et al. (2020) concluded that accessing campus services increased with every year the student was on campus, suggesting that college got even more stressful and students needed more support. This means that it is even more important for students with ASD to be well-established in getting help with their mental health as early as possible in college. Resources that aid and encourage students with socializing and communicating with peers appear to have the greatest result in transitioning students with ASD to college life and easing their stress levels (Colclough, 2018).

Predisposing Social Structure: Family Experiences

Family support was important to the participants. Some of them described the ways that their family helped them through their diagnosis, while others explained that they have strained and nonexistent relationships with their families. Family and friends can influence a person to seek or not seek health care (Andersen, 1995). Sometimes, those relationships are part of the reason for needing counseling. Weak social connections at home were associated with increased mental health needs (Graham et al., 2017).

Predisposing Social Structure: Social Experiences

The social experiences of the participants varied. Some of them talked about having a group of friends for support, while others stated that they had no friends and felt isolated and alone. Developing a social network is detrimental to adjusting to college life (Lei et al., 2019), and although students with ASD desire social relationships, they often find them difficult to initiate and maintain (Jackson et al., 2018). They can commonly feel ostracized and socially rejected due to challenges with communication (Viezel et al., 2020). This study aligned with the literature in that the students with no social support needed mental health resources the most.

Predisposing Social Structure: Medical Experiences

The participants shared many experiences about their past medical history and their feelings about doctors and hospitals in general. Participants that went to the doctor frequently as children and had negative memories of that tended to put things off until they could not anymore or avoid going now altogether. One participant carries a strong resentment toward all doctors. The Andersen model was not intended to be used for specific diseases, disorders, or illnesses (Lederle et al., 2021); however, attitudes toward services were a major deciding factor in utilizing campus-provided mental health resources for students with ASD.

Enabling Access: Counseling Issues

The factor that carried the most weight was the discovery of the issues that the participants had while trying to get counseling for themselves. Many expressed frustration with scheduling appointments, remembering appointments, and rescheduling missed appointments. Most of the hurdles the students faced required talking on the phone or speaking to a person face-to-face at a reception desk, both of which made them uncomfortable. Some of the hallmark ASD characteristics are social anxiety and limitations with communication. A positive relationship with someone else, especially a mental health professional, can be extremely beneficial to them in the event of a mental health crisis (Viezel et al., 2020). The problem seems to be maintaining the counseling relationship due to a communication breakdown. Research has shown that once they use services such as crisis centers and counseling, they are more likely to return (Sapadin & Hollander, 2022). The opposite proved true for this study, as none of the participants were currently using any campus-provided mental health resources even after using the service for a semester or more. Some research stated that students find some accommodations ineffective and stop using the ones that are not useful to them (Lyman et al., 2016).

Enabling Access: COVID-19 Experiences

The COVID-19 pandemic affected the participants in different ways. It did not affect some participants who enjoy solitude. For those close to their families, being unable to go home took a toll on their mental health. For some, being stuck indoors for so long caused depression and anxiety, and one participant even started harming herself to relieve the stress from depression. COVID-19 made millions of people physically sick but also brought with it increased depressive symptoms and stress and greatly raised the demand for mental health care among young adults in higher education (Turner & Siegel, 2022). People with ASD were at greater risk of COVID-related distress than their neurotypical peers (Adams et al., 2021). Prior research also showed that trauma through a natural disaster had the greatest impact on mental health in marginalized populations and those who usually have limited to no access to socioeconomic resources (Goldmann & Galea, 2014). The findings from this study lined up with the literature about the pandemic and depression.

Need-Based, Perceived: Living With ASD

Individuals diagnosed with ASD struggle with atypical social development and nonverbal communication (American Psychiatric Association, 2013). The participants all shared what living with ASD is like for them. They discussed the stereotyping, the struggles, the bullying, and what they wanted others to know about people with ASD. According to Hastwell et al. (2017), "It is a logical assumption that negative social interactions can be detrimental to personal well-being and mental health" (p. 102). Not a single participant felt that having ASD was a positive thing, and many of them felt that ASD is who they are.

Need-Based, Perceived: Coping Mechanisms

None of the participants currently use any campus-provided mental health resources but described how they cope with ASD. More than half of the participants have prescription medication to help them with ASD symptoms. Many also describe finding friends, a social group, mentors, or a sorority. Others use exercise, video games, and music as a way to escape uncomfortable situations and feelings. These coping mechanisms that make them feel comfortable could be worked into current mental health resources to increase engagement through the positive ways that the participants themselves described as things that help them feel better.

Implications

This research aimed to understand the decisions made by college students with ASD regarding their use of campus-provided mental health resources by using the conceptual framework of the Andersen behavioral model of health services use. The main implication was the same as Pilar et al.'s (2020) study concerning college students (without ASD) using on-campus mental health resources. They concluded that the Andersen model makes a good starting point for understanding these phenomena, but there are other variables that are not listed in it that play a crucial role. This study's population was different from theirs, but the variables seemed to align. In both studies, the importance of support systems, either family or peers (or both), was detrimental to the student's mental health. Students who were at the greatest risk of mental health crises had neither. Diagnosis and prior service use also played a role in current service use. However, it was determined that the presence of social anxiety and difficulty with communication directly affected access to mental health resources. This aligns with previous research on ASD that social limitations can interfere with daily life, relationships, and even physical health.

This study also determined that there are no special policies or procedures for maintaining or engaging students with ASD and counseling services. Disability services accommodate students with ASD, but all other programs on campus are designed for the neurotypical student. Disability services and mental health services work independently, but it would be in the best interest of students with ASD to collaborate and provide them with both academic and mental health accommodations in one place. The participants described the process of attaining counseling services. If they felt it was too hard or took too much effort on their part, they just gave up. As past research has suggested, this study also concluded that mental health resources are underutilized. None of the participants currently use any mental health resources provided by the university. Mental health services can yield positive results but are not always used by the college students who need them the most (Aldalaykeh et al., 2019).

Lastly, current research on people with ASD is more clinical in nature. It focuses mainly on symptoms and identifying characteristics of ASD. Research concerning the experiences of college students with ASD in their own words is scarce. This research hopes to amplify the narratives of these students to increase awareness of the importance of positive mental health and influence policy and procedure changes for college students with ASD.

Recommendations

The findings of this study, through the narratives of the students with ASD, present opportunities for both practical application and future research. By understanding the unique perspectives of these students, college mental health programs can better anticipate their needs and effectively engage them. With the number of college students with ASD increasing every year, there is still much left to study about their mental health needs (Bourdon et al., 2020).

Recommendations for Practical Application

Many participants expressed frustration with scheduling counseling appointments and making phone calls. A shared characteristic among the participants was social anxiety (deficits in their ability to communicate and socialize with others). This poses a problem when the current system for getting counseling requires both. Changes to the intake process and asking the student how they prefer to be contacted (email, text, phone call, etc.) could make an enormous difference in both utilization and continued engagement with counseling.

Some participants also described difficulty in remembering, keeping, and rescheduling appointments. If there were appointment policies specifically for students with ASD, such as frequent text message and email reminders, automatic rescheduling, and virtual counseling options, perhaps these students would find less difficulty in maintaining counseling over a significant period. Many participants also expressed interest in HealthApp, the virtual option offered by TU but did not remember hearing about it before. Frequent email or text reminders specifically for HealthApp (instead of inclusion at the bottom of college newsletters) to let the students know they always have a 24/7 option available to them is another possibility for practical application.

Referrals from TUF for students with ASD to TCC should also be managed differently. For students who have anxiety about making and receiving phone calls, referrals should be sent by email or text message so the student with ASD does not feel anxiety when the phone rings. Some participants also had not done any autism research or had anyone explain ASD to them. Autism education could be beneficial for students with ASD without a support system and for college staff. Lastly, when the student with ASD has a counselor, it is important for them to continue to keep seeing and talking to the same one. A positive relationship with someone else, especially a mental health professional, can be extremely beneficial to them in the event of a mental health crisis in the future (Viezel et al., 2020).

Recommendations for Future Research

First and foremost, the results of this study indicated the need to research the best methods of communication for college students with ASD. Mental health resources cannot be accessed or utilized if these students continue to have communication barriers. This can be done through direct surveys of college students with ASD upon applying to college. This study examined a population from one college disability services program, which requires disclosure of functional limitations. Future research could be extended campus-wide as to why some students with ASD choose to disclose their disability and some do not. Increasing the population size and completing more interviews in a similar study to this one would produce even more narratives of college students with ASD, contributing to the literature where little is currently known. College students with ASD could also be surveyed to discover which college-provided programs they find most beneficial to them on campus and which ones they tend to avoid (and why). Quantitative studies could be done with campus-provided mental health resources for the mental health issues most commonly seen with ASD and the average length that students with ASD stay in counseling. Of interest to this study, it would be remarkable to find out why students with ASD also quit going to counseling.

Limitations

There were several limitations in this study. The small sample size could be seen as a limitation as only one-third of the qualified population participated; however, it is still believed that saturation was achieved. The sample size could have gone as high as 12 but was intentionally kept relatively small to focus on the participants' experiences, as is typical for qualitative case studies. This could pose a problem for transferability and generalizability. It is possible that students with ASD in other comparably sized universities could experience the same results. It is anticipated that the findings from this study will be transferable to other private mid-sized doctoral-level institutions with large disability services programs.

Other limitations involved the selection of a specific version of the Andersen behavioral model of health services use. The model has undergone many changes and has evolved several times over the last 50 years, but the current version was not chosen. This version of the model was chosen because it contained the most factors that could influence people living with ASD and matching factors from the literature that contribute to overall mental health. There are factors that could influence mental health that were not included in this (or any Andersen model) yet. The Andersen model was also not designed to interpret health care use for any specific illness, disease, or disorder (Lederle et al., 2021).

The last limitations concerned me as the researcher and the participants. The participants were required to remember things from their past up to 15 years ago, which could have introduced recall bias to the study. However, it was believed that all participants were as honest as they could be as there were no incentives for deception. Some participants were also shy and quiet and had impediments with speech, making it difficult to understand what they were saying at some points. As a result, transcribed interviews were sent to each participant to mitigate this limitation. Lastly, underlying researcher bias was present because of my background and experience as a parent of a special needs child who has experienced firsthand a lack of available and utilized school resources. This bias was addressed through my keeping a reflexive journal before, during, and after participant interviews to help ensure that the limitations listed did not affect the interpretation of the findings of this study.

Conclusion

Each year, the rate of U.S. students entering college with disabilities continues to grow (Francis et al., 2019), but their mental well-being is relatively poor (Lei et al., 2019), and mental health services are usually underutilized (Aldalaykeh et al., 2019). This study was designed to apply the conceptual framework of the Andersen behavioral model of health service use to the experiences of college students with autism to predict using campus-provided mental health resources. The seven participants getting accommodations from a disability services program shared their experiences with their mental health and how they live with ASD. The findings from this study answered the research questions by identifying the predisposing, enabling, and need-based factors from the model that influenced the use of these services the most. The predisposing factors with the greatest influence were the presence of past illness, social structure, and attitudes toward health services. The enabling factors that influenced utilization the most were type of regular source (knowledge of the source) and access to regular source. The findings indicated that the need-based factors that most impelled utilization were perceived general state, symptoms, and diagnosis.

The research results align with previous research using the Andersen behavioral model of health services use in that it covers most factors, but not all, that influence utilization of services. Some factors of the model that typically weigh heavy on service use, such as health insurance and age, were not applicable to college students with ASD. The model also does not address permanent limitations or deficits caused by disabilities, only the length of time one is incapacitated due to symptoms. College students with ASD can experience social limitations that greatly affect their daily life, relationships, and physical health. The results also infer the importance of social support either from family members or peers, preferably both. Students at greatest risk of poor mental health had no support. Communication and social anxiety play a key role in accessing mental health resources for students with ASD. The hallmarks of ASD include difficulties with communication and social interaction (American Psychiatric Association, 2013), making ASD itself a possible barrier to mental health care utilization. Unless there are changes made to current intake and scheduling procedures for campus-provided mental health resources, communication limitations and social deficits will continue to be a barrier for students with ASD accessing these services that they desperately need.

Andersen suggested that where there are mutable enabling factors, this framework could be used to change negative patterns of access (Ashton, 2008). In this research, that would be the knowledge of the regular source of care and access to the regular source of care. Students with ASD need to know what they have available to them and a simplified and comfortable way to get to it. Access to mental health resources should be both efficient and effective, but it is neither if the barriers to reaching it are too high.

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Appendix A: Demographic Questionnaire

1. Age :

2. Gender:

3. Race:

4. Ethnicity:

5. Marital Status:

6. Religion:

7. Classification: Freshman, Sophomore, Junior, Senior, Graduate

8. Occupation_________________________Full- or part-time?

9. Yearly Income

10. Including you, how many in your family?

11. Do you have a car?

12. Do you have health insurance?_________________(Through parents, work?)

13. Living Situation
Live on Campus
Live Off Campus (but attend in person)
Online student

14. Who currently lives with you?

15. What state are you originally from?

16. Current physical status? (poor, fair, good, excellent)

17. What social media do you currently use?

18. What kind of diet do you follow? (normal, vegetarian, keto, etc.)

19. Do you drink alcohol? Regularly, rarely, never
Smoke cigarettes/vape? Regularly, rarely, never
Recreational drugs? Regularly, rarely, never

20. Do you exercise? Regularly, rarely, never

Appendix B: Interview Protocol

The participant consent form must be signed. The demographic questionnaire in Appendix A was answered first by the participants via email. An introduction was given by the researcher as well as a description of the interview process. The remaining questions are the predisposing, enabling, and need-based factors related directly to the research questions.

Introduction Script

Hello, I'm xxxxx, a doctoral student at ACU studying ASD and mental health. How are you today? I want to thank you for agreeing to help me learn as much as I can about how college students use their campus-provided resources. Today, you will answer questions that I believe will help me do just that. First, your comfort level is important. I want you to be aware that this interview could last an hour but that you can stop at any time, and we can continue at a later date when you are ready to resume. This interview is strictly voluntary. It will be recorded so that I can write down exactly what is said later, but your personal information and real name will never be used in anything that I write. I'm going to assign you a number and that will be how you will be identified in my research. After I get a written copy of our interview, I will email it to you to make sure that I understood what you shared with me. Your email is _________________? Is that correct? If at any time you are uncomfortable or prefer not to answer a question, just say "next," or if you prefer to end the interview, just let me know and we will conclude the interview. I appreciate any information that you are willing to share with me. Do you have any questions for me before we start?

The first few questions are specifically about autism. Can you tell me what you remember about when you were diagnosed?

How do you feel about having autism?

How informed do you feel about your diagnosis?

Have you done any of your own research on autism?

What autism symptoms do you experience?

Do you have any other diagnoses?

Have you had any other major illnesses?

Have you ever been admitted to the hospital?

Are you currently taking any medication?

Do you have trouble sleeping?

Now I'm going to ask about your experiences in college so far.

What accommodations are you currently receiving?

Have you ever felt loneliness in college?

Have you ever felt depressed in college?

Have you ever felt anxious about taking college classes?

Did you ever ask for help during these times (friends, family, professionals, hospital)?

Can you describe anything about your ASD that would make seeking mental health services more difficult (for example, having to talk to people, paranoia, anxiety, crippling depression, etc.)?

Can you describe your very worst day and how you would ordinarily manage that?

Can you tell me what mental health resources are available to you as a student (on-campus, off-campus, online)?

Do you know where they are located?

Do you know their operating hours?

Have you ever used the counseling center on campus?

Have you ever used the free counseling on HealthApp?

The next few questions are about self-harm and suicide. Is that ok?

Have you ever had thoughts about hurting yourself?

Have you ever hurt yourself on purpose?

Have you attempted suicide?

Did you ever ask for help during those times? (friends, family, professionals, hospital)

Can you describe your feelings during the COVID-19 pandemic?

Do you know where the nearest hospital is in case of an emergency?

How do you feel about going to the hospital when you are sick?

How often would you say that you see a doctor (for anything)?

Do you think counseling services would actually be helpful to you when you are feeling depressed?

Are you using the counseling center or psychology clinic now?

Why or why not?

Can you describe what counseling has been like for you in the past?

Some of the mental health services on campus are not free. Would you still ask for help if you had to pay?

Some of the mental health services on campus are only open on specific days. Would you feel comfortable waiting for help if you had a mental emergency?

What would you consider a mental health emergency serious enough to seek help?

Where do you usually go if you have an emergency? (make a doctor appt., Urgent Care Center, Emergency room, dial 911)

Are you the type of person who would get help as soon as you know you need it or do you tend to put things off?

Did you go to the doctor or hospital a lot as a child (or for checkups)?

Do you describe yourself as a happy person?

What do you think universities should know about students with ASD?

Is there anything else that you want to add?

I want to thank you again for your time and for sharing your personal history with mental health while in college with me. Once again, this interview is strictly confidential. I will get right to work writing down our conversation, and I will email it to you as soon as I can. Thank you and have a great day!

Appendix C: IRB Approval Letter

Date: December 1, 2022

PI: Estella Lilyquist

Department: 18205-ACU Dallas CGPS - Fixed, ONL-Online Student

Re: Initial - IRB-2022-72

Does the Andersen Behavioral Model Explain the Use of Campus-Provided Mental Health Resources by College Students with Autism?

The Abilene Christian University Institutional Review Board has rendered the decision below for Does the Andersen Behavioral Model Explain the Use of Campus-Provided Mental Health Resources by College Students with Autism? . The approval is effective starting December 1, 2022.

Admin Check-in Date: --
Expiration Date: --
Decision: Approved

Category: 7. Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

Research Notes:

Additional Approvals/Instructions:

Upon completion of this study, please submit the Inactivation Form within 30 days of study completion. If you wish to make any changes to this study, including but not limited to changes in study personnel, number of participants recruited, changes to the consent form or process, and/or changes in overall methodology, please complete the Modification Form. If any problems develop with the study, including any unanticipated events that may change the risk profile of your study or if there were any unapproved changes in your protocol, please inform the Office of Research and Sponsored Programs and the IRB promptly using the Incident Report Form. All approval letters and study documents are located within the Study Details in Cayuse IRB.

The following are all responsibilities of the Primary Investigator (PI). Violation of these responsibilities may result in suspension or termination of research by the Institutional Review Board. If the Primary Investigator is a student and fails to fulfil any of these responsibilities, the Faculty Advisor then becomes responsible for completing or upholding any and all of the following:

- If there are any changes in the research (including but not limited to change in location, members of the research team, research procedures, number of participants, target population of participants, compensation, or risk), these changes must be approved by the IRB prior to implementation.
- Report any protocol deviations or unanticipated problems to the IRB promptly according to IRB policy.
- Should the research continue past the expiration date, submit a Continuing Review Form approximately 30 days before the expiration date.
- When the research is completed, inform the Office of Research and Sponsored Programs. If your study is Expedited or Full Board, submit an Inactivation Form.
- According to ACU policy, research data must be stored on ACU campus (or electronically) for 3 years from inactivation of the study, in a manner that is secure but accessible should the IRB request access.
- It is the Investigator's responsibility to maintain a general environment of safety for all research participants and all members of the research team. All risks to physical, mental, and emotional well-being as well as any risks to confidentiality should be minimized.

For additional information on the policies and procedures above, please visit the IRB website
http://www.acu.edu/community/offices/academic/orsp...
or email orsp@acu.edu with your questions.

Sincerely,

Abilene Christian University Institutional Review Board

Appendix D: Recruitment Email Template

From: xxxxx@acu.edu
To: (Prospective Participant Email)
Subject Line: Would you be interested in a research study?

Email Body Message:

Hello (Participant),

I’m xxxxx, a doctoral student at Abilene Christian University. I’m currently planning on conducting a research study on mental health and college students with autism (ASD). I’m trying to understand what makes them use (or not) the mental health resources provided by the university. If you are interested in participating, please check below to see if you meet my criteria:

1. A college student at TU in the Disability Services Program.

2. A diagnosis of autism spectrum disorder.

3. Age 18 or older.

4. Access to a computer or smartphone for an interview through Zoom or telephone.

Each interview is expected to take about 1 hour. This can also be broken up into (2) half-hour sessions.

If you meet all four criteria, please reply back to me so that we can discuss your future participation in my study. Thank you very much for your time and consideration!

Sincerely,
Estella Lilyquist
ACU Doctoral Student

Appendix E: Participant Informed Consent Form

College students with autism have many mental health resources available to them at any given time. I am interested in determining what makes a student choose to use them or not. I am wanting to interview participants of the disability services program who are 18 years of age, have been diagnosed with Autism Spectrum Disorder, and who have access to Zoom or a smartphone.

You may be able to take part in a research study. This form provides important information about that study, including the risks and benefits to you as a potential participant. Please read this form carefully and ask the researcher any questions that you may have about the study. You can ask about research activities and any risks or benefits you may experience. You may also wish to discuss your participation with other people, such as your family doctor or a family member.

Your participation in this research is entirely voluntary. You may refuse to participate or stop your participation at any time and for any reason without any penalty or loss of benefits to which you are otherwise entitled.

PURPOSE & DESCRIPTION: I am wanting to understand what makes college students with autism more likely or less likely to use the counseling center or counseling app provided by your college campus in times of mental distress.

If selected for participation, you will be asked to attend one visit with the study staff over the course of one day. Each visit is expected to take 1 hour (or two half-hour sessions). During the course of these visits, you will be asked to participate in the following procedures: a Zoom interview or telephone call to discuss autism and mental health. Audio and video will be recorded.

RISKS & BENEFITS: There are risks to taking part in this research study. Below is a list of the foreseeable risks, including the seriousness of those risks and how likely they are to occur: there will be questions about self-harm and suicide, which may make some participants uncomfortable. There is always the risk of breach of confidentiality. Steps will be taken to minimize this risk as much as possible to protect your privacy.

There are potential benefits to participating in this study. Such benefits may include awareness of mental health and the impact it can have on general health. The researchers cannot guarantee that you will experience any personal benefits from participating in this study.

ALTERNATIVE PROCEDURES: There may be other options available to you, which include: Turning off your camera during Zoom. A telephone interview instead of Zoom. The interview time length is estimated to be one hour. This can be accomplished in one sitting or in two or more sittings according to your comfort level with being interviewed.

PRIVACY & CONFIDENTIALITY: Any information you provide will be confidential to the extent allowable by law. Some identifiable data may have to be shared with individuals outside of the study team, such as members of the ACU Institutional Review Board. Otherwise, your confidentiality will be protected by removing all identifying information. All participants will be given a number. All responses will be coded by theme. All raw data will be stored on a password-protected account for the researcher on a password-protected laptop. Any documents related to the study will have all identifying information removed. They will be stored in a single filing cabinet and the researcher has the only key.

COLLECTION OF IDENTIFIABLE PRIVATE INFORMATION OR BIOSPECIMENS: After identifying information is removed, your data, with or without identifiers, will **not** be used for any other research purposes other than those described herein.

CONTACTS: If you have questions about the research study, the lead researcher is Estella Lindquist, doctoral student and may be contacted at xxx-xxx-xxxx, xxxxx@acu.edu (address redacted for privacy). If you are unable to reach the lead researcher or wish to speak to someone other than the lead researcher, you may contact Joel Scott Self, PhD., xxxxx@acu.edu. If you have concerns about this study, believe you may have been injured because of this study, or have general questions about your rights as a research participant, you may contact ACU's Executive Director of Research, Qi Hang, at xxxxx@acu.edu.

Additional Information

There will be 12 participants enrolled in this study.

There may be unexpected risks associated with your participation in this study and some of those may be serious. We will notify you if any such risks are identified throughout the course of the study, which may affect your willingness to participate.

Your participation may be ended early by the researchers for certain reasons. For example, we may end your participation if you no longer meet study requirements, the researchers believe it is no longer in your best interest to continue participating, you do not follow the instructions provided by the researchers, or the study is ended. You will be contacted by the researchers and given further instructions in the event that you are removed from the study.

Consent Signature Section

Please click the button below if you voluntarily agree to participate in this study. Click only after you have read all of the information provided and your questions have been answered to your satisfaction. If you wish to have a copy of this consent form, you may print it now. You do not waive any legal rights by consenting to this study.

____________________________ ____________________________ _________________
Printed Name of Participant Signature of Participant Date

____________________________ ____________________________ _________________
Printed Name of Person Obtaining Signature of Person Obtaining Consent Date