

IMPACT OF SUPPORTS FOR COLLEGE STUDENTS WITH DISABILITIES
SIGNIFICANCE OF ACADEMIC AND SOCIAL/EMOTIONAL ACCOMMODATIONS AND
SUPPORTS: EXAMINING THE PERCEIVED IMPACT ON COLLEGE STUDENTS WITH
DISABILITIES

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ABSTRACT

College students with disabilities are attending college at increasing rates. However, their success and retention still lag when compared to their non-disabled peers. This mixed methods research design aimed to look at perceived success and challenges that college students with disabilities faced. Using both a survey and an open-ended interview, the researched examined what areas students felt were areas they used the most to support their success, areas of social/emotional need, executive functioning challenges and resources to address those needs, as well as additional stressors faced. The researcher aimed to address the following research questions: 1. What academic supports benefit students with disabilities the most at the college/university level? 2. What level of importance does social and/or emotional supports factor into the retention of students with disabilities in higher education? 3. What executive functioning capabilities present the biggest challenge(s) for students with disabilities in college/university? 4. What other stressors (such as finances, family support, virtual learning, etc.) factor into the retention and success of students with disabilities in college?

Through qualitative and quantitative analysis and thematic coding, the following themes emerged: (1) professor office hours are most beneficial academic support, (2) campus resources are least beneficial academic support, (3) the social experience is an important aspect to college life, (4) emotional wellbeing greatly impacts the college experience, (5) starting tasks is the most challenging aspect of executive functioning, (6) planners and/or calendars are the most effective tool to address executive functioning challenges, and (7) academic performance is a significant stress factor.

DEDICATION

For my students. Those I have taught in the past, those I have the privilege to teach now, and those I aspire to teach in the future. Thank you for inspiring me to take on the challenge.

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To my husband, John: Thank you for encouraging me to take these next steps in my career and supporting me as I pursued this dream. Your love and support have helped carry me through the difficult times throughout this process. Thank you for being my supporter.

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Chapter I

Introduction

Students with disabilities are attending college and university programs at rates that have nearly doubled in recent years (Snyder & Dillow, 2010; Snyder, de Brey, & Dillow, 2019). The percentage of students with disabilities enrolled in undergraduate programs at postsecondary institutions in 2003-04 was reported as 11.3% and 2007-08 fell only slightly to 10.8% (Snyder & Dillow, 2010). While overall enrollment remained relatively consistent, enrollment of students with disabilities increased to 19.4% by 2015-16 (Snyder, de Brey, & Dillow, 2019). It is possible that undisclosed students with disabilities have been attending college and university programs in varying rates in the past. The passage of legislation such as Section 504 of the Rehabilitation Act of 1973, the Individuals with Disabilities Education Act (IDEA), and the Americans with Disabilities Act (ADA), made it accessible for individuals with disabilities to attend programs in higher education. As a result, institutions of higher education must not only make their campuses accessible to students with disabilities, but they must also be prepared to respond to and effectively educate the increasing number of those students that are enrolling on their college campuses. This chapter will discuss the statement of the problem, the organizational context, existing research, the significance of the topic, delimitations, and definitions of terms.

Statement of the problem

While students with disabilities are enrolling in higher education at an increasing rate, their retention rates, and on-time completion, fall below that of their non-disabled peers (Hinz et al., 2017; NSC Research Center, 2019). While college and universities are enrolling and welcoming these students to their campuses, the problem suggests that higher education institutions are still grappling with how to best respond to their unique needs in order to promote

and maintain their success through graduation. Data from the National Center for Education Statistics (Hinz et al., 2017) shows that in 2011-12, 36.5% of first-time post-secondary students with any disability left college after 2 years with no degree and no plan to return. This is up from 21.9% from 2003-2004. When looked at specific disability type, 31% of college students with attention deficit disorder as their disability did not complete a degree program (NCES, 2019). Likewise, 30.1% of college students with mental illness/depression as their reported disability also did not complete a degree program (NCES, 2019). Comparatively speaking overall, first-year persistence and retention rates in the fall of 2017 across all institutions for all students revealed a 73.8% overall retention rate, with 61.7% of students returning to their starting institution and 12.1% continuing enrollment at another institution (NSC Research Center, 2019). While it is believed that having a disability inherently makes the college experience more challenging for the student through possible academic barriers, social setbacks, and navigating a physically less accessible world, it is still not completely evident which contributing factors lead to the low retention rates of these students. If college and universities could better identify the factors contributing to success, they could use this information to provide the needed support. Additionally, if the primary challenges and stressors that may contribute to students with disabilities' decline in success or eventual dropping out are identified, these could be targeted areas of intervention. Higher education institutions would be interested in this information as it could improve overall retention numbers and academic performance of the university, as well as offer the financial benefit of retaining students both with and without disabilities. As concluded by Simpson (2005), "there are clear financial benefits and returns on investment to individual students, institutions and governments in increasing student retention, even if quantifying these is a very approximate science" (p. 42).

Secondary education programs may also be interested in this information, as the transition from high school to college is a significant step in the education process of a student with a disability. With the provisions set forth by Every Student Succeeds Act (ESSA) in 2015, college and career readiness measures are a primary focus of academic readiness across states. ESSA requires states to evaluate public schools on multiple measures of college and career readiness which include proficiency in math and reading, four-year adjusted cohort graduation rate, percentage of students making progress toward English language proficiency, and an additional indicator of school quality or student success (English et al., 2016). Focusing on a well-rounded education that prepares students for college and career post-secondary is a local initiative by public schools to help prepare students to gain certification, which lead to an eventual degree. Identifying difficulties faced by struggling students could also allow secondary education programs to target and plan specific programming to address these needs.

Students within the K-12 setting that qualify for special education services under the Individual with Disabilities Act (IDEA) receive an Individualized Education Program (IEP). The IEP must include transition goals and services requirements on the first IEP in which the student turns 16, or younger if determined appropriate by the IEP team. If the student's post-secondary education goal is to go to college, then their transition goals and services are designed to support that transition. Post-secondary transition goals often focus on areas such as adult living skills, employment development, instruction, community experiences, related services, and daily living skills. As students are making the transition from high school to college these areas, among others, are considered by the IEP team with respect for what activities and supports are needed to assist the student in making progress towards their postsecondary goals. This may also include indicating the person, or people, responsible for assuring these activities and

supports are provided. Knowing potential yet specific challenges that these students commonly experience when they go to college may provide areas of targeted goals that they and their families can focus on during the transition planning process during the IEP development. Transition planning often focuses on preparing students to overcome challenges, therefore knowing the potential problems and challenges they may encounter in higher education could make for more meaningful transition planning discussions.

Organizational Context

In order to frame this study, it is important to consider the theoretical work of Vincent Tinto (1975;1993) and Alexander Astin (1999). These researchers examined the persistence and involvement of college students. Persistence can be defined as the percentage of students who return to college at any institution for their second year. Alternatively, student involvement refers to the amount of energy a student devotes to the academic experience of college (Astin, 1999). These are both factors which affect a student's retention at a higher education institution. Before looking specifically at what retains students with disabilities, consideration must first be given to existing theories that have been widely influential in understanding the success of general college persistence. In Vincent Tinto's (1975) "Model of Student Departure," he attributes success to the interactions and integration between the student and the academic and social systems of their institution which subsequently increase the rate of retention. Tinto's theory ultimately emphasizes that the more the student is involved, and the more they feel a sense of belonging at their university, the more likely they are to persist in college enrollment.

Complementing Tinto's theory, Alexander Astin (1999) built off of his own "Input-Environment-Output" Theory which was later refined into his "Theory of Involvement". This theory refers to the amount of physical and psychological energy that students devote to an

academic experience which defines their involvement and participation in their own learning process. Astin (1999) describes a highly involved student as one who devotes energy towards studying, spends time on campus, actively participates in student organizations, and interacts frequently with faculty members and other students. The longitudinal study of the effects of student involvement showed that involvement contributes to persistence while students that dropped out inferred lack of involvement (Astin, 1999).

Tinto and Astin's theories alone are not adequate in explaining the theoretical framework of this topic. However, both recognize the significance that student involvement, integration, and sense of belonging play in the retention process for all students. Using this framework as a baseline, it is important to consider what additional unique variables students with disabilities may have that contribute to their persistence in higher education or unfortunately push them towards dropping out. Examination of college students with disabilities is then done with the contextual understanding that additional consideration should be given to academic supports, social/emotional supports, executive functioning needs, as well as other factors, as current research has identified all of these being areas of considerable discussion.

Existing Research

In order to better understand this problem, it is important to consider the existing academic support that students with disabilities are receiving in higher education. Academic supports might come in the form of tutoring in a specific content area provided by peers, an academic coach, or possibly the course professor. In addition to tutoring services these academic supports might also include study sessions, open labs, meetings with advisors, writing labs, and research support.

Accommodations are also one of the primary academic supports that this group of students may seek to use on campus in compliance with Section 504 of the Rehabilitation Act of 1973 or the Americans with Disabilities Act (ADA). Possible accommodations students might request and use include, but are not limited to, extended time on tests, voice to text software, accessible ramps, American Sign Language (ASL) interpreters, etc. While majority of the academic supports come in the form of accommodations, some students may receive modifications. Modifications may come in the form of assignment modifications where the length or content is reduced, or due date is extended. Other examples of possible modifications might be to the program of study or policy itself, such as allowing service animals into certain facilities or rescheduling classes to meet in accessible locations. All reasonable accommodations, or modifications, are made on an individualized basis to meet the specific needs of the student. Students often have to request these accommodations in advance and in accordance with their college disability services policies.

Academic Supports

Academic supports include not only what accommodations students may be receiving, but also what direct services and teaching methods they are engaging. Universal teaching methods implemented by professors within their curriculum provide direct support through their instruction. Campus wide initiatives that have researched evidence of appealing to multiple learning styles, such as the Universal Design for Learning (UDL), are academic supports that students with disabilities may benefit from. UDL follows a framework that promotes the use of curriculum and materials that can be understood by everyone to gain knowledge, skills, and enthusiasm for learning for all students (CAST, 2020). The UDL framework includes

information that is presented to students in a variety of ways, choices that are given to students to demonstrate their knowledge, and options to engage students (CAST, 2020).

Research surrounding commonly used academic supports also considers the perceived effectiveness of academic advising for college students with disabilities. Supporting literature in the area of these students' academic advisement focuses directly on the impact towards the students' overall educational success and GPA, which is a contributing factor to persistence in higher education.

Social/Emotional Supports

Using Tinto and Astin's theoretical framework as a guide, the use and need of social and/or emotional supports are also prevalent in research discussing college students with disabilities. Social and emotional supports may include counseling services, education programs, social groups and clubs (Hillier et al., 2018), as well as possible accommodations such as emotional support animals (ESA) (Bedrossian, 2018). Existing research focuses on the satisfaction of the experiences of students with disabilities in meeting their social/emotional needs thus making them feel a greater sense of belonging. According to research conducted by Fleming et al., (2017) significant relationships exist between sense of belonging and student satisfaction. Of the participants in their study, 67.8% of college students with disabilities reported complete college choice satisfaction. Another 16.7% were satisfied with the college itself, but not the program, which only left 13.3% that would select a different college and the final 2.2% that would have not attended college at all (Fleming et al., 2017).

In addition, the topic of motivation is also discussed within the research in regards to the specific factors that it contributes towards the motivation and attitude of this group of students. There are a variety of motivational factors that may affect a college student's motivation to work

and learn. One such factor is the need for achievement, which Hall, Spruill, & Webster (2002) found that learning disabled (LD) college students had a significantly higher need for compared to non-LD-students.

Additionally, bullying and abuse among students with disabilities as victims is prevalent at a rate twice high as traditional bullying and abuse of students without disabilities (Kowalski et al., 2016). Bullying and abuse is also considered under the social/emotional context of research examining the trends of bullying and cyberbullying, as well as abuse rates, among college students with abilities. Being able to deal and cope with bullying and abuse requires a set of skills that are continuously shaped by a person's experience.

Executive Functioning

Engaging in social interactions, such as responding to bullying, requires students to use mental skills and strategies to manage these experiences. When students utilize a set of mental skills that are practiced throughout their academic and social/emotional experiences they are employing executive functioning skills. The mental skills exhibited through the executive functioning of college students with disabilities are responsible for such competences as self-monitoring, organization, and metacognitive strategies. The college experience compels students to engage in an environment that requires them to manage time, academic expectations, and social interactions. In doing so, students are employing numerous executive functioning skills in order to stay organized, prioritize their time, and balance the numerous expectations of college life. Students with disabilities that struggled with executive functioning before they went to college will likely continue to struggle in areas of the college environment that mirror those. If a student struggled with staying organized, prioritizing time, and self-monitoring their own work while in high school, transitioning to the college environment may prove to be challenging since

there are more opportunities for students to be independently organized and self-motivated. Research considering the executive functioning needs of this group of students, as well as a myriad of other contributing stressors they may experience such as first-generation college status, substance abuse, and overall quality of services, help facilitate the discussion about potential barriers to success college students with disabilities might experience beyond just academic barriers.

Significance

While studies have been conducted that have looked at various aspects of the college experience for students with disabilities, there is still a need for a more comprehensive examination. As the literature shows, research focuses on one specific concept whether it be primarily academic supports (Kim & Lee, 2016) or social/emotional factors (Fleming et al., 2017). Limited research exists where multiple areas of college involvement are examined in order to consider the unique challenges and successes these students may experience. What does exist is largely limited in geographic scope or sample size. This study aims to fill the void in existing research by examining a broader spectrum of the college experience for the college student with disabilities. This will be done by examining their use of academic supports and social/emotional supports, as well as what executive functioning and/or other stressors that may contribute to their success or challenges. Still little is known about what additional stressors are specific and common among these students. Furthermore, this study will also look at disability category as a specific factor in order to provide disability-specific information.

Not only will this add to the existing research base, but it will also provide insight into the needs of struggling students for both higher education institutions and secondary programs. As higher education institutions continue to struggle with retention among these students, having

research that examines what may contribute to their overall success, as well as identifies barriers to their retention, would be of interest. While all colleges and universities work to be ADA compliant, some have specific academic coaching programs designed to support the needs of students with disabilities. This information can help these programs continue to respond to the needs of this current collegiate population.

Secondary programs, particularly high schools, develop student IEPs with post-secondary transition goals to address the student's plans for college. As information becomes available about the common challenges that students with IEPs in college experience, transition services may begin to focus programming addressing these in the K-12 setting in order to facilitate a smoother developmental change. It could potentially be of benefit to transition programming in schools, outside agencies, or in the resources that parents and students seek as they enroll and orient themselves to college during their freshman year (U.S. Department of Education, 2017).

Teacher preparation programs that have enrolled students with disabilities will also be interested in this information. With the passage of Every Student Succeeds Act (ESSA) in 2015, anyone employed as a special education teacher must obtain full certification to do so in that particular state. This includes alternative routes to certification or passing state special education teacher licensing examinations. They also must hold at least a bachelor's degree and have not had their certification or licensure requirements waived on an emergency, temporary, or provisional basis. Therefore, retaining and having students in teacher preparation programs finish their degrees would be of interest to higher education institutions (Goldhaber & Cohen, 2014). Especially those that are enrolling students with these needs in education training programs in geographical areas where teacher vacancies are prevalent.

The importance of students with disabilities in higher education can further be examined by looking at the following research questions: 1. What academic supports benefit students with disabilities the most at the college/university level? 2. What level of importance does social and/or emotional supports factor into the retention of students with disabilities in higher education? 3. What executive functioning capabilities present the biggest challenge(s) for students with disabilities in college/university? 4. What other stressors (such as finances, family support, virtual learning, etc.) factor into the retention and success of students with disabilities in college?

Delimitations

The survey used for this study was conducted during the Summer 2022 semester at the participating institution. Participating colleges and universities were from North Carolina, the southeastern region of the United States of America with varying enrollment sizes. Only schools from this region were selected which provides a geographically similar examination of the results. With the COVID-19 global pandemic, many colleges and universities adjusted their fall semester calendars therefore it was unclear if this would effect participation in the study with some schools ending their fall semester in November.

Participants surveyed were enrolled in one of the participating institutions as a full or part time student and had received services from their school's disability or accessibility services office within the last year. They completed the survey and agreed to participate in the interview as selected by the researcher. Participants interviewed have a reported GPA of 2.0 or higher, which is the common threshold for good academic standing.

Definition of terms

Accessibility: the ability to access, or benefit, from something which may include supports or services.

Accommodations: an adjustment or modification to the college environment creating access for the student with a disability. Examples of reasonable accommodations commonly used by college students with disabilities can include extended time on tests, separate setting, notetakers, voice to text software, sign language interpreters, ramps, etc.

Americans with Disabilities Act (ADA): civil rights legislation signed into law in 1990 by President George H.W. Bush that “prohibits discrimination against individuals with disabilities in all areas of public life, including jobs, schools, transportation, and all public and private places that are open to the general public” (ADA National Network, n.d.).

Disability: “Any condition of the body or mind (impairment) that makes it more difficult for the person with the condition to do certain activities (activity limitation) and interact with the world around them (participation restrictions)” (CDC, 2019).

Executive Functioning: a set of mental skills that are utilized by students throughout their academic and social/emotional experiences. Examples of these skills are working memory, cognitive flexibility, and inhibitory control. Commonly these may be thought of as skills such as paying attention, organization, starting tasks, regulating emotions, and self-monitoring. Trouble with these skills can make it hard to focus, follow directions, and handle emotions, among other things.

Individuals with Disabilities Education Act (IDEA): a four-part piece of legislation signed in 1990 by President George W. Bush that “makes available a free appropriate public

education to eligible children with disabilities throughout the nation and ensures special education and related services to those children” (U.S. Department of Education, n.d.).

Learning Disability- a disorder in one or more psychological process. This usually manifests itself as difficulties in specific areas such as reading, written expression, or mathematics (Learning Disabilities Association of America, 2012).

Metacognitive Strategies: methods used to help students understand the way that they learn in order to engage students in their own mental processes. These strategies employ organizing, reciting, summarizing/paraphrasing, planning, and prioritizing tasks that elicit believed benefits towards drawing students’ attention towards understanding how the mental processes that work best for them.

Office for Disability Services: Colleges and universities have a department or office that students with disabilities can connect with to request accommodations. While the name of the office differs from school to school, the office itself is responsible for determining eligibility for reasonable accommodations for students on the basis of disability. Accommodations may include academic adjustments and modifications, as well as assistive technology.

Section 504 of the Rehabilitation Act of 1973: A civil rights law that states that “no qualified individual with a disability in the United States shall be excluded from, denied the benefits of, or be subjected to discrimination under" any program or activity that either receives Federal financial assistance or is conducted by any Executive agency or the United States Postal Service” (U.S. Department of Justice, 2020).

Self-Advocacy: the ability to speak up for yourself and articulating your needs. It also means knowing one’s rights and responsibilities, speaking up for those rights, and making choices and decisions that affects ones’ life with this information.

Supports: The assistance that students with disabilities may receive. This may come in the form of academic supports, which could include educational services such as tutoring, accommodations, advising, academic mentoring, etc. This could also come in the form of social/emotional supports such as counseling, support groups, and specific opportunities for social interactions.

Transition: the academic, social, and emotional developmental changes that students encounter as they advance from high school to college.

Transition Program: beginning at age 16, or earlier if determined by the IEP team, a comprehensive plan that is driven by the post-secondary goals of the student. The transition plan includes the basic goals and structure for the student's preparation for life, education, and employment as independently as possible (U.S. Department of Ed., 2017).

Universal Design for Learning (UDL): a framework that promotes the use of curriculum and materials that can be understood by everyone to gain knowledge, skills, and enthusiasm for learning for all students (CAST, 2020). Includes information that is presented to students in a variety of ways, choices that are given to students to demonstrate their knowledge, and options to engage students (CAST, 2020).

Summary

Students with disabilities have been attending colleges and universities at increasing rates in recent years (Hinz et al., 2017; NSC Research Center, 2019). Along with their increased enrollment comes concern over how to support them throughout the college experience in an effort to retain them and allow them to persist at their chosen institution. Based on the framework of Tinto (1975;1993) and Astin (1999), students that are integrated and involved in their college environment show greater signs of retention and persistence yet students with

disabilities often face natural barriers to these interactions. Existing research examines the use of academic, as well as social/emotional supports, by these students in order to successfully access and engage with their college experience. Additional challenges faced by these students are explored by existing research which contribute to the supports they seek out as well as how high education institutions respond to meet their needs. Overall, their college experience is layered and complex. There are also gaps in terms of a comprehensive list of challenges and the supports for this group of students.

In the next chapter, the review of literature will consider the existing research on the topic of college students with disabilities. The population of focus are typically matriculating students that have self-identified as having a disability and are connected with their campus office for disability services. As students have made the transition into higher education, aspects including academic, social/emotional, and executive functioning, among other factors, are examined as contributing to their college experiences. The literature review will be followed by the research design which includes the action plan, data collection and analysis, site permission, presentation of results and limitations.

Chapter II: Literature Review

As students with disabilities are attending colleges and universities at increasing rates (Snyder, de Brey, & Dillow, 2019), research examining various aspects of their collegiate experiences have been added to the literature base. Like their non-disabled peers, college students with disabilities are engaged in the full spectrum of the college experience ranging from academic and athletic to social and emotional experiences. Their disability status adds an additional factor regarding what adds to, and deters from, their elements of success. This chapter will examine existing literature with regard to academic areas of concerns, as well as social/emotional supports used by students with disabilities in college to frame the understanding of what is currently being observed. Likewise, documented challenges exist for college students with disabilities in executive functioning. Exploring the literature that surrounds this research clarifies the impact of executive functioning deficits on some college students with disabilities. Lastly, this literature review will consider the ongoing nature of this research and consider emerging factors that contribute as stressors to these students.

Special education as we know it today began formally with the passage of The Education for All Handicapped Children Act (EHA) of 1975. This legislation established into law the right to education for all “handicapped students”. While EHA focused mainly on students in the K-12 setting, their access to education and due process helped pave the way for them to go to colleges and universities. Preceding EAHCA was Section 504 of the Rehabilitation Act of 1973. This civil rights law made it illegal for any program that receives federal financial assistance to discriminate against individuals based on their disability status (U.S. Department of Justice, 2020). Programs that were affected by this clause were many public colleges and universities making it illegal to deny entry based on disability status. It was in 1990 that the Americans with

Disabilities Act (ADA) was signed into law that prohibited discrimination against individuals with disabilities in all areas of public life, including schools (ADA Network, n.d.). With legislation such as Section 504 and ADA on their side, students with disabilities were able to access colleges in increasing numbers with the safeguard of reasonable accommodations. While it is unknown when students with disabilities first started to formally enroll in college programs, it can be said that special education and civil rights legislation made it easier and more accessible for them to do so. Enrollment continues to increase with more and more students disclosing their disability status once they enroll in post-secondary education programs.

With the introduction of legislation such as the Americans with Disabilities Amendments Act of 2008 and the 2008 Higher Education Opportunity Act, postsecondary institutions have continued to see a significant increase in the number of enrollments of college students with disabilities (Snyder & Dillow, 2010; Snyder, de Brey, & Dillow, 2019). Research from the National Center for Education Statistics (NCES) shows that 88% of all institutions are enrolling these students. This group of students constitutes one of the smallest minorities in education being researched presently, with little research being done specifically in areas of their college experience (Raue & Lewis, 2011). College students with disabilities have access to resources and accessibility services which are academic, as well as social, emotional, and financial in nature. These academic and emotional supports supplement the general college amenities such as residence life, dining services, recreation, and others. Consideration should be given to what specific supports these students are using that help facilitate their success and retention, as well as what areas of the college experience present the most challenges. As college attendance rates increase alongside disability awareness, challenges to meet the needs of students and the needs

of institutions continue to be a concern. While institutions are overwhelmingly welcoming students with disabilities to their campuses, many do not return to finish their degree.

Therefore, this literature review is guided by the following questions that have been developed for the proposed study: what academic supports benefit students with disabilities the most at the college/university level? What level of importance does social and/or emotional supports factor into the retention of students with disabilities in higher education? What executive functioning capabilities present the biggest challenge(s) for students with disabilities in college/university? What other stressors (such as finances, family support, virtual learning, etc.) factor into the retention and success of students with disabilities in college?

Academic Areas of Concern

Disability eligibility categories range from cognitive to physical. There are 13 categories of eligibility under IDEA. These include specific learning disability (SLD), other health impairment, autism spectrum disorder, emotional disturbance, speech or language impairment, visual impairment, deafness, hearing impairment, deaf-blindness, orthopedic impairment, intellectual disability, traumatic brain injury, multiple disabilities. Among students ages 3-21, an average of 33% of students are eligible for services under the category SLD, the largest percentage of all identified disabilities categories (NCES, 2021). A specific learning disability is a disorder in one or more psychological process which usually manifests itself as difficulties in specific areas such as mathematics, reading, and writing (Learning Disabilities Association of America, 2012).

Students with learning disabilities are attending college and there are predictors for success in college that many exhibit. For example, family background especially socio-economic status, has a significant effect on SLD students' attributes (Showers & Kinsman, 2017). These

attributes that are predictors of success in college include academic preparation for college, as well as student degree expectation, and time to enrollment (Showers & Kinsman, 2017). On average successful SLD students desired a bachelor's degree and enrolled early in college whereas those that waited to enroll were less likely to be successful in college (Showers & Kinsman, 2017). While there are potential predictors for success, there are also documented areas that SLD students struggle while enrolled in post-secondary programs.

When students go to college, mathematics, reading, and writing are the academic areas often focused on the most in terms of achievement (Hoyt & Sorensen, 2001). College admissions offices and college placement programs focus on these areas as indicators of success and appropriate placement for freshmen level courses. Therefore, it also makes sense to consider these areas specifically as they relate to college students with disabilities, as these are historically academic areas these students have demonstrated difficulties with at some point during their K-12 experience.

Mathematics

Mathematics can be an area of concern for many of these students. Passing a number of necessary math classes as pre- or co- requisites for a college degree is required throughout numerous college programs. In 2005, McGlaughin, Knoop, & Holliday found that students with mathematics disabilities (MD) at the college level tend to mirror the research findings for students identified with mathematics disabilities at the elementary and secondary levels. Overall, their findings showed significant weaknesses in reading comprehension, nonverbal reasoning, working memory, and math fluency. However, attention difficulties, which are a major finding at the elementary and secondary level, were not found to be a significant distinguishing factor between students with MD and those without. McGlaughin, Knoop, & Holliday (2005), go on to

further discuss interventions to begin meeting the needs of not only MD students that have been identified, but those that have not, citing that traditionally universities have focused on accommodations and tutoring. Along with math, difficulties in reading are also studied to determine commonly effective strategies to support college students with disabilities.

Reading

Chevalier, Parrila, Ritchie, & Deacon (2017) studied specific reading strategies, such as metacognitive reading and learning strategies, combined with the use of study aids to predict academic success used by students with a history of reading difficulties (HRD). Metacognitive reading strategies are ways that readers can monitor comprehension while they are reading by making connections, predictions, inferences, using context clues, and using graphic organizers. Consistent with their expectations, they found that students with HRD had lower overall grade point averages (GPA) and were less likely to apply metacognitive strategies to reading. When compared to students with no history of reading difficulty (NRD), the two groups differed on the use of metacognitive study and learning strategies especially in the terms of selecting main ideas (Chevalier, Parrila, Ritchie, & Deacon, 2017). Students with HRD using metacognitive reading strategies showed a significant positive predictor of GPA as compared to a significant negative predictor of “review of class material” strategy. Study aids, such as study guides, flash cards, review guides, etc., emerged as a significant predictor of GPA for students. This complimented previous research that associated academic success of students with HRD with the use of behavioral study and learning strategies, yet it is not clearly identified which of those are the most effective (Chevalier, Parrila, Ritchie, & Deacon, 2017). Overall, their findings showed that students with HRD showed lower GPAs and lower incidents of using metacognitive reading strategies. Yet for those that did use metacognitive reading strategies, with or without the use of

study aids, there was a positive effect on their GPA. Students with a history of reading difficulties were less likely to employ these strategies on their own while reading, but of those that did use them, it was shown to have a positive effect on their GPA.

Writing

Strategies which target writing, such as self-regulated strategy development (SRSD), have also been shown to improve the performance on standardized tests by students with disabilities. Prior to being admitted to college, students must often take standardized tests such as the ACT or SAT. Both of which contain writing/language sections. For high school students with disabilities, their performance on college admissions tests could negatively reflect their specific learning disability in the area of writing. This may put them at a disadvantage when it comes to college admission, as well as placement in college level classes. High school students that were taught SRSD that focused specifically on argumentative writing showed a direct positive impact on their ACT writing scores, as well as total number of words used in their essays. In addition, they experienced an overall general sense of positivity towards the writing strategy (Ray et al., 2018).

By using strategies such as SRSD, students can engage with self-directed learning which can help them increase their performance on the required tests for college. In addition to the use of self-regulated strategies, the use of accommodations may also impact the student's performance on standardized college admission exams. Accommodations used in college may mirror the accommodations that students used while taking exams in high school.

Accommodations

As previously mentioned, one of the most applied academic supports across college campuses for students with disabilities are accommodations. Accommodations can take the form

of physical classroom accommodations, such as accessible classrooms for students with physical conditions such as hearing loss, vision loss, or mobility impairments. A further example of these accommodations would be an American Sign Language (ASL) interpreter or braille textbooks/materials. Other examples of commonly used accommodations are more instructional in nature, such as priority registration, note takers, and electronic textbooks. Additionally, some accommodations address testing and the testing environment such as extended time on tests, read aloud software, and testing in a limited distraction setting. Kim and Lee (2016), sought to examine the relationship between several accommodations used by these students in higher education and their GPA as an academic outcome. Their findings showed the testing accommodations that indicated the biggest difference in a student's GPA were the extension of time and the modification of exam materials (Kim & Lee, 2016). While the implication exists if accommodations were applied routinely to classroom practice, then improvement would be shown on test scores, however there was a lesser effect of course accommodations directly impacting a student's grade. These researchers noted that several variables can affect retention beyond disability specific factors, which may include family support, financial status, and social supports.

While it is shown that the use of accommodations, such as testing accommodations, positively impacting the college student's experience, students in higher education must choose to disclose their disability status and thus request accommodations. There is a significant discrepancy between students that received some combination of accommodation, modification, or service while in high school (97.7%) and those that received them in a post-secondary setting (24.4%) (Newman & Madaus, 2015). Self-disclosure in order to use accommodations, modifications, or services while in college is one of the most important steps students with

disabilities can take in order to be academically successful in higher education (Newman & Madaus, 2015).

Social Emotional Areas of Concern

While academic areas are a significant area of concern for college students with disabilities, their social/emotional health and well-being is also a prominent factor in their college experience. Social/emotional areas of concern range from intrapersonal skills such as self-advocacy and self-disclosure, to interpersonal skills such as seeking supports and dealing with bullying/abuse. How students with disabilities interact with social experiences can impact their academic success and retention in college. Being able to speak up and advocate for oneself can set into motion supports that can be used to address specific social/emotional needs.

Self-Advocacy

The importance of self-advocacy takes shape when students understand their own disability. They are able to identify what has worked and not worked for them in the past as well as the language to be able to seek the necessary assistance on campus in order to seek out these services successfully. As summarized by Test et al. (2005), in their conceptual framework of self-advocacy developed through literature review and input from stakeholders, knowledge of self and knowledge of rights, are among the necessary foundations for individuals to understand about themselves before they can tell someone else what they need. The other components of their framework include communication of one's knowledge of self and rights, as well as leadership, which involves moving into the role of advocating for others (Test et al., 2005). For students with disabilities to be able to effectively utilize the academic and social/emotional supports available to them on campus, they have to first be able to know what they need and how

to ask for it. As students develop their self-advocacy skills, they will need to determine when and where they disclose their disability status.

Self-disclosure

As students reach the age of majority and enter college, they must self-identify as a person with a disability and seek services and supports protected as a qualified individual under ADA and/or Section 504 of the Rehabilitation Act of 1973. This is a change for students graduating from the K-12 setting that were previously guaranteed services under IDEA where their teachers were informed of accommodations and modifications as part of the IEP process. Often this process could be completed without the student having to directly identify themselves as a student with a disability to any of their teachers.

Many college campuses are realizing that many students are not disclosing their disabilities or requesting accommodations through a disability support office. There is a growing advocacy for implementation of campus wide instructional methods such as the universal design for learning (UDL) which would promote multiple, flexible methods to allow for a campus wide multi modal approach for all students regardless of disclosed disability status. These methods may include presenting information to students through multiple means of engagement. Instructional methods such as UDL may include providing students with options for selecting topics of interest to pursue for future research, supporting students with a variety of listening, speaking, and reading opportunities, as well as the use of multiple forms of media to support the processing of this information. The application of wide-reaching instructional approaches, such as UDL, across campuses may help reach numerous students as it is suspected there are more students with disabilities in higher education than those that choose to self-identify (Izzo, 2012).

At the college level students with disabilities are now responsible for identifying, advocating, and seeking out accommodations for themselves in coordination with the appropriate campus resources, which may include social/emotional supports.

Social and/or Emotional Supports

While academics are arguably a large part of the college experience, college students are also engaged in social and emotional experiences that require both attention and further discussion. Not only students that identify as having an emotional disability, but students with disabilities in general are the focus of literature of the effectiveness and prevalence of social and emotional supports in higher education. Within this section, literature on the topics of sense of belonging, motivation, and bullying will be reviewed, all of which emphasize influence of social and emotional factors for these students.

Sense of Belonging

Students that experienced a sense of belonging at their college or university are more likely to be satisfied with their college choice and more likely to return when given the opportunity. According to Tinto's Institutional Departure Model (Tinto, 1975; Tinto, 1993), while the social transition during the first year of college is essential to the success of any college student, a student's decision to leave an institution is grounded in either the academic or social realm. Stating mainly that if a student does not have a commitment to personal goals, supported in combination with a social network and institutional commitment, these factors can lead to a student's decision to not return to school. While Tinto's research did not directly consider disability status as a factor, it is widely cited as a significant model for discussion of retention in higher education and therefore should be considered here as it is compounded with potential social or emotional barriers students with disabilities may have when entering college.

While Tinto's model provides framework for student retention for the general student population, there has been recent research completed that aimed to look specifically at the influence of social factors on the satisfaction of students with disabilities. According to Fleming, Oertle, Plotner, & Hakun (2017), college students with disabilities that had a higher sense of belonging were more likely to be satisfied with their college choice and that campus climate and self-advocacy mediated the relationship between belonging and student satisfaction. Participants reported a moderate level of satisfaction, with 67.8% agreeing with their college choice (Fleming et al., 2017). There was a significant correlation between belonging and student satisfaction, suggesting students with a higher belonging were more likely to indicate satisfaction with their college choice. Belonging influences student satisfaction through two independent pathways: through an increased sense of self-advocacy and an improved perception of campus climate towards students with disabilities (Fleming et al., 2017). The researchers noted that the findings of this study complemented other research that describes the complex relationship between belonging and self-advocacy.

When interviewed specifically college students with disabilities indicated that their ability to "successfully self-advocate inside and outside the classroom shaped their sense of belonging on campus." (Vaccaro et al., 2015, p. 677). As students strengthen their sense of belonging in college, they also master the various roles of a college student. These roles include academic tasks and earning good grades, but also "feeling like a college student". Identifying as a college student and sense of belonging are positively impacted when these students are able to blend in with their classmates and receive recognition from peers and faculty members (Vaccaro et al., 2015). As students become strong self-advocates and master the role of being a student, they also strengthen their ability to develop social relationships with their peers. The

interconnectedness of social relationships and sense of belonging serve a greater purpose than making friends. For college students with disabilities, enhanced social relationships help strengthen self-advocacy and academic skills (Vaccaro et al., 2015). Strengthening these skills could help promote greater overall collegiate success.

Sense of belonging influences a student's likelihood of returning to their institution, as well as their overall sense of satisfaction. Student involvement can be generalized as their entire student experience, or it could include specific examples such as energy spent studying for an exam. Students that demonstrate involvement are often motivated to set intentions, goals and commitments, which often precedes their academic and social experiences.

Motivation

When comparing college students with disabilities to their non-disabled peers, researchers have explored the effect disability might have on specific factors such as motivation and attitude. In the research conducted by Hall, Spruill, & Webster (2002) the two groups differed significantly on resilience, stress, and need for achievement. There was no significant difference between the two groups on locus of control. Participants with learning disabilities (LD) reported higher levels of initiative in their everyday problem solving where they took an active role in finding solutions to their problems. Students that were not identified as LD reported higher levels of stress, while LD students might have greater personal initiative, their resiliency factor might act as a protective mechanism thus counteracting the perceived level of stress (Hall, Spruill, & Webster, 2002).

There was no significant difference between the two groups on the basis of intelligence. Students identified as LD obtained significantly higher scores on the Initiative factor of the Hall Resiliency Scale (HRS) than their peers that were non-LD, however significant main effects

were not found for Autonomy or Trust factors. There was no significant effect in the locus of control as LD and students that are non-LD did not score differently on the Nowicki-Strickland Locus of Control Scale. Students not identified as LD reported experiencing significantly greater feelings of stress than students identified as LD in the study. Students identified as LD had a significantly higher need for achievement than their college peers without LD. GPA and stress showed a significant inverse correlation with locus of control. Overall Hall, Spruill, & Webster (2002) concluded that college students with learning disabilities showed a goal directed approach, problem solving initiative, and a higher need for achievement when compared to their peers without LD.

Motivation also relates to the overall likelihood of students with disabilities to self-identify and seek out supports while in college. Following the Self-Determination Theory framework, O'Shea & Meyer (2016), found that the level of acceptance of their disability directly framed the motivation and decision to utilize support services by college students with disabilities.

Additionally, high school experiences surrounding self-advocacy of one's disability appeared to have a significant relationship on the motivation factor of whether or not to seek out supports in college. For example, students with positive experiences asking for, and using, accommodations in high school, indicated they were more likely to do the same when they went to college unlike those that had negative experiences or felt overruled by their parents.

Self-identity and self-advocacy are skills associated with the motivation needed to request and use accommodations. As college students with disabilities navigate the non-disabled world around them, opportunities exist for them to experience complex social situations that will require them to employ these skills. Abilities such as self-identity and self-advocacy are

important factors to consider as students potentially experience an array of significant social disputes such as bullying and abuse.

Bullying & Abuse

More than twice as many (28%) students with disabilities reported being a victim of traditional bullying than students without disabilities (12.2%), represented by Figure 1, and likewise, they were reported more likely to be victims (13.9%) of cyberbullying (Kowalski et al., 2016). The presence of disability appeared to limit the perpetration of traditional bullying since only 3.7% of students with disabilities reported they had perpetrated bullying, whereas students without disabilities (8.9%) had. Interestingly, it was not the same for cyberbullying. Students with disabilities reported more likely (8.9%) to be perpetrators of cyberbullying than students without disabilities (1.6%). Figure 2 represents the occurrence of perpetrators of both traditional and cyberbullying by students with and without disabilities. Across both categories of participants, the most common venue where cyberbullying victimization occurred was social media outlets and text messaging.

Figure 1

Students with and without disabilities self-reported as victims of bullying

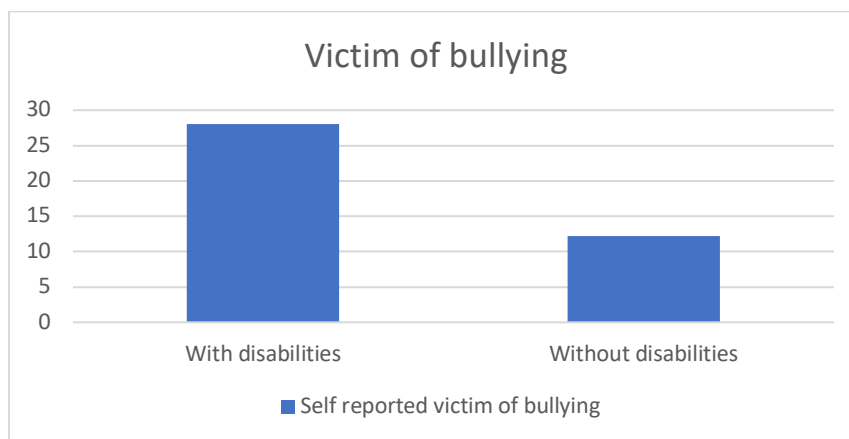
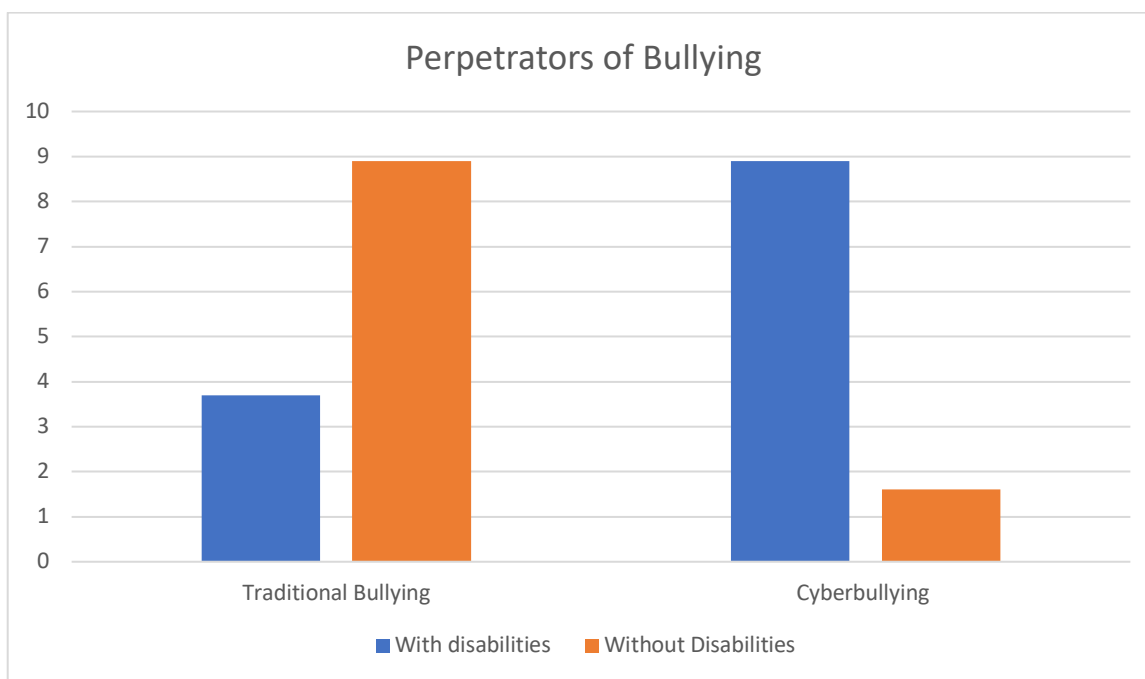
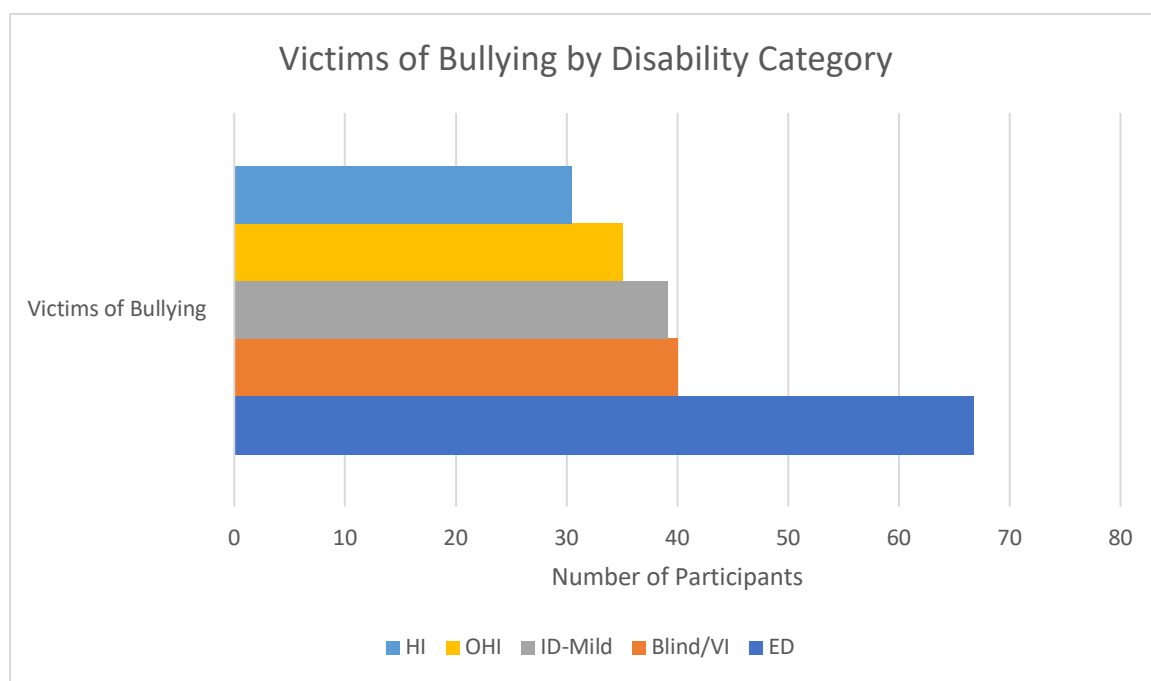


Figure 2

Self-reported perpetrators of traditional and cyberbullying by students with and without disabilities



While research is still emerging on the impact of differing disabilities and the prevalence of cyberbullying, there is evidence that students with disabilities are bullied at rates higher than those without disabilities. Specifically, more than half (66.7%) of children with emotional disturbances (ED) were likely to be victims of bullying sometimes (Bear et al., 2015). While rates among all disabled children were higher than non-disabled students, other disability areas with some prevalence of bullying victimization are among children identified as Blind/Visually Impaired (40%), Intellectually Disabled-Mild (39.1%), Other Health Impairment (35.1%), and Hearing Impairment (30.4%) (Bear et al., 2015). The comparison of victimization by disability category is represented by Figure 3. While this research exists mainly among children, it is worth considering as these children eventually become young adults that may transition to college.

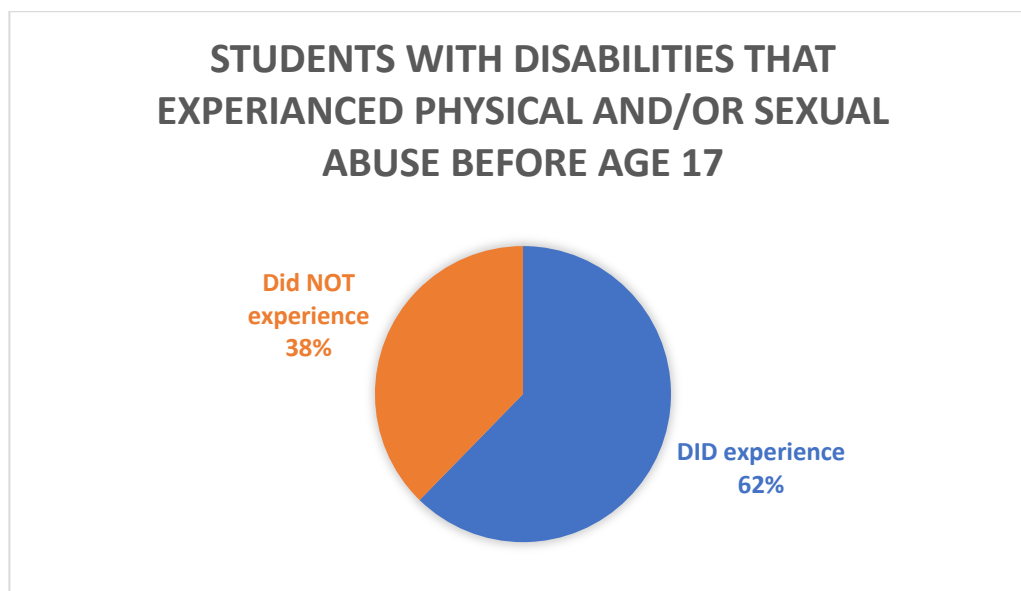
Figure 3*Victims of traditional bullying broken down by disability category*

Not only does literature suggest that college students with disabilities are more likely to be a victim of bullying, some studies suggest that individuals are at a higher risk for other types of abuse, such as physical, sexual or emotional. Looking specifically at experiences of physical abuse of college students with disabilities, Findley, Plummer, & McMahon (2016), found that 21% of participants reported they had experienced some form of abuse over the last year. Their findings are comparable to that of other research, which shows physical aggression is experienced by 20%-30% of overall college students. There was a predominance of female students reporting abuse. A significant amount, 62.3%, of respondents reported they had experienced physical and/or sexual abuse before the age of 17. This compares with a larger research study done in 2000 that showed rate of abuse was 31% among the children with disabilities compared with 9% in those without disabilities (Sullivan & Knutson, 2000). Figure 4

represents the prominence of physical and/or sexual abuse of children with disabilities before the age of 17.

Figure 4

Students with disabilities that experienced physical and/or sexual abuse before the age of 17



Following the abuse reported in the last year, 27% of participants sought help following an abusive incident. This means only 6 of the 22 that reported having experienced abuse actually sought formal help. While upsetting, this is on trend with other research across college campuses regarding the reporting of abuse and thus reinforces that abuse related resources need to be more accessible to all populations of college students across the campus community (Findley, Plummer, & McMahon, 2016).

While physical, verbal, and emotional abuse are not a new phenomenon, more research on cyberbullying has been conducted in recent years due to the increased prevalence of technology. Attention to cyber-bullying has gained considerable interest in recent years with the majority of the existing research focusing on middle school aged students. In 2016, Kowalski et al., found that not only is cyberbullying a problem among college students

with disabilities, the negative outcomes experienced mirrored research conducted on middle school students and they are more likely to experience pronounced negative impacts. College students with disabilities were more likely to be involved in cyberbullying both as victims and as perpetrators. The involvement of these students as either witnesses or victims of bullying, associated them as being more likely to be perpetrators of bullying themselves. Even more so, students with outwardly noticeable disabilities were particularly at risk and individuals with autistic traits were found more likely to perpetrate cyberbullying (Kowalski et al., 2016). Disability status and bullying involvement both showed main and interaction effects on the adverse outcomes of depression, self-esteem, ostracism, and physical symptoms. However, the original hypothesis, that personality factors such as social anxiety and neuroticism would be related to cyberbullying victimization, was not supported by this study.

As the literature discussed, college students with disabilities are not immune to the social and emotional demands of college life that all college students are exposed to. In fact, they may even experience additional concerns depending on their level of motivation and victimization. Social and emotional supports utilized by students are often motivated by individual experiences that contribute to their overall sense of belonging and social experiences. Overall, the social and emotional aspect of the college experience is a significant component for these students which can be considered in conjunction with various other experiences. Engaging in social and academic settings within the college environment requires students to successfully execute a series of cognitive and mental skills.

Executive Functioning

The concept of executive functioning includes a set of mental skills that are utilized by students throughout their academic and social/emotional experiences. Therefore, it is

understandable there might be some overlap within literature research of executive functioning is applied to both academic and social settings. Executive functioning includes working memory, cognitive flexibility, and inhibitory control. Working memory is the cognitive ability to hold information temporarily which is important for remembering and using relevant information in the middle of an activity. Being able to switch between thinking about different concepts and thinking about multiple concepts simultaneously is defined as cognitive flexibility which is important as individuals are able to focus their thinking from situation to situation and less on stressors. Inhibitory control is what permits a person to inhibit their impulses and select appropriate ones to complete the goals/task at hand. Executive function is responsible for many skills such as self-monitoring which is supported by the concept that students who saw themselves as being more responsible for the outcomes of their efforts had higher GPAs and further supported by significant relationship between achievement need and GPA stress (Hall, Spruill, & Webster, 2002). Likewise, in the previous discussion of academic areas of concern and use of metacognitive strategies, which employ organizing, planning, and prioritizing tasks, all of which are executive functioning skills, students that engaged in this learning style had higher overall GPAs (Chevalier, Parrila, Ritchie, & Deacon, 2017). However, it stands to reason researchers are curious what executive functioning capabilities present the biggest challenge(s) for students with disabilities in post-secondary education.

The findings of Grieve et al. (2014) indicate that disability type may play a part in determining which executive functions are problematic for college students with disabilities. For instance, they found that college students identifying within ADHD and/or psychiatric disability groups had more frequent difficulties with metacognitive skills (Grieve et al., 2014). Whereas students identifying as having a learning disability did not report elevated difficulties with

behavioral regulation or metacognitive skills, reporting overall less concerns with executive functioning (EF) than other disability categories (Grieve et al., 2014). Student responses by age were also examined, and somewhat surprisingly freshman students reported fewer challenges with EF than higher class standing students (Grieve et al., 2014). This study was a self-assessment and researchers noted that a possible explanation for this may have been that freshman students had less opportunities to develop their understanding of their EF development. While this study did not examine specifically the executive functioning skills that presented challenges to students, it did provide information about what was found to be the most challenging to different self-identified disability categories. Recommendations were made to increase awareness of supports and resource available on campus to increase EF strategies and to check-in in with students as they progress.

Other Factors

While academic and social/emotional supports for college students with disabilities are among the most prominently researched, there are additional factors that are emerging as evidential stress factors. Some factors come at an intersection with the college student's disability and are not necessarily unique to this population. While these additional factors are not specific to college students with disabilities, research does consider if disability status plays an additional role in the significance of these factors and how they may impact the success of these students in college. Within this section, literature will discuss such themes as first-generation status, sexual and substance abuse, and general stressors regarding the quality of support services in an effort to bring scholarship to potential other stressors that exist.

First-generation status

An interesting intersection of circumstances was considered by Lombardi, Murray, & Gerdes (2012), when they looked at the growing number of first-generation college students with disabilities and found that they had lower GPAs, less family support, and less peer support as well as greater financial stress. First/continuing-generation status contributed unique variance to students' GPA. First-generation college students with disabilities are a particularly vulnerable population of students as they have the intersection of two potential risk factors: first generation status and disability status. This study showed that many of the same struggles experienced by first-generation college students generally are shared by those with disabilities. First generation students with disabilities have a particularly high level of financial stress, report lower levels of family and peer support, yet report greater utilization of accommodations which suggests that this population relies on institutional infrastructure for support. In general, first-generation college students, regardless of disability status, are consistently at a disadvantage for completing their degree and are more likely to come from low-income families (Chen, 2005). These disadvantages are compounded when you consider that first/continuing-generation status contributed unique variance to the equation for academic performance in the research presented by Lombardi, Murray, & Gerdes (2012). Students with disabilities that identify in college, and use the services of disability offices, may rely heavily on the institutional infrastructure for support since familial support is limited.

Research suggests that developing relationships with disability services professionals has ongoing positive effects. For instance, Bueno (2016) found that the relationships first-generation college students with disabilities have with institutional agents, someone of authority acting on their behalf, have positive impacts on their help-seeking development. Therefore, these

participants were more likely to develop help seeking behaviors once they have had at least one positive interaction. Once they have had a positive experience relying on institutional infrastructure for support, they are likely to continue to do so. Of the participants in this study only 60% reported parent or family support and cited it as an important part of obtaining their degree (Bueno, 2016). While not all parents participated in the same capacity, the participants that benefitted the most had parents that were active in the transition to post-secondary education process (Bueno, 2016). For these students that may not experience this level of familial support, greater reliance on the institution presented itself as a surrogate option.

Sexual and Substance Use Behaviors

As discussion continues researchers consider the multiple identities that college students with disabilities have resulting in an often-unique intersection of their personal experiences. Bernert, Ding, & Hoban (2012), found in their study that these students tended to be atypical in age, being 24 years or older, of ethnic minority, and more likely to identify as bisexual, gay, or lesbian. Results from this study also showed that they were more likely to engage in sexual risk behavior, including more sexual partners and less use of condoms, and more likely to engage in the use of alcohol, tobacco, marijuana, illegal drugs, prescription drugs, drinking while driving, and heavy drinking (Bernert, Ding, & Hoban, 2012). Conclusions were made that a majority of college programming is often targeted for students aged 18-24, and not of ethnic minority or sexual orientation minority; therefore, potential exists for college programming to be missing a sample of students that might overwhelmingly be comprised of students with disabilities. It was the recommendation of these researchers to increase efforts to target these specific populations of students for substance abuse and sexual education programming on college campuses (Bernert, Ding, & Hoban, 2012).

Stressors and Quality of Support Services

As previously discussed, college students with disabilities cited specific barriers to their success in college (Hong, 2015). Among those are daily stressors that students routinely described as feeling “stressful” and “stressed out”. These experiences were attributed to physical demands, such as having ADHD, and adjusting to the physical environment, and mental/emotional struggles, which included themes of independence, self-reliance, and viewing personal limitations as a burden on others (Hong, 2015). College students with disabilities also stressed about fitting in with their peer group, lack of time management skills, waking up for classes, taking medication(s), and selecting a class time they could manage (Hong, 2015). A major overlapping stressor was the social stigmatization students reported experiencing among their peers and the heightening sense of self-consciousness some exhibited in order to hide their disability (Hong, 2015). Students also overwhelmingly reported feeling intimidated by the personnel in the office offering the disability support services noting that they felt cold and calculated, and they were expected to know exactly what accommodations they needed and why; many of the participants said their interactions led them to question their use of accommodations and delayed their asking for help (Hong, 2015). Overall, the college students with disabilities surveyed in the study by Hong (2015) demonstrated themes of lack of self-awareness and self-advocacy skills, both of which are contributing components of Tinto’s (1975) model of integration and eventual persistence through higher education.

Faculty Perceptions

Faculty members’ perceptions of disabilities are another stressor that may impact college students with disabilities. Hong (2015) provides complementary qualitative research where college students with disabilities identified faculty perceptions of their ability as one of the

biggest barriers to success, just as Kim and Lee (2016) found in their study on the use of accommodations in college courses. Faculty perception was cited as the biggest obstacle, and when broken down further it was mainly due to lower expectations, where students did not want to confront their teacher to ask for something to make them look less capable, or past negative experiences with previous professors prevented them from doing so (Hong, 2015). The second most cited barrier to success in the study by Hong (2015) was the fit of academic advisors where this group of students found their advisors lacked basic understanding about advising them on what classes to take and a general unresponsiveness, so much so that students reported acting independently in registration. In doing so this resulted in some students taking classes that did not count toward their degree requirements. Students grappled with the threat of being judged socially or treated differently by their teachers and peers thus using this as a motivator for not disclosing their disability status or using the services to the fullest degree offered (Hong, 2015).

Need for the Study

As college enrollment has increased in recent years in tandem with disability awareness, the need for continued research and study of the successes and barriers that college students with disabilities experience is needed. There has yet to be a comprehensive, extensive, or exhaustive field of research looking at the various aspects of the college experiences for these students that contribute to or deter their success. Shortcomings in the previous research included a restricted focus on the effect(s) of limited contributors of success for college students with disabilities. These previous studies often had a small sample size, were geographically limited, and were not specific to a disability type.

As students make the transition from K-12 to higher education, continued research can play an important role in identifying key academic, social/emotional, and executive functioning

challenges that are potential in higher education for students specific to their disability type. By identifying these proactively, focus can be placed on these as part of their post-secondary education goals and transition planning. As students in K-12 often receive specific support and strategies tailored to their disability, having research looking specifically at disability category can help add to the existing knowledge base of the needs for transitioning students to college. There is still a considerable amount of research yet to be done to consider what other stressors beyond the standard academic and social/emotional, impact the college experience of students' disabilities and the intersection of their identities.

Additionally, identifying potential stressors that may uniquely present themselves at the college level, can help transitioning students and families plan for addressing these concerns during their college search process and their first year of college participation. Equipping K-12 students to engage the skills and services needed for a successful transition to college is a preventative effort aimed to limit the challenges they might experience in college and support their eventual enrollment. Often it is anticipated that college students with disabilities will experience particular challenges, therefore families might also consider the intervention programs or services colleges and universities offer to address student needs.

Complementarily, results from this study will allow college and university programming to consider their current institutional practices and services as to how they are currently supporting students with disabilities on their college campuses. By identifying academic and social/emotional supports, colleges could consider institutional methods currently in practice from an academic perspective, as well as from a programming perspective when considering student services such as tutoring, accommodations, financial counseling, counseling services, etc. Colleges and universities would be in particular interest as retention and matriculation of

these students continues to remain far below that of non-disabled students, yet their admission rates have increased significantly.

Summary of Literature Review

In recent years not only have more colleges and universities been admitting students with disabilities, more have been attending yet continue to fall behind in degree attainment compared to non-disabled peers. When considering the wide variety of factors that constitute the college experience, the academic component necessitates considerable discussion. Much like research of students in middle and high school grades, students with math difficulties in higher education have documented difficulties in reading comprehension, nonverbal reasoning, working memory, and math fluency. There is somewhat conflicting evidence looking at attention difficulties when considered across studies, yet it should be noted that there were differences in methodology of studies as well as identified disability type of participants. As predicted, accommodations are still the most widely used academic support on college and university campuses to support these students. However, students with disabilities are not routinely employing metacognitive reading or learning strategies. Yet when they do, there is a positive impact on their GPA. Similarly, the use of testing accommodations had a positive impact on their GPA, however evidence exists that course accommodations are not impacting grades and/or not being routinely applied throughout the semester. A potential explanation for this lies in the faculty perception that students with disabilities feel that their professors have about them, as well as negative interactions they may have had with support personnel in asking for the accommodations initially.

While academic achievement is an important indicator in determining the success of a college student, a student's social sense of belonging is also a predictive factor in their success and retention. College students with disabilities that felt they belonged at their college were more

satisfied with their college choice and more likely to return the next year. Feeling a sense of motivation and initiative was a trend observed among a group of college students with learning disabilities, concluding that their resiliency was related to managing their disability status. This is somewhat of a conflict as a notable stressor for students in previous research was sharing their disabilities status with their professors and peers, and the social stigmatization that often accompanies it. Navigating social interactions presented itself as a common concern among these students in higher education as the intricacies of these relationships are examined. College students with disabilities were more likely to be victims of bullying and physical abuse, with students demonstrating both victimization and perpetration of cyberbullying.

Managing the complex college experience is explored in the discussion of the executive functioning process of college students with disabilities, which encompasses both academic and social interactions. From managing academic expectations, social norms, and other stressors, college students with disabilities, particularly ADHD and/or psychiatric disabilities, have frequent difficulties with metacognitive skills. While some students sought support from their advisors, others found them to lack the support necessary to assist with registration process and often acted independently sometimes resulting in taking classes not toward their intended degree. This group may also experience other stressors that are more commonly associated with their disability status, such as sexual and substance abuse, or first generational challenges which mirror those of first-generation college students without disabilities. Through the examination of academic, social/emotional, executive functioning, and other factors, it is hoped that this study will add to the existing literature and inform the field of research of these students and their transition to higher education.

The literature review has reviewed the existing evidence that supports the need for future study of the importance of the study of supporting students in higher educations with disabilities. The following chapter will look at the research design the study. This will include the action plan to study the transition of students with disabilities to college and factors that can contribute to their success or pose as potential barriers. It will be followed with the data collection and analysis methods, as well as a discussion of site permission, presentation of results and limitations.

Chapter III: Research Design

Action Plan: Intervention

This chapter describes the design purpose of this study which examines the transition of the students with disabilities to college and factors that can contribute to their success or pose as potential barriers. Through mixed methods inquiry, the researcher aimed to examine a variety of contributing factors to the college experience for students with disabilities to examine which of those contributed to or hindered their overall success.

The research questions are as follows:

1. What academic supports benefit students with disabilities the most at the college/university level?
2. What level of importance does social and/or emotional supports factor into the retention of students with disabilities in higher education?
3. What executive functioning capabilities present the biggest challenge(s) for students with disabilities in college/university?
4. What other stressors (such as finances, family support, virtual learning, etc.) factor into the retention and success of students with disabilities in college?

A mixed methods research design will be applied to this study since one data source may be insufficient. By applying both quantitative and qualitative methods, a more complete understanding of the research problem can be reached as the limitations of one method can be offset by the strengths of the other. A study conducted by McKim (2017), found that graduate students attribute more value to a mixed methods passage than that of quantitative or qualitative alone. Mixed methods research is also shown to score higher in the perceived value of the reader and is often seen as being more rigorous (McKim, 2017). In this case, the evidence of one

method alone may not tell the complete story of contributing factors to success for colleges students with disabilities therefore triangulation of the findings will seek to corroborate the results. Triangulation of data helps researchers determine consistencies in findings while using different means of obtaining those findings, thus increasing confidence that the findings are not driven by one data source or method (Gibson, 2017).

The mixed methods research design that will be applied to this study will be a two phase convergence model of triangulation. There are two phases in this research design model. In the first phase, collection and analysis of qualitative data will be conducted. Building on the exploratory findings, the researcher will conduct a second quantitative phase to generalize the initial findings.

The hypothesis for the quantitative phase is college students with disabilities that more frequently utilize resources (such as accommodations, academics supports, counseling) are more likely to have a higher GPAs than college students with disabilities that do not. The null hypothesis would be there is no relationship between the utilization of services and GPA of college students with disabilities.

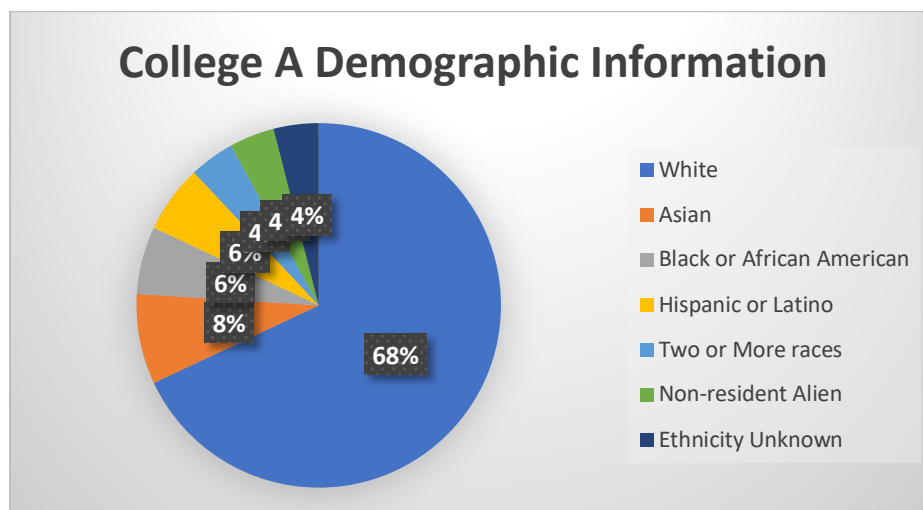
The data for this study will geographically be in the southeast (North Carolina) at one higher education institution. Data will be collected from a large public urban college (College A) within the state of North Carolina.

College A is a large 4-year public university located in a large city in an urban setting in central North Carolina. This university also offers bachelor's, master's, and doctoral degrees. There is a 14:1 faculty to student ratio. The majority of students identify as white (68%), while 8% identify as Asian, 6% as Black or African American, 6% as Hispanic/Latino, and 4% as two or more races, non-resident alien, and/or ethnicity unknown. Fifty-three percent identify as male

and 47% identify as female. Figure 5 further explains the breakdown of College A's demographic information.

Figure 5

Demographic Information for College A



College A has an office on campus for students to identify for disability and/or accessibility services to receive supports or accommodations as outlined in Section 504 of the Rehabilitation Act of 1973 or Americans with Disabilities Act (ADA).

An email of interest to participate in the study was sent out to all connected students with the office for disability services. The director of the disability resource office sent the email out on behalf of the researcher. Site permission was obtained by the office for disability services. Criteria to be part of the study include being either a part- or full-time enrolled college student that has received services from the disability office within in the last calendar year and have self-identified as having a disability. Participants ranged in age, gender, disability category, academic major, academic year, and overall GPA, as no specific limitations or exclusions were made on the onset of the participation in the collection of data for this research. Majority of the students surveyed are white and identify as female. The most frequent disability category is ADHD with

anxiety and emotional disturbance being in a distant second place. The mean age of participants is 22.25, and the median and mode are both 21. The overall GPA averaged among participants is 3.32 and majority or enrolled in major programs within the college of sciences. This sample mirrors the racial-ethnic demographics of the greater institution, however the institution has a higher enrollment of males and females overall.

Data will be obtained through the qualitative method by sending a survey out electronically to all connected students at their college email address using a link accessible through Google Forms. Participants that complete the initial survey will indicate if they would like to participate in a follow-up interview. Participants that volunteer for the interview will participate in an open-ended interview with the researcher. Surveys were sent in the Summer 2022. Interviews then were scheduled and conducted in Summer 2022 as aligned with campus schedules and participant availability.

The researcher went through the Slippery Rock University IRB process to obtain permission to conduct the study at the participating university. IRB permission was granted with no concern. The participating university did not require IRB approval, since it was granted by Slippery Rock University, but require approval but the university for external survey permission. Permission was granted and the researcher was permitted to move forward with the survey instrument being sent out by the Director of College A's office of disability services.

Data Collection

Potential participants for phase 1 were identified by their school's office of disability services through their campus email address. Participants were currently enrolled students at College A and have utilized the office for disability services at least once within the last calendar year. An email was sent to students with a link to a survey to participate. The survey (Appendix

A) included basic demographic information related to the following predictor variables: gender, ethnicity, major field of study, year in school, university type, primary category of disability, age, etc. After the demographic section the survey was divided into four specific sub-sections titled Supports and Services, Emotional Supports, Executive Functioning, and Other Stressors. In the Supports and Services and Emotional Supports sections, the survey included questions in a Likert scale format asking students to address their likeliness to use accommodations, campus resources, and assistance from their professors. Additionally, the survey included questions that asked students to rank order social/emotional supports. Executive functioning capability questions were presented in a similar fashion to that of social/emotional questions, asking students to rank order their experiences with specific executive functioning tasks, with one (1) being the most difficult and five (5) being the least difficult. The survey concluded with the opportunity for participants to select other stressors that they have identified as contributing to their college experiences and provide an open-ended response. Participants were then asked if they were available to participate in an interview with the researcher and if so, to provide their contact information to be contacted in the summer 2022 semester.

Participants selected for the interview were scheduled for a 30-minute interview, however if their time goes over the researcher did not conclude the interview until they had an opportunity to answer all the questions. The average amount of time spent on each interview was ~25 minutes. Interviews were scheduled at a mutually agreed upon time using a Zoom meeting platform. The researcher sent the Zoom meeting link to the participant who joined with the option to use audio only. The Zoom meeting room was password protected and had a waiting room. The meetings were recorded. Participants were asked to be in a secure and private location while conducting the interview. The researcher asked the participants a series of open-ended

questions (Appendix B) that cover each of the research questions. Each participant was asked the same set of research questions and the researcher reminded participants of the permission to record the Zoom meeting for purposes of transcription of data. Data was kept in the researcher's secure Google drive through completion of the dissertation defense, approximately 5 months in total, before being deleted.

In phase 2, quantitative data was be collected through a self-reporting of participants on the Google form survey. The responses to the Google form were stored on a secure Google sheet that could only be accessed through the researcher's google account login. Information such as disability area(s), GPA, year in school, academic major and residency status were self-reported by the participants as they take the survey.

Data Analysis

Products from phase 1 included survey results and transcripts/field notes from interviews. In Phase 1, data was analyzed through the survey instrument across subscales. Survey data was examined by the researcher for themes that emerged from the one-time Likert sampling. Results from the survey were focused on the numbers chosen by a percentage of the participants. This data set was used to strengthen the findings from the interview phase of research.

The interviews were coded for thematic development using NVivo data analysis software. In Phase 2, demographic items from the survey were used along with quantitative data collection. The use of a Likert scale rating for the quantitative phase of research was exceptionally valuable. Using categories and themes from the qualitative phase to organize the questionnaire into Likert scales will provide congruent among the mixed methods research (Creswell & Plano Clark, 236). The use of a Likert scale allows participants a greater degree of response, as opposed to a simple

yes or no option (McLeod, 2019). Likert scales provide a numerical equivalent which allows this quantitative data to be obtained and analyzed with relative ease (McLeod, 2019).

Site Permission

College A has their own IRB. Permission for the survey to be shared with participants comes directly from the Director of the Disability Resource Office. Survey was emailed to all connected students with the Disability Resource Office and sent reminder emails at 1 and 2 week dates out from the original email sent.

This site requires some type of documentation or evidence that a person has a disability in order to qualify for support/services through their office. There is flexibility in the documentation requirements as it is used to add to each individual student's narrative in order to identify barriers to equal access as this office operates with the knowledge that the built environment disables individuals. This office is a compliance office and is responsible for identifying when a requested accommodation is required and reasonable. The Disability Resource Office on this site emphasizes and encourages principles of UDL and social justice throughout university practices.

Presentation of Results

Results of the study were shared with the participating institution and the appropriate offices on their campus, that volunteered for the study. A report was shared College A as well as the offer for a follow up discussion with the researcher if they would like to schedule that. Additionally, a completed copy of the dissertation was shared with each school once completed.

Limitations

Limitations of this study include a limited geographical sample as well constricted meeting options due to potential social distancing practices. Results are geographically limited to

participants in North Carolina who have a historically large in-state/regional enrollment, thus limiting results to the southeast area in general.

Collecting data in the summer 2022 semester draws into the question the response of students identified as freshman, as they have yet to have a full year of college experience yet to relate to. Likewise, sophomore/junior students that may have completed their traditional freshman year of college during the 2019-20 school year had significant adjustments made to that school year because of the college/university extending breaks and shifting to online/virtual learning in the wake of the global response to COVID-19.

As colleges and universities respond to COVID-19, the opportunity to conduct in-person interviews have been reduced to a mainly online format. Selection was made to use a secure virtual meeting place on the behalf of the researcher; however, it could not be guaranteed to be controlled on the end of the participant that it was in a completely secure and private setting.

The population of focus for this study was typically matriculating students that have connected with their campus office for disability services. These are students that have self-identified as having a disability and were found eligible for accommodations. While not the main focus of the population, this may include students that are enrolled in a specific post-secondary program for students with disabilities. On the contrast it should also be noted that students that have not self-identified as having a disability were not included in this study.

Summary

A mixed methods approach was applied to examine contributing factors of success for college students with disabilities in an effort to converge the findings into a sufficient result. Research was conducted in a two phase convergence model of triangulation in which phase 1 began with a survey of participants utilizing resources through their college's office for disability

services. Participants were then able to participate in open-ended interviews with the researcher to complete phase 1. Phase 2 commenced with a request of self-reported quantitative data through a survey sent to students that are connected with the disability office at their school. Data was analyzed through developing thematic subscales on the survey and interviews. Limitations of this study are focused generally on the geographic location of the participating college to the south-eastern region of the United States. It is hoped that the results of this research will add to the existing literature in the field on transition of students with disabilities to college, as well as inform the practice of such institutions in meeting the needs of these students.

Chapter 4 will include a presentation of the research findings. It includes a discussion of the survey and interview administration, descriptive statistics, and data analysis discussion.

Chapter IV: Results and Findings

Introduction

As previously stated, data collection was completed in two phases during the summer 2022 semester at the participating institution. Phase 1 included a survey sent to all students connected with the disability resource office. Participants were asked at the end of the survey for participation in an open-ended interview. Results were examined to address the research questions using a mixed methods approach to strengthen the overall findings.

Research Questions

The following research questions guided the inquiry of this study:

1. What academic supports benefit students with disabilities the most at the college/university level?
2. What level of importance does social and/or emotional supports factor into the retention of students with disabilities in higher education?
3. What executive functioning capabilities present the biggest challenge(s) for students with disabilities in college/university?
4. What other stressors (such as finances, family support, virtual learning, etc.) factor into the retention and success of students with disabilities in college?

Data Collection Procedures

Data was collected in two phases, drawing from the same potential sample of participants that were connected to the disability resource office. In the summer 2022 semester, an email was sent to all students that contained a link for the informed consent to survey. As this form was completed, the link to the survey instrument was emailed to participants. A total of 71 participants completed the informed consent acknowledgement survey. In response, a total of 48

completed the survey instrument. This resulted in a 67.6% response rate between the informed consent and the survey completion. Of those that completed the survey instrument, 27 responded that they would be willing to participate in an open-ended interview. The first 12 to reply to the investigator's email invitation were interviewed. Based on research to analyze qualitative studies, a sample size of 12 is needed to reach data saturation (Clarke & Braum, 2013; Fugard & Potts, 2014; Guest, Bunce, & Johnson, 2006). Their interviews were recorded via Zoom and transcribed before being coded for themes using NVivo. NVivo is a qualitative analysis system that allows users to import information to conduct qualitative analysis such as finding of emerging themes.

Research Methodology Applied to Data Analysis

While data was collected in two phases, the convergence model of the triangulation design was used to analyze the data. This method is applied when data collection, analysis, and results of both quantitative and qualitative data are completed separately. Then, they are compared, which leads to the interpretation of both the QUAN and QUAL results (Creswell, 2011). Quantitative research attempts to qualify variables of interest in a measurable way. Qualitative research relies on the views of participants analyzes for themes. In this study, the qualitative information collected through an open-ended interview was used to validate and corroborate the quantitative information collected through the survey instrument. To gain an understating of the sample, demographic information was gathered, which was not directly analyzed as part of the quantitative data. It was merely collected for educational purposes to compare the overall demographics of the institution in which the sample was taken from. The next section discusses the findings of both the survey and the interview instruments followed by further analysis.

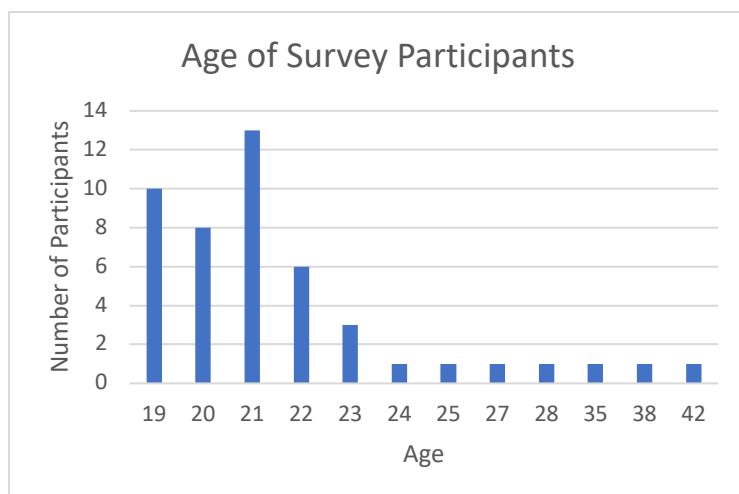
Findings

Sample

The survey began with a series of demographic questions to gain knowledge about the sample population. A total of 48 participants responded to the survey. Of those, 13 or 27% indicated they were 21 years old, 10 or 21% responded they were 19 years old, eight or 17% responded they were 20 years old, six or 13% responded they were 22 years old, three or 6% responded they were 23 years old, two 4% responded they were 25 years old, and the ages of 42, 24, 35, 27, 38, and 28 each received one response or 2%. This puts the average age of respondents at 22.25 years old. The median and mode age is 21. Figure 6 shows the age of survey participants.

Figure 6

Age of Survey Participants

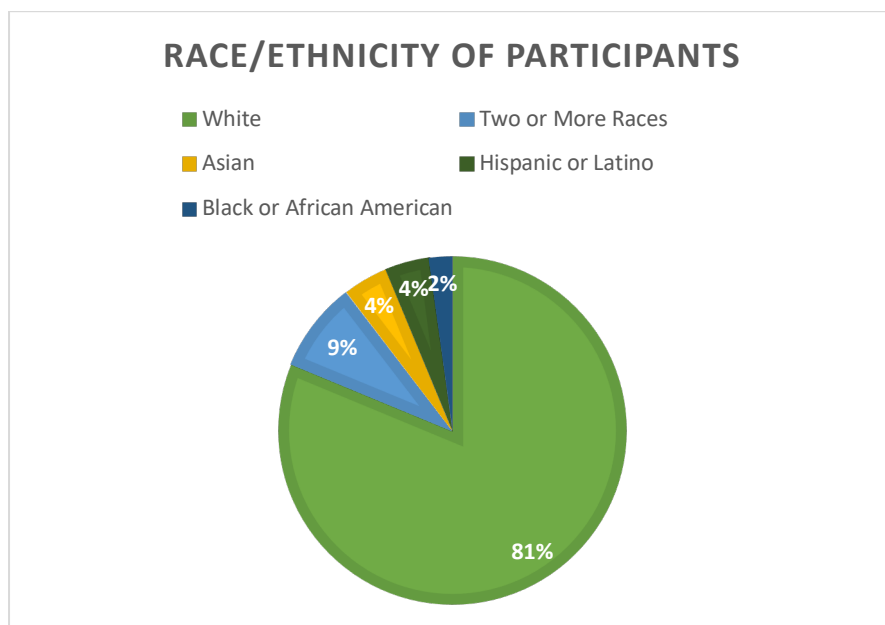


The second demographic question asked about the race/ethnicity of participants. Thirty-nine responded as White, four responded as two or more races, two responded as Asian, two responded as Hispanic or Latino, and 1 responded as Black or African American. White participants made up 81.25% of the respondents, which is a greater overall representation than

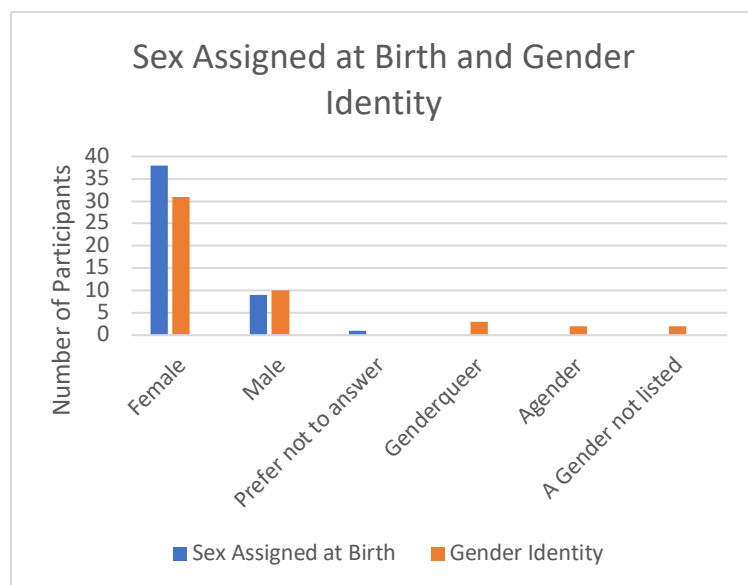
that of the institution in which they are enrolled. Figure 7 further demonstrates the race/ethnicity of participants from College A.

Figure 7

Race/Ethnicity of Survey Participants



Questions 3 and 4 asked about sex assigned at birth and gender identity. When asked sex assigned at birth, 38 responded as female, nine responded as male, and one preferred not to answer. Whereas when asked about gender identity, 31 responded as female, 10 responded as male, three responded as genderqueer, two responded as agender, and two responded as a gender not listed. Figure 8 shows the breakdown of sex and gender identity of survey participants.

Figure 8*Sex and Gender of Survey Participants*

Question 6 asked participants to disclose what disability area(s) they have a documented diagnosis. It should be noted that this was completely self-reported by participants and no formal documentation was requested to validate their selection on the survey. Seventeen of the respondents indicated two or more disability categories. The remaining 31 were identified as having only one documented disability category. Participants were able to choose all that applied from a pre-determined list, as well as enter their own disability status in the “other” option. Table 1 shows the number of participants by disability type.

Table 1*Number of Participants by Disability Type*

Disability Category	Number of Responses
ADHD	26
Anxiety	7
Emotional Disturbance	7

Depression	6
Autism	3
PTSD	3
Dyscalculia	2
Dyslexia	2
Obsessive Compulsive Disorder	2
Orthopedic Impairment	2
Traumatic Brain Injury	2
Visual (including blindness)	2
Anorexia	1
Chronic's Disease	1
Deafness	1
Diabetes	1
Dysautonomia	1
Dysgraphia	1
GI Disease	1
Jaw condition with migraines	1
Lyme Disease	1
Muscular Dystrophy	1
Narcolepsy	1
Rheumatoid Arthritis	1
Specific Learning Disability	1
Speech/Language Impairment	1

Next the survey instrument asks students for academic demographic information such as GPAs and major. Grade Point Averages (GPA)s of participants ranged from 2.2 to 4.0. The average GPA of participants was 3.32. Only three of the 48 participants were out-of-state students; the rest all indicated they were in-state students, which is roughly consistent with the overall make-up of the institution they attend. The enrollment year in which participants were in school ranges from first-year students to students enrolled in doctoral degree programs. Majors of participants varied among the 12 colleges offered at the participating institution. Ten of the 12 institution's colleges were represented through participants, with College of Sciences having the most representation. Table 2 further demonstrates the breakdown of participants by academic college located within College A.

Table 2

Number of Participants by Academic College

College of Study	Number of Participants
College of Sciences	15
College of Engineering	14
College of Humanities and Social Sciences	5
College of Agriculture and Life Sciences	3
College of Education	3
College of Management	2
College of Natural Resources	1
College of Textiles	1
College of Veterinary Medicine	1
The Graduate School	1

Academic Supports

The survey was then broken into four sections which aimed to address each of the research questions. Research question one stated “What academic supports benefit students with disabilities the most at the college/university level?”. Participants were asked to rate five key areas of supports and services using a Likert-type scale based on how likely they were, on average, to use the following supports with 1 being never, 2 being not very likely, 3 being somewhat likely, 4 being very likely, and 5 being always. The first support listed were classroom accommodations, such as preferential seating, electronic textbooks, etc. Sixteen responded always, 11 responded very likely, three responded somewhat likely, two responded not very likely, and six responded as never.

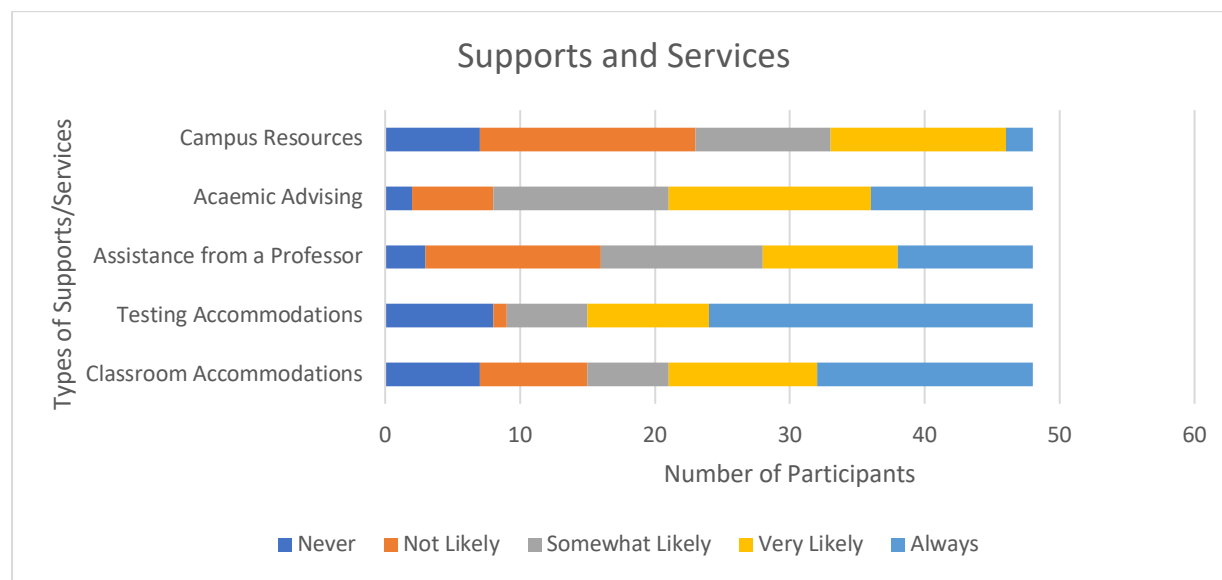
The second support listed was testing accommodations, which includes extended time, testing in a separate location, etc. This option elicited the largest “always” response with 24 respondents. For the remaining responses, nine said very likely, six said somewhat likely, one said not very likely, and eight said never. The next question on the survey instrument asked about assistance from professors, such as going to their office hours. Responses were split with 10 being very likely, 12 being somewhat likely, 13 being not very likely, and three being never. The fourth question asked about academic advising such as meeting with your academic advisor or professor. Twelve responded always, 15 responded very likely, 13 responded somewhat likely, six responded not very likely, and two responded never.

Lastly, campus resources such as tutoring, the writing center, and other academic supports garnered two always responses, 13 very likely, 10 somewhat likely, 16 not very likely, and seven never responses. When combining “never” and “not very likely,” campus resources

were the least indicated used support or service. Figure 9 shows the use of supports and services by survey participants.

Figure 9

Use of Supports and Services by Survey Participants



Social/Emotional Supports

The second portion of the survey instrument asked questions regarding emotional supports which aimed to answer research question two. Research question two asked “What level of importance does social and/or emotional supports factor into the retention of students with disabilities in higher education?”. The first question on this portion of the survey asks participants how likely they are to use emotional support (ex: counseling) on campus.

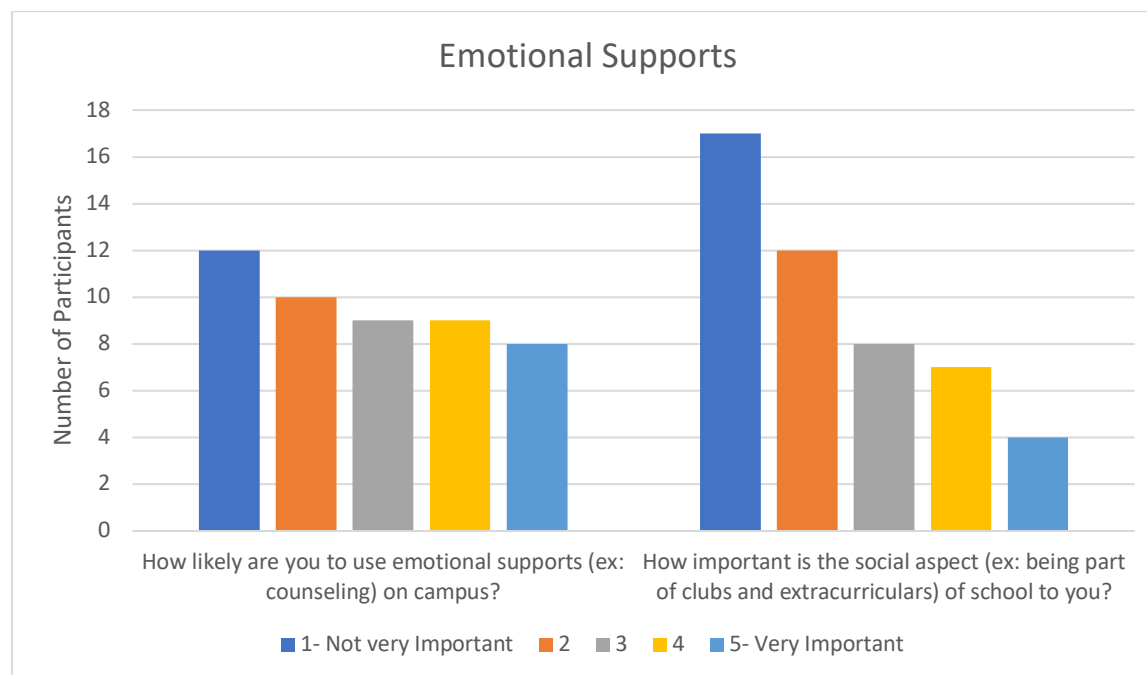
Participants were given a Likert-type scale with 1 being not very likely and 5 being very likely. A total of 12 responded as a five, 10 as a two, nine as a four, nine as a three, and eight as a one.

Next, the survey asked how important the social aspect (ex: being part of clubs and extracurriculars) of school are. Again, participants were given a Likert-type scale with 1 being not very important and 5 being very important. A total of 17 responded as a five, 12 as a four,

eight as a three, seven as a two, and four as a one. Figure 10 further demonstrated the use of emotional supports by survey participants.

Figure 10

Use of Emotional Supports by Survey Participants



The last portion of the emotional supports section asked participants to rate various social/emotional aspects of college with their level of importance ranging from most important to not important at all. The first section of this question asked participants about sense of belonging. Seventeen or 35.4% responded as it being the most important aspect, 14 or 29.2% responded very important, eight or 16.7% responded somewhat important, seven or 14.6% responded not very important, and two or 4.2% responded not important at all.

Next, participants were asked about the importance of getting involved in campus life. Two or 4.2% responded as most important, seven or 14.6% responded very important, nine or 18.8% responded somewhat important, 14 or 29.2% responded not very important, and 33.3% responded not important at all. This category was followed by asking participants to rate how

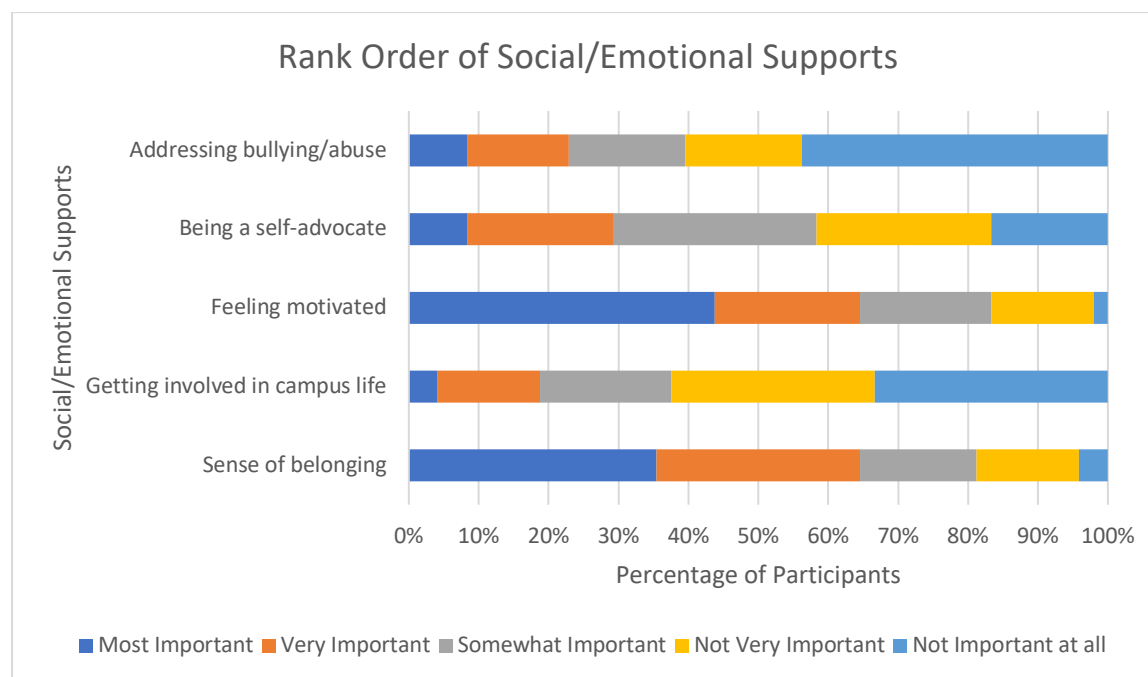
“feeling motivated” ranked among importance. Twenty-one or 43.8% ranked it as most important, 10 or 20.8% ranked it as very important, nine or 18.8% ranked it as somewhat important, seven or 14.6% ranked it as not very important, and only one participant or 2% ranked it as not important at all.

The next to last option among social/emotional supports was the importance of being a self-advocate. Four or 8.3% ranked it as being the most important, 10 or 20.8% ranked it as very important, 14 or 29.2% ranked it as somewhat important, 12 or 25% ranked it as not very important, and eight or 16.7% ranked it as not important at all. Lastly, addressing the importance of bullying/abuse was ranked by participants with four or 8.3% ranking it as the most important, seven or 14.6% ranked it as very important, eight or 16.7% ranked it as somewhat important, eight or 16.7% ranked it as not very important, and 21 or 43.8% ranked it as not important at all.

Figure 11 further represents the use of social/emotional supports by survey participants.

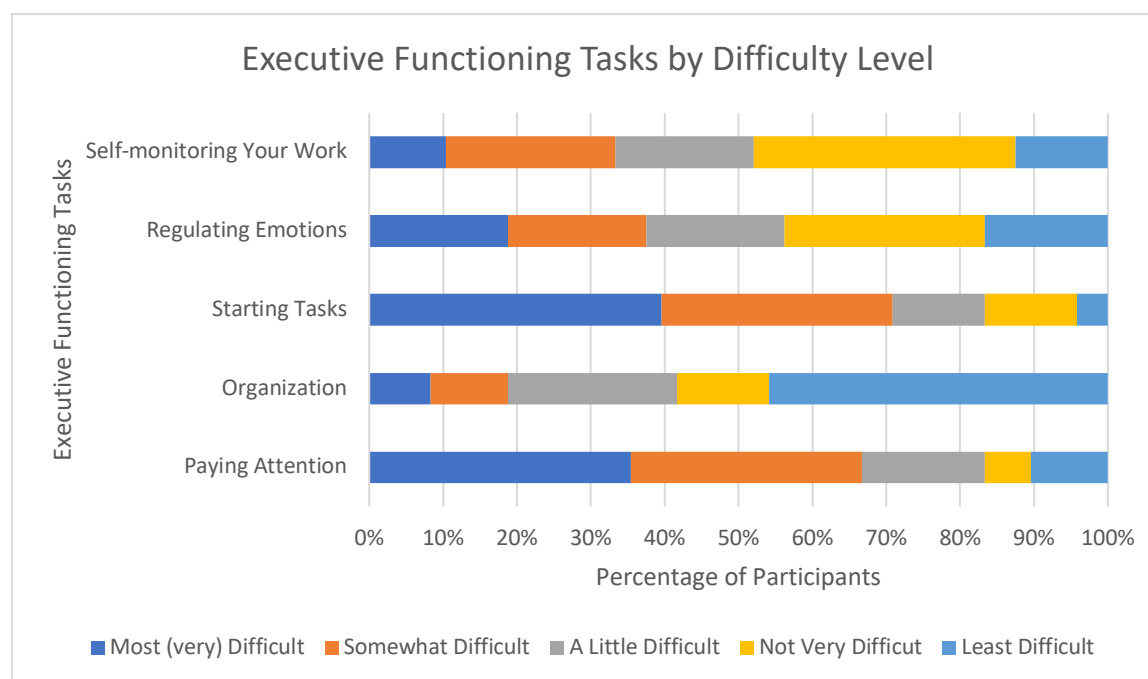
Figure 11

Use of Social/Emotional Supports by Survey Participants



Executive Functioning

The third portion of the survey instrument asked participants to rank various executive functioning tasks with the level of difficulty for each. This portion was tied to Research question three, which stated “What executive functioning capabilities present the biggest challenge(s) for students with disabilities in college/university?.” Participants were asked to rate paying attention, organization, starting tasks, regulating emotions, and self-monitoring your work with the level of difficulty from Most (very) Difficult to Least Difficult on a Likert-type scale. Paying attention garnered 17 Most (very) Difficult responses, Somewhat Difficult 15 responses, A Little Difficult eight responses, Not Very Difficult five responses, and Least Difficult three responses. Organization resulted in four Most (very) Difficult responses, five Somewhat Difficult responses, 11 A Little Difficult responses, six Not Very Difficult responses, and 22 Least Difficult responses. When asked about starting tasks, 19 responded as Most (very) Difficult responses, 15 Somewhat Difficult responses, six A Little Difficult responses, six Not Very Difficult responses, and two Least Difficult responses. Regulating emotions resulted in nine Most (very) Difficult responses, nine Somewhat Difficult responses, nine A Little Difficult responses, 13 not Very Difficult responses, and eight Least Difficult responses. Lastly, self-monitoring your work results in five Most (very) Difficult responses 11 Somewhat Difficult responses, nine A Little Difficult responses, 17 Not Very Difficult responses, and six Least Difficult responses. Figure 12 shows the difficulty rankings of executive functioning tasks for the survey participants.

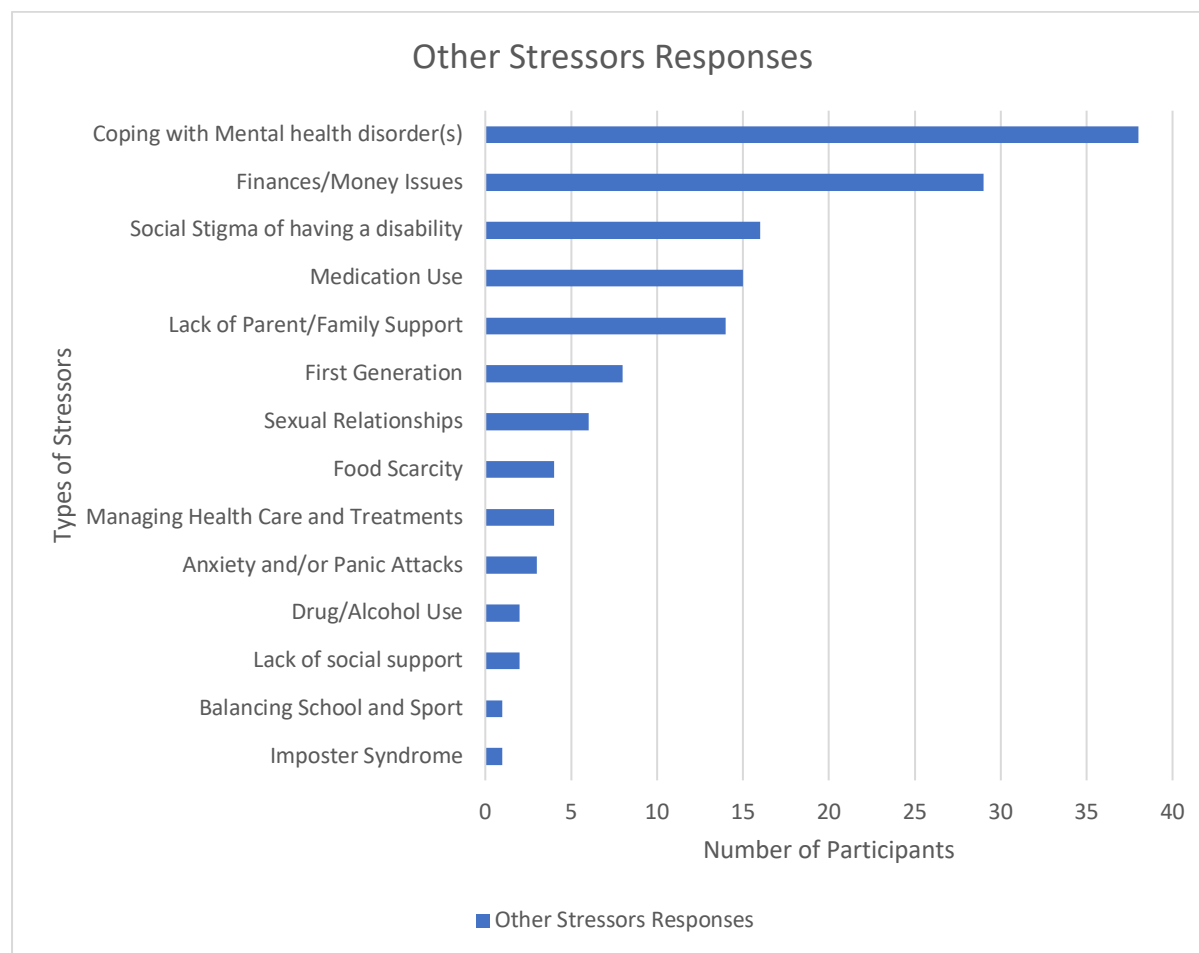
Figure 12*Difficulty of Executive Functioning Tasks for Survey Participants****Other Stressors***

The last question aimed to address Research question four, which states “What other stressors (such as finances, family support, virtual learning, etc.) factor into the retention and success of students with disabilities in college?.” Participants were able to select all the areas of stress that negatively impacted their college experience. There also was the option for “other” where participants were able to enter their own unique area(s) of stress that were not listed on the form. Overall, 38 or 79.2% of respondents indicated coping with mental health disorders as another stressor that negatively impacted their college experience. This was followed by finances/money with 29 or 60.4%, social stigma of having a disability with 16 or 33.3%, medication use with 15 or 31.3%, lack of parent/family support with 14 or 29.2%, being a first-generation college student with eight or 16.7%, sexual relationships with six or 12.5%, food scarcity and managing health care treatments both with four or 8.3%, anxiety or panic attacks

with three or 6.3%, drug/alcohol use and lack of social support both with two or 4.2%, and lastly, balancing school and sport, and imposter syndrome both with one response or 2.1%. Figure 13 further demonstrates the additional stressors that participants experienced.

Figure 13

List of Additional Stressors Responses



The survey instrument concluded with a “yes” or “no” question asking participants if they would be willing to be contacted for an open-ended interview. A total of 28 or 58.3% responded “yes,” and 20 or 41.7% responded “no.” Each participant who responded “yes” was contacted until a total of 12 responded and confirmed they would participate in the open-ended

interview. The participant and interviewer agreed upon a date and time to conduct the Zoom interview, which leads to phase two of the research conducted.

Interview Questions

As previously mentioned, an open-ended interview was conducted to add additional data and expand on the responses to the survey instrument. There was a total of eight questions, seven of which directly aimed to answer the research questions with one open-ended question at the end of the interview. Interviews were recorded using Zoom and then transcribed. Interview transcriptions were then loaded into NVivo for coding of themes. Table 3 represents the research questions and corresponding open-ended interview questions.

Table 3

Research and Interview Questions

Research Questions	Corresponding Interview Questions
1. What academic supports benefit students with disabilities the most at the college/university level?	What academic supports, such as tutoring, advising, professor office hours, etc., benefit you the most and why? Which academic supports, such as accommodations, professor office hours, advising, campus resources, etc., do you tend to use the least and why?
2. What level of importance does social and/or emotional supports factor into the retention of students with disabilities in higher education?	Explain to me how important your social experience is, such as getting involved on campus or extracurriculars, while in college? How does your emotional well-being, such as mental health, impact your college experience?
3. What executive functioning capabilities present the biggest challenge(s) for students with disabilities in college/university?	Executive Functioning Skills are mental skills that are used to stay focused, follow directions, and handle emotions. These are skills such as paying attention, organization, starting tasks, regulating emotions, and self-

	monitoring. When thinking about executive functioning skills, which of these present the biggest challenge to you and why?
	What strategies or supports, such as using a planner or calendar, have you used to improve your executive functioning skills?
4. What other stressors (such as finances, family support, virtual learning, etc.) factor into the retention and success of students with disabilities in college?	Every college student experiences stress. What are the most significant areas/causes of stress for you?
	Is there anything else you would like to add?

After interviews were then coded for emergent themes, quotes were organized by themes that brought greater detail and explanation to responses on the survey instrument. In the following section, the themes that emerged from this study will be aligned with the corresponding research questions. Direct quotes from the participants will be shared. Table 4 represents the research questions and the emerging themes that correspond to each question.

Table 4

Themes in Relation to Research Questions

Research Question	Themes
1. What academic supports benefit students with disabilities the most at the college/university level?	Professor office hours are most beneficial academic support. Campus Resources are least beneficial academic support.
2. What level of importance does social and/or emotional supports factor into the retention of students with disabilities in higher education?	The social experience is an important aspect to college life. Emotional wellbeing greatly impacts the college experience.

3. What executive functioning capabilities present the biggest challenge(s) for students with disabilities in college/university?

Starting tasks is the most challenging aspect of executive function.

Planners and/or calendars are the most effective tool to address executive functioning challenges.

4. What other stressors (such as finances, family support, virtual learning, etc.) factor into the retention and success of students with disabilities in college?

Academic performance is a significant stress factor.

Theme One: Professor office hours are the most beneficial academic support

Of the 12 participants interviewed, eight or 67% mentioned that professor office hours were among the most beneficial academic supports that students with disabilities in college can use. Interviewee 11 stated:

Professor office hours, just kind of establishing a relationship with my professors towards the beginning of the semester to just [meet them] that way, if I need help later on, like, they already know who I am, and they're more inclined to help.

Similarly, Interviewee 5 stated:

But the professor office hours were usually something easy that I could go to a little question, and they were always easily willing to help, and it was just the easiest option for me.

Participants also cited the benefit of one-on-one conversations with professors to not only build rapport, but to have a more direct line of support to the source of academic information.

Interviewee 3 stated:

Office hours...that's just because it's the place where I feel I can have a one-on-one conversation. If I need to ask for any clarification that'd be the place to do it.

Interviewee 6 expanded on this notion stating:

Professor office hours benefit me the most because I'm talking to the teacher or the professor and I'm seeing how the professor is answering the question. So, on the exam, I'm able to get a feel for what to look for and how to answer the question.

Face to face interactions are key to building relationships and building the foundation for collaboration in the future between faculty and students (Jackson & Knupsky, 2015). It can further benefit students with the opportunity to articulate questions, practice interpersonal skills, and self-advocate. Likewise, an added benefit might be that it encourages faculty to take on mentorship roles with students (Jackson & Knupsky, 2015). Overall, participants in this study attributed professor hours as being the most beneficial academic support. This is in comparison to the least beneficial support which is discussed next.

Theme Two: Campus Resources are the least beneficial academic support

Unlike professor office hours, campus resources, such as tutoring, advising, and writing centers, were cited among participants as being the least effective academic support offered to them at their institution. Interviewees often did not make a connection to the resources available to them. Four of the 12, or 33%, of all participants mentioned some or all campus resources are not beneficial for them. When asked about least beneficial resources, interviewee 6 simply stated:

Campus resources because most of them don't really benefit me.

Others did not see campus resources as practical options or uses of time for them. For example, interviewee 7 stated:

I do not have a specific question that I can easily get an answer to. And so, if I did need help from a tutor, it would probably amount to them sitting next to me while I worked through the whole thing, which is just not practical.

Likewise, interviewee 8 indicated that campus resources, such as the writing center, are not conducive with their schedule/timeline of work. Interviewee 8 stated:

Because often they would want me to come in with a draft and I would be ready with that maybe three days beforehand, of the due date. Then they wouldn't have any appointments when I tried to go make one. So, it's just kind of inconvenient.

Campus resources encompass a vast array of services offered to students with and without disabilities on college campuses. However, if students do not see a connection or purpose in the available resource, they may be less likely to use said resource. Some students have suggested that offices for students with disabilities that they are already connected with act as a liaison between on- and off-campus resources to connect/refer students (Dutta et al., 2009). In addition to academic experiences, social experiences can also have lasting impacts on students' overall performance. This will be shown by the next theme.

Theme Three: The social experience is an important aspect of college life

Eleven of the 12, or a total of 92%, of participants indicated that social experience is an important aspect of their college life. In a study by Harris et al. (2017), extraversion predicted more social engagement and more sense of belonging, meaning that students higher in extraversion reported better social experiences throughout college. Participants in this interview were not asked if they were introverts or extraverts, but almost all of them did state in some way that the social experience is an important factor in their overall emotional well-being. For example, interviewee 11 discussed their participation and the importance it made to them:

It's very important to me, I gotten involved in a lot, I started out right away, because I knew it would be hard to stay motivated academically and to feel connected to the school and to want to be there. I was more inclined to go to my classes if it was an overall environment that I enjoyed. I started out by, going to club fairs and like all the freshman events, and basically, I signed myself up for a bunch of email lists, and then I slowly unsubscribe from them and found the ones that I actually liked. And so, I've been involved in several student organizations and in a sorority, and I think that's been really integral to my experience, because I've met all of my support systems through those programs.

However, some students recognize the importance of getting involved and the added benefits but have a difficult time balancing it with their academic responsibilities. Interviewee 12 noted the difficulty by stating:

It's important but it's been difficult for me to, to find something that I can stick to, because I get really like overwhelmed with classes. Even though I'd really like to be in like a robotics club or something like that, I would start out in one and then have to kind of leave towards the middle of the semester because of classes and stuff just got to be too much.

One student recognized the impact that social experiences could also have on mental health. Interviewee 5 stated:

I would say overall, like being involved, having your group of people is super important, if not for the community aspect then for the mental health aspect.

The impact that the social experience can have on emotional well-being is further examined in the next theme.

Theme Four: Emotional wellbeing greatly impacts the college experience

Similarly to the importance of social experiences, 11 of the 12 students interviewed agreed that emotional well-being greatly impacts their college experience. According to a study conducted by Coduti et al. (2016), when compared to students without disabilities, college students with disabilities have higher levels of stress in areas that could impact their academic success, as well as higher tendencies for self-harming techniques. Therefore, the recognition that emotional well-being impacts the college experience of students with disabilities is an important factor to consider.

When asked “How does your emotional well-being, such as mental health, impact your college experience?”, interviewee 6 shared how it impacts their ability to study:

Some days are harder than others and if I’m not if I’m really emotional about a subject I can’t really focus. I can’t really do anything but think about it. I can’t really control it. So, my emotional wellbeing the impacts my ability to study. I would say the college experience, that means more than just studying that also means like social as well.

Interviewee 5 also shared the major impact mental health and emotional well-being has on their ability to be successful:

Greatly, highly if your mental health isn’t where it should be. If you’re not taking care of yourself, then everything else seems so much harder. You have to push yourself that much harder to get your work done.

Lastly, interviewee 4 expands on this and states how it impacts specific functions on their academic life:

But I think my emotional wellbeing affects not only my academic performance, but also how I handle large workloads, or how I just envisioned my academic success in general.

Overall, interviews agreed that emotional well-being and academic performance are inextricably linked. There was an additional concern indicated by students about the impact that COVID-19 had on their emotional well-being.

COVID-19 Impact on Emotional Wellbeing

Interviewee 4 shared the impact the disruption to college classes due to COVID-19 had on their emotional wellbeing:

I spent weeks and weeks with online classes. I didn't leave my apartment almost ever to go grocery shopping. It was incredibly isolating, even with having digital communication with some of my friends. It sent me into a pretty depressive spiral. I didn't have motivation to work. So, I failed all my classes. I was only taking three at the time. I've been able to retake what I need to retake and thrive. Even taking the same classes online again. But having that extreme isolation kind of destroyed me emotionally which destroyed me academically.

To another degree, interviewee 7 shared the impact the pandemic had directly on their mental health:

My mental health, especially during the pandemic has been terrible, and has made it fairly impossible to complete work on time. it's getting better, but I still say that it is a major factor in my life when it comes to academics and such.

Only these two students of the 12 interviewed made a direct connection between the COVID-19 pandemic and their mental health. But, this is an important aspect to consider as professionals in higher education work with students with disabilities. Next, interviewees discussed their struggles with executive functioning and what strategies work best to help them address those concerns.

Theme Five: Starting tasks is the most challenging aspect of executive functioning

Execution functioning is often a challenge for students with disabilities in college.

Everything from managing their schedule, due dates, staying organized, and getting involved can be impacted by executive functioning. Of the 12 students interviewed, six of them identified starting tasks is the most challenging aspect of executive functioning. Interviewee 1 simply stated:

Starting tasks is the one I have the biggest problem with.

Interviewee 5 expanded on this but went into more detail about the steps they take to avoid starting tasks:

I can tell that I have trouble starting my tasks. I will do whatever else I need to get done that day before I actually need to do the most important thing. So, if I have a bunch of homework due then I'm cleaning my room running any errands. You know, taking care of my dog, everything that I could possibly do before my homework, I do.

Additionally, Interviewee 11 stated an issue with holding themselves accountable to start and finish tasks:

When it comes to actually starting the tasks and staying on task, and actually following my timeline, that's where it kind of gets derailed. I can't hold myself accountable.

According to Meltzer (2007), "A student who does not begin a complex task immediately may experience difficulties with the interpretation of multistep directions as well as with planning and prioritizing" (p.87). Students with disabilities who might struggle with executive functioning could find task initiation as a challenging aspect of the college experience. However, there are strategies students noted that help them address their executive functioning needs.

Theme Six: Planner and/or Calendars are the most effective tool to address executive functioning challenges

Eight of the 12 students interviewed all noted that using a planner and/or calendar in some capacity helped with their overall organization and executive functioning. Interviewee 2 discussed the importance of using a planner overall:

Using a planner has definitely helped a lot. And organizing what I have. When I have multiple assignments to do, whether it's in finals or just like a regular week in school, using the planner to know when everything's due. But also, you know, writing down, which are the priorities, and which are going to be the most time consuming. Then structuring my schedule for getting it all done around that.

Scheduling time and identifying how long one needs to work on assignments is an important aspect of executive functioning. Many students use paper/pencil planners or agendas; however, some have found success using online or virtual formats of this. For example, interviewee 5 stressed the importance of using their Google calendar:

I tried the paper calendar, but I found that Google calendar was a lot easier, because I can pull it up wherever I am. And I can color code it and make it look however I want.

Likewise, interviewee 10 stated they use a calendar as well as other electronic options to keep themselves organized:

I actually keep a Notes app. And then what I do is I have a widget on my phone that has a list of all the assignments and their due dates and when they need to be done. For like the next two weeks, I try not to do it super far in advance because then I get overwhelmed.

According to The Learning Center at the University of North Carolina at Chapel Hill (2022), "Students generally benefit from regularly setting aside time to think ahead and plan for

the week ahead. This kind of planning helps you make sure you allocate enough time for each of your courses and helps avoid unforeseen pile-ups of work”(section 3). Work at the collegiate level can differ in both frequency and intensity than work at the K-12 level. Therefore, considering the use of planners, agendas, and calendars by college students with disabilities is an important area for investigation.

The final theme that emerged is the idea that academic performance is a significant stress factor for college students with disabilities. This will be further discussed in the next section.

Theme Seven: Academic performance is a significant stress factor

Academic performance can be defined as, “the measurement of student achievement across various academic subjects.” (Ballotpedia, para.1, 2022) Of the 12 students interviewed, when asked what their most significant area(s) of stress were, academic success arose as a theme among seven of the participants interviewed. Interviewee 6 simply stated:

Academic. Tests or you know, projects or product deadlines. Just assignments in general.

Those are the biggest stressors that I have because then it causes all my academic stress.

Interviewee 7 stated that academic stress, as well as looking ahead for the future are their main causes of stress:

Completing schoolwork and graduating eventually. But also, anything to do with career stuff, finding a job, attending career fairs, keeping my resume and portfolio up to date.

I’ve just stopped paying attention to all of that just so I can focus on the academics first.

Meanwhile, interviewee 4 stressed the gravity of the feeling by stating:

Fear of academic failure, my standards for success, or my level of intelligence.

Overall students interviewed in this study all showed signs of additional stress, and their academic achievement was high among that. This question concluded the open-ended interview process, which allowed the results to then be coded and discussed.

Summary of Key Findings

The survey instrument provided foundational knowledge about the perceived use and benefits of accommodations college students with disabilities used. Of supports and services, participants were most likely to use testing accommodations, which includes extended time, testing in a separate location, etc. as their primary support. A total of 33 answered always or very likely, which is 68.75% of overall participants. This is in comparison to campus resources such as tutoring, writing center, and other academic supports where participants were least likely to use with a total of 23 responding not likely or never, which is 48% of overall participants.

Use of emotional supports had mixed responses on the survey instrument. On the question about how likely a participant is to use an emotional support, there was almost an even split across areas ranging from not very likely to very likely; therefore, there was no definitive stand out as to a leading response. This, however, is compared to the question asking how important the social aspect of college is. Twenty-nine respondents answered a 5 or “most important” or a 4 or “very important” on the Likert scale, which is 60% of overall participants.

When participants were asked to rank the importance of social/emotional aspects of college, there were clearer levels of cohesive indication. When looking at what area participants ranked as most important and very important, feeling motivated and sense of belonging were tied with 31 total responses, or 64.6% of total responses. In comparison, addressing bullying/abuse and getting involved on campus ranked among the lowest areas of importance to students.

Executive functioning areas of paying attention and starting tasks were rated as among the most difficult for students. Paying attention resulted in 17 “most (very) difficult” responses and 15 “somewhat difficult” responses for a total of 32 responses or 67% of the overall responses. Likewise, starting tasks had the most “most (very) difficult” responses with 19, and 15 “somewhat difficult” responses for a total of 34 or 71% of overall participants. On the contrary, organization presented as the least difficult area of executive functioning with 22 respondents rating it the “least difficult” and 6 “not very difficult at all”, which is a total of 28 responses or 58% of overall participants.

Other stressors were asked about to help determine what other areas of focus students with disabilities are concerned about that negatively impact their college experience. Overwhelmingly, respondents indicated that coping with mental disorder(s) was a serious area of concern with 38 responses or 79.2% of all participants. The next closest response was finances/money issues which resulted in 29 or 60.4% of responses. Responses ranged in frequency from 38 to 1, which was distributed among a total of 14 unique categories. However, it was clear that mental health and finances were the two biggest areas of stress for students with disabilities in addition to other areas addressed on the survey.

The open-ended interview revealed seven themes throughout the responses. The first theme noted that students perceive professor office hours as the most beneficial resource available to them. Citing one-on-one assistance, content knowledge, and personalized support, interviewees felt that this was the most effective resource to use at their institution for help. Use of professor office hours fell somewhat in the middle on the survey instrument with 10 participants responding as always, very likely, and somewhat likely. As well as 13 responding

not very likely. It was behind the use of testing accommodations and advising. It was more prevalent among those interviewed than the general response on the survey.

On the opposite side, they found generalized campus resources to be the least beneficial support available to them. Often, they did not identify or see value in resources or centers that their institution offered. Campus resources responses are consistent with the survey instrument as the least used academic resource available to students.

The next theme that emerged was that social experience is an important aspect of college life. This is consistent with the responses on the survey. Additionally, the importance of emotional well-being was perceived as being linked to a student's academic performance and/or ability to be successful. This provided more in-depth discussion of what was present on the survey alone.

When asked about executive functioning, the theme that emerged among the interviews was that starting tasks was the most challenging aspect of executive functioning. This is consistent with the responses on the survey. The interviewees were able to provide more detailed experiences to expand on this notion from the survey. When asked what strategies they used to address their executive functioning challenges, participants stated that using a calendar/planner was the most effective way to help them stay organized and identify the tasks they need to complete.

Lastly, all students surveyed and interviewed indicated additional areas of stress. When interviewed, students largely identified their perceived success when it comes to academic performance as their most stressful area of the college experience. This adds additional detail to survey where students largely identified their emotional well-being/coping with mental health as their main area of stress.

Summary

A two-part research study was conducted where students were sent a survey and then invited to participate in an open-ended interview. The survey resulted in significant percentages of participants response in each area, such as 68.75% of all indicating that testing accommodations are beneficial. When interviewed, 12 participants expanded on the questions on the survey and seven themes emerged. They were discussed and reviewed. In the next section, key findings will be analyzed for recommendations which include further implications.

Chapter V: Recommendations

Introduction

Understanding the use of supports by college students with disabilities is important in identifying which of those they perceive as the most effective and beneficial towards their educational experience. By examining this, additional information can be added to the field of study surrounding college students with disabilities and their success in college. Through this study, the researcher sought to add to the current research base through both a quantitative survey instrument and a qualitative interview process. A convergence model of the triangulation design was used to analyze the data.

This chapter provides a discussion of the key findings and themes found throughout the study. Additionally, the researcher will discuss the potential implications of the findings as related to college students with disabilities. Finally, this chapter concludes with recommendations for future research on the topic.

Key Findings

While the number of students with disabilities attending college has increased, little is known regarding what contributes to their success and challenges in higher education. There are often predictors for success, such as transition programs and interagency collaboration; however, there is little information regarding what students with disabilities perceive as being beneficial once enrolled in higher education (Haber et al., 2016). Nineteen percent of all undergraduates in 2015-16 reported having a disability (NCES, 2017). This is a substantial number of students in higher education, so what they perceive as beneficial supports are important aspects for colleges to consider.

There were four research questions the current study aimed to address through both a survey instrument and open-ended interview. Through this process, the results of both carry equal weight and are compared for key findings. Themes from the interviews emerged which added additional clarification to the results of the survey instrument. Each research question is examined to identify the combined key findings for each question.

There were seven major themes that emerged from the data. They are (1) professor office hours are the most beneficial academic support, (2) campus resources are the least beneficial academic support, (3) The social experience is an important aspect of college life, (4) emotional wellbeing greatly impacts the college experience, (5) Starting tasks is the most challenging aspect of executive functioning, (6) planners and/or calendars are the most effective tool to address executive functioning challenges, and (7) academic performance is a significant stress factor. Themes one and two are linked with research question one, themes three and four are linked with research question two, themes five and six are linked with research question three, and theme seven is linked with research questions four.

Research Question One

Research question one addresses which academic supports benefit students with disabilities the most. The themes identified, through interviews, within this research question include:

1. Professor office hours are the most beneficial academic support.
2. Campus resources are the least beneficial academic support.

In addition to the above themes, classroom and testing accommodations both presented themselves as significant academic supports those students with disabilities found beneficial on the survey instrument.

On the survey instrument, the top-rated academic supports were classroom and testing accommodations. Classroom accommodations had a total of 27 responses of very likely or always, for a total of 56%. Testing accommodations elicited the biggest response with a total of 33 very likely and always for a total of 69%. This indicates that out of the choices of campus resources, academic advising, assistance from a professor, testing accommodations, and classroom accommodations, the importance of testing and classroom accommodations is the most significant. According to Bolt et al. (2011), students in high school and college reported using accommodations such as extended time, assistance with reading, and individual setting for testing. Accommodations are one such academic support that students with disabilities in college can use. Unlike the survey, professor office hours were a prevalent theme within the open-ended interviews. On the survey, the “assistance from a professor” category garnered average responses, yet it was clearly prevalent among interviewed participants.

Theme One: Professor office hours are most beneficial academic support

Of the 12 participants interviewed, eight or 67% mentioned that professor office hours were among the most beneficial academic supports that students with disabilities in college can use. According to Komarraju et al. (2010), student-faculty interactions are crucial to the development of a student’s academic self-concept. This also enhances their motivation and achievement. Interviewee 11 noted this established relationship by stating:

Professor office hours, just kind of establishing a relationship with my professors towards the beginning of the semester to just that way, if I need help later on, they already know who I am, and they’re more inclined to help.

Building that relationship is key. One of the ways to do this is for students to have a conversation with professors regarding their classroom or testing accommodations. Interviewee 4

combined the theme of professor office hours as well as the prevalence of using accommodations by stating:

We have to ask the professors to accept our accommodations. We have to have a one-on-one talk about our accommodation lists and what we need from them. Being forced to meet or at least start dialogue with a professor beforehand and talk about accommodations has helped, both in the in the sense that I feel like they understand my situation more by me being able to verbalize my struggles and what my experiences and what I think they can do to help me. Also, it lets me feel less weird about my accommodations and less nervous.

Overall, the use and availability of professors during pre-determined office hours is perceived as a significant benefit by college students with disabilities. Additionally, most institutions offer a wide variety of campus resources for students, which students with disabilities have access to. However, they seem to perceive these as being less beneficial. Interviewee 5 mentioned why professor hours are preferred over other campus resources, such as tutoring.

Professor office hours helped me the most, at least the past couple of semesters. Part of that is because I haven't really taken advantage of the tutoring, because of the schedules didn't always fit mine. But the professor office hours were usually something easy that I could go to a little question, and they were always easily willing to help, and it was just the easiest option for me.

These campus resources, such as tutoring centers and advising, will further be discussed in the next section.

Theme Two: Campus resources are least beneficial academic support

The second theme to emerge on both the survey instrument and through the interviews is that campus resources are the least used support/service. This means that college students with disabilities in this study perceived these as being the least beneficial to their success. Overall, the survey revealed that 48% of students rated campus resources as never or not likely to use. They do not see value in them and, therefore do not regularly or consistently seek out their services.

This same theme was prevalent among the interviewees as well. Of the 12 interviewed, five or 42% of interviewees mentioned that campus resources were the least beneficial resource available to them. Some interviewees expanded on the reason why these were the least beneficial, citing what they see as the impracticability of getting help from a tutor. Interviewee 7 stated:

It would probably amount to them sitting next to me while I worked through the whole thing, which is just not practical.

Additionally, Interviewee 6 shared what they saw as the inconvenience of having to have their papers prepared ahead of time to get help from a campus resource such as a tutoring center:

They wouldn't have any appointments when I tried to make one. So, it's just kind of inconvenient.

Overall, the responses from the interview support and expand on the responses from the survey instrument where campus resources were rated the lowest. Institutions should take into consideration the perceived ineffectiveness that college students with disabilities view campus resources and work to address those concerns. While campus resources were framed in this study as being academic in nature, there are some that are available to address social/emotional needs,

such as counseling centers. In the next section, research question two will be examined for themes that were present regarding the social experience of college.

Research Question Two

Research question two addresses how important social and/or emotional supports factor into the retention of students with disabilities. The themes identified within this research question include:

1. The social experience is an important aspect of college life.
2. Emotional wellbeing greatly impacts the college experience.

On the survey instrument, there was a somewhat even split among participants as to how likely they were to use emotional supports, such as counseling on campus. Therefore, there was no clear rating that garnered a significant response. However, on the survey instrument there was a significant response identifying the social aspect of school as being important. A combined total of 60.4% shared that the social aspect was “most” or “very” important. When analyzed alongside the interview question responses, this supports the theme that the social experience is an important aspect of college life.

Theme Three: The social experience is an important aspect of college life

Eleven of the 12 participants interviewed agreed with the results of the survey that the social experience of college is important. Developing a support system is an important component of the social experience for college students with disabilities. In a study by Getzel and Thoma (2008), college students with disabilities identified the need to develop a support system, such as peer groups, on campus as a major factor in their successful retention. The results from the interview supported the results of the survey instrument as well as the study by

Getzel and Thoma (2008); social experiences matter greatly to college students with disabilities.

Interviewee 2 noted how big of an impact their social experience had on them both academically and mentally:

If you don't have that [social life] you just go kind of crazy. Freshman year I didn't really have much of a social life. That was by far my worst year in college both grades wise and mentally.

What Interviewee 3 noted was the sense of belonging it brought to them once they got more involved on campus:

I think it was very, very important. Because that's the chance to really find yourself. And just learn more about yourself, meet more people and everything like that, to have a much bigger sense of belonging.

While Interviewee 10 did not get the campus connection they were looking for, they noted how much they wanted to feel a part of the campus community:

I desperately wanted that social aspect. That social experience to feel like I was really part of something on campus. I didn't really feel like I got that because there's not a lot of outreach done. Once I started living on campus it changed my mindset and I started to get involved with university housing.

Overall, participants in the survey and the interview drew a connection between the social experience of college and the importance it plays in their college success, whether that be strictly social/emotional, or academic as well. The next theme that emerged was that emotional wellbeing greatly impacts a college student with disabilities' college experience.

Theme Four: Emotional wellbeing greatly impacts the college experience

Of the 12 participants interviewed, 11 of them agreed that their emotional wellbeing impacts their college experience. According to a study conducted by Chen (2021), over-coming the self-stigma of needing support is a vital step in promoting mental health to help students overcome feelings of mistrust, shame, and doubt. Many students agreed that addressing mental health issues is key to their social and academic success, thus impacting their college experience greatly. Interviewee 10 noted how it impacted their life in multiple ways and the importance of not feeling alone:

It affects me literally every day of my life. I'm not alone with that. I know for a fact that it's not just me, but for me it permeates into every aspect of my life. If I'm not feeling well or if I don't take my medications one day, then I am really struggling, and it impacts my life on campus and ability to do well in my courses. When I'm not doing well you can see it reflected in whether I am going to class and if I have my support system around me.

Interviewee 11 also mentioned the importance of medication and a proper diagnosis to help combat mental health disorders among students with disabilities:

Not only do I have ADHD, but then I have generalized anxiety and a mood disorder. The mood disorder dictates entirely how my day and how my week is going to go. I got diagnosed with that the fall of my second year of college. Since then, I'm on the right medications and I'm finally in a better spot. Even though I'm relatively stable, it still affects things like when I have a down episode then I fall behind in my work. I just won't reply to my emails and completely shut off. Then I have so much to catch up on and it's just kind of a vicious little cycle.

Interviewee 2 underscored the permeance that mental health has on a large population of students:

It's the number one thing that impacts the college experience. I think that's something more people should deal with. If you're not doing well, and you want to sleep in and not go to class it's all intertwined. I think your academic performance and mental health are directly tied. I don't know many people who are dealing with really bad mental health issues getting all A's.

Both the survey instrument and interview responses signify that students with disabilities see mental health as a serious concern. Their emotional well-being is something that is considered just as important as their academic success, since many see the two inextricably tied. Academic and social aspects provide a foundation, when balanced, for a well-rounded college experience. Another factor in student success and well-being is executive functioning. Executive functioning is something that can impact both academic and social life and will be further discussed in the next section.

Research Question Three

Research question three addresses executive functioning challenges for students with disabilities in college. The themes identified within this research question include:

1. Starting tasks is the most challenging aspect of executive functioning.
2. Planners and/or calendars are the most effective tool to address executive functioning challenges.

On the survey instrument, starting tasks had the greatest “most (very) difficult” responses with 19, and 15 “somewhat difficult” responses for a total of 34 or 71% of overall participants. This is a clear indication that when given the option of executive functioning tasks, “starting

tasks” is the one college students with disabilities identify as the most challenging. The results of the survey are in line with the results of the open-ended interviews, which added more detail to the notion that starting tasks is a difficult executive functioning operation. Thus emerged the fifth theme, which will be further discussed through results from the open-ended interviews.

Theme Five: Starting tasks is the most challenging aspect of executive functioning

Executive functioning challenges are common among students across various disability categories, and they may require support beyond what institutions are legally required to offer (Williams et al., 2022). The results of the open-ended interviews support and expand on the results of the survey instrument where students indicated that starting tasks are the most challenging executive functioning aspect. Of the 12 participants interviewed, six or 50% of them stated that starting tasks was the most difficult aspect of executive functioning for them.

Interviewee 2 simply stated that this is their biggest challenge overall:

Starting tasks is the one I have the biggest problem with. I’m a really bad procrastinator.

Interviewee 4 also made the connection between starting tasks and the resulting procrastination by stating:

Starting tasks or staying organized because my response to stress is procrastination.

Then I don’t start tasks, so I can’t continue them or organize my time.

Lastly, Interviewee 7 made the connection between starting tasks and then monitoring their work once they can start a task:

Starting tasks and self-monitoring. I’m not really good at planning out what to do if there’s not a specific deadline in place. As is the case with a lot of my incomplete homework.

The link between procrastination and self-efficacy was examined by Niazov et al. (2022), which their study showed that college students with learning disabilities were more likely to experience stress, causing lower rates of task completion and self-efficacy. It can be implied that college students with learning disabilities are more prone to procrastination since they may have lower self-efficacy beliefs that they can start tasks. Despite these challenges, college students with disabilities are implementing strategies to help address their challenges. The use of these, such as planners/calendars, will be further discussed in the next theme.

Theme Six: Planners and/or calendars are the most effective tool to address executive functioning challenges.

According to Rivera et al. (2019), when college students with high incidence disabilities, such as ADHD and learning disabilities, use task analysis and goal setting, their overall task completion improves. Using tools like planners and calendars helps improve executive functioning challenges such as staying organized, breaking down tasks, and turning in assignments when they are due.

This theme expands on the challenges of executive functioning and provides further insight into how college students with disabilities work to address challenges in this area. Eight of the 12 participants interviewed regarded planners/agendas/calendars as a key factor in addressing their executive functioning challenges. This is a total of 67% of the interview participants that found this strategy helpful. What their calendar or planner looked like varied between participants, with some using digital versions. For example, Interviewee 11 relied heavily on their Google calendar:

I most heavily rely on my Google calendar because I'll use the tasks feature to put specific things I need to do, like doctor's appointments. I will put reminders on my phone

like make sure I bring this notebook to class. Because if it's not on my calendar, I'm not going to do it.

Interviewee 4 mentioned that they had used an agenda in the past and it was successful for them, but for the semesters where they did not use an agenda, they struggled more to get tasks done:

I was hard on making sure I always had my stuff listed out on my agenda. And it worked out well. But I haven't been able to maintain that level of success since.

Overall students have identified that using a planner/calendar works when it is used appropriately. This is an important area to consider as colleges work to support their students with disabilities. Working with students to effectively use and manage a calendar could help improve executive functioning challenges that they might experience. Next, the specific areas of other stress factors will be examined and discussed through research question four.

Research Question Four

Research question four addresses what other area(s) of stress college students with disabilities may experience. The theme identified within this research question is:

1. Academic performance is a significant stress factor.

On the survey instrument, all participants indicated there were additional stressors. It can be determined that a majority of college students with disabilities experience stress. The specific areas of stress ranged from 38 responses stating coping with mental health disorders was a significant stressor, to only 1 response indicating imposter syndrome. However, in the open-ended interview a clear theme that emerged was that academic performance is a significant stress factor for college students with disabilities. Of the 12 students interviewed, seven of them indicated that academic performance was an area that caused them stress.

Theme Seven: Academic performance is a significant stress factor

Interviewees mentioned academic performance and their belief in their ability to be successful as a significant area of stress. Interviewee 12 stated:

Probably test scores and grades and feeling compared to your peers. How smart you are.

That's probably the biggest one.

Comparing themselves to their peers when it comes to grades is another aspect that emerged within the interviews. Interviewee 3 stated:

I feel like I don't belong in this program a lot. There is a lot of comparing myself to others in terms of grades.

Overall, there has been minimal research done on the specific effects that academic performance stress has on college students with disabilities. Therefore, this will be an area further discussed in the implications section of this chapter.

Implications

The purpose of this study was to garner a deeper understanding of what college students with disabilities found to be factors leading to their success, as well as barriers to their achievement. While the number of students with disabilities in higher education continues to increase, there is still not a comprehensive understanding of what benefits their success as well as what factors present significant barriers for them. The researcher sought to add to the understanding of this topic through examining perceptions and lived experiences of current college students with disabilities.

There are numerous implications that resulted from this study. The implications have been divided into three sections: practice, policy, and future research. Each area should be

considered to continue adding to the field of knowledge regarding college students with disabilities.

Implications for Practice

One significant theme that emerged was that professor office hours served as a frequently used resource by college students with disabilities. Therefore, faculty should be aware of the importance of pre-determined office hours and the invitation of students, especially those with disabilities, to attend their office hours. Faculty would benefit from instruction in working with students with disabilities as well as Universal Design for Learning (UDL) in order to reach multiple learning styles at once. It may be possible for the Disability Support Office (DSO) on campus to provide support and education to faculty members and departments regarding the importance and frequent use of accommodations by college students with disabilities. This can aid in the conversations faculty are having with college students with disabilities. Overall, institutions should continue to stress the importance of faculty members maintaining presence during office hours in order to better support this population of students.

On the contrast, this study showed that college students with disabilities were less likely to use campus resources such as tutoring and advising. These offices/resources on college campuses should take into consideration college students with disabilities' perception of their resources being less beneficial. They could consider programming specifically for students with disabilities or reframe their outreach to students to be more inviting for this population. Promoting trained staff that are versed in various learning styles, fostering welcoming environments, and offering one on one assistance are just some of the suggestions that these offices/resources could consider to appeal more widely to college students with disabilities.

Lastly, mental health awareness was a prevalent theme throughout both sections of the study. Students with disabilities noted that coping with mental health issues was a significant area of stress. Emotional wellbeing was also an area that they agreed was an important aspect of their college experience. Therefore, institutions should make mental health a focus on their college campuses. They could provide specific outreach to students with disabilities, which this study showed are prone to mental health needs, through the DSO on campus. They could offer counseling and promote the training of counselors who work with individuals with disabilities. Overall, the mental health outreach on college campuses should keep up with the demand of services, which appears to be quite significant.

Implications for Policy

At the conclusion of this study, there is current legislation proposed in 2021 in the U.S. senate called the “RISE Act.” The RISE Act would amend the Higher Education Act (HEA) to clarify what documentation must be accepted when considering if an enrolled college student has a disability or not (“RISE Act”, 2021). This legislation would require higher education offices to accept a wider range of documentation to qualify individuals with a disability. Essentially, if a student had an IEP, 504 plan, or ADA accommodations from K-12, they would qualify for disability status in college. It may open the door for more individuals to qualify for disability services in higher education. This is a significant area of consideration for colleges as they work to identify who has a disability and who qualifies for accommodations at their institution.

The study completed by this researcher showed that accommodation use, both in the classroom and on testing, was the main academic support used. Therefore, if policy such as the RISE Act is to pass, then colleges need to be prepared to support a potentially larger number of students with disabilities. DSO offices would benefit by staying abreast of policy changes,

training their staff in identification of disability status, and then disseminating that information across the campus community. In addition, some colleges provide additional support beyond what is legally required through positions such as “success coaches”. These individuals are assigned to help students with disabilities navigate resources such as tutoring and work on skills such as time management. Positions such as success coaches should also be considered by institutions in order to provide additional support a potential influx in college students with disabilities.

Implications for Future Research

The aim of this study was to discover areas that students with disabilities perceived as areas of success and barriers to their achievement. Throughout the study, there were two areas that presented as significant themes, but there was little to no existing in-depth research examining these trends. The first was the use of planners/schedules by college students with disabilities. Further research could look at the success of students both before and after they started using planners/schedules to organize their tasks and due dates. Further research could also examine the outcome of planner/agenda use when interventions, such as meeting with a mentor, are considered. Overall, students view the use of a planner as a strategy to help with their executive functioning; therefore, it could be further examined to determine why that might be.

Likewise, further research on academic performance stress for students with disabilities should be considered. It is clear that all college students with disabilities experience stress. However, there is very limited research on these additional stress factors. The one factor that was the most prevalent in this study was the notion of academic success. It could be further examined as to why students with disabilities might feel a higher level of academic pressure than their non-disabled peers. Originally this study sought to do research across multiple colleges/universities

are varying size to compare data and themes across institutions. However due to the limited response of participating institutions the researcher progressed forward with College A as the only participating institution.

Limitation for this study include a geographically limited area of the American Southeast. It was one college whose population was reflected. Additionally, the data collection was completed in the summer 2022 semester, where available participants may or may not have been checking their email if not enrolled in classes thus possibly impacting response rates. The COVID-19 pandemic may have also impacted student's college experience that could be impacting the results through additional stressors.

Summary and Conclusion

This mixed methods research study examined the perceived factors of success and barriers to achievement by college students with disabilities. There was an over-arching goal to add to the existing research base and complete a more comprehensive exploration of the experiences of college students with disabilities. The researcher used a convergence model of the triangulation design to analyze the data. Through the survey instrument and the open-ended interviews, as well as the qualitative analysis that followed, there were seven themes that emerged. The themes that emerged were: (1) professor office hours are most beneficial academic support, (2) campus resources are least beneficial academic support, (3) the social experience is an important aspect of college life, (4) emotional wellbeing greatly impacts the college experience, (5) starting tasks is the most challenging aspect of executive functioning, (6) planners/calendars are the most effective tool to address executive functioning challenges, and (7) academic performance is a significant stress factor.

In this chapter, each of the seven themes were expanded upon and interview data was utilized to add additional depth to the findings from the survey instrument. Through the convergence model, the researcher was able to demonstrate the connectedness between the research questions and the resulting data from both the survey and the open-ended interviews. Additionally, this chapter discussed the implications this research has for practice, policy, and further research.

Students with disabilities are attending college in increasing numbers. However, their success and retention are still an area that is under researched. This study was able to provide valuable insights into what college students with disabilities find to be working to support their success, such as professor office hours, accommodation use, and planners/calendars. Additionally, this research study also brought into discussion the areas that are potential barriers, such as mental health concerns and academic performance stress. Therefore, this research study provides valuable information for all stake holders that work with and serve college students with disabilities.

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APPENDIX A

Survey

Informed Consent

You are being invited to participate in a research study titled "SIGNIFICANCE OF ACADEMIC AND SOCIAL/EMOTIONAL ACCOMMODATIONS AND SUPPORTS: EXAMINING THE PERCEIVED IMPACT ON COLLEGE STUDENTS WITH DISABILITIES" being conducted by Danielle Dietz, doctoral student at Slippery Rock University. The survey will take approximately 5-10 minutes to complete. The goal of the survey is to identify areas of perceived success for students with disabilities in college. It also aims to determine areas of difficulty especially in executive functioning and other stressors. Your responses will be kept confidential and no data will be released or used with your identification attached. Your participation in this research is voluntary. At any point in the survey, you may decide to no longer participate and exit the survey. You may choose not to answer any or all questions, and you may stop at any time. Please contact Danielle Dietz at 814-207-1430 or dmv4372@sru.edu for any research related questions or Slippery Rock University Institutional Review Board at 724-738-4846 or irb@sru.edu for your rights as a research participant.

I understand the above information and consent to participation in this survey

YES

NO

Demographic Information

Email:

Age:

Race/Ethnicity:

- American Indian or Alaska Native
- Asian
- Black or African American
- Hispanic or Latino
- Native Hawaiian or Other Pacific Islander
- White
- Two or more races

Sex Assigned at birth

- Male
- Female
- Intersex
- Prefer not to answer

Gender Identity

- Female
- Male
- Transgender
- Genderqueer
- Agender
- A Gender not listed

Which Disability area(s) do you have a documented diagnosis for?

- Autism
- ADHD
- Deaf-Blindness
- Deafness
- Diabetes
- Dyscalculia
- Dysgraphia
- Dyslexia
- Emotional Disturbance
- Epilepsy
- Hearing Impairment
- Heart disease
- Intellectual Disability
- Muscular Dystrophy
- Orthopedic Impairment
- Traumatic Brain Injury
- Speech and Language Impairment
- Specific Learning Disability
- Visual Impairment (including blindness)
- Other:

What is your overall current GPA?

What is your enrollment status?

- Full time student
- Part time student

What is your academic major?

What academic year are you in school?

- First year
- Second year
- Third year
- Fourth year
- Fifth year
- Sixth year
- Other:

What is your Residency Status?

- In-state student
- Out of state Student
- International Student

Supports and Services

Using a rating system please indicate how likely you are to use, on AVERAGE, the following campus supports.

1= Never

2= Not Very Likely

3= Somewhat Likely

4= Very Likely

5= Always

Accommodations: Classroom Accommodations

Never	1	2	3	4	5	Always
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Accommodations: Testing Accommodations

Never	1	2	3	4	5	Always
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Assistance from your professor(s) (Ex: going to their office hours)

Never	1	2	3	4	5	Always
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Academic Advising

Never	1	2	3	4	5	Always
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Campus Resources such as tutoring, writing center, and other academic supports

Never 1 2 3 4 5 Always

Emotional Supports

Please answer the following questions regarding your use of emotional supports

How likely are you to use emotional supports (such as counseling) on campus?

Not Very Likely 1 2 3 4 5 Very Likely

How important is the social aspect of school to you?

Not very important 1 2 3 4 5 Very Important

Rank the Social/Emotional aspects of college with the level of important to you

	Most Important	Very Important	Somewhat Important	Not very Important	Not Important
Sense of belonging					
Getting involved in campus life					
Feeling motivated					
Being a self-advocate					
Addressing bullying/abuse					

Executive Functioning

Please rank the following executive functioning skills in order from Most Difficult to Least Difficult

	Most (very) Difficult	Somewhat Difficult	A Little Difficult	Not Very Difficult	Least Difficult
paying attention					
organization					
starting tasks					
regulating emotions					
self-monitoring your work					

Other Stressors

Select all areas of stress that impact your college experience

Select any area(s) of stress that negatively impact your college experience

- ☐ Finances/ Money Issues
- ☐ Lack of parent/family support
- ☐ Drug/Alcohol Use
- ☐ Sexual Relationships
- ☐ Being a first-generation college student
- ☐ Medication Use
- ☐ Social stigmatization of having a disability
- ☐ Food Scarcity
- ☐ Coping with mental health disorder(s)
- ☐ Other:

Would you be willing to be contacted for an open-ended interview?

Yes

No

Thank you for completing the survey! Your email address has been entered into a drawing for a \$50 Amazon gift card. If you are the winner, you will be contacted via the email you provided.

APPENDIX B

Open-ended Interview Questions

1. What academic supports, such as tutoring, advising, professor office hours, etc., benefit you the **most** and why?
2. Which academic supports, such as accommodations, professor office hours, advising, campus resources, etc., do you tend to use the **least** and why?
3. How important is your social experience while in college?
4. How does your emotional well-being, such as mental health, impact your college experience?
5. *Executive Functioning Skills* are mental skills that are used to stay focused, follow directions, and handle emotions. These are skills such as paying attention, organization, starting tasks, regulating emotions, and self-monitoring. When thinking about executive functioning skills which of these present the biggest challenge to you and why?
6. What strategies or supports, such as using a planner or calendar, have you used to improve your executive functioning skills?

7. Every college student experiences stress. What are the most significant areas/causes of stress for you?
8. Is there anything else you would like to add?