CHARACTERISTICS, EXPERIENCES, AND QUALITY OF COLLEGE LIFE OF STUDENTS WITH DISABILITIES REGISTERED WITH THE DISABILITY OFFICE ON COLLEGE CAMPUSES

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ABSTRACT

Melissa Martell Senior: Characteristics, Experiences, and Quality of College Life of Students with Disabilities Registered with the Disability Office on College Campuses
(Under the direction of Rune J. Simeonsson)

The number of students with disabilities (SWD) enrolling in college continues to rise yet the graduation rates for this population remain below those of their peers without disabilities. A student's experiences during the transition from high school to college and in college (academic and social integration) impact overall persistence towards degree completion. SWD face more challenges before and after entering college than their peers without disabilities, which places them at greater risk for attrition. Previous research explored patterns associated with college persistence for SWD and found that while they often utilize kindergarten through 12th grade disability-resources, they are less likely to use disability-related services during college. However, limited information is available about the experiences of SWD in college. This study explored the characteristics, experiences, and quality of college life for 306 SWD registered with the Disability Office at four public four-year colleges in the southeastern region of the United States. The results identified patterns in student characteristics (e.g., gender and disability category), high school experiences (e.g., IEP and 504 involvement, perceptions of transition concerns, and disability self-awareness), and college experiences (e.g., family involvement in the registration process) associated with Disability Office registration and use. The majority of the sample reported positive outcomes on questions adapted from the Quality of College Life (QCL) scale, a measure of college integration. However, over half of the sample reported that they considered dropping out of college at some point in their academic career. These findings have

implications for high school and college professionals who support SWD as they transition to college as well as provide opportunities to assess systematic barriers that impact SWD.

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LIST OF ABBREVIATIONS

ADHD – Attention-deficit hyperactivity disorder

ASD – Autism spectrum disorder

CHC – Chronic health conditions

HI – Hearing impaired / Deaf

MH – Mental health

NLTS-2 – National Longitudinal Study of Transition Services-2

PSE – Postsecondary education

QCL – Quality of college living

SWD – Students with disabilities

SLD – Specific learning disorder

TBI – Traumatic brain injury

VI – Visually impaired / Blind

CHAPTER 1: INTRODUCTION

Earning a postsecondary degree is valuable in the American culture as it promotes long-term financial security, assists with obtaining desired employment, and provides a level of personal fulfillment (Kat & Somers, 2015; Kena et al., 2015; Newman, Wagner, Cameto, & Knokey, 2009). In the general student population, there has been a 46% increase in postsecondary education (PSE) enrollment over the past few decades, rising from 12 million students in 1990 to 17.5 million in 2013 (Kena et al., 2015). A large number of postsecondary students (66%) enroll in college immediately after completing their secondary degree, which explains the large population (88%) of students who are younger than 25 years of age and are enrolled full-time in four-year colleges. While a large number of individuals enroll in four-year postsecondary schools, a disproportionate number will not obtain their desired degree (Kuh, Kinzie, Buckley, Bridges, & Hayek, 2006). Students who obtain their four-year degrees often do not complete them within the expected timeframe, with 39% of students graduating in four years and 59% within six years (Kena et al., 2015).

Students who leave college prior to completing their degree often do so before the beginning of their second year (Tinto, 2006; Grabau, 2011; Schneider, 2010; Wintre et al., 2011). This finding is not unexpected considering the academic, social, and personal challenges faced by students as they transition from secondary to postsecondary school (Grabau, 2011; Tinto, 2006; Wintre et al., 2011). Some students (e.g., minority, first-generation, transfer, first-year students, and students with disabilities) face additional difficulties not faced by their peers that place them more at-risk for attrition (also referred to as early college departure). Numerous

studies sought to examine factors associated with attrition. Previous studies have identified several academic (e.g., high school academic records, standardized test score, and problem-solving skills), social (e.g., coping, self-esteem, self-determination, peer and family support), and environmental factors (e.g., positive peer and faculty interactions, use of support resources, and campus climate) that play a role in students' persistence through college for the general student population (Adams & Proctor, 2010; Adebayo, 2008; Aspinwall & Taylor, 1992; Grabau, 2011; Grant-Vallone, Reid, Umali, & Pohlert, 2003; Hong, Haefner, & Slekar, 2011; Smith & Zhang, 2009; Sommerfeld, 2011; Sparkman, Maulding, & Roberts, 2012; Strayhorn, 2011; Tinto, 2006; Wintre et al., 2011). However, the literature has conceptual and methodological limitations that impede the results' reliability, such as failing to consider the unique experiences of at-risk students (e.g., minority, first-generation, transfer, first-year students, and students with disabilities) and limited generalizability resulting from large samples of majority students (Grant-Vallone et al., 2003; Tinto, 2006; Wintre et al., 2011). As a result, limited information is available about many at-risk populations, particularly SWD (Fichten et al., 2014).

Compared to the general student population, SWD are less likely to enroll in four-year colleges (29% vs. 8%, respectively), more likely to take longer to complete their degrees (42% vs. 29% completed within six years), and more likely to drop out of college before completing their degrees (41% vs. 24%; Fichten et al., 2014; National Center for Educational Statistics, 2012; Newman et al., 2009; Richman, 2013;). The above patterns can be partially be explained by the recognized additional burdens (e.g., managing disability-related needs and services) and barriers (e.g., stigma and disability-related experiences) faced by SWD as they transition and integrate into the college environment (Duncan & Ali, 2011; Durlak, Rose, & Bursuck, 1994; Hadley, 2006; Newman et al., 2009). While higher education studies specific to SWD are

limited in quantity, researchers have identified several factors associated with degree completion, including transition experiences (e.g., involvement in disability-related services in secondary school, living on campus, disability knowledge), academic (e.g., faculty interactions, self-management, and academic readiness) and social factors (e.g., family and peer support, campus climate, coping skills), and individual characteristics (e.g., perceived visibility of disability, self-determination, self-advocacy; Adam & Proctor, 2010; Barnard-Brak, Davis, Tate, & Sulak, 2009; Cawthon & Cole, 2010; DeBeard, Spielmans, & Julka, 2004; Field, Sharver, & Shaw, 2003; Fuller, Healey, Bradley, & Tall, 2004; Getzel, 2008; Grabau, 2011; Hagedorn, 2000; Hedrick, Dizen, Collins, Evans, & Grayson, 2010; Herbert et al., 2014; Kats & Somer, 2015; Komarraju, Ramsey, & Rinella, 2013; Lightner, Kipps-Vaughan, Schulte, & Trice, 2012; Mamiseishvili & Koch, 2011; Murray, Lombardi, & Kosty, 2014; Walker & Test, 2011). In addition to the small number of published studies related to PSE and SWD, there are methodological limitations (e.g., operational definitions of disability, limited sample sizes, and restrictions associated with focusing on single-variable of interest) that impede the application of the literature to the larger SWD population (Faggella-Luby, Lombardi, Laylor, & Dukes, 2014; Fichten et al., 2014; Leake & Stodden, 2014). This study sought to address previous methodological concerns by providing a wide range of disability categories on the survey, recruiting participants across multiple universities, and incorporating multiple factors (e.g., transition, social and academic integration, and resource use) when assessing student experiences and outcomes.

Although some factors related to persistence for SWD were identified in the literature, the information has not been successfully integrated into policy and practice. Secondary and postsecondary schools vary widely in their disability-related service management, identification

of disability-needs, and the laws that govern their practice (Cory, 2011; Eddy, 2010; National Center for Educational Statistics, 2012; Shaw & Dukes, 2013;). These systematic barriers may lead to negative experiences for SWD as they transition to college; therefore, it is not surprising that SWD often do not utilize disability-related resources (e.g., Disability Office) in college campuses although they may have consistently utilized them in high school (Dietsche, 2012; Dong & Lucas, 2013; Newman et al., 2009; Richman, 2013). Newman et al. (2009) reported that more than three times as many students in their study (n = 2,650) utilized high school disability-related services than PSE Disability Offices. The large discrepancy between secondary and postsecondary disability service use has been minimally explored in the literature, although a few studies have identified some associations and patterns across students' academic year and disability category (Dong & Lucas, 2013; Lightner et al., 2012; Richman, 2013). However, limited information is available about how the resources in the Disability Office impact overall persistence for SWD (Fichten et al., 2014; Mamiseishvili & Koch, 2011). This study sought to identify patterns associated with Disability Office registration and specifically explored student characteristics (e.g., gender, ethnicity, and age), high school experiences (e.g., IEP and 504 involvement and perceived disability concerns and knowledge), and college experiences (e.g., timing of Disability Office registration, assistance with the registration process, perceptions of related concerns and knowledge, and use of available resources).

With the alarmingly low degree completion statistics for postsecondary students with and without disabilities, it is not surprising that college administrators strive to identify ways to improve and foster student success to promote student retention (Kuh et al., 2006; Newman et al., 2011). Retention literature often utilizes conceptual theories, such as Tinto's Model of Student Departure (Tinto, 1993), Theory of Planned Behavior (Ajzen, 2002; Fichten et al.,

2014), and Bean's Student Attrition Model (Bean, 1982) to provide frameworks for identifying and understanding the complex factors related to early student departure from college (Wyat, 2012). Most commonly utilized is Tinto's Model of Student Departure, which explores the comprehensive interaction between four broad constructs (pre-entry attributes, entry goals and long-term commitments, aspects of social integration, and academic integration). Tinto's model is particularly appealing because of its emphasis on transition experiences, which are often neglected in other retention models (Achola, 2013; Kuh et al., 2006). Recently authors have utilized the framework to explore retention factors for at-risk student groups, including SWD (DaDeppo, 2009; Dong & Lucas, 2013; Fischer, 2007; Talbert, 2012; Tinto & Pusser, 2006). Traditional outcome measures for assessing student success have included grade point averages (GPAs) and graduation rates (Krumrei-Mancuso, Newton, Kim, & Wilcox, 2013; McCubbin, 2003; Newman et al., 2009; Smart & Paulsen, 2011;Tinto & Pusser, 2006); however, both variables are limited in their use for identifying areas of concerns within Tinto's framework as these measures provide little information about areas of strengths and weaknesses. Recently authors have utilized measures of student satisfaction as a method for gauging student success (Junco, Heibergert, & Loken, 2010; Krumrei-Mancuso et al., 2013; Kuh, 2009; Smith, 2015), as these can be used as both global measures (Krumrei-Mancuso et al., 2013; Pedro, Leitão, & Alves, 2016) or measures of satisfaction within specific areas (e.g., academic, social, or environment; Sirgy, Grezeskowiak, & Rahtz, 2007; Yu & Kim, 2008). Tinto's Model of Student Departure provides valuable information regarding factors associated with early college dropout and is particularly useful for assessing experiences of SWD. This study adds to the existing literature by applying Tinto's Model of Student Departure framework to SWD. The present study utilized questions from a college-specific measure of student satisfaction, Quality of College Life

(Sirgy et al., 2007), to assess success within key areas of Tinto's model (e.g., academic and social integration) and thereby provide information about the experiences of SWD in college.

Definitions

National Longitudinal Transition Study -2

The National Longitudinal Transition Study-2 (NLTS-2) is a large-scale longitudinal study that explored individual characteristics, transition experiences, and postsecondary outcome data for 11,276 secondary SWD across a 10-year time period (Newman et al., 2009). The nationally representative sample is comprised of students who received special education services under one or more of the 12 IDEA eligibility categories. Of the 11,276 students followed in the NLTS-2, 2,650 students enrolled in PSE. The NLTS-2 PSE sample (n = 2,650) will be referenced throughout the literature review, as it is the most comprehensive study of SWD currently available.

Gender

In addition to gathering information about traditional gender identities (e.g., male and female), this study sought to be gender-expansive by including gender identities beyond "male" and "female" with the purpose of examining experiences of individuals across the gender spectrum. This study used the umbrella term "non-binary gender" to represent students who do not identify with binary (e.g., male and female) gender labels. Using a single identity to encompass a wide spectrum of genders is not ideal; however, participating students had the opportunity to provide, if they choose to do so, their specific non-binary gender identity.

Students with Disabilities

The literature on SWD often neglects to operationally define the term "disability", limiting the existing information in the field (Faggella-Luby et al., 2014; Leake & Stodden,

2014). For the purpose of this study the term "disability" will include individuals who identify as having a medical condition or disability that are supported under Section 504 of the Rehabilitation Act and the Americans with Disabilities Act (ADA). It should be noted that there is variability in the definition of disability across institutions, as Disability Offices are allowed to determine their eligibility requirements for services (e.g., type of documentation needed to support disability needs, recency of diagnosis, and appropriate accommodations). Disability categories in this study were: Attention Deficit / Hyperactivity Disorder (ADHD), Autism Spectrum Disorder (ASD), Hearing Impaired/Deaf (HI), Specific Learning Disorder (SLD), Physical, Visually Impaired/Blind (VI), Chronic Health Conditions (CHC), and Psychological/Mental Health (MH).

Dissertation Organization

The second chapter provides a comprehensive review on students with disabilities in college. The literature review identifies known demographic data, enrollment and retention rates, and examines the differences between service deliveries in secondary versus PSE for SWD in college. Chapter Two also examines challenges faced by SWD in college and available support resources on campus, specifically Disability Offices Additionally, Chapter Two also reviews the conceptual framework that was utilized in the present study and introduces the use of the Quality of College Life (QCL) questionnaire as a measure of college student satisfaction. Finally, Chapter Two establishes the rationale for the study and introduces the research questions. Chapter Three describes the methodology of this study, including a description of the broad student population and potential sample, recruitment methods, measures, and statistical analyses. In chapter Four, the results of the data presents the data analysis are presented. Chapter Five discusses the results of the study within the framework of the theory explored in Chapter Two.

Chapter Five contains a discussion on the study limitations, implications of findings for policy and practice, and offers suggestions on future research.

CHAPTER 2: REVIEW OF THE LITERATURE

Students with Disabilities in Postsecondary Education

This chapter provides a review of: (a) the known college SWD population and PSE academic patterns (e.g., enrollment, attrition, and retention); (b) transitional, social, and academic experiences and service support use by SWD in postsecondary school; (c) Tinto's Theory of Early Student Departure as a conceptual framework for this study; (d) rationale for the present study; and (e) the study's research questions.

Available Demographic Data and Academic Patterns

The United States National Center for Education Statistics (Kena et al., 2015) reported that in 2011-12, 11% of the national college population identified as having a disability. Kena et al. (2015) stated that females identify as having a disability more than males (56% and 44%, respectively). It should be noted that this binary gender difference is not necessarily significantly different than the general population, as the reported percentages match those reported for students without disabilities (Kena et al., 2015). Student characteristics related to ethnicity/race mirror the general population with differences found only for students who are Black/African American, as a larger proportion of this subpopulation identified as having a disability than not having a disability (18% vs. 16%, respectively). Ages of students identified as having a disability also reflected the general population with a majority of identified students being under 25 years of age (45%). However, a higher percentage of older college students (30 years of age or older) identified with a disability than the older college student population who did not identify as having a disability (36% and 24%, respectively).

According to the NLTS-2, the number of SWD who desire to attend college is increasing (Newman et al., 2009). Four out of five SWD reported college as a goal during their high school transition planning (Cameto, Levine, & Wagner, 2004; Newman et al., 2009). However, SWD are less likely to enroll in PSE settings (e.g., two-year college, four-year college, or trade-school) than their peers without disabilities (45% versus 53%; Newman et al., 2009). The pattern is evident when reviewing enrollment rates at four-year colleges, with 8% of SWD enrolled versus 29% without disabilities enrolling in four-year colleges. Newman et al. (2009) reported that at the four-year post-high school follow-up for the NLTS-2, only 24% of SWD remained enrolled at any PSE institution (e.g., two-year, four-year, or trade school) compared to 41% of their nondisabled peers. At the six-year post-high school NLTS-2 follow-up, only 38% of SWD had completed their undergraduate degree compared to 51% of the majority population (Newman et al., 2011). The graduation rates are especially disproportionate when targeting degree completion from four-year institutions; only 29% of SWD completing their degree within six-years compared to the 42% completion rates of their peers in the general population (Newman et al., 2011). The most often reported reasons for exiting college prior to degree completion for SWD included employment, poor academic performance, disability and health, inadequate accommodations, financial barriers, and an overall dislike for college (Fichten et al., 2014; Newman et al., 2011). A major limitation of the NLTS-2 is the study's descriptive nature; therefore, the authors did not provide any hypotheses about the patterns among academic characteristics (e.g., enrollment, attrition, and retention) for students with and without disabilities (Newman et al., 2009). This study aimed to fill gaps within the literature by using both descriptive and associational methods to examine the high school (e.g., support service use, IEP

or 504 involvement, disability knowledge and concerns) and college (e.g., social and academic integration, registering with the Disability Office, and support service use) experiences of SWD.

Exploring patterns of SWD characteristics across disability categories can provide valuable information for understanding postsecondary experiences for SWD. For instance, Mamiseishvili and Koch (2011) and Dong and Lucas (2013) reported differences as a function of the disability-category on timing of student dropout. For instance, students with MH conditions were more likely to withdraw from their classes by the end of their first year while students with physical disabilities are more likely to withdraw at the end of their second year (Dong & Lucas, 2013). Similarly, group differences as a function of disability-category were found between SWD who perceived their disability to be readily apparent to others (i.e., physical disabilities) versus SWD who believed their disability was not readily apparent to others (i.e., MH, SLDs, ADHD, or CHC). These perceived differences (e.g., apparent and not apparent) were associated with a student's use of support services (Adam & Proctor, 2010; Leake & Stodden, 2014; Livnch, Martz, & Wilson, 2001). In sum, patterns across disability categories exist (Adam & Proctor, 2010; Dong & Lucas, 2013; Leake & Stodden, 2014; Livnch et al., 2001; Mamiseishvili & Koch, 2011) and can yield valuable information about factors (e.g., timing of registration in the Disability Office and utilized support services) associated with long-term student outcomes (e.g., degree completion; Cory, 2011; Dong & Lucas, 2013; Getzel & Thoma, 2008; Lightner et al., 2012; Newman et al., 2009; Richman, 2013). These reasons alone warrant the need to gather detailed information about the SWD population by first identifying the number of students served within each disability category and then exploring specific disability-category characteristics and experiences.

A review of the literature exploring disability categories in PSE yields inconsistent information across both large-scale (Newman et al., 2009; Raue & Lewis, 2011) and small-scale studies (Adams & Proctor, 2010; Barnard-Brak, Sulak, Tate, & Lichtenberger, 2010; DuPaul, Weyandt, O'Dell, & Varejao, 2009; Getzel & Thoma, 2008; Hedrick et al., 2010; Livneh et al., 2001; Lombardi, Gerdes, & Murray, 2011; Murray et al., 2014). In one large-scale study, the NLTS-2 used weighted population estimates based on the PSE SWD sample *(n* = 2,650) to report that the majority of enrolled SWD in four-year colleges identified with having a VI (43%), HI (31%), or Deaf / Blindness (29%; Newman et al., 2009). Another large-scale study gathered data directly from Disability Offices (*n* = 4,170) in the United States during the 2008/09 academic year and found that 31% of participating offices identified SLD as their highest registering disability category followed by ADHD (18%) and then MH conditions (15%; Raue & Lewis, 2011). Although methodological differences (e.g., student-reported versus institution-reported discrepancies among disability categories) between the NTLS-2 (Newman et al., 2009) and Raue and Lewis' (2011) studies have impeded direct comparison of student disability category data, it is apparent that the two studies identified different disability category groups, clouding the known information about SWD. While there are discrepancies among smaller-scale studies, they were similar in identifying SLD as a frequently reported disability category in college (Adams & Proctor, 2010; Barnard-Brak et al., 2010; Fichten et al., 2014; Getzel & Thoma, 2008; Hedrick et al., 2010; Dong & Lucas, 2013; Livneh et al., 2001; Lombardi et al., 2011; Murray et al., 2014).

Clarifying basic demographic information is vital to understanding SWD served at four-year PSE institutions. Without comprehensive knowledge about the total population of SWD, it is difficult to determine long-term outcomes (e.g., college completion) for college SWD who

receive or do not receive services related to their disability. In addition to recognizing differences between students with and without disabilities and SWD who use or do not use disability-related services, it is valuable to explore the composition of subgroups (e.g., disability categories). Comprehensive information is essential for determining areas of need for SWD that can be used to develop programs that foster successful transition and college integration skills.

Experiences of College Students with Disabilities

Students with and without disabilities vary in their academic and psychological readiness as they enter college (Advokat, Lane, & Luo, 2011; Komarraju et al., 2013). However, SWD are more likely to encounter transitional, social, and academic difficulties than their peers without disabilities (Advokat et al., 2011). Recognizing these differences, secondary schools can assist in preparing students for the transition by fostering the development of essential skills through curriculum and transition planning (Eddy, 2010; The National Joint Committee on Learning Disabilities, 2007).

Transition Experiences

The process for obtaining and managing disability-related services in kindergarten through 12th grade (K-12) is widely different than in postsecondary school, resulting in additional stress during an already difficult transition for SWD who seek PSE disability support (Cory, 2011; Grabau, 2011; National Joint Committee on Learning Disabilities, 2007; Wintre et al., 2011). The changes in disability-related legal mandates during the transition creates barriers for SWD that negatively impact their transition in the following two ways: (a) responsibilities related to disability registration and management of disability-related services shift from K-12 staff members to the PSE student, which require skills (e.g., self-advocacy, self-management, resource knowledge, and disability awareness) that are often disability-related deficits (Cory,

2011; Field et al., 2003; Getzel, 2008; Lynch & Gussel, 1996; Hong et al., 2011; Katsiyannis, Zhang, Landmark & Reber, 2009; McConnell et al., 2013) and (b) ambiguity found within legal protections lead to inconsistencies among PSE Disability Offices, impacting both service registration and delivery (Fichten, 1995; Hadley, 2006; Wehman, McLaughlin, & Wehman, 2005).

Legal protection. Students in K-12 schools are protected under the Individuals with Disabilities Education Act (IDEA) and Section 504 of the Rehabilitation Act of 1973 (Section 504), which place the responsibility of identifying and serving qualified students on the school systems (Atkinson, 2014; Cory, 2011; Raue & Lewis, 2011; Shaw, Madaus, & Dukes, 2010). Under the IDEA, students are defined as a having a disability if they are found eligible in one or more of the following areas:

> "Intellectual disability, hearing impairment (including deafness), speech or language impairment, visual impairment (including blindness), serious emotional disturbance (SED), orthopedic impairment, autism (ASD), traumatic brain injury (TBI), other health impairment (OHI), a specific learning disability (SLD), deaf-blindness, or multiple disabilities" (IDEA, part D, §300.8a, 2004).

Section 504 provides accommodations and equal access for SWD defined as: "a physical or mental impairment that substantially limits one or more major life activities, such as (but not limited to) self-care, breathing, walking, seeing, performing schoolwork, speaking, and learning" (Rehabilitation Act of 1973, subpart D). When students exit secondary school and enroll in college, they are no longer covered by the IDEA but instead are covered under the Americans with Disabilities Act of 1990, specifically Title III (ADA, 1990; Atkinson, 2014). The ADA defines disability as, "a physical or mental impairment that substantially limits one or more of the major life activities; a record of such an impairment; or, being regarded as having such an impairment" (ADA, 1990). In college, SWD remain covered under Section 504 but fall under

subpart E (e.g., PSE), instead of subpart D (e.g., K-12; Cory, 2011; Field et al., 2003; Newman et al., 2009; VanBergeijk, Klin, & Volkmar, 2008). In sum, the ADA and Section 504 of the Rehabilitation Act protect SWD against discrimination while providing students with equal access and reasonable accommodations (Cory, 2011).

Transitional changes in disability-related services. In K-12 the school is responsible for identifying students in need of disability-related services, while in college SWD must take the initiative to request disability-related services (Barnard-Brak et al., 2009; Cory, 2011; Katsiyannis et al., 2009). Additionally, in K-12 a student's parent or legal guardian plays an active role as the primary advocate for the student during the acquisition and on-going management of the services (Field et al., 2003; Newman et al., 2009). In college this responsibility shifts solely to the student (Cory, 2011; Field et al., 2003). Previous studies have reported that SWD are often not informed about disability-related supports in college (Hong et al., 2011; Newman et al., 2009; Shaw et al., 2010). Furthermore, SWD have difficulties with self-advocacy and display limited disability self-awareness (Antcil, Ishikawa, & Scott, 2008; DaDeppo, 2009; Field et al., 2003; Getzel, 2008). SWD also reportedly experiencing feelings of stress related to challenges of managing use of disability service (Barnard-Brak et al. 2009; Field et al., 2003; Grabau, 2011). Therefore, it is not surprising that SWD often do not pursue the necessary supports in a timely manner, if at all, and may continue to experience difficulties socially and academically until the point of attrition (Dong and Lucas, 2013; Herbert et al., 2014; Hong et al., 2011).

A number of researchers have proposed that a mixture of student perception and disability knowledge, institutional climate, and transition support impact their overall decision-making and their timing of registering for disability-related supports in the Disability Office

(Dong & Lucas, 2013; Getzel, 2008; Hong et al., 2011; Lightner et al., 2012). SWD often lack knowledge of their disabilities and/or have disability-related deficits that impede their ability to communicate their needs (Getzel, 2008; Hong et al., 2011). For example, a student with a disability who lacks self-awareness may not recognize how valuable disability-related services in K-12 were in supporting his/her learning (Getzel, 2008). Hong et al. (2011) reported that SWD more often than not believed they were successful at balancing their academic life and disability during high school independently since they were able to successfully enroll in college, which is a measure of academic success and therefore were less likely to consider using accommodations in college. Similarly, Newman et al. (2009) reported that 53% of students in the NLTS-2 sample (n = 2,650) did not consider themselves as having a disability as they transitioned into PSE, even though they received disability-related support in secondary school. Therefore, it is not surprising that only 37% of the NLTS-2 sample sought accommodations once in college (Newman et al., 2009). In sum, more than three times as many students in the NLTS-2 study (84%) received disability-related support in high school than they did in postsecondary school (24%; Newman et al., 2009).

In college, the Disability Office provides disability-related supports for SWD and early registration with the Disability Office is highly recommended (Duncan & Ali, 2011; Lightner et al., 2012). However, many students, regardless of their disability category, wait to register until later semesters (Dong & Lucas, 2013; Fichten et al., 2014). Previous studies identified a few factors that directly contributed to early student registration in the Disability Office, including involvement in high school IEP meetings, participation in transition programs, and proactive parental involvement before and during the student's application to their university's Disability Office (Eddy, 2010; Lightner et al., 2012). To elaborate, participation in transitional planning

through the IEP process has been shown to be a predictor of college enrollment (Eddy, 2010; Halpern, Yovanoff, Doren & Benz, 1995; Test et al., 2009; Wagner et al., 2003); with students who were involved in transition planning during their last year of secondary school more likely attending college than SWD who did not participate in transition planning (Halpern et al., 1995). Another study found that students who were active in their IEP meetings in high school sought Disability Office services in PSE more quickly than their peers who did not participate in IEP meetings (Lightner et al., 2012). Involving students in transition planning fosters positive self-image and encourages the development of essential skillsets such as coping skills, self-advocacy, self-determination, problem solving skills, self-esteem, and disability-related self-awareness (Adam & Proctor, 2010; Antcil et al., 2008; Aspinwall & Taylor, 1992; Atkinson, 2014; Eddy, 2010; Field et al., 2003; Foley, 2006; Hermanowicz, 2006; Komarraju et al., 2013; Test et al., 2009; Walker & Test, 2011). Although the literature identifies these protective factors and encourages their development through student involvement during transition they are not put into practice with fidelity (Atkinson, 2014; Field et al., 2003; Hermanowicz, 2006; Komarraju et al., 2013). Eddy (2010) found that 73% of his sample (n = 147) participated in an IEP meeting. Similarly, the NTLS-2 reported that 76% of their sample (n = 2,650) reported participating in transition planning in secondary school (Wagner et al., 2003). Student IEP involvement should be 100% as student participation in transition planning is a mandated component of the IDEA (Eddy, 2010; Wagner et al., 2003).

Transition programs created to foster specific areas of need for college students (e.g., social integration in college and self-management skills) are often limited for SWD, as they commonly focus on single-disability categories (e.g., ADHD, ASD, or SLD; Hamblet, 2014) and/or target a specific skill (e.g., self-advocacy and self-determination; social skills; Konrad,

Fowler, Walker, Test, & Wood, 2007; Field et al., 2003; Test et al., 2009; Walker & Test, 2011). Studies have presented positive results related to transition programs (Atkinson, 2014; Barnard et al., 2013; Konrad et al., 2007); however, the limitations and lack of generalizability of the literature should be kept in mind. More recent studies found that mentor and coaching programs that target multiple skills (e.g., stress management, emotion-regulation, work completion, and academic skills) for some disability categories of SWD (e.g., ADHD) and promoted success with improving college enrollment rates (Barnard et al., 2013) and college outcomes (Atkinson, 2014; Richman, Maitland, & Rademacher, 2014).

Discrepancies across disability-related services. The methods used to identify and determine appropriate disability-related services for SWD vary between K-12 and postsecondary schools (Cory, 2011; Shaw et al., 2010), resulting in discrepancies among students' use of services across academic settings (Newman et al., 2009). When identifying SWD in grades K-12, schools utilize a comprehensive approach that gathers information from a number of individuals including parents, teachers, specialists, and medical providers and sources (e.g., classroom data, progress monitoring data, and formative assessments) using a battery of tools to assess functional, developmental, and academically relevant information with the purpose of creating specialized instruction (Kovaleski, VanDerHeyden, & Shapiro, 2013). Through this comprehensive process, K-12 school systems have shifted their focus away from primarily relying on standardized normed–referenced measures of cognitive and academic abilities for disability eligibility towards the use of progress monitoring data gathered through multi-tiered systems of support (MTSS), such as Response to Intervention (RTI), Positive Behavior Supports (PBS), and curriculum-based assessments (CBM), to derive decisions related to determination of disability (Kovaleski et al., 2013; Shaw et al., 2010). However, postsecondary schools do not

utilize the same methodology of K-12 schools (e.g., data-driven decisions using RTI versus historical discrepancy model; Madaus, Banerjee, & Hamblet, 2010) for determining eligibility for services (Shaw et al., 2010). Collegiate Disability Offices often require submission of a comprehensive psychoeducational evaluation (which traditionally includes both a cognitive and an academic measure), neuropsychological evaluation, or documentation from a medical provider that specifically identifies the student's current need for accommodations (Cory, 2011; Madaus et al., 2010; Shaw et al., 2010; The National Joint Committee on Learning Disabilities, 2007). Madaus et al. (2010) reported that 43% of their sample (n = 183) of Disability Office providers required submitted documentation to be no more than three years old. Students are faced with the financial burden of obtaining appropriate and current disability documentation as required by the College Disability Office, as documentation (IEP or 504 plans) from K-12 are often not considered to be sufficient documentation for determining eligibility at the PSE level (Madaus et al., 2010; Shaw et al., 2010; The National Joint Committee on Learning Disabilities, 2007). Disability Office staff members utilize submitted documentation and a student's report of their current needs for determining disability eligibility and accommodations (Cory, 2011; National Joint Committee on Learning Disabilities, 2007), although some studies report that staff members are not properly trained in interpreting assessment results or medically-based reports (Madaus et al., 2010; Shaw et al., 2010).

In addition to discrepancies between secondary and postsecondary schools, considerable differences are found among postsecondary Disability Offices, as vagueness within the ADA and Section 504 of the Rehabilitation Act has led to varying interpretations and uneven application of the disability-related services across PSE schools (Fichten, 1995; Hadley, 2006; Katsiyannis et al., 2009; Wehman et al., 2005). With an increase of SWD in college and their presentation of

increasingly complex individual needs, colleges and Disability Offices are at-risk for litigation with current variable procedures for disability-related services (Shaw & Dukes, 2005). Literature published by the Association on Higher Education and Disability (AHEAD), in addition to several court cases and litigation outcomes, provides clarification and guidance for PSE institutions regarding the implementation of related services (Katsiyannis et al., 2009; Shaw et al., 2010). Despite the provided guidance by AHEAD, Madaus et al. (2010) reported that only 40% of their sample (n = 183) of Disability Service providers utilized AHEAD's guidelines to frame their decision-making process when determining service eligibility. Differences among Disability Offices is concerning, as students are not consistently being served across PSE schools (Katsiyannis et al., 2009; Madaus et al., 2010; Shaw & Dukes, 2005, Shaw et al., 2010; The National Joint Committee on Learning Disabilities, 2007), creating systematic barriers that may negatively impact transition experiences for SWD.

Social Experiences

A supportive social network and successful social integration in a PSE environment are protective factors for both students with and without disabilities as they enter and make their way from high school through college (Adam & Proctor, 2010; DeBerard, Spielmans, & Julka, 2004; Hagedorn, 2000; Hedrick et al., 2010; Murray et al., 2014; Tinto, 2006; Walker & Test, 2011). However, SWD are more at-risk for poor social adjustment than their peers, as they are more likely to experience discrimination and disability-related stigma, perceive a negative university climate, and experience poor faculty-student relationships (Adam & Proctor, 2010; Chen, 2012; Grant-Vallone et al., 2003; Hedrick et al., 2010; Kats & Somers, 2015; Leake & Stodden, 2014; Lombardi et al., 2011). Group differences among SWD (e.g., disability category and perceived apparentness of disability) are associated with varying integration experiences and outcomes

(Adam & Proctor, 2010; DaDeppo, 2009; Leake & Stodden, 2014). Students who perceive their disability as not readily apparent to others report more negative stigma associated with their disability and are less likely to seek peer support than those who perceive their disability to be readily apparent (Adam & Proctor, 2010; Leake & Stodden, 2014; Livnch et al., 2001). Students who perceive their disability as not readily apparent to others may feel that they have to vindicate their use of academic accommodations to both their peers and faculty (Adam & Proctor, 2010; Lightner et al., 2012).

Some SWD decide not to register their disability with their university (Disability Office and faculty) or disclose to their peer groups to avoid negative stigma or labels (Getzel, 2008; Lightner et al., 2012; Meaux, Green, & Broussard, 2009). Mamiseishvili and Koch (2011) found that more than half (58%) of their SWD sample never participated in any social activities on campus during their first academic year; this is not surprising considering that 81% of SWD reported not living on campus during their first year (Mamiseishvili & Koch, 2011). This finding was not supported in other studies that explored residency status of SWD (Meaux et al., 2009). Future research should explore the relationship between student residency location and social integration for SWD, as living on campus provides students with more opportunities for meeting other students, participating in campus activities, and identifying social opportunities (Christie & Dinham, 1991; Mamiseishvili & Koch, 2011).

Students are less likely to register their disability with their university, seek appropriate services, or adjust successfully to their campus if they feel their surrounding environment is neither positive nor supportive (Fuller et al., 2004; Kats & Somer, 2015; Murray et al., 2014). Considering the fundamental complexities associated with larger colleges (e.g., increased class sizes, smaller staff-student ratios, and larger physical campuses), it is not surprising that SWD

are less likely to seek accommodations at larger institutions than at smaller institutions (Barnard-Brak et al., 2009; Lightner et al., 2012). Faculty-student relationships are particularly valuable for fostering academic and social integration, particularly for SWD (Adams & Proctor, 2010; Cawthon & Cole, 2010). In a 2010 study, Cawthon and Cole surveyed 110 undergraduate students with SLDs about their interactions with their faculty. The authors reported that 32% of their sample interacted with their faculty about their disability needs and 25% formally notified their faculty of their use of academic accommodations (Cawthon & Cole, 2010). Reasons cited most often by students for not disclosing their disability to faculty included lack of faculty understanding of disability needs, lack of knowledge of available supports for SWD, and perceived lower expectations by faculty (Field et al., 2003; Hedrick et al., 2010; Herbert et al., 2014; Kats & Somer, 2015). In another study, students reported feeling pressured to alter their course of study based on the negative perceptions of faculty about their disability and how it impacted their overall academic ability (Field et al., 2003).

The difficulty with recognizing SWD in need of social support complicates and delays their referral to appropriate interventions and support systems. It is apparent that SWD who are not adjusting socially do not seek out university or peer support. Students who are of particular concern are individuals whose needs are not readily identifiable to faculty or staff because they are performing well academically and/or their disabilities are not readily apparent (Adam & Proctor, 2010; Lightner al., 2012). Considering the importance of social integration in college for SWD, it is surprising that little research has explored this area (DaDeppo, 2009; Leake & Stodden, 2014; Smith, 2015), although a recent rise in published articles targeting these concerns has been reported (DaDeppo, 2009). Most literature targets academic challenges or overall

campus climate, despite the identification of social integration as the factor with the most impact on college persistence and retention for SWD (DaDeppo, 2009; Smith, 2015).

Academic Experiences

In college, students with and without disabilities are exposed to a variety of new academic challenges including increasing academic demands (Grabau, 2011; Wintre et al., 2011), self-management of academic and social calendars (Barnard-Brak et al. 2009; Field et al., 2003; Grabau, 2011), and changes to methods of learning (e.g., from textbook lectures towards multisource integration and emphasis on student-driven learning; Field et al., 2003). Students with and without disabilities who successfully cope with these novel demands are less likely to experience stress and more likely to perform well academically, thereby more likely to integrate into college academic life (Adams & Proctor, 2010; DeBerard et al., 2004; Tinto, 2006; Wintre et al., 2011). However, disability-related symptoms exacerbate these novel academic challenges for SWD, placing them more at-risk for attrition (Meaux et al., 2009). High comorbidity of disabilities (e.g., SLD/ADHD and ADHD/MH) also greatly impacts a student's academic success (American Psychiatric Association, 2013; DuPaul et al., 2009; Richman, 2013). While disability-related symptomology varies across disability category, commonly reported areas that negatively impact academic life include: time management, organization, motivation, distraction and work completion, problem solving, service use, academic strategies (e.g., note-taking and exam preparation), self-advocacy and disability-knowledge, and coping skills (Adam & Proctor, 2010; Advokat et al., 2011; Meaux et al., 2009; Richman, 2013). Considering the high level of skills (e.g., executive functioning, self-advocacy, self-awareness) needed to seek academic supports (Antcil et al., 2008; DaDeppo, 2009; Field et al., 2003; Getzel, 2008), it is not surprising that students in previous studies did not pursue the necessary supports in a timely

manner, if at all, and continued to struggle academically until the point of attrition (Advokat et al., 2011; Dong and Lucas, 2013; Getzel & Thoma, 2008; Meaux et al., 2009; Richman et al., 2014).

Use of Support Services by Students with Disabilities

Few studies have been published that have assessed the use of support services by SWD (Richman, 2013; Troiano, Liefeld, & Trachtenberg, 2010). Richman (2013) differentiated support services into two categories: (a) mandated (e.g., Disability Office) and (b) non-mandated services (e.g., tutoring, academic coaching, writing assistance, etc.). These two labels will be utilized for the remainder of this section to reference the specific types of support service. Richman's (2013) study evaluated the patterns of service use by students (n = 1, 560) with ADHD, SLD, or a dual diagnosis of ADHD and SLD in a single college setting. Richman (2013) found that 30% of the sample registered with the Disability Office but did not return to use the services. Males were three times more likely than females to register for services in the Disability Office and not follow through with using the services. Overall, Richman found that most (67%) of the surveyed SWD utilized the Disability Office at least twice but no more than eight times throughout their time in college. Students with higher overall GPAs were more likely to consistently use mandated services than those with lower GPAs (Richman, 2013). Surprisingly, Richman reported that students who registered for mandated services but did not utilize the non-mandated services had similar outcomes (e.g., GPA, graduation rates, and withdrawal rates) when compared to students who consistently utilized non-mandated services. Richman's study (2013) did not find patterns for SWD that were associated with resource use; however, the study is limited only to SWD who have ADHD and/or SLD and students registered with the Disability Office, leaving many gaps in the literature about true service use by SWD.

In regards to non-mandated service use by SWD, Troiano et al. (2010) reported that their sample (n = 262) of students with SLD who consistently utilized non-mandated support services experienced more positive outcomes (e.g., higher GPAs and graduation rates) than students with SLD who did not frequently access non-mandated supports. Troiano et al. study (2010) was also limited to experiences of SWD with ADHD and/or SLD. This study sought to address the limitations found in the work of Richman (2013) and Troiano et al. (2010) by evaluating mandated and non-mandated service use by students across multiple disability categories.

Conceptual Framework

The conceptual framework used for this study was Tinto's Theory of Student Departure (1993). Tinto's model is a widely utilized longitudinal framework for assessing experiences of college students as it relates to student retention (DaDeppo, 2009; Smith, 2015; Tinto, 2006). A student's early departure from school before completing his or her degree can be for many reasons that include but are not limited to "academic failure, voluntary withdrawal, permanent dropout, temporary dropout, and transfer" (McCubbin, p. 2, 2003).

Tinto's Model of Student Departure

The overarching premise of Tinto's framework is to explain the experiences that lead to a student's departure by evaluating the interactions between the following constructs: (a) pre-entry attributes (e.g., ability, parents' expectations, family background, and ability), (b) pre-college experiences (e.g., GPA, academic readiness, and social skills), (c) commitments and goals (e.g., desire to graduate and academic intentions), and (d) formal and informal social and academic integration within the PSE environment (Dong & Lucas, 2013; Duquette, 2000; Smith, 2015; Tinto & Pusser, 2006).

The most integral constructs, as identified by Tinto, are the student's formal and informal experiences that impact their social and academic integration into the PSE environment (DaDeppo, 2009; Tinto, 2006). Social integration is defined as both the interaction and perceived experiences between the student and their peers, faculty, and staff at the college (DaDeppo, 2009). Students who successfully integrated socially reported an overall positive campus community where they felt supported across social systems (DaDeppo, 2009). Academic integration is explained as students' "experiences with the academic systems at the university, as well as their perceived intellectual ability" (DaDeppo, 2009, p. 123). Several studies utilized GPA (Advokat et al., 2011; McCubbin, 2003; Smart & Paulsen, 2011;Tinto & Pusser, 2006) or overall retention rates (Newman et al., 2009) as measures of social and academic integration while other studies utilized engagement as a measure of these constructs (Junco et al., 2010; Kuh, 2009; Smith, 2015). Engagement is defined as the process of developing perceptions about their social environment that leads to feelings of belonging (Junco et al., 2010). Tinto's model provides a solid framework appropriate for evaluating SWD, although modifications are necessary (Adams & Proctor, 2010; DaDeppo, 2009; Dong & Lucas, 2013; Smith, 2015). Relevant to this study, a modified model will be used which reframes the concept of community engagement to include the act of both registering and utilizing the Disability Office as a valuable component of community engagement within the academic integration construct (Dong & Lucas, 2013; Smith, 2015).

While the goal of Tinto's Model of Student Departure is to pinpoint factors related to students' early college departure, it historically has only been applied to students in the majority population (McCubbin, 2003; O'Keefe, 2013; Talbert, 2012) and has not widely been used with SWD (Fichten et al., 2014; Smith, 2015). However, many authors find value in applying the

framework to SWD (DaDeppo, 2009; Dequette, 2000; Mamiseishvili & Koch, 2011; McCubbins, 2003; Smith, 2015). The literature that utilizes this model with SWD is not only limited in quantity but also presents varying results (Smith, 2015). For example, Duquette (2000) found that the model's constructs were associated with retention for SWD in areas of pre-entry variables and academic integration, but not social integration. On the contrary, DaDeppo (2009) and Mamiseishvili and Koch (2011) found that social integration impacted persistence more than academic integration for SWD. It should be noted that this information should be interpreted with caution as outcomes across studies could be attributed to sample characteristics (e.g., type of disability and academic class) and methodology (e.g., survey and interview approaches) and therefore not appropriate to generalize to the entire SWD population. Consistently applied methodology and consistent documentation of sample characteristics are needed in future studies in order to assess the application of this framework to SWD. Nonetheless, Tinto's model of Student Departure provides a structure appropriate for assessing the complex interactions between an individual's attributes, the college's academic and social environments, and how SWD integrate into the PSE environment (Adams & Proctor, 2010).

Measuring College Student Integration

The variables previously used in studies to measure components within Tinto's theory have been limited (Fichten et al., 2014; Smart & Paulsen, 2011). GPA and overall graduation rates are commonly used measures of successful student integration (McCubbins, 2003; Smart & Paulsen, 2011; Tinto et al., 2006), but these measures lack the comprehensiveness needed to accurately identify areas of concern and thoroughly account for the components associated with student departure (Fichten et al., 2014; McCubbins, 2003). Previously implemented measures were not comprehensive enough to provide the data needed to appropriately apply Tinto's

framework, particularly when assessing social and academic integration. Tinto's theory emphasizes the need for integration across constructs (social and academic) to create a balance so that neither construct is overly represented, as that could cause early departure as well (Tinto et al., 2006; McCubbin, 2003). For example, using GPA or graduate rates as a measure of the framework cannot provide information to identify whether or not the poor outcomes are attributed to social or academic integration.

Sirgy et al. (2007) developed a measure of Quality of College Life (QCL) specifically for college students. The QCL provides ample data about academic and social integration and fills gaps that are not provided by concise outcomes variables (e.g., GPA and graduation rates). Although the QCL measure was not developed using Tinto's framework, the foundational components align with his theory (Wyat, 2012) as the QCL focuses on the interaction of student experiences across multiple domains (e.g., formal and informal academic and social experiences on campus). This study will use the QCL as a measure of the components essential to Tinto's framework to examine the role of the Disability Office on the collegiate experiences of SWD.

Quality of College Life Measure. The model encompasses four areas of student satisfaction in college: academic integration, social integration, facilities and services, and overall college life (e.g., student experiences; Sirgy et al., 2007; Sirgy et al., 2010). Sirgy et al. (2007) made a specific conceptual distinction between the Quality of Life (QOL) and QCL, which are fundamentally different. College student QOL studies assess college living as a small component of a larger picture of life satisfaction. Sirgy et al. (2007) sought to develop a measure that focuses specifically on the complexities of life within a college environment.

The QCL measure utilizes a hierarchical approach to college life satisfaction. Overall college life satisfaction is at the top of the hierarchy, which is influenced by satisfaction with

academic and social aspects. Academic and social aspects are subsequently influenced by lower components such as satisfaction with facilities and services. In sum, poor experiences within the lowest part of the hierarchy (Facilities and Services) would impact satisfaction within the academic and social domains that ultimately predict lower overall college life satisfaction (Sirgy et al., 2010). The conceptual model for the QCL is shown below in Figure 1.

Figure 1

The Sirgy et al. (2010) QCL Model

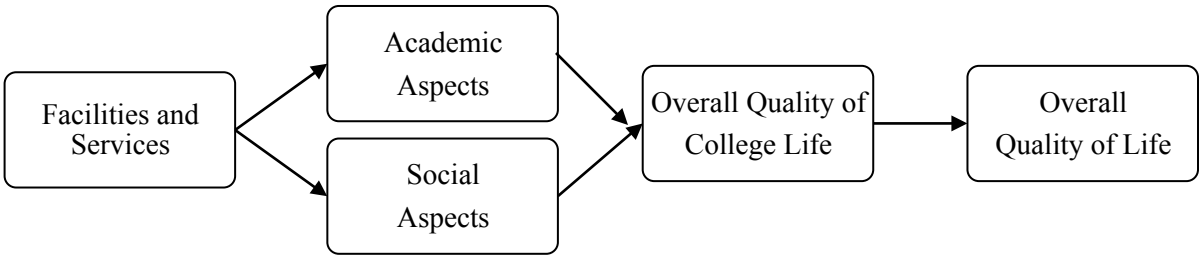

Figure 1 explains the hierarchical QCL model in which Facilities and Services impact both Academic and Social aspects, which in turn impact Overall College Life satisfaction and subsequently Overall Life satisfaction.

The four domains of the QCL measure will be briefly described below starting at the bottom of the hierarchy and moving towards the top. First, the Facilities and Services construct assesses a student's satisfaction with common facilities found on college campuses (e.g., bookstore, recreation center, parking services, and healthcare services; Sirgy et al., 2010). Next, the Academic Aspects include "faculty, teaching methods, classroom environment, student workload, academic reputation, and academic diversity" (Sirgy et al., 2010, p. 378). Social Aspects are described as "on-campus housing, international programs and services, clubs and parties, collegiate athletics, and recreational activities" (Sirgy et al., 2010, p. 378). Finally, Overall Quality of College Life is the "overall feeling of satisfaction a student experiences with life at the college" (Sirgy et al., 2010, p. 378).

Study Rationale

Consistent with the pattern for the general population there has been an increase in enrollment for SWD over the past decade (NCES, 2012, 2015). However, academic patterns (e.g., rates of enrollment, completion, dropping out, and graduation) are less favorable for SWD compared to the general student population (NCES, 2012; Newman et al., 2009, Newman et al., 2011). The disproportionate graduation rates for students with and without disabilities can be explained by evaluating the additional difficulties and barriers faced by SWD during their transition to college as well as their academic and social integration experiences. SWD can access disability-related accommodations (e.g., Disability Office) in addition to academic and social support services (e.g., academic supports; counseling centers) that can foster successful college experiences (Cory, 2011; Dietsche, 2012; Herbert et al., 2014; Hyde et al., 2009). However, SWD often do not utilize the resources on campuses in a timely manner, if at all, (Dietsche, 2012; Dong & Lucas, 2013; Newman et al., 2009; Richman, 2013) despite the positive impact these services can have on academic and social integration (Dong & Lucas, 2013). Students who utilized disability-related accommodations provided by their college's Disability Office were more likely to persist through college (Dong & Lucas, 2013; Getzel & Thoma, 2008). Factors related to frequency of accommodation use and timing of registration in the Disability Office has been minimally researched. Although a few studies identified associations and patterns across students' academic year and disability category, with earlier identification being associated with better outcomes (Dong & Lucas, 2013; Lightner et al., 2012; Richman, 2013), limited information is available regarding the experiences of SWD registered with the Disability Office. This study addressed limitations of the literature by exploring patterns across a variety of disability categories of SWD registered with the Disability Office. This study

evaluated student characteristics, high school experiences, and college experiences to examine patterns and patterns that may predict Disability Office use in college.

Literature on student university experiences often use broad measures such as GPA and graduation rates when applying Tinto's model in practice; however, these are broad measures that provide limited information (McCubbin, 2003; Smart & Paulsen, 2011; Tinto & Pusser, 2006). Social and academic engagement and satisfaction are other commonly used measures of student persistence and provide a better assessment of academic and social integration, two primary constructs within Tinto's framework (Junco et al., 2010; Kuh et al., 2006; Kuh, 2009; Smith, 2015). A relatively new measure of student satisfaction, The Quality of College Life (QCL; Sirgy et al., 2007), targets key components of Tinto's theory and can be considered a more comprehensive measure of student integration than GPA or graduation rates (Wyat, 2012). The information gathered from the QCL can provide the information necessary for targeting specific areas of concern within Tinto's model in order to drive changes in policy and student support (Tinto & Pusser, 2006).

Research Questions

The purpose of this study was to explore characteristics and quality of college life for SWD who are registered with the Disability Office at their college. This study explored transition experiences in addition to social and academic integration for SWD at four public four-year colleges in the Southeastern United States. This study provided additional support for the use of Tinto's model of Student Departure with SWD and adapted the Quality of College Life (QCL) instrument (Sirgy et al., 2007) to measure the components within Tinto's theory. Exploring characteristics of SWD who are registered with the Disability Office provides insight on the role of postsecondary support systems on student integration and overall satisfaction with

their college experiences, which are factors that contribute to overall persistence through college. There were three questions that directed the research in this study:

1. What are the characteristics and experiences of students registered with the Disability Office at four college campuses in North Carolina?
    A. Current demographic characteristics gender, race, age, primary and secondary (if applicable) disability category, timing of disability diagnosis, academic year in college, place of college residency, GPA, academic history (e.g., Dean's list and academic probation), and unique student characteristics (e.g., athlete, honors student, and/or transfer).
    B. K-12 disability-related characteristics and experiences involvement in IEP, involvement in 504 plan, non-disability related resources used, disability-related accommodations used, disability transition self-awareness (e.g., understanding, explaining, and advocating for disability needs), and disability-related transition concerns (e.g., academic, social, and independent living).
    C. Current college disability-related characteristics and experiences: timing of disability registration with the Disability Office, experiences with Disability Office (e.g., frequency of use, satisfaction, and usefulness), non-disability related resources used, disability-related accommodations used, disability self-awareness (e.g., understanding, explaining, and advocating for disability needs), disability-related concerns (e.g., academic, social, and independent living), and experiences with thoughts of dropping out.

2. Which student characteristics are associated with timing of disability registration?
    A. Current demographic characteristics disability category and gender.
    B. K-12 disability-related characteristics and experiences IEP involvement, 504 plan involvement, level of IEP involvement, level of 504 involvement, disability transition self-awareness (e.g., understanding, explaining, and advocating disability needs), disability-related transition concerns (e.g., academic, social, and independent living).
3. Which student characteristics are significant predictors of their Quality of College Life (QCL)?
    A. Disability category, IEP involvement, 504 involvement, disability transition self-awareness (e.g., understanding, explaining, and advocating for disability needs), disability-related transition concerns (e.g., academic, social, and independent living), current disability self-awareness (e.g., understanding, explaining, and advocating for disability needs), current disability-related concerns (e.g., academic, social, and independent living), perceived usefulness of the Disability Office, timing of disability registration, and frequency of Disability Office use.

CHAPTER THREE: METHODS

A request for review of research involving human participants was submitted to the Institutional Review Board (IRB) at all agreeing institutions including: North Carolina State University (NCSU), the University of North Carolina at Asheville (UNCA), the University of North of North Carolina at Chapel Hill (UNC-CH), the University of North Carolina at Charlotte (UNCC), University of North Carolina at Greensboro (UNCG), and Western Carolina University (WCU). All participating institutions' IRB departments approved the proposal prior to data collection and approval was maintained throughout data analysis. Documentation of IRB approval from the home institution, UNC-CH, is presented in Appendix A. The Director from each participating university's Disability Office provided electronic consent to the investigator agreeing to assist with the recruitment of the collected data. While IRB approval was obtained at both UNCC and WCU, the recruitment letter was not sent to the potential student population by the site director at these institutions; therefore, no data was collected from UNCC or WCU. Data were collected during the 2015-2016 academic year approximately halfway through the spring semester from late February through early March. Details related to the potential pool of participants, recruitment procedures, and study measures are outlined in the following sections.

General Student Population and Potential Sample Pool

The participants in this study were undergraduate students enrolled in four-year public institutions in North Carolina who were registered with the Disability Office at their institution. Table 1, Appendix D presents demographic frequency counts (e.g., enrollment, binary gender,

and ethnicity) for the general student population at each participating institution. Information regarding non-binary gender identities was not available. Institutional demographic information was collected from the Common Data Set, a yearly report published by each institution using a standard reporting measure (Common Data Set, 2015-2016; Office of Institutional Research, North Carolina State University, 2015; Office of Institutional Research, University of North Carolina at Asheville, 2015; Office of Institutional Research, University of North Carolina at Greensboro, 2015; Office of Institutional Research, University of North Carolina at Chapel Hill, 2015).

The sampling procedure for this study was one of convenience, as the targeted population was defined as students with disabilities registered with the university's Disability Office. The pool of potential participants (N = 2,772) consisted of all current undergraduate students who were registered with the Disability Office at the following institutions: (a) NCSU (N = 959), (b) UNCA (N = 200), (c) UNC-CH (N = 565), and (d) UNCG (N = 1,020). Frequency counts for the total of undergraduate SWD registered with each participating Disability Office is presented in Table 1, Appendix D. All four institutions utilize the Association on Higher Education and Disability (AHEAD; 2012) guidelines for best practices in documentation processes used for determining service eligibility. These guidelines identify three acceptable sources of documentation: (a) student self-report, (b) observation and interaction with Disability Office staff, and (c) information from third-party sources (e.g., educational and/or medical records; AHEAD, 2012). The AHEAD guidelines emphasis the reliance on student report over third-party information that allows for provisions of accommodations to be made for students who do not have third-party information (AHEAD, 2012). This approach heavily relies on professional judgment when determining service eligibility and reasonable accommodations. While all four

institutions utilize a similar framework for implementing documentation the fidelity of the implementation across institutions is unknown.

Recruitment

All IRB approved and agreeing institutions received the recruitment letter (Appendix B) electronically from the investigator at the beginning of the two-week collection period. Information in the recruitment letter included the purpose of the study, details about protection of anonymity, risks and benefits, and contact information for the investigator, her advisor, and UNC-CH's IRB department. The recruitment letter informed the potential participants about the opportunity to submit their name and email into a raffle for one of ten $20 Visa gift cards as an incentive for their participation in the study. The Director of the institution's Disability Office then forwarded the electronic recruitment letter to the enrolled undergraduate students via the department's listserv. The investigator had no access to the potential participant pool and relied solely on the assistance of the institution's Director for recruitment. Three follow-up emails were sent by the investigator to the six Directors during the two-week collection period to ask them to resend the recruitment letter to their undergraduate listserv.

Measure

The survey measure for the present study was created using the online survey tool Qualtrics. Qualtrics was chosen as the survey platform for two reasons: (a) the software is available for free to UNC-CH students, faculty, and staff and (b) the program is well-known for easily collecting and safely housing obtained data. The Qualtrics software utilizes many safeguards to protect collected data such as high-quality firewall systems and encryption for transmitted data. Qualtrics secures all data following the strict guidelines of the Health Information Technology for Economic and Clinical Health Act, a component of the Health

Insurance Portability and Accountability Act (Qualtrics, 2016).

The survey consisted mainly of close-ended questions, although a few open-ended questions were used to clarify certain close-ended questions or to allow for student elaboration. The survey was comprised of five sections and descriptive text was provided between sections to describe the upcoming questions to the participant. Participants were prompted to answer all survey questions at the end of each of the five sections. However, some students did not receive all of the questions because the survey utilized a skip-logic approach, a survey tool that influences administered questions based on answers to previous questions. This method was used so students were only administered questions that were relevant to them. The study's survey measure is presented in Appendix C. Each of the five sections will be described below.

Section one consisted of questions related to the student's primary and secondary (if applicable) disability, elementary and secondary school disability-related resource use (e.g., received academic accommodations), high school academic resource use, and measures of disability-related transition concerns and self-awareness prior to attending college. Section two included questions related to student disability registration in the college's Disability Office (e.g., year of registration and key individuals who played a role in the registration process) disability-related resource use (e.g., received academic accommodations), college resource use, and measures of current disability-related concerns and self-awareness. Section three asked for information about academic resources (not disability-specific) that were accessed by the student and the frequency of resource use in the past year. Section four presented 22 questions adapted from the Quality of College Life (QCL) questionnaire (Sirgy et al., 2007). All items were answered using a 5-point Likert-type scale. Section five explored demographic variables for analysis including gender identity, racial status, and age. In addition, academic demographic

variables gathered were cumulative GPA, academic class status, Dean's list and Probation list experiences, perceived attrition status, residency, and unique student characteristics if applicable (i.e., athlete, honors student, veteran, transfer, and English as a second language).

Quality of College Life (QCL). The QCL is a 70-item self-report questionnaire that assesses respondents' overall satisfaction of college living, which in theory predicts overall life satisfaction (Sirgy et al., 2010). There are five domains in the QCL including Satisfaction with Academic Aspects (SAA), Satisfaction with Facilities and Services (SF&S), Satisfaction with Social Aspects (SSA), Satisfaction with College Life overall (SCL), and Life Satisfaction (LS). All five domains demonstrate predictive validity for overall college satisfaction (Arslan & Akkas, 2014; Pedro et al., 2016; Sirgy et al., 2010; Yu & Kim, 2008). Each domain is comprised of a series of subdomains, measured by questions related to student experiences within that subdomain. The QCL has limited empirical validity and has yet to be utilized specifically with SWD. Nonetheless, the QCL survey questions explore multiple college student experiences in the areas of academic, social, and campus environment, which conceptually align well with Tinto's model and fulfill the needs of this study's research questions. The general design of the QCL instrument was maintained by representing all five domains in the adapted version. However, the number of total items was reduced to encourage higher response rates from participants. Twenty-two items from the original 70-item QCL measure were utilized in this study. The 22 items were used together to create a composite score (ranging from 22-110) to represent students' reports of quality of college life. Composite scores were then given a descriptive label to assist with explaining where a student may fall on their ratings of QCL. The descriptive labels were as follows: a score of 22 to 39 was labeled "not at all satisfied", 40 to 57 was "slightly satisfied", 58 to 75 was "somewhat satisfied", 76 to 93 was "moderately satisfied",

and 94 to 110 was “extremely satisfied”.

Statistical Analysis

The purpose of the study was to explore student characteristics, disability-related experiences, and quality of college life perceptions of undergraduate students who were registered with the Disability Office in four-year public colleges in North Carolina. To explore these variables the implemented analyses involved both descriptive and associational statistics. All data were analyzed using R Studio software (version 0.99.892). The collected data were scanned for potential errors and identified errors were subsequently addressed (e.g., removing duplicates and recoding variables).

In total, 306 undergraduate students fully completed the study’s questionnaire and were included in analysis. To address Research Question 1, a series of descriptive statistics (e.g., frequency counts and proportions) were completed. First, descriptive statistics were used to describe collected demographic (e.g., gender, race, and age,) and academic information (e.g., academic class, GPA, and place of residency). Next, descriptive statistics were used to describe disability-specific characteristics (e.g., primary disability, secondary disability, and timing of disability diagnosis), high school experiences (e.g., IEP and 504 involvement and disability-related accommodations) and experiences of the students enrolled in their college’s Disability Office (e.g., timing of disability registration and disability-related accommodations). Descriptive statistics were used to evaluate a student’s disability-related self-awareness and concerns before and after college enrollment. Frequency counts and proportions were analyzed to identify patterns and potential outliers. When appropriate, chi-square tests of association were conducted to assess if there were relationships between variables. Residual analyses were conducted when significant chi-square values were obtained. All descriptive statistics and significant chi-square

tests are presented in Table format. To assess Research Question 1, qualitative information was collected from participants. For the purpose of this study qualitative data were used to provide additional information to posed questions (e.g., specific disability labels) to allow the participant to elaborate on an experience (e.g., specific individuals who played a role in their disability registration in college). More detailed qualitative analyses of the collected data were beyond the scope of this study and were not conducted.

To address Research Question 2, an exploration of the relationships between specific student characteristics (listed below) and the timing of disability registration in the institution's Disability Office, twelve chi-square tests were conducted. Evaluated student characteristics were: (a) disability category, (b) gender, (c) IEP involvement and level of IEP involvement, (d) 504 involvement and level of 504 involvement, (e) pre-college perceived disability concern [TC academic, TC social, and TC living], and (f) pre-college perceived disability self-awareness [TS understand, TS explain, and TS advocate]. To account for small cell sizes in the chi-square tables, p-values were simulated using a bootstrapping technique (Ware, Ferron, & Miller, 2013). Chi-square tests that yielded significant results were followed by residual analyses to identify components that most contributed to the chi-square's obtained value.

To address Research Question 3, a multiple regression using backward variable selection with a 0.05 alpha level was conducted to examine the best linear combination of student characteristics (i.e., disability category, IEP involvement, 504 plan involvement, disability transition self-awareness [TC academic, TC social, and TC living], disability-related transition concerns [TS understand, TS explain, and TS advocate], current disability self-awareness [CC academic, CC social, and CC living], current disability-related concerns [CS understand, CS explain, and CS advocate], perceived usefulness of the Disability Office [usefulness], timing of

disability registration [timing], and frequency of Disability Office use [frequency]) in predicting Quality of College Life (QCL). A backwards regression was chosen to allow for exploration of predictor variables, as this approach allows for flexibility when identifying predictors that seem to best fit the model (SAS Institute, 2016). Four variables were categorical in nature and were assigned indicator (i.e., dummy) variables. These categorical variables were disability category, IEP involvement, 504 plan involvement, and timing of disability registration [timing]. Disability category was grouped into three categories (e.g., Cognitive, Medical, and Physical), modeled from Dong and Lucas' 2013 study of college SWD. Reference levels for the indicator variables were determined based on the most populated variable in each question.

CHAPTER FOUR: RESULTS

This study posed three questions investigating characteristics, experiences, and quality of college life for SWD who were enrolled in their campus' Disability Office. Each research question and sub-question is presented in this chapter and further discussed in Chapter Five. In total, 377 undergraduate students accessed the online study questionnaire. Three hundred and six of the 377 participants (82%) completed the entire questionnaire and 157 entered the incentive drawing; ten Visa cash cards were distributed to the winners.

Research Question 1. What are the characteristics and experiences of students registered with the Disability Office at four college campuses in North Carolina?

This question was addressed using descriptive statistics, including frequency counts and proportions. An inspection of the descriptive statistics was completed to identify any discrepancies (e.g., outliers) within variables and chi-square tests of association were used to assess the relationship between variables. The presentation of findings for Research Question 1was divided into three separate sections: (a) current demographic characteristics, (b) K-12 disability-related characteristics and experiences, and (c) current college disability-related characteristics and experiences.

Research Question 1a. What are the current demographic characteristics including gender, race, age, primary and secondary (if applicable) disability category, method and timing of disability

diagnosis, academic year in college, place of residency in college, grade point average (GPA), and academic history (e.g., Dean's list and academic probation), and unique characteristics (e.g., athlete, honors student, veteran, and transfer) of students registered with the Disability Office.

To address Research Question 1a, single-answer multiple choice and multiple-answer multiple choice questions were presented to students. Purposeful follow-up multiple-choice questions were presented to some students using skip-logic. Results addressing this question are presented in the following subsections: (a) demographics, (b) academic history and student characteristics, and (c) primary and secondary disabilities.

Demographics. Students were asked the following three questions: "*What is your gender*?" "*What is your racial or ethnic identification?"* and "*What is your current age*?" Students were prompted with specific single-answer choices for race and gender, but were asked to type in their numerical age. Table 2, Appendix D summarizes demographic data for the 306 students in the sample. Of the 306 students who completed the entire questionnaire, there were 201 females (66%), 95 males (31%), 7 individuals (2%) who identified with non-binary gender identities (e.g., Androgynous, Transmasculine, and Agender), and 3 individuals (1%) who preferred not to disclose gender identity. Although females were more highly represented across institutions, gender patterns across institutions were not significant. Race demographics were variably distributed across categories, as the majority of participants were white (75%). The distribution of race was similar across institutions. The mean age of the sample was 22 years of age (± 7) and participants ranged from 18 to 59 years old. A vast majority of the participating students were under the age of 24 (85%).

Academic history and student characteristics. Students were asked the following

single-answer multiple choice questions, *"Which school do you currently attend?"* and *"According to your earned credits, what is your current academic classification (year in school)?"* Student responses for the presented questions are summarized in Table 3, Appendix D. At the time of survey completion, current enrollments ($N = 306$) in the four participating institutions were as follows: 50 students (16%) attended UNCA, 77 students (25%) attended UNC-CH, 70 students (23%) attended UNCG, and 109 students (36%) attended NCSU. The response rates per institution based on potential SWD population pool were as follows: 7% (UNCG), 11% (NCSU), 14% (UNC-CH), and 25% (UNCA). Students reported their academic classification as follows: 66 students (22%) were freshman, 59 students (19%) were sophomores, 75 students (25%) were juniors, and 106 students (35%) were seniors. When evaluating academic classification were evaluated across sample institutions, UNCA and UNCG had a larger number of seniors than NCSU and UNC-CH.

Students were presented with a variety of questions to assess academic standing at their institution including, "*What is your current, cumulative GPA?"* and were provided with five numerical ranges to choose from. Most students in the sample reported a 3.00 to 3.99 (62%) GPA, although results ranged from a 0.99 to above a 4.00. UNCG and UNCA did not have students who reported GPAs lower than 2.00, but UNC-CH and NCSU did. UNC-CH had more students who fell within the 3.00 – 3.99 GPA range than the three other institutions. Students were asked *"Have you ever been on academic probation*?" and "*Have you ever been on the Dean's list?"* Students were asked to indicate either "Yes" or "No". If "Yes" was answered for either question, a follow-up question was presented asking the student to numerically indicate "*How many times*?" Only a small percentage of students in the sample (13%) reported being on academic probation and most of those (80%) had only been on probation once during their

academic career. Inspection of the academic probation data across institutions did not identify any patterns or outliers that warranted additional analysis. Most students surveyed (54%) indicated they had been on the Dean's list at least once during their academic career. The number of times on the Dean's list (n = 159) ranged from one time to ten times, with one to three times (75%) being most frequently reported.

To explore unique student characteristics (e.g., athlete, honors student, veteran, first-generation, English as a second language, and/or transfer), students were asked the following multiple answer multiple-choice question, *"Currently, which of the following describe you, if any…"* Fifty-one percent of students identified with at least one characteristic and 14% identified with two or more characteristics (Table 4, Appendix D). The most frequently reported student characteristics were transfer status (26%) and honors student status (20%) Students were also asked the following single-answer multiple-choice question, *"Which of the following best describes your current place of residence?"* At the time of survey completion most of the participating students lived either on campus (41%) or in an off-campus apartment alone or with a roommate (43%).

Primary and Secondary Disability. Students were asked, "*What do you consider to be your primary disability?"* Students were asked to pick from one of nine disability categories offered: ADHD, ASD, HI, SLD, Physical, VI, TBI, CHC, or MH condition. If a student chose SLD, CHC, or MH condition, he or she was asked to provide the specific name of the disability or diagnosed condition. Of the 306 SWD in the sample, the following four primary disability categories were most represented: ADHD (28%), MH conditions (22%), CHC (16%), and SLD (13%; Table 5, Appendix D). Reported MH conditions included anxiety disorder (e.g., Generalized Anxiety Disorder, Panic Disorder, and Social Anxiety), Depression, Bipolar

Disorder, Post-traumatic Stress Disorder (PTSD), and Schizophrenia. CHCs that were identified by students included gastrointestinal diseases (e.g., Crohns, Celiac, and Colitis), Diabetes, and autoimmune disorders. Reported SLD's included, Reading (Dyslexia), Writing (Dysgraphia), Math, and Processing Speed.

Of the 306 students who identified with a primary disability, 116 participants (38%) also identified a secondary disability. Only students who indicated having a secondary disability were asked, "*What do you consider to be your secondary disability?"* and were prompted to choose from one of the nine provided disability categories. The three most represented secondary disability categories (n = 116) were ADHD (25%), SLD (17%), and MH (16%; Table 5, Appendix D). Students who reported SLD as their secondary disability specified the disability and stated their SLD was in one or more of the following areas: Math, Reading, Writing, and Nonverbal. Students who identified MH conditions as a secondary disability most frequently reported anxiety disorders and depression but Bipolar disorder, PTSD, and Borderline Personality Disorder were also reported. Table 6, Appendix D presents the reported disability categories for the students (n =116) who identified with both a primary and secondary disability. Through inspection some patterns were identified. Students with a primary diagnosis of ADHD often reported a SLD or a MH condition as a secondary diagnosis. Students that reported a MH condition as their primary disability more frequently reported a secondary disability of ADHD or a CHC than any other secondary disability categories. Students who reported SLD as their primary disability most often identified ADHD as their secondary disability. After inspection of the data, a chi-square test of association of primary and secondary disabilities was conducted and found to be statistically significant, $\chi^2 = 133.87$, $p = < 0.01$. Cells that contributed most to the chi-square significance outcome are reported in Table 6, Appendix D.

Students were asked the following question about their primary and secondary (if applicable) disability diagnosis: *"My primary <secondary> disability was formally diagnosed or identified…"* Students were prompted to choose one of the following answers: (a) by a medical professional (e.g., doctor), (b) by a psychologist (not in the school system), (c) through the school system, (d) I am unsure if my primary (secondary) disability as formally diagnosed, and (e) My primary (secondary) disability was not formally diagnosed. Student responses are summarized in Table 7, Appendix D. Most often, students reported a medical professional diagnosed their primary (61%; $N = 306$) and/or secondary disability (49%; $n = 116$). A private psychologist was the second most reported method for receiving their primary (32%; $N = 306$) and/or secondary (51%; $n = 116$) disability diagnosis. Receiving a primary and/or secondary disability diagnosis through the school system was less frequently reported in the sample, as 5% of primary disabilities and 4% of secondary disabilities indicated they were identified through the school systems. Patterns between disability category and "who" provided the disability label were identified and are presented in Table 8, Appendix D. Students with HI, physical, VI, TBI, and CHC were only identified by a medical health professional. A medical professional or private psychologist most commonly diagnosed students with ADHD and MH conditions. Students with SLDs most often received their disability label by a private psychologist or through the school system. Of the nine offered categories, ADHD, SLD, and MH conditions were the disabilities identified through the school system, with students with SLD most represented in this category. Similar patterns were identified for students who reported having a secondary disability for students.

Students that selected medical professional, psychologist, or school system in the previous questions were provided with a follow-up question, *"When were you diagnosed with*

your primary <secondary> disability?" Response options for this question were "before elementary school", "elementary school", "middle school", "high school", "right before or during college", and "unsure" (Table 9, Appendix D). Students in this sample most frequently reported that their primary and/or secondary disability was diagnosed right before or during college (31% and 39%, respectively). Students who identified in one of the following primary disability categories more frequently reported being diagnosed during or before elementary school: HI (80%), VI (40%), physical (41%), and ASD (31%). Conversely, students in the following primary disability categories most often received their diagnosis in high school or college: ADHD (36%), SLD (31%), TBI (50%), CHC (31%), and MH condition (39%). A few students (n = 10) were unsure of when they were diagnosed.

Research Question 1b. What are the K-12 disability-related characteristics and experiences (e.g., involvement in IEP or 504 meetings, resources used, accommodations used, disability transition self-awareness, and disability-related transition concerns) of students registered with the Disability Office?

To address Research Question 1b the following types of questions were presented: multiple choice, 5-point Likert-type scale, purposeful follow-up questions using skip-logic and, if applicable, free-response clarification questions. Results addressing question 1b are presented in the following subsections: (a) involvement in IEP and 504 plans in K-12, (b) K-12 disability-related accommodations and accessed support resources, and (c) disability-related transition concerns and self-awareness.

Involvement in IEP and 504 plans in K-12. Students were asked: "*Did you have an IEP plan in…"* and were prompted to answer "Yes", "No", or "Unsure" if they had a plan in

elementary, middle, and/or high school (Table 10, Appendix D). Most students reported they did **not** have an IEP plan in elementary (71%), middle (66%), and/or high school (61%). Table 11, Appendix D presents IEP patterns across disability categories and academic settings for the students who responded to the series of IEP questions ($n = 297$). More students with ADHD, CHC, and MH reported being "unsure" about having an IEP plan across all three academic settings compared to students with physical disabilities, VI, ASD, and TBI. Students with ASD ($n = 14$) and students with VI ($n = 5$) reported having an IEP plan across all school settings at a higher rate than other disability categories. Post-hoc chi-square tests were administered to assess relationships between having an IEP and disability categories for each academic setting (elementary, middle, and high school) and were statistically significant. Chi-square results indicated significant associations for having an IEP in elementary school across disability categories, χ^2 (NA, $N = 306$) = 36.66, $p < 0.01$). A residual analysis identified influential cells and indicated that students with SLD and HI more often reported having an IEP while students with MH reported having an IEP less than expected if the null hypothesis of no difference across disability categories were true. For middle school, a significant relationship across disability categories was found, χ^2 (NA, $N = 306$) = 39.52, $p < 0.001$. A residual analysis identified influential cells and indicated that students with ASD and SLD more often reported having an IEP while students with MH less often reported having an IEP in middle school than would be expected if the null hypothesis of no difference across disability categories were true. The high school chi-square results indicated a significant relationship across disability categories, χ^2 (NA, $N = 306$) = 32.69, $p < 0.001$. A residual analysis identified influential cells and indicated that students with ASD more often reported having an IEP while students with MH less often reported having an IEP in high school.

Students who responded "Yes" to having an IEP in high school were asked two questions: (a) a 5-point Likert-type scale question "*How involved were you in your IEP in high school?"* and (b) a single-answer multiple-choice question "*Which disability did you receive IEP services for?"* Eighty-four students completed a follow-up question regarding their level of involvement in the IEP process (defined as, attending meetings, helping identify goals, helping to write goals, and discussing disability-related concerns). Thirty percent of students reported being "moderately involved" with their IEP (Table 14, Appendix D). Inspection of the data suggests students with ADHD and TBI were less involved in their IEP compared to other disability categories, as most students in these two disability categories reported being "slightly involved" or "not at all involved." Students with CHC reported being more involved in their IEP compared to other disability categories, with more than 50% of the students indicating they were "moderately involved" or "extremely involved."

To examine student experiences with 504 plans in K-12, students were asked, "*Did you have a 504 plan in…"* and were prompted to answer "Yes", "No", or "Unsure" for elementary, middle, and high school. Student responses to this question are summarized in Table 10, Appendix D. Students most frequently reported that they did not have a 504 plan in elementary (71%), middle (66%), and/or high school (57%). A small portion of students across disability categories were "unsure" about having a 504 plan in elementary, middle, or high school ((Table 12, Appendix D).

Students who answered "Yes" to having an 504 plan in high school were asked two questions: (a) a 5-point Likert-type scale question: "*How involved were you in your 504 plan in high school?" and* (b) a single-answer multiple-choice question: "*Which disability did you receive 504 services for?"* Sixty-seven students identified receiving a 504 plan in high school

and completed the question regarding their level of involvement in the 504 plan process (defined as, attending meetings, helping identify goals, helping to write goals, and discussing disability-related concerns). Thirty seven percent of students reported they were moderately involved in their 504 plans in high school (Table 13, Appendix D). When asked which primary disability category they received the 504 services for, CHC (22%), SLD (21%), and ADHD (11%) were the most represented categories. To examine patterns across disability categories, a contingency table was created for 504 plan involvement by disability category and is shown in Table 15, Appendix D.

K-12 disability-related accommodations and accessed support resources. To assess K-12 disability-specific experiences, students were asked the following multiple choice question, "*Please indicate which of the following accommodations you received in elementary, middle, and/or high school. Please select all that apply."* Response options were as follows: test-taking accommodations (e.g., extended time, separate setting, and computer use on timed assessments), classroom accommodations (e.g., extended time on assignments and note-taking assistance), other individualized accommodations (e.g., assistive technology and textbook modifications), "I am unsure which accommodations I received," and "I did not receive accommodations in elementary, middle, or high school." Students who indicated in the previous question that they received disability-related accommodations were provided with a series of clarifying questions, which asked them to specify the accommodations they received. Testing-taking accommodations were the most common accommodation used (42%) during the students' K-12 experiences, with extended test taking time (36%) and a separate testing setting (28%) most often utilized (Table 16, Appendix D). Classroom and individualized accommodations (utilized by 29% and 22% of students surveyed, respectively) were less often reported. Some students (15%) indicated that

they were "unsure" of their K-12 accommodations or did not receive any accommodations (26%).

To examine SWD' use of support resources in K-12, students were asked, *"In your last year of high school, how many times (if any) did you use the following four academic resources (tutoring, extra time with teachers, academic coaching, and external learning centers*)," with response options on a 5-point Likert-type scale (Table 17, Appendix D). Tutoring and extra time with teachers were the most utilized high school resources, with 50% of the students spending extra time with their teachers as least one time in the past year and 39% of students accessing tutoring services at least once in the past year.

Disability-related transition concerns and self-awareness. Students were asked three questions to assess their disability-related concerns as they transitioned to college, with response options on a 5-point Likert-type scale. Students were asked, *"Before college, how concerned were you about how your disability would affect the following: (a) your academic life [TC academic], (b) your social life [TC social], and (c) your ability to live independently [TC living]"*. A review of student responses for transition concerns is summarized in Table 18, Appendix D. More students reported being moderately to extremely concerned about their academic lives (45%) as they transitioned to college compared to social (29%) and independent living (22%). To examine self-awareness students were prompted to answer the following three questions, *"Please indicate your level of agreement to the following questions about your feelings before you entered college (e.g., think about the summer before starting college):* (a) *I understood how my disability impacts my academic life [TS understand],* (b) *I could explain to others how my disability impacts my academic life [TS explain],* and (c) *I felt like I could advocate for my disability-related needs [TS advocate]"*. Response options for level of

agreement responses were presented using a 5-point Likert-type scale (Table 19, Appendix D). Over half of the surveyed students reported they understood the impact of their disability (60%), could explain their disability needs to others (57%), and less than half indicated they could advocate for their disability needs (48%).

Research Question 1c. What are the current college disability-related characteristics and experiences (e.g., timing of disability registration with the Disability Office, experiences with Disability Office (e.g., frequency of use, satisfaction, and usefulness), resources use, accommodations, disability self-awareness, and disability-related concerns) of students registered with the Disability Office?

To address Research Question 1c students responded to the following types of questions: single-answer and multiple answer multiple-choice, 5-point Likert-type scales, and free-response clarification questions (if applicable). Not all students were presented with all of the survey questions in this section as some questions were presented using skip-logic. Results addressing this question are presented in the following subsections: (a) Disability Office registration and use, (b) college disability-related accommodations and accessed support resources, and (c) current disability concerns and self-awareness.

Disability Office registration and use. Students were asked, *"In what academic year did you register with the Disability Office at your college?"* and were requested to select one of five options: "freshman year", "sophomore year", "junior year", "senior year", or "I don't know". Of the 306 students who responded to this question, most students (58%) reported registering in the office during their freshman year, across disability categories (Table 20, Appendix D). A very small number of students reported registering with the Disability Office

during their senior year (n = 11) or were unsure (n = 7) about when they registered.

Students responded to three follow-up questions to assess their Disability Office experiences including, "*In the past year, how many times did you use any of your accommodations?"* "*How useful have the accommodations been in helping you succeed in college*?" and "*How satisfied are you with the accommodations you receive*?" Most students (40%) reported using the Disability Office more than 10 times in the past year (Table 21, Appendix D). A total of 37 of students (12%) reported never using services in the Disability Office after registration, with freshman being most represented in this category (62%). All disability categories were represented in the group of students who "never used" services in the Disability Office (12%). When asked how "useful" the Disability Office services were to their academic success most students (55%) reported the services were "extremely useful" (Table 22, Appendix D). Most students (51%) reported that they were "extremely satisfied" with the services they received in the Disability Office (Table 23, Appendix D). Students who were "unsure" of when they registered with the Disability Office were equally represented in the "not at all satisfied" and "extremely satisfied" categories across year of registration and rating of satisfaction. A chi-square test was conducted and found to be significant, χ^2 (NA, N = 306) = 38.48, $p < 0.01$. Influential cells are noted in Table 23, Appendix D. Results from a residual analysis indicated that students who were "unsure" of when they registered with the Disability Office were more frequent in the "not at all satisfied" category than expected given the null hypothesis of no difference across year and satisfaction ratings.

Students were asked, "*Which of the following individuals, if any, played a role in your decision to self-identify (also known as register) with a disability at your college*?" and were prompted to choose all that apply in the following list: (a) a family member (e.g., parent,

guardian, and/or sibling), (b) friend (e.g., close friend and/or classmate), (c) high school staff member (e.g., teacher, counselor, advisor, and/or special education teacher), (d) college staff member (e.g., professor, counselor, Resident Advisor (RA), and/or academic advisor), or (e) I made the decision on my own. The final option, "made own decision", was mutually exclusive and could not be chosen in conjunction with the other options. Of the 306 students in the sample, 243 students (79%) identified one or more individual(s) as playing a role in their registration with the Disability Office (Table 24, Appendix D). Some students (9%) identified three or more individuals across the provided categories (e.g., family, friend, high school, and college) as assisting their decision to register.

The most frequently reported category was family member, with 64% of the entire sample identifying a family member as an individual who assisted them with their college disability registration. When prompted to elaborate, the following family members were identified: both parents, mothers only, fathers only, grandparents, spouses, siblings, and cousins. Some examples of student responses are below:

"My mom strongly encouraged me to self identify and helped me complete the paperwork."

"My brother told me to look into disability services."

"My parents and sister…suggested the services."

Forty-six students (15%) reported that a friend played a role in their Disability Office registration, and 30 of the 46 students elaborated further. Some students stated that they had friends who already were identified in the Disability Office. A selected few examples were as follows:

"I have friends who were already registered, and they suggested I register as well after

my diagnosis."

"My friend told me that it would be a good thing to do, based on personal experience."

"I heard through a friend who received accommodations through a different school in the UNC system."

Of the 47 students (15%) who selected "high school staff member" as playing a role in their decision, 30 students provided further clarification. Most often cited were high school counselors/advisors, high school teachers, and special education providers.

"My high school 504 counselor helped supply the necessary paperwork"

"My high school academic coach helped me know about it."

Seventy-six students (34%) identified a college staff member as someone who helped them register with the Disability Office on their college campus. A few excerpts from student responses are below:

"My college adviser suggested that registering with the Disability Services Office at my university would help me."

"An intern graduate recommend me to register with Disability Services"

"I heard about disability services during orientation"

"My RD <resident director> helped me through the paperwork."

Sixty-three of the 306 students (21%) reported that no additional individuals played a role in their decision to register in the Disability Office.

More than 55% of students in each disability category reported that a family member played a role in their registration with the Disability Office (Table 25, Appendix D). Students with ASD and VI were not represented in the "made own decision" category. Students with physical, TBI, CHC, and MH were less likely to state that a friend helped them than students

with ADHD, HI, and VI were more frequent in the "friend" category. An inspection across all disability categories indicated that SWD reported assistance from college staff members more often than high school staff members in registering with the Disability Office.

College disability-related accommodations and accessed support resources. To assess disability-specific experiences, students were asked the following multiple-choice question: "*Please indicate which of the following accommodations you receive in college. Please select all that apply."* Response choices were as follows: (a) test-taking accommodations (e.g., extended time, separate setting, and computer use on timed assessments), (b) classroom accommodations (e.g., extended time on assignments and note-taking assistance), (c) other individualized accommodations (e.g., assistive technology and textbook modifications), and (d) "I am unsure which accommodations I received". Most students reported having test-taking accommodations, with extended test taking time (70%) and a separate testing setting (58%) being the most frequently received accommodation (Table 26, Appendix D). To explore SWD' use of support resources in college, students were asked, *"In the past year, how many times did you use the following seven academic resources (e.g., academic advising, academic support center, campus health, career center, counseling center, financial aid, and writing support center)?"* Academic advising was reported as the most accessed support service in the past year, with most students reporting using the service one to two times (Table 27, Appendix D).

Current disability concerns and self-awareness. Students were asked three questions to assess their current disability-related concerns . Students were asked, *"Currently, how concerned are you about how your disability impacts the following: (a) your academic life [CC academic], (b) your social life [CC social] and (c) your ability to live independently [CC living]".* Students more frequently reported that they were moderately concerned about academics (26%),

somewhat concerned socially (22%), and somewhat concerned about living independently (40%; Table 28, Appendix D). To examine current levels of self-awareness, students were prompted to answer the following questions, *"Please indicate your current level of agreement to the following questions:* (a) *I understand how my disability impacts my academic life [CS understand],* (b) *I can explain to others how my disability impacts my academic life [CS explain]* and (c) *I feel like I could advocate for my disability-related needs [CS advocate]".* Students more frequently reported that they agreed or strongly agreed with their current understanding of their disability (90%), could explain their disability (85%), and could advocate for their disability needs (79%; Table 29, Appendix D).

Students were asked, *"Have you ever considered temporarily or permanently stopping progress toward your degree (e.g., taking a break from school, dropping out, or not finishing your degree)?"* and were provided with "yes" or "no" as response choices. Of the 306 students in the sample, 163 (53%) indicated they considered dropping out of school at some point in their academic career and 143 (47%) stated they never considered this option (Table 30, Appendix D). This question was examined across disability categories and gender. Majority of the respondents in SLD (63%) and VI (80%) answered "yes" while majority of respondents in HI (67%) answered "no". Males, females, and non-binary genders were equally represented in their responses. Students who chose not to disclose their gender (*n = 3)* were only represented in the "Yes" category.

Research Question 2. Which student characteristics are associated with timing of disability registration?

To test for associations between key student characteristics and timing of college

disability registration, chi-square tests were conducted per student characteristic. Post-hoc residual analyses were conducted when appropriate to identify influential cells that significantly contributed to the chi-square values. To fully examine the results for Research Question 2, the results were divided into two separate sections: (a) demographic characteristics and (b) K-12 disability-related characteristics and experiences.

Research Question 2a. Which Current demographic characteristics (e.g., disability category and gender) are associated with timing of disability registration?

Disability Category. Results from a chi-square test of association indicated that a student's disability category was not statistically related to timing of disability registration. This result indicates that timing of disability registration is not different across disability categories.

Gender. Table 31, Appendix D presents gender patterns by timing of disability registration. Results from a chi-square test of association indicated that a student's gender was statistically associated with timing of disability registration, χ^2 (NA, $N = 306$), 32.77, $p < .01$. A post-hoc residual analysis was conducted and influential cells are noted in Table 31, Appendix D. A review of the influential cells indicate that juniors who did not disclose their gender were more frequently observed in the sample than expected given the null hypothesis of no association between gender and timing of disability registration. Students who were unsure of when they registered with their disability and identified with a non-binary gender were also significantly represented more in the category than anticipated if the null hypothesis were true.

Research Question 2b. Which K-12 disability-related characteristics and experiences (e.g., IEP and level of involvement, 504 plan and level of involvement, level of IEP involvement, level of

504 involvement, disability transition self-awareness, and disability-related transition concerns) are associated with timing of disability registration?

IEP involvement. Results from a chi-square test of association indicated that having an IEP in high school and being involved in the plan were not statistically associated with timing of disability registration. This result suggests that timing of disability registration did not differ for individuals who had or did not have an IEP. For students who did have an IEP, their level of involvement in the IEP was not associated with timing of disability registration in college.

504 plan involvement. Results from a chi-square test of association indicated that having a 504 plan in high school and being involved in the plan were not statistically associated with timing of disability registration. This result suggests that timing of disability registration is not different for individuals who had or did not have a 504 plan. For students who did have a 504 plan, their level of involvement in the IEP was not associated with timing of disability registration in college.

Disability-related transition concerns. Results from a chi-square test of association indicated that a student's level of academic transition concern [TC academic] was not statistically associated with timing of disability registration. However, a student's level of social transition concern [TC social] and independent living transition concern [TC living] were both statistically associated with timing of disability registration, χ^2 (16, 306) = 33.49, $p < .01$ and χ^2 (16, 306) = 32.25, $p < .05$, respectively. Table 32, Appendix D presents results for TC social and Table 33, Appendix D for TC living. For TC social and TC living, residual analyses were conducted to identify influential cells revealed that students who registered with their freshman year were less frequently observed in the "not at all concern" category while sophomore and juniors were more frequently observed than expected given the null hypothesis of no association

between transition concerns and timing of disability registration.

Disability transition self-awareness. Results from a chi-square test of association indicated that a student's levels of transition self-awareness in the three evaluated areas (TS understanding, TS explain, and TS advocate) were statistically associated with timing of disability registration. In the area of understanding their disability [TS understanding] results were as follows, χ^2 (16, 306) = 49.81, $p < .0001$ (Table 34, Appendix D). In the area of explain one's disability prior to entering college [TS explain] results were as follows, χ^2 (16, 306) = 56.67, $p < .0001$ (Table 35, Appendix D). Finally, in the area of advocating for one's disability needs [TS advocate] results were as follows, χ^2 (16, 306) = 60.10, $p < .0001$ (Table 36, Appendix D). For each of the three variables, a residual analysis was conducted to identify influential cells and found that students who registered their freshman year were less frequently observed in the "strongly disagree" category while sophomore and juniors were more often in the "strongly disagree" category than expected given the null hypothesis of no association between transition concerns and timing of disability registration.

Research Question 3. Which student characteristics are significant predictors of Quality of College Life (QCL)?

To address Research Question 3 a multiple regression was performed to predict QCL as the outcome variable based on a set of student characteristics (Table 37, Appendix D). The 20 predictor variables in the regression were disability category [medical, physical, and cognitive], IEP involvement, 504 plan involvement, disability transition self-awareness [TC academic, TC social, and TC living], disability-related transition concerns [TS understand, TS explain, and TS advocate], current disability self-awareness [CC academic, CC social, and CC living], current

disability-related concerns [CS understand, CS explain, and CS advocate], perceived usefulness of the Disability Office [usefulness], timing of disability registration [timing], and frequency of Disability Office use [frequency]. QCL was used as the outcome variable. A backwards-variable selection method was used to identify predictors that seem to best fit the model. The regression analysis yielded five predictor variables that significantly explained 24.8% of the variance in the model ($R^2 = .26$, $F(6, 299) = 17.8$, $p < .0001$). Frequency of accommodation use [frequency], perceived usefulness of accommodations [usefulness], current concerns related to social life [CC social], current understanding of how disability impacts academics (CS understand), and perceived ability to advocate disability needs [CS advocate] were all significant predictors of QCL. The results suggest that students indicating high levels of accommodation usefulness and reporting understanding and advocacy for their disability needs have higher overall QCL scores.

CHAPTER 5. DISCUSSION

The purpose of this study was to examine student characteristics, disability-related experiences, and quality of college life for undergraduate students in four-year colleges in North Carolina who were registered with the college's Disability Office. To that end, this study assessed student characteristics and perceptions of their high school and college experiences, which may have played a role in a student's registration at the Disability Office. This chapter integrates and identifies implications and recommendations for advancing the college experiences of SWD.

There were three overall questions that directed the research in this study:

1. What are the characteristics and experiences of students registered with the Disability Office on four college campuses in North Carolina?
2. Which student characteristics are associated with timing of disability registration?
3. Which student characteristics are significant predictors of Quality of College Life (QCL)?

The research questions were assessed using descriptive and associational statistics based on survey questions related to demographic characteristics (e.g., gender, race, age, and primary and secondary disability), academic characteristics (e.g., GPA, place of residency, academic history, and unique student characteristics), K-12 experiences (e.g., IEP and/or 504 involvement, support resources used, and reports of disability self-awareness and transition concerns), and college disability-related experiences (e.g., registration and experiences in the Disability Office, attrition

perception, support resources used, and perceptions of disability self-awareness and concerns). The findings are reviewed sequentially below.

Demographic Characteristics

In this study, females (66%) were represented more in the sample than males (31%). The higher representation of females in the sample was generally unexpected given the general student population of the four participating universities (55% females and 45% males; Common Data Set, 2015-2016). However, the binary gender differences found in this study were similar compared to previous studies of college SWD (Adams & Proctor, 2010; Barnard et al., 2009; Eddy, 2010; Lombardi et al., 2011). The binary gender discrepancy across studies may be better understood when considering that males are more likely to receive K-12 disability services but are less likely to enroll in a PSE institution than females (Wagner et al., 2003). Yet, without knowing the population of SWD who do not register with the Disability Office it is difficult to determine whether this finding is reflective of an overall lower enrollment rate of males in PSE (Wagner et al., 2003) or if males are choosing not to register their disabilities in college. In addition to gathering information about traditional gender identities (e.g., male and female), this study sought to be gender-expansive by including gender identities beyond "male" and "female" with the purpose of describing experiences of individuals across the gender spectrum.

A high proportion of the sample identified as White (75%), which is higher than the general student population of the four participating schools (66%; Common Data Set, 2015-2016). Overall, the racial distribution in this study was similar to the larger general student population, as White students were the largest group at all four participating institutions. The representation of SWD in the sample with minority ethnic/racial backgrounds was lower compared to the NLTS-2 (n = 2,650), which reported 21% African American, 13% Hispanic, and

3% more than one race (Wagner et al., 2003). This study's sample reflects the frequency of minority SWD registered with the Disability Office similar to the Wagner et al. (2003) study, as minority students were the smallest group at all four participating institutions.

The make-up of the sample consisted primarily of students with disability categories of ADHD, MH, CHC, and SLD, a finding that is similar across recent small-scale studies (Adams & Proctor, 2010; Barnard-Brak, Schmidt, Wei, Hodges, & Robinson, 2013; Eddy, 2010; Fichten et al., 2014; Getzel & Thoma, 2008; Hedrick et al., 2010; Dong & Lucas, 2013; Livneh et al., 2001; Lombardi et al., 2011; Murray et al., 2014). The findings are in contrast to those presented in the NLTS-2, which reported a sample of SWD enrolled in four-year college institutions that was predominately composed of students with visual (42%) and hearing (37%) impairments (Newman et al., 2009). While the NLTS-2 is a commonly referenced longitudinal study, it is possible that the types of disabilities served in 2000 (the beginning of the study) are no longer most prevalent in the current population of SWD.

The majority of students (61%) in this study reported having their primary disability diagnosed by a medical professional while a very small proportion (5%) of the sample identified as having been diagnosed in the school system. It is not clear if the small number of students being identified as being diagnosed in the school is an expected finding considering the recent shift in K-12 away from a medical model and towards the use of data-driven frameworks for identifying disability categories and needs. The small proportion of students identified in the school system could be an indicator that MTSS is being implemented with fidelity in K-12, as more students would be served for their difficulties through tiered interventions instead of through specialized instruction (e.g., identification of a disability). This study found that only students with ADHD, SLD, and MH had been identified through the school system. Further, 94

of the 306 students in this study's sample reported that their diagnoses were made right before or during college; students who receive disability diagnoses later in life may have less time to understand the impact of their disability and identify their disability-related strengths and weaknesses (Troiano et al., 2010), which are necessary skills for registering in the Disability Office. Future studies should evaluate the experiences of students who are diagnosed with a disability in young adulthood to examine their unique needs.

Academic Characteristics

Student responses on survey questions about their academic life indicated that students in this sample performed well academically, as measured by student reports of GPA, Dean's list experiences, and honors student status. A considerable proportion (20%) of the sample identified as being an honors student with all evaluated disability categories represented in this academic status, although students with ADHD (32%) and MH (22%) made up the biggest proportion of honors students in the sample. This finding was relatively unexpected as students with ADHD and MH, in this study, presented with more transition concerns than peers with other disabilities.

A noteworthy finding from this study was the proportion of students who identified as a transfer student (26%). Transfer students are particularly at-risk for attrition, as they tend to have more difficulties with academic (e.g., faculty interactions) and social (e.g., less engagement in campus activities and use of resources) integration and more often report negative college experiences than their non-transfer peers (DeAngelo, Franke, Hurado, Pryor, & Tran, 2011; Kuh et al., 2006). Overall, information regarding long-term outcomes (e.g., degree completion) is limited for transfer students, particularly SWD; since tracking students across institutions is not common practice (Kena et al., 2015). The most commonly represented disability categories in this sample of transfer SWD were: ADHD (26%), MH (26%), SLD (15%), and CHC (16%).

Considering the level of attrition risk for transfer students without disabilities (DeAngelo et al., 2011), it is likely that the attrition risk for transfer SWD is higher.

Although these survey questions are not comprehensive measures of academic success, within Tinto's Model of Student Departure, the findings would indicate that this sample of SWD are well-integrated in the academic environment of their colleges. However, more than half of the sample (53%) reported that they once thought about temporarily or permanently leaving school. This was a surprising finding given the majority of positive student responses on other survey questions (e.g., K-12 experiences, academic characteristics, and college experiences).

K-12 Experiences

In this study, a small number (29%) of SWD reported having an IEP or a 504 plan (22%) in high school. This finding was surprisingly lower than anticipated when considering previous reports of SWD receiving IEP services in high school at proportions ranging from 45% (Eddy, 2010) to 76% (Newman et al., 2009). Notably, 22 students reported being unsure if they had an IEP and 53 students reported being unsure if they a 504 plan. Survey questions related to IEPs and 504 plans were not mutually exclusive, allowing for students to report that they received both plans. In K-12 students receive either an IEP or a 504 plan but not both concurrently, as 504 plan requirements can be met within an IEP plan (Office of Civil Rights, Department of Education, 2011). In this study a total of 41 students (13%) reported receiving both an IEP and a 504 plan. This study found that students who had IEP/504 services in high school were relatively involved in the process. Overall, survey responses indicated that a majority of the students in this study did not receive formal and consistent disability-related services and transition support in high school through their IEP or 504 plan. Although findings of previous studies would suggest that the lack of IEP/504 support in high school would place SWD more at-risk (Adams &

Proctor, 2010; Eddy, 2010) the opposite was found in this study, as the SWD reported performing well academically and obtained high scores on QCL measures.

In addition to the fact that most of the students in the sample did not receive disability specific transition support, a majority of students in this study also reported never accessing academic support services in high school. Most SWD in the study reported being more concerned about their academic lives than their social and independent lives as they transitioned to college. Students with ADHD, SLD, and CHC were more likely to report being "not concerned at all" about their academic, social, and living concerns as they transitioned to college. A majority of students in the study reported that they understood their disability needs and could explain and advocate for those needs. Students with ADHD, SLD, and CHC were more likely to report "strongly agreeing" with self-awareness questions about their ability to understand, explain, and advocate for their disability-related needs. Although most students in the study did not report concerns related to their disability, previous studies suggest that SWD may not fully recognize how their disability impacts their learning and may not be cognizant of how the use of disability-related services (e.g., IEP and 504 services) supported their learning in high school (Getzel, 2008; Hong et al., 2011). This may be a characteristic of students particularly at-risk, as their difficulties in college may not be as readily apparent to staff members, which makes early identification of needs more challenging. Students who fit this profile may not seek academic supports until they experience academic difficulties and may need a high level of remedial support tailored to their learning style, which may not be available at their institution (Kuh et al., 2006).

College Experiences

In this study a small number of students (21%) reported that they were solely responsible for the decision to register their disability in college. This proportion is much lower than the 50% (n = 14) reported by Eddy (2010). The difference may be explained by differing IEP/504 experiences of students across studies. IEP involvement is associated with increased self-advocacy and self-determination skills (Eddy, 2010; Halpern et al., 1995; Lightner et al., 2012), and students in Eddy's (2010) study reported more high school IEP service involvement than students reported in this study. Most students in this study reported that their family members played a significant role in the decision-making process, while college and high school staff members were less frequently identified as playing a role. This is similar to the finding by Eddy (2010), who reported that 76% of students (n = 148) learned vital transition skills (e.g., self-determination) from their parents more often than from high school staff. Both studies found that family members played a role before and/or during the registration process.

A majority of students in this study reported registering in the Disability Office during their freshman year, indicating that some students had access to services in the Disability Office for most of their academic career since the largest proportion of the sample was enrolled in their senior year of college. Most students reported high frequencies of Disability Office service use and rated the services as useful and satisfactory to their academic lives, similar to previous findings (Newman et al., 2009; Sharpe, Johnson, Izzo, & Murray, 2005). SWD who registered with the Disability Office also utilized other services at least once in their academic careers, such as academic advising, academic support centers, campus health, and the counseling center. These uses indicate that students who consistently use school-based supports services find value in the

services and continue to use them over time. These results are similar to Richman's (2013) findings.

To specifically address Research Question 2, associational statistics were used to examine the relationship among variables of interest (e.g., demographic and K-12 experiences) and timing of a student's disability registration in college. Although some patterns were identified across disability categories and timing of disability registration, they were not statistically significant, indicating that SWD register in the Disability Office at similar rates. Statistically significant gender associations were found, with individuals who identified with a non-binary gender being represented more in the "unsure when they registered" category than expected. Student's K-12 IEP and 504 plan involvement were not statistically associated with timing of disability registration in college. Student's report of transition concerns and self-awareness of disability needs were statistically associated with timing of disability registration. Students who reported not being concerned about social and living aspects of college were more likely to register with the Disability Office in their sophomore and junior year and less likely to register during their freshman year. Students who reported they did not understand their disability and felt unable to explain and advocate for their disability needs were more likely to register in their sophomore and junior year and were less likely to register in their freshman year. These findings suggest a potential association of student skills with timing of disability registration, with those who report less disability-related concerns and self-awareness being more likely to register their disability after their freshman year of college.

Overall, the majority of students in this study reported a higher QCL, a measure of college integration. To identify specific characteristics that predict QCL a multiple linear regression was conducted. The combination of frequency of accommodation use, perceived

usefulness of accommodation, current concerns related to social life, current understanding of how disability impacts academics, and perceived ability to advocate for disability needs was found to significantly predict QCL. This indicates that students who perceived services in the Disability Office to be useful were more aware of how their disability impacted their academic life and indicated they could advocate for their disability needs were more likely to report a higher quality of college life. Students who reported concerns about how their disability impacts their social life and reported infrequent use of the Disability Office were less likely to report higher quality of college life.

Implications and Recommendations

Gender, racial identity, disability category, and timing of disability diagnosis are prominent variables in this study and across other SWD literature pertaining to SWD. This indicates that within this group of students, there is a wide variety of characteristics and experiences, which may place some SWD more at-risk for early college departure than others. Recognizing this increased risk, it is key for high school and college professionals to develop programming to identify students in need of support. Programs that target subgroups would be an effective method for supporting specific needs within the SWD population. For example, one effective support might be a high school program for students with ADHD who demonstrate difficulties with self-awareness of their disability strengths and weaknesses to teach methods to foster those skills. Another example would be psychoeducational groups or support services in college that provide opportunities for students with newly diagnosed disabilities to learn facts about their disability and develop strategies for management.

It is well-supported in the literature that students who are involved in their disability transition planning (e.g., IEP meetings) in high school are more likely to have opportunities to

develop essential skills and gain knowledge about their disability prior to entering college (Adams & Proctor, 2010; Eddy, 2010; Halpern et al., 1995; Lightner et al., 2012; Newman et al., 209). Yet, this study and other research (Eddy, 2010) reported that most students did not receive formal and consistent disability-related supports in high school, although a small proportion of SWD did report being involved in their transition planning. Nonetheless, all of the SWD in this study found their way to the appropriate resources to meet their disability-related needs. It is clear that some SWD who did not receive services for their disability in high school still found the appropriate services in college; questions arise, however, about the unknown number of students who did or did not receive services in high school and did not seek services in college. For the students in this study, most reported that family members were somehow involved before and/or during their disability registration process. High school personnel can use this information to reevaluate their strategies for supporting SWD, both with and without formal disability supports (e.g., IEP or a 504 plan). Creating programming that integrates families into the transition process would be valuable. For instance, psychoeducational groups for families and students that provide information about the differences between high school and college would be beneficial for students with and without formal K-12 disability supports. Additionally, educational services that teach parents how to foster the development of their child's self-determination and self-advocacy skills may be a valuable approach. School systems should also consider gradually increasing and encouraging the student's involvement in IEP transition over time while decreasing parental participation.

Service delivery methods and disability identification vary widely between K-12 and college, as K-12 has a structured system (e.g., MTSS) for identifying and supporting SWD. It is unclear how the MTSS system will impact SWD as the system is designed to address student

needs through tiered intervention and may lead to a decrease in the overall special education population. It is possible that future cohorts of SWD attending PSE may have different experiences than those of students in the present study. To assess the different experiences, future research should examine characteristics and patterns among cohorts of students who received high school disability-related services before and after the shift towards MTSS.

Many colleges do not have a proactive process for identifying SWD in need. This is a fundamental flaw in PSE as it places SWD more at-risk for dropping out by providing reactive remediation versus preventative supports. Recognizing that SWD often do not register with the Disability Office in college (Newman et al., 2009) and tend to seek services after experiencing academic difficulties (Kuh et al., 2006), support systems should be in place across campuses. This strategy would entail a campus-wide proactive initiatives for identifying and supporting students that may need more assistance, a valuable approach that would support students both with and without disabilities. Some campuses have already begun implementing such initiatives (e.g., summer program opportunities, orientation experiences, transfer programs, freshman seminar courses, and dorm-based supports). When evaluating the success of these current programs, in addition to creating new support systems, college professionals must keep in mind the unique experiences of SWD. The goal of college professionals should be to integrate disability-related supports into general campus supports (without formally identifying them as being specific to SWD) to encourage the use of support services for students who may be hesitant to register their disability on campus.

Limitations

As this research was exploratory in nature a number of factors limit the findings in this study. Survey research provides researchers the opportunity to quickly and easily gather data, but

problems such as sampling bias, sampling error, and interpretation bias can limit impact generalizability of the gathered information (Gideon, 2012). Convenience sampling, utilized here to recruit participants, is often utilized in survey research but is not the best practice for ensuring that collected information is a valid representation of the population (Ware et al., 2013), as nonresponse bias may inflate obtained proportions (Gideon, 2012). The overall sample size and response rates were low but attempts were made account for these limitations using statistical methodology (simulating the p-value with bootstrapping/resampling).

A limitation of this study and earlier studies is the lack of comparison groups (e.g., general student population without disabilities and students with disabilities who are not registered with the Disability Office) and methodological approaches (e.g., most commonly quantitative surveys; Faggella-Luby et al., 2014; Leake & Stodden, 2014). This study only included SWD who were registered with the Disability Office in their colleges. This study did not account for students who applied for Disability Office services and were found ineligible based on institutional requirements. It is important for future researchers to note that discrepancies across institutions in required documentation for service eligibility may impact the reliability of gathered data, as it is possible that a student may be eligible for services at one institution but not at another based on institution requirements. As this study only evaluated students who were identified by the Disability Office, it is not appropriate to generalize the findings to the entire SWD population, as reported findings may be different for SWD who did not seek Disability Office services. To comprehensively assess college experiences of SWD while also addressing methodological concerns such as response bias, future research should include a diverse sample of students without disabilities as well as SWD who are both registered and not registered with the Disability Office.

This study was also limited by primarily utilizing a quantitative approach. The survey included questions developed by the investigator in addition to utilizing questions from an established measure of QCL (Sirgy et al., 2010). The QCL measure has limited validity, as it is a relatively new measure with limited empirical support. In addition to quantitative data, some qualitative information was gathered for the purpose of providing examples and clarification to previous questions. Future studies would benefit from using comprehensive approaches, including both quantitative and qualitative approaches, to research the experiences of SWD.

Concluding Comments

The results of this study identified patterns of disability-related experiences across high school and college. Some findings such as gender, Disability Office registration, distribution of specific disability categories in the sample, and family involvement in disability registration aligned with earlier literature. Others findings, such as student involvement in IEP/504 process and experiences prior to Disability Office registration, were not consistent with prior research. The research draws attention to the varying experiences of SWD across and within their identified disability category, supporting the need for implementing programs to fit the needs of a diverse population. The use of Tinto's Model of Student Departure as a framework for exploring experiences is valuable when assessing SWD in college, and this framework can help identify key variables and contribute to the creation of appropriate supports. The findings of this study were limited to SWD who were registered with the Disability Office on their college campus. Future research should focus on assessing experiences of SWD who are not registered with the Disability Office to obtain a comprehensive view of their characteristics and needs in meeting the demands of college life. Identifying differences and similarities of college

experiences across these two distinct groups (e.g., SWD who utilize Disability Office resources and SWD who do not) would be valuable for truly examining how SWD fare in college.

The findings identify systematic areas of concern in K-12 and college, including service delivery methods and inter-institutional differences that impact a student's experiences when registering their disability in college. These systematic concerns should be of particular interest in upcoming years, as K-12 administrators modify the approach for identifying students with disabilities. High school and college professionals must take systematic barriers into consideration as they develop programs and policies to support SWD in their academic settings. As such, the current study's contribution of additional information regarding student perceptions on high school, transition, and college experiences, as well as their use of the Disability Office in college is important information for professionals as they support SWD through college.

APPENDIX A

UNC-CH IRB Approval

THE UNIVERSITY of NORTH CAROLINA at CHAPEL HILL

OFFICE OF HUMAN RESEARCH ETHICS
720 Martin Luther King, Jr. Blvd.
Bldg. 385, 2nd Floor
CB #7097
Chapel Hill, NC 27599-7097
(919) 966-3113
Web site: ohre.unc.edu
Federalwide Assurance (FWA) #4801

To: Melissa Senior
School of Education Deans Office

From: Office of Human Research Ethics

Date: 2/18/2016
RE: Notice of IRB Exemption
Exemption Category: 1.Educational setting,2.Survey, interview, public observation
Study #: 15-2594

Study Title: Experiences of Students with Disabilities on College Campuses Enrolled in Disability Services

This submission has been reviewed by the Office of Human Research Ethics and was determined to be exempt from further review according to the regulatory category cited above under 45 CFR 46.101(b).

Study Description:

Purpose: Exploring experiences of students with disabilities on college campuses who are enrolled in the Disability Service office.

Participants: Undergraduate college students identified in the Disability Office at the following four-year public institutions: UNC, UNCA, NCSU, ECU, UNCG, and WCU.

Procedures (methods): Eligible students will be recruited via email by the institution's Disability Service provider via their department's listserv. The primary investigator will not have direct access to the institution's listerv. Electronic Qualtrics survey administered during the 2016 Spring semester academic year to Undergraduate college students identified in the Disability Office at the following four-year public institutions: UNC, UNCA, NCSU, ECU, UNCG, and WCU. Survey includes qualitative and quantitative questions related to: current demographics, disability identification, high school services related to disability, and experiences related to college resource use and identification in the disability office.

APPENDIX B

Recruitment Letter

Dear Student,

My name Melissa Senior and I am a PhD Student at the University of North Carolina at Chapel Hill. I am writing to you to invite you to participate in a brief survey about your experiences at your institution. You were selected to be a part of this project because you are a student who is identified in the Disability/Accessibility department as a student with a disability. I am conducting research to better understand experiences of students who identify with having a disability. Your responses to this survey will help academic professionals evaluate current practices, policies, and procedures so that they can better assist students with disabilities during and after their transition to college.

Your participation in this study is voluntary and you are free to withdraw your participation from this study at any time. The following survey will require approximately 15 minutes to complete. At the completion of the survey you will be offered the opportunity to submit your email address to participate in a prize raffle for one of ten $20 gift card, which will occur in April 2016. The submission of your email address is not linked with your survey responses.

Your answers will be completely anonymous and there is no known risk for completing this survey. The results of the survey will be reported in a summary format, so again no one will link you to your responses. Text comments will be reported verbatim, so please do not provide identifying information in your text comments. Below you will find a web address that will bring you to the online survey. ‘’

WEB ADDRESS: << Insert here >>

By completing and submitting this survey you are indicating your consent to participate in the study. Your participation is very much appreciated. If you have any questions about this study please feel free to contact Melissa Senior (mmsenior@email.unc.edu) or her advisor Dr. Rune Simeonsson (rjsimeon@email.unc.edu). If you have questions or concerns about your rights as a research subject you may contact, anonymously if you wish, the Office of Human Research Ethics by calling (919) 966-3113 or by email IRB_subjects@unc.edu.

Thank you for your assistance!

Best,
Melissa Senior

Melissa Senior, CRC, MS
School Psychology, Doctoral Candidate
School of Education, University of North Carolina at Chapel Hill

APPENDIX C

Survey Measure

Title: Experiences of students with disabilities' on college campuses enrolled in disability services.

Your participation in this study is voluntary and you are free to withdraw your participation from this study at any time. The following survey will require approximately 10-15 minutes to complete. Your responses to this survey will help academic professionals evaluate current practices, policies, and procedures so that they can better assist students with disabilities during and after their transition to college. At the completion of the survey you will be offered the opportunity to submit your email address to participate in a prize raffle for one of ten $20 gift card, which will occur in April 2016. The submission of your email address is not linked with your survey responses. By completing and submitting this survey you are indicating your consent to participate in the study. Your participation is very much appreciated. If you have any questions about this study please feel free to contact Melissa Senior (mmsenior@email.unc.edu) or her advisor, Dr. Rune Simeonsson (rjsimeon@email.unc.edu). If you have questions or concerns about your rights as a research subject you may contact, anonymously if you wish, the Office of Human Research Ethics by calling (919) 966-3113 or by email IRB_subjects@unc.edu.

Please note that this survey is intended for Undergraduate Students only

SECTION 1.

1. Which school do you currently attend?
   - ❍ East Carolina University (ECU) (1)
   - ❍ UNC Asheville (UNCA) (2)
   - ❍ UNC Chapel Hill (UNC) (3)
   - ❍ UNC Charlotte (UNCC) (4)
   - ❍ UNC Greensboro (UNCG) (5)
   - ❍ North Carolina Central University (NCCU) (6)
   - ❍ North Carolina State University (NCSU) (7)
   - ❍ Western Carolina University (WCU) (8)

2. What do you consider to be your primary disability?

- ❍ Attention Deficit / Hyperactivity Disorder (ADHD) (1)
- ❍ Autism Spectrum Disorder / Aspergers (2)
- ❍ Hearing impaired / Deaf (3)
- ❍ Specific Learning Disorder (e.g., math, reading, writing, processing): Please specify (4) _____
- ❍ Physical / Mobility / Orthopedic (5)
- ❍ Visually Impaired / Blind (6)
- ❍ Traumatic Brain Injury (TBI) / Post-Concussive Disorder (7)
- ❍ Chronic Health Condition: Please specify (8) _____
- ❍ Mental Health: Please specify (9) _____

3. My primary disability was formally identified or diagnosed:

- ❍ By a medical professional (e.g., doctor) (1)
- ❍ By a psychologist (not in the school system) (2)
- ❍ Through the school system (3)
- ❍ I am unsure if my primary disability was formally identified or diagnosed. (4)
- ❍ My primary disability was not formally identified or diagnosed. (5)

If (1), (2) or (3) is selected in Question 3, present:

3a. When were you identified or diagnosed with your primary disability?

- ❍ Before Elementary School (e.g., birth or early childhood) (1)
- ❍ Elementary School (2)
- ❍ Middle School (3)
- ❍ High School (4)
- ❍ Right before college or during college (5)
- ❍ Unsure (6)

4. Do you have a secondary disability?

- ❍ Yes (1)
- ❍ No (2)

If (1) is selected in Question 4, present:

4a. What do you consider to be your secondary disability?

- ❍ Attention Deficit / Hyperactivity Disorder (ADHD) (1)
- ❍ Autism Spectrum Disorder / Aspergers (2)
- ❍ Hearing Impaired / Deaf (3)
- ❍ Specific Learning Disorders (e.g., math, writing, reading, processing): Please specify (4) _____
- ❍ Physical / Mobility / Orthopedic (5)
- ❍ Visually Impaired / Blind (6)
- ❍ Traumatic Brain Injury (TBI) / Post-Concussion Syndrome (7)
- ❍ Chronic Health Condition: Please specify (8) _____
- ❍ Mental Health/Psychological: Please specify (9) _____

If (1) is selected in Question 4, present:

4b. My secondary disability was formally identified or diagnosed:

- ❍ By a medical professional (e.g., doctor) (1)
- ❍ By a psychologist (not in the school system) (2)
- ❍ Through the school system (3)
- ❍ I am unsure if my secondary disability was formally identified or diagnosed. (4)
- ❍ My secondary disability was not formally identified or diagnosed. (5)

If (1) is selected in Question 4, present:

4c. When were you identified or diagnosed with your secondary disability?

- ❍ Before Elementary School (e.g., birth or early childhood) (1)
- ❍ Elementary School (2)
- ❍ Middle School (3)
- ❍ High School (4)
- ❍ Right before or during college (5)
- ❍ Unsure (6)

The following questions are about the services you used, related to your disability, in elementary, middle, or high school.

4. Did you have an IEP (Individualized Education Plan) in:

	Yes (1)	No (2)	Unsure (3)
Elementary School (1)	❍	❍	❍
Middle School (2)	❍	❍	❍
High School (3)	❍	❍	❍

If "yes" for (3) is selected in Question 5, present:

5a. Which disability did you receive IEP (special education) services for (select the primary disability that you were served for).

- ❍ Attention Deficit/Hyperactivity Disorder (ADHD) (1)
- ❍ Autism Spectrum Disorder / Aspergers (2)
- ❍ Hearing Impaired / Deaf (3)
- ❍ Specific Learning Disorder (e.g., math, reading, writing, processing). Please Specify: (4) _____
- ❍ Physical / Mobility (5)
- ❍ Visually Impaired / Blind (6)
- ❍ Traumatic Brain Injury (TBI) (7)
- ❍ Chronic Health Condition. Please Specify: (8) _____
- ❍ Mental Health/Psychological. Please Specify: (9) _____

If "yes" for (3) is selected in Question 5, present:

5b. How involved were you in your IEP plan in high school? (Note: involvement can include any of the following: attending meetings; helping to identify goals; helping to write goals; discussing your concerns)

- ❍ Not involved at all (1)
- ❍ Somewhat involved (2)
- ❍ Moderately involved (3)
- ❍ Very involved (4)
- ❍ Extremely involved (5)

6. Did you have a 504 plan in:

	Yes (1)	No (2)	Unsure (3)
Elementary School (1)	❍	❍	❍
Middle School (2)	❍	❍	❍
High School (3)	❍	❍	❍

If "yes" for (3) is selected in Question 6, present:

6a. Which disability did you receive 504 services for:

- ❍ Attention Deficit/Hyperactivity Disorder (ADHD) (1)
- ❍ Autism Spectrum Disorder / Aspergers (2)
- ❍ Hearing Impaired / Deaf (3)
- ❍ Specific Learning Disorder (e.g., math, reading, writing, processing). Please Specify: (4) _____
- ❍ Physical / Mobility (5)
- ❍ Visually Impaired / Blind (6)
- ❍ Traumatic Brain Injury (TBI) (7)
- ❍ Chronic Health Condition. Please Specify: (8) _____
- ❍ Mental Health/Psychological. Please Specify: (9) _____

If "yes" for (3) is selected in Question 6, present:

6b. How involved were you in your 504 plan in high school? (Note: involvement can include any of the following: attending meetings; helping to identify goals; helping to write goals; discussing your concerns)

- ❍ Not involved at all (1)
- ❍ Somewhat involved (2)
- ❍ Moderately involved (3)
- ❍ Very involved (4)
- ❍ Extremely involved (5)

Please answer the next 3 questions based on any experiences you had in elementary, middle, and/or high school.

7. Please indicate which of the following accommodations you received in elementary, middle, and/or high school. Select all that apply.

- ❑ Test-taking accommodations (e.g., extended time, separate setting, computer use...) (1)
- ❑ Classroom accommodations (e.g., extended time on assignments, note taking assistance, sign language interpreter....) (2)
- ❑ Other individual accommodations (e.g., assistive technology, modifications to textbooks...) (3)
- ❑ I am unsure which accommodations I received. (4)
- ❑ I did not receive accommodations for my disability in elementary, middle, and/or HS. (5)

If (1) is selected in Question 7, present:

7a. Which test-taking accommodations did you receive? Select all that apply.

- ❑ Extended time on timed assessments (e.g., quizzes, tests, final exams) (1)
- ❑ Separate setting during timed assessments (2)
- ❑ Computer use during timed assessments (e.g., allowed to type instead of write; use of text-to-speech software) (3)
- ❑ Not Listed. Please Specify: (4) _____

If (2) is selected in Question 7, present:

7b. Which classroom accommodations did you receive? Select all that apply.

- ❑ Flexibility around class attendance (2)
- ❑ Extended time on course assignments / projects (3)
- ❑ Assistance with class note taking (4)
- ❑ Sign-language interpreter or real-time interpretation software (instant translation of spoken word to your laptop) (5)
- ❑ Alternative classroom materials (e.g., large print; electronic format) (6)
- ❑ Not Listed. Please specify: (7) _____

If (3) is selected in Question 7, present:

7c. What other individual accommodations did you receive? Select all that apply.

- ❑ Assistive technology (e.g., audio recorder; live scribe pen; text-to-speech software; speech to text software) (1)
- ❑ Textbook adaptations/modifications (e.g., electronic books; braille; audio books) (2)
- ❑ Physical adaptations/modifications (e.g., different furniture; moving classroom to a more accessible location) (3)
- ❑ Not Listed. Please specify: (4) _____

8. Did you use any academic resources? Please select all of the academic resources you used in elementary, middle, or high school.

- ❑ Tutoring (peer or professional) (1)
- ❑ Extra time with your teachers (outside of classroom time) (2)
- ❑ Academic coaching (someone who teaches you time management, organization, or study skills) (3)
- ❑ External education center (e.g., Sylvan Learning Center) (4)
- ❑ Not Listed. Please specify: (5) _____
- ❑ I did not use any academic resources. (6)

9. In your last year of high school, how many times did you use the following academic resources?

	Never (1)	1-2 times (2)	3-5 times (3)	6-10 times (4)	More than 10 times (5)
Tutoring (Peer or Professional) (1)	❍	❍	❍	❍	❍
Extra time with your teachers (outside of class times) (2)	❍	❍	❍	❍	❍
Academic coaching (someone teaches you time management, study skills, etc.) (3)	❍	❍	❍	❍	❍
External education center (e.g., Sylvan Learning Center) (4)	❍	❍	❍	❍	❍

10. Before college, how concerned were you about how your disability would affect the following:

	Not at all concerned (1)	Slightly concerned (2)	Somewhat concerned (3)	Moderately concerned (4)	Extremely concerned (5)
Your academic life (1)	❍	❍	❍	❍	❍
Your social life (2)	❍	❍	❍	❍	❍
Your ability to live independently (3)	❍	❍	❍	❍	❍

11. Please indicate your level of agreement to the following questions about your feelings before you entered college (e.g., think about the summer before starting college…)

	Strongly disagree (1)	Disagree (2)	Neither agree nor disagree (3)	Agree (4)	Strongly agree (5)
I understood how many disability impacts my academic life. (1)	❍	❍	❍	❍	❍
I could explain to other how my disability impacts my academic life. (2)	❍	❍	❍	❍	❍
I felt like I could advocate for my disability related needs. (3)	❍	❍	❍	❍	❍

SECTION 2.

The next questions will focus on your experiences identifying/registering with your college's disability service department.

12. In what academic year did you register with the disability office at your college?

- ❍ Freshman year (1)
- ❍ Sophomore year (2)
- ❍ Junior year (3)
- ❍ Senior year (4)
- ❍ I don't know (5)

13. Which of the following individuals, if any, played a role in your decision to self-identify (also known as register) with a disability at your college? (Select all that apply).

- ❑ Family member (e.g., parent, guardian, sibling...) (1)
- ❑ Friend (e.g., close friend, classmate...) (2)
- ❑ High school staff member (e.g., teacher, counselor, special education teacher, advisor...) (3)
- ❑ College staff member (e.g., professor, counselor, RA, orientation leader, academic advisor...) (4)
- ❑ I made the decision on my own. (5)

If (1), (2), (3), or (4) is selected in Question 13, present:

13a. Please specify which individuals played a role in your decision and how they played a role in your identification. (Examples: “My mom helped me complete the paperwork”, “My friend told me about the office”, or “My college professor suggested this would help me”).

14. Please indicate which of the following accommodations you currently receive in college. Select all that apply.

- ❑ Test-taking accommodations (e.g., extended time, separate setting, computer use...) (1)
- ❑ Classroom accommodations (e.g., extended time on assignments, note taking assistance, sign language interpreter....) (2)
- ❑ Other individual accommodations (e.g., assistive technology, modifications to textbooks...) (3)
- ❑ I am unsure which accommodations I received. (4)

If (1) is selected in Question 14, present:

14a. Which test-taking accommodations do you currently receive? Select all that apply.

- ❑ Extended time on timed assessments (e.g., quizzes, tests, final exams) (1)
- ❑ Separate setting during timed assessments (2)
- ❑ Computer use during timed assessments (e.g., allowed to type instead of write; use of text-to-speech software) (3)
- ❑ Not listed. Please Specify: (4) _____

If (2) is selected in Question 14, present:

14b. Which classroom accommodations did you currently receive? Select all that apply.

- ❑ Flexibility around class attendance (2)
- ❑ Extended time on course assignments / projects (3)
- ❑ Assistance with class note taking (4)
- ❑ Sign-language interpreter or real-time interpretation software (instant translation of spoken word to your laptop) (5)
- ❑ Alternative classroom materials (e.g., large print; electronic format) (6)
- ❑ Not listed. Please specify: (7) _____

If (3) is selected in Question 14, present:

14c. What other individual accommodations did you currently receive? Select all that apply.

- ❑ Assistive technology (e.g., audio recorder; live scribe pen; text-to-speech software; speech to text software) (1)
- ❑ Textbook adaptations/modifications (e.g., electronic books; braille; audio books) (2)
- ❑ Physical adaptations/modifications (e.g., different furniture; moving classroom to a more accessible location) (3)
- ❑ Not listed. Please specify: (4) _____

15. In the past year, how many times did you use any of your accommodations?

- ❍ Never (1)
- ❍ 1-2 times (2)
- ❍ 3-5 times (3)
- ❍ 6-10 times (4)
- ❍ More than 10 times (5)

16. How useful have the accommodations been in helping you succeed in college?

- ❍ Not at all useful (1)
- ❍ Slightly useful (2)
- ❍ Somewhat useful (3)
- ❍ Moderately useful (4)
- ❍ Extremely useful (5)

17. How satisfied are you with the accommodations you receive?
- ❍ Not at all satisfied (1)
- ❍ Slightly satisfied (2)
- ❍ Somewhat satisfied (3)
- ❍ Moderately satisfied (4)
- ❍ Extremely satisfied (5)

18. Currently, how concerned are you about how your disability impacts the following:

	Not concerned (1)	Slightly concerned (2)	Somewhat concerned (3)	Moderately concerned (4)	Extremely concerned (5)
Your academic life (1)	❍	❍	❍	❍	❍
Your social life (2)	❍	❍	❍	❍	❍
Your ability to live independently (3)	❍	❍	❍	❍	❍

19. Please indicate your current level of agreement to the following questions:

	Strongly disagree (1)	Disagree (2)	Neither agree nor disagree (3)	Agree (4)	Strongly agree (5)
I feel like I understand how my disability impacts my academic life. (1)	❍	❍	❍	❍	❍
I feel like I could explain to other how my disability impacts my academic life. (2)	❍	❍	❍	❍	❍
I felt like I can advocate for my disability related needs. (3)	❍	❍	❍	❍	❍

SECTION 3.

The following questions will ask you about campus resources, your use of resources, and your level of satisfaction with experiences at your college.

20. Since entering this college, which of the following campus resources have you used?

- ❑ Academic advising (1)
- ❑ Academic support (tutoring; coaching) (2)
- ❑ Campus Health (3)
- ❑ Career Center (4)
- ❑ Counseling Center (5)
- ❑ Financial Aid + Scholarship (6)
- ❑ Writing support center (7)
- ❑ Not listed. Please specify: (8) _____
- ❑ I have not used any of the above resources. (9)

21. In the past year, how many times have you used the following campus resources?

	Never (1)	1-2 times (2)	3-5 times (3)	6-10 times (4)	more than 10 times (5)
Academic advising (1)	❍	❍	❍	❍	❍
Academic support (tutoring; coaching) (2)	❍	❍	❍	❍	❍
Campus Health (3)	❍	❍	❍	❍	❍
Career Center (4)	❍	❍	❍	❍	❍
Counseling Center (5)	❍	❍	❍	❍	❍
Financial aid + Scholarship (6)	❍	❍	❍	❍	❍
Writing support center (7)	❍	❍	❍	❍	❍

SECTION 4.

22. Please indicate your level of satisfaction related to your college experience. How satisfied are you with....

	Not at all satisfied (1)	Slightly satisfied (2)	Moderately satisfied (3)	Very satisfied (4)	Extremely satisfied (5)
your life in general? (1)	❍	❍	❍	❍	❍
the overall quality of student life at your college? (2)	❍	❍	❍	❍	❍
the overall quality of life for you personally at your college? (3)	❍	❍	❍	❍	❍
How satisfied, would you say, most of your friends are with their own overall quality of life at your college? (4)	❍	❍	❍	❍	❍

1. Please indicate your level of satisfaction related to your college experience. How satisfied are you with....

	Not at all satisfied (1)	Slightly satisfied (2)	Moderately satisfied (3)	Very satisfied (4)	Extremely satisfied (5)
the quality of teaching? (1)	❍	❍	❍	❍	❍
use of technology in your classrooms? (2)	❍	❍	❍	❍	❍
classroom locations? (3)	❍	❍	❍	❍	❍
overall student academic workload? (4)	❍	❍	❍	❍	❍
level of difficulty of learning materials? (5)	❍	❍	❍	❍	❍
reputation of the college? (6)	❍	❍	❍	❍	❍

2. Please indicate your level of satisfaction related to your college experience. How satisfied are you with....

	Not at all satisfied (1)	Slightly satisfied (2)	Moderately satisfied (3)	Very satisfied (4)	Extremely satisfied (5)
quality of on-campus housing? (1)	❍	❍	❍	❍	❍
international programs offered? (2)	❍	❍	❍	❍	❍
university support for spiritual life? (3)	❍	❍	❍	❍	❍
selection of social clubs? (4)	❍	❍	❍	❍	❍
the athletics program, overall. (5)	❍	❍	❍	❍	❍
recreational opportunities on campus? (6)	❍	❍	❍	❍	❍

3. Please indicate your level of satisfaction related to your college experience. How satisfied are you with....

	Not at all satisfied (1)	Slightly satisfied (2)	Moderately satisfied (3)	Very satisfied (4)	Extremely satisfied (5)
the library overall? (1)	❍	❍	❍	❍	❍
campus transportation? (2)	❍	❍	❍	❍	❍
overall healthcare services offered? (3)	❍	❍	❍	❍	❍
the campus bookstore? (4)	❍	❍	❍	❍	❍
the availability of technology systems (e.g., computer labs, printers, etc...)? (5)	❍	❍	❍	❍	❍
the recreation center? (6)	❍	❍	❍	❍	❍

SECTION 5.

In this final section, you will be asked general demographic and academic questions. Please remember that your responses are anonymous.

27. What is your gender?
- ❍ Female (1)
- ❍ Male (2)
- ❍ Not listed gender identity. Please specify: (3) _____
- ❍ Prefer not to disclose. (4)

28. What is your current age?

29. What is your racial or ethnic identification?

- ❍ American Indian or Alaska Native (1)
- ❍ Asian (2)
- ❍ Black or African American (3)
- ❍ Hispanic or Latino (4)
- ❍ Native Hawaiian or Other Pacific Islander (5)
- ❍ White (6)
- ❍ Mixed race (7)
- ❍ Other not listed above. Please specify: (8) _____
- ❍ Prefer not to answer (9)

30. According to your earned credits, what is your current academic classification (or, year in school)?

- ❍ Freshman (1)
- ❍ Sophomore (2)
- ❍ Junior (3)
- ❍ Senior (4)

31. What is your current, cumulative GPA?

- ❍ 0.00 - 0.99 (1)
- ❍ 1.00 - 1.99 (2)
- ❍ 2.00 - 2.99 (3)
- ❍ 3.00 - 3.99 (4)
- ❍ 4.00 or higher (5)

32. Have you ever been on academic probation?

- ❍ Yes (1)
- ❍ No (2)

If (1) is selected in Question 32, present:

32a If yes, how many times have you been on academic probation?

33. Have you ever been on the Dean's list?

- ❍ Yes (1)
- ❍ No (2)

If (1) is selected in Question 33, present:

33a If yes, how many times have you been on the Dean's list?

34. Have you ever considered temporarily or permanently stopping progress toward your degree (e.g., taking a break from school; dropping out and not finishing degree)?

- ❍ Yes (1)
- ❍ No (2)

35. Currently, which of the following describe you, if any? (Select all that apply)

- ❑ Student-athlete (1)
- ❑ Honors Student (2)
- ❑ Current or former military member (3)
- ❑ English as a second language (4)
- ❑ First-generation student (5)
- ❑ Transfer student (6)
- ❑ None of the Above (7)

36. Which of the following best describes your current place of residence?

- ❍ Residence Hall (1)
- ❍ Apartment, house, or condo (with or without a roommate) (2)
- ❍ Fraternity/sorority house (3)
- ❍ Live with parents (4)
- ❍ Other (please specify): (5) _____

END Thank you for completing the survey! Your provided responses are extremely valuable. If you would like to provide your email address to participate in a prize raffle for one of ten $20 gift card, which will occur in April 2016, please follow the link below. The submission of your email address is not linked with your survey responses. You will be contacted by Melissa Senior (mmsenior@email.unc.edu) in April if you are a winner! << link >>

APPENDIX D

Results Tables

Table 1.

General undergraduate student population and registered undergraduate SWD by participating institution.

	NCSU	UNCA	UNC-CH	UNCG	Total
Total Enrollment	24,111	3,858	18,415	15,951	62,335
SWD in DO*	987 (4%)	200 (5%)	565 (3%)	1,020 (6%)	2,772 (4%)
Gender					
Male	13,295 (55%)	1,696 (44%)	7,690 (42%)	5,402 (34%)	28,083 (45%)
Female	10,816 (45%)	2,162 (56%)	10,725 (58%)	10,534 (66%)	34,237 (55%)
Ethnicity					
American Indian	83 (<1%)	27 (1%)	105 (1%)	56 (<1%)	271 (<1%)
Asian	1,285 (5%)	56 (2%)	1,841 (10%)	753 (5%)	3,935 (6%)
Black / African American	1,527 (6%)	159 (4%)	1,491 (8%)	4,389 (28%)	7566 (12%)
Hispanic/Latino	1,123 (5%)	188 (5%)	1,386 (8%)	1,194 (7%)	3,891 (6%)
Pacific Islander	20 (<1%)	1 (<1%)	20 (<1%)	19 (<1%)	60 (1%)
White	17,525 (73%)	3,083 (80%)	11,672 (63%)	8,219 (52%)	40,499 (65%)
More than one race	905 (4%)	140 (4%)	800 (4%)	684 (4%)	2,529 (4%)
Other / Unknown	565 (2%)	145 (4%)	631 (3%)	236 (1%)	1,577 (3%)

Source: The Common Data Set, 2015-2016
Note: Numbers in parentheses indicate column percentages.
*Undergraduate SWD registered with the Disability Office.

Table 2.

Demographic information by participating university (N = 306).

	NCSU (*N* = 987)	**UNCA (*N* = 200)**	**UNCG (*N* = 1,020)**	**UNC-CH (*N* = 565)**	**Total (*N* = 2,772)**
*SWD =	109 (11%)	50 (25%)	70 (7%)	77 (14%)	306 (11%)
Gender					
Male	27 (25%)	17 (34%)	21 (30%)	30 (30%)	95 (31%)
Female	77 (71%)	31 (62%)	48 (69%)	45 (58%)	201 (66%)
Non-binary	5 (5%)	1 (2%)	0	1 (1%)	7 (2%)
Not Disclosed	0	1 (2%)	1 (2%)	1 (1%)	3 (1%)
Ethnicity					
American Indian	0	2 (4%)	0	0	2 (1%)
Asian	3 (3%)	2 (4%)	4 (6%)	2 (3%)	11 (4%)
Black / AA	11 (10%)	2 (4%)	1 (1%)	3 (4%)	17 (6%)
Hispanic/Latin	2 (2%)	0	2 (3%)	6 (8%)	10 (3%)
Pacific Islander	0	0	0	0	0
White	82 (75%)	36 (72%)	54 (77%)	58 (75%)	230 (75%)
Multi-race	6 (6%)	3 (6%)	6 (9%)	6 (8%)	21 (7%)
Other	5 (5%)	5 (10%)	3 (4%)	2 (3%)	15 (5%)
Age					
< 24	88 (81%)	46 (92%)	58 (83%)	69 (90%)	261 (85%)
25 – 34	10 (9%)	3 (6%)	9 (13%)	7 (9%)	29 (9%)
> 35	11 (10%)	1 (2%)	3 (4%)	1 (1%)	16 (5%)

Note: Numbers in parentheses indicate column percentages.
* Presented proportion = (*n* / *N*) sample by university.

Table 3.

Academic characteristics by institution (N = 306).

	NCSU	UNCA	UNC-CH	UNCG	Total
N =	109 [36%]	50 [16%]	77 [25%]	70 [23%]	306 [100%]
Academic					
Freshman	26 (24%) [39%]	9 (18%) [14%]	20 (26%) [30%]	11 (16%) [17%]	66 (22%) [100%]
Sophomore	21 (19%) [36%]	8 (16%) [14%]	19 (24%) [32%]	11 (16%) [19%]	59 (19%) [100%]
Junior	30 (28%) [40%]	13 (26%) [17%]	13 (17%) [17%]	19 (27%) [25%]	75 (25%) [100%]
Senior	32 (29%) [31%]	20 (40%) [19%]	25 (32%) [24%]	29 (41%) [27%]	106 (35%) [100%]
GPA					
0.00 – 0.99	6 (6%) [86%]	0	1 (1%) [14%]	0	7 (2%) [100%]
1.00 – 1.99	2 (2%) [40%]	0	3 (4%) [60%]	0	5 (2%) [100%]
2.00 – 2.99	30 (28%) [34%]	20 (40%) [22%]	16 (21%) [18%]	23 (33%) [26%]	89 (29%) [100%]
3.00 – 3.99	66 (61%) [35%]	27 (54%) [14%]	54 (70%) [28%]	44 (63%) [23%]	191 (62%) [100%]
4.00 and above	5 (5%) [36%]	3 (6%) [21%]	3 (4%) [21%]	3 (4%) [21%]	14 (5%) [100%]
Dean's List					
Yes	60 (55%) [36%]	25 (50%) [15%]	37 (48%) [22%]	44 (63%) [27%]	166 (54%) [100%]
No	49 (45%) [35%]	25 (50%) [18%]	40 (52%) [29%]	26 (37%) [19%]	140 (46%) [100%]
Academic Probation					
Yes	17 (16%) [44%]	4 (8%) [10%]	8 (10%) [21%]	10 (14%) [26%]	39 (13%) [100%]
No	92 (84%) [34%]	46 (92%) [17%]	69 (90%) [26%]	60 (86%) [22%]	267 (87%) [100%]

Note: Numbers in parentheses indicate column percentages and brackets indicate row percentages.

Table 4.

Unique student characteristics and current place of residency.

	Frequency	Proportion
Unique Characteristic*		
Athlete	6	1%
Honors student	60	20%
Military	7	<1%
First-generation	39	13%
English as a second language	10	3%
Transfer	80	26%
None Listed	150	49%
Number of Characteristics**	(*n* = 156)	
1	113	72%
2 – 3	43	28%
More than 4	0	0%
Current Place of Residency	(*N* = 306)	
Residence Hall	126	41%
Off-campus Apartment	132	43%
Fraternity/Sorority	2	1%
At-home with parents	35	11%
Other	11	4%

Note: Row percentages were calculated.
* This survey question allows for multiple selections. Proportions were calculated based on the sample size *(N*=306).

Table 5.

Primary (N = 306) and secondary (n = 116) disabilities by gender.

	Female (*n* = 201)	**Male (*n* = 95)**	**NB* (*n* = 7)**	**ND** (*n* = 3)**	**Total (*N* = 306)**
Primary Disability					
ADHD	55 (65%)	26 (31%)	2 (2%)	2 (2%)	85 (28%)
ASD	8 (57%)	6 (43%)	0	0	14 (5%)
HI / Deaf	12 (75%)	3 (18%)	1 (7%)	0	16 (5%)
SLD	25 (63%)	15 (38%)	0	0	40 (13%)
Physical	13 (72%)	5 (28%)	0	0	18 (6%)
VI / Blind	3 (60%)	2 (40%)	0	0	5 (2%)
TBI / PCS	9 (76%)	1 (8%)	1 (8%)	1 (8%)	12 (4%)
CHC	30 (62%)	17 (35%)	1 (3%)	0	48 (16%)
MH	46 (68%)	20 (29%)	2 (3%)	0	68 (22%)
Secondary Disability*	**(*n* = 72)**	**(*n* = 40)**	**(*n* = 4)**	**(*n* = 2)**	**(*n* = 116)**
ADHD	17 (59%)	11 (38%)	1 (3%)	0	29 (25%)
ASD	2 (66%)	1 (33%)	0	0	3 (3%)
HI / Deaf	1 (50%)	1 (50%)	0	0	2 (2%)
SLD	16 (80%)	3 (15%)	1 (5%)	0	20 (17%)
Physical	3 (75%)	1 (25%)	0	0	4 (3%)
VI / Blind	2 (100%)	0	0	0	2 (2%)
TBI / PCS	1 (50%)	1 (50%)	0	0	2 (2%)
CHC	1 (17%)	5 (83%)	0	0	6 (5%)
MH	28 (58%)	16 (33%)	2 (4%)	2 (4%)	48 (16%)

Note: Numbers in parentheses indicate column percentages.
* NB = Non-binary
** ND = Not disclosed

Table 6.

SWD with both a primary and secondary disability (n = 116).

Secondary	**Primary**								
	ADHD	ASD	HI	SLD	Physical	VI	TBI	CHC	MH
ADHD	1*	0	1	13*	1	0	0	1	17
ASD	2	0	0	0	0	1*	0	0	5
HI/Deaf	1	0	0	1	1	1*	0	0	1
SLD	10*	1	0	0	0	0	1	0	4
Physical	0	0	0	0	0	0	0	0	1
VI/Blind	0	1*	0	0	0	0	0	0	0
TBI	1	0	1*	0	0	0	0	0	2
CHC	1	0	0	2	2	0	0	1	10
MH	13	1	0	4	0	0	1	4	8
TOTAL	**29**	**3**	**2**	**20**	**4**	**2**	**2**	**6**	**48**

χ^2 (NA, n = 116) = 133.87, $p < .01$
*Influential cells

Table 7.

Primary and secondary disability diagnosis overview.

	Frequency	Proportion
Primary Disability dx* by…	*N* = 306	100%
Medical Professional	187	61%
Psychologist	97	32%
School System	17	5%
Unsure	4	1%
Not formally diagnosed	1	< 1 %
When was Primary Disability dx?	*n* = 300	100%
Before Elementary school	37	12%
Elementary school	56	19%
Middle school	36	12%
High school	69	23%
Right before or during college	94	31%
Unsure	8	2%
Secondary Disability dx by…	*n* = 116	100%
Medical Professional	57	49%
Psychologist	47	51%
School System	5	4%
Unsure	3	2%
Not formally diagnosed	4	3%
When was Secondary Disability dx?	*n* = 109	100%
Before Elementary school	7	6%
Elementary school	17	16%
Middle school	14	13%
High school	26	24%
Right before or during college	43	39%
Unsure	2	1%

Note: Column proportions are displayed by question.
*dx = diagnosed

Table 8.

Primary (N = 306) and secondary (n = 116) disability by method of diagnosis.

	Medical	Psych*	School	Unsure	Not Dx**	Total
Primary Disability						
ADHD	42 (49%)	37 (44%)	5 (6%)	1 (1%)	0	85 (100%)
ASD	6 (43%)	7 (50%)	0	1 (7%)	0	14 (100%)
HI / Deaf	15 (94%)	0	0	1 (6%)	0	16 (100%)
SLD	8 (20%)	22 (55%)	10 (25%)	0	0	40 (100%)
Physical	17 (94%)	0	0	0	1 (6%)	18 (100%)
VI / Blind	5 (100%)	0	0	0	0	5 (100%)
TBI / PCS	12 (100%)	0	0	0	0	12 (100%)
CHC	48 (100%)	0	0	0	0	48 (100%)
MH	34 (50%)	31 (46%)	2 (3%)	1 (1%)	0	68 (100%)
Secondary Disability						
ADHD	15 (52%)	12 (41%)	1 (3%)	0	1 (3%)	29 (100%)
ASD	1 (33%)	1 (33%)	1 (33%)	0	0	3 (100%)
HI / Deaf	2 (100%)	0	0	0	0	2 (100%)
SLD	7 (35%)	6 (30%)	2 (10%)	3 (15%)	2 (10%)	20 (100%)
Physical	4 (100%)	0	0	0	0	4 (100%)
VI / Blind	2 (100%)	0	0	0	0	2 (100%)
TBI / PCS	2 (100%)	0	0	0	0	2 (100%)
CHC	6 (100%)	0	0	0	0	6 (100%)
MH	18 (38%)	28 (58%)	1 (2%)	0	1 (2%)	48 (100%)

Note: Numbers in parentheses indicate row percentages.
*Private Psychologist
**Dx = diagnosed

Table 9.

Primary (n = 300) and secondary (n = 109) disability by timing of diagnosis.

	Before ES*	Elem school	Middle school	High school	College	Unsure	Total
Primary Disability							
ADHD	5 (6%)	21 (25%)	9 (10%)	18 (21%)	30 (36%)	1 (1%)	84 (100%)
ASD	2 (15%)	4 (31%)	1 (8%)	3 (23%)	2 (15%)	1 (7%)	13 (100%)
HI / Deaf	12 (80%)	1 (7%)	0	1 (7%	1 (7%)	0	15 (100%)
SLD	2 (5%)	16 (41%)	5 (13%)	4 (10%)	12 (31%)	0	39 (100%)
Physical	7 (41%)	2 (12%)	1 (6%)	2 (12%)	3 (18%)	2 (12%)	17 (100%)
VI / Blind	2 (40%)	0	1 (20%)	1 (20%)	1 (20%)	0	5 (100%)
TBI / PCS	0	0	1 (8%)	6 (50%)	5 (42%)	0	12 (100%)
CHC	5 (10%)	8 (17%)	6 (13%)	15 (31%)	14	0	48 (100%)
MH	2 (3%)	4 (6%)	12	19 (28%)	26 (39%)	4 (6%)	67 (100%)
Secondary Disability							
ADHD	2 (7%)	7 (25%)	3 (11%)	8 (29%)	8 (29%)	0	29 (100%)
ASD	0	1 (33%)	0	1 (33%)	1 (33%)	0	3 (100%)
HI / Deaf	0	1 (50%)	0	1 (50%)	0	0	2 (100%)
SLD	2 (13%)	5 (33%)	1 (7%)	1 (7%)	5 (33%)	1 (7%)	20 (100%)
Physical	0	0	1 (25%)	2 (50)	1 (25%)	0	4 (100%)
VI / Blind	1 (50%)	0	1 (50%)	0	0	0	2 (100%)
TBI / PCS	0	0	0	0	2 (100%)	0	2 (100%)
CHC	1 (2%)	0	0	1 (2%)	4 (8%)	0	6 (100%)
MH	1 (2%)	3 (6%)	8 (17%)	12 (26%)	22 (47%)	1 (2%)	48 (100%)

Note: Numbers in parentheses indicate row percentages.
*ES = Elementary School

Table 10.

Student IEP and/or 504 plans in K-12 (N = 306).

	Elementary School	Middle School	High School
Had an IEP			
Yes	58 (19%)	77 (25%)	87 (29%)
No	217 (71%)	201 (66%)	188 (61%)
Unsure	22 (7%)	19 (6%)	22 (7%)
No Response	9 (3%)	9 (3%)	9 (3%)
Had a 504			
Yes	19 (6%)	32 (10%)	67 (22%)
No	217 (71%)	203 (66%)	174 (57%)
Unsure	58 (19%)	59 (19%)	53 (17%)
No Response	12 (4%)	12 (4%)	12 (4%)

Note: Numbers in parentheses indicate column percentages.

Table 11.

IEP plans by academic setting and primary disability category (n = 297).

	Elementary School		Middle School		High School	
ADHD (*n* = 82)	Yes	15 (18%)	Yes	20 (24%)	Yes	20 (24%)
	No	58 (71%)	No	55 (67%)	No	55 (67%)
	Unsure	9 (11%)	Unsure	7 (9%)	Unsure	7 (9%)
ASD (*n* = 14)	Yes	5 (36%)	Yes	9 (64%)*	Yes	10 (71%)*
	No	7 (50%)	No	5 (36%)	No	3 (21%)*
	Unsure	2 (14%)	Unsure	0	Unsure	1 (7%)
HI (*n* = 16)	Yes	7 (44%)*	Yes	7 (44%)	Yes	7 (44%)
	No	8 (50%)	No	8 (50%)	No	7 (44%)
	Unsure	1 (6%)	Unsure	1 (6%)	Unsure	2 (12%)
SLD (n =39)	Yes	14 (35%)*	Yes	17 (44%)*	Yes	16 (41%)
	No	22 (56%)	No	20 (51%)	No	22 (56%)
	Unsure	3 (8%)	Unsure	2 (5%)	Unsure	1 (2%)
Physical (*n* = 17)	Yes	5 (29%)	Yes	6 (35%)	Yes	6 (35%)
	No	12 (71%)	No	11 (65%)	No	11 (65%)
	Unsure	0	Unsure	0	Unsure	0
VI (*n* = 5)	Yes	2 (40%)	Yes	3 (60%)	Yes	3 (60%)
	No	2 (40%)	No	2 (40%)	No	2 (40%)
	Unsure	1 (20%)	Unsure	0	Unsure	0
TBI (*n* = 12)	Yes	0	Yes	0	Yes	3 (25%)
	No	11 (92%)	No	11 (92%)	No	8 (67%)
	Unsure	1 (8%)	Unsure	1 (8%)	Unsure	1 (8%)
CHC (*n* = 45)	Yes	4 (9%)	Yes	7 (16%)	Yes	13 (29%)
	No	39 (87%)	No	34 (76%)	No	27 (60%)
	Unsure	2 (4%)	Unsure	4 (9%)	Unsure	5 (11%)
MH (*n* = 67)	Yes	6 (9%)*	Yes	8 (12%)*	Yes	9 (13%)*
	No	58 (86%)	No	55 (82%)	No	53 (79%)
	Unsure	3 (4%)	Unsure	4 (6%)	Unsure	5 (7%)
	$\chi 2$ (NA, $N = 297$) = 36.66, $p < .001$		$\chi 2$ (NA, $N = 297$) = 39.52, $p < .001$		$\chi 2$ (NA, $N = 297$) = 32.69, $p < .01$	

*Influential cells

Table 12.

504 plan by academic setting and primary disability category (n = 294).

	Elementary School		Middle School		High School	
ADHD (*n* = 80)	Yes	3 (4%)	Yes	8 (10%)	Yes	12 (15%)
	No	57 (71%)	No	55 (69%)	No	54 (68%)
	Unsure	20 (25%)	Unsure	17 (21%)	Unsure	14 (18%)
ASD (*n* = 14)	Yes	2 (14%)	Yes	2 (14%)	Yes	5 (36%)
	No	9 (64%)	No	8 (57%)	No	5 (36%)
	Unsure	3 (21%)	Unsure	4 (29%)	Unsure	4 (29%)
HI (*n* = 16)	Yes	5 (31%)	Yes	5 (31%)	Yes	6 (38%)
	No	8 (50%)	No	8 (50%)	No	7 (43%)
	Unsure	3 (19%)	Unsure	3 (19%)	Unsure	3 (19%)
SLD (*n* = 39)	Yes	2 (5%)	Yes	5 (13%)	Yes	11 (28%)
	No	25 (64%)	No	21 (54%)	No	17 (44%)
	Unsure	12 (31%)	Unsure	13 (33%)	Unsure	11 (28%)
Physical (*n* = 17)	Yes	1 (6%)	Yes	2 (12%)	Yes	5 (29%)
	No	13 (76%)	No	12 (71%)	No	9 (53%)
	Unsure	3 (18%)	Unsure	3 (18%)	Unsure	3 (18%)
VI (*n* = 5)	Yes	0	Yes	0	Yes	1 (20%)
	No	4 (80%)	No	4 (80%)	No	3 (60%)
	Unsure	1 (20%)	Unsure	1 (20%)	Unsure	1 (20%)
TBI (n = 12)	Yes	0	Yes	1 (8%)	Yes	5 (42%)
	No	11 (92%)	No	10 (83%)	No	6 (50%)
	Unsure	1 (8%)	Unsure	1 (8%)	Unsure	1 (8%)
CHC (*n* = 44)	Yes	3 (7%)	Yes	4 (9%)	Yes	14 (32%)
	No	35 (80%)	No	33 (75%)	No	24 (55%)
	Unsure	6 (13%)	Unsure	7 (16%)	Unsure	6 (14%)
MH (*n* = 67)	Yes	3 (4%)	Yes	5 (7%)	Yes	8 (12%)
	No	55 (82%)	No	52 (78%)	No	49 (73%)
	Unsure	9 (13%)	Unsure	10 (15%)	Unsure	10 (15%)

Table 13.

Level of student involvement in high school IEP (n = 84) and/or 504 plan (n = 67) and served disability category by plan.

IEP Involvement	Freq / (*P*)	504 plan Involvement	Freq / (*P*)
Not involved at all	11 (13%)	Not involved at all	4 (6%)
Somewhat involved	22 (26%)	Somewhat involved	12 (18%)
Moderately involved	25 (30%)	Moderately involved	25 (37%)
Very involved	16 (19%)	Very involved	15 (22%)
Extremely involved	10 (12%)	Extremely involved	11 (16%)
Total	**84 (100%)**	**Total**	**67 (100%)**
Disability Served	**Freq / (*P*)**	**Disability Served**	**Freq / (*P*)**
ADHD	21 (25%)	ADHD	15 (22%)
ASD	9 (11%)	ASD	2 (3%)
HI / Deaf	7 (8%)	HI / Deaf	6 (9%)
SLD	20 (24%)	SLD	14 (21%)
Physical	5 (6%)	Physical	5 (7%)
VI / Blind	4 (5%)	VI / Blind	2 (3%)
TBI / PCS	2 (2%)	TBI / PCS	4 (6%)
CHC	11 (13%)	CHC	15 (22%)
MH	5 (6%)	MH	4 (6%)
Total	**84 (100%)**	**Total**	**67 (100%)**

Note: Numbers in parentheses indicate column percentages by question.

Table 14.

Level of IEP involvement (n = 84) by primary disability category.

	Not at all involved	**Slightly involved**	**Some-what involved**	**Moderately involved**	**Extremely involved**	**TOTAL**
ADHD	4 [19%] (36%)	3 [33%] (31%)	6 [33%] (28%)	4 [5%] (6%)	2 [10%] (20%)	**19** **[100%]**
ASD	1 [11%] (9%)	3 [33%] (14%)	2 [22%] (8%)	3 [33%] (19%)	0	**9** **[100%]**
HI	2 [29%] (18%)	1 [14%] (5%)	1 [14%] (4%)	1 [14%] (6%)	2 [29%] (20%)	**7** **[100%]**
SLD	1 [5%] (9%)	5 [25%] (23%)	8 [40%] (32%)	5 [25%] (31%)	1 [5%] (10%)	**20** **[100%]**
Physical	0	3 [60%] (14%)	0	1 [20%] (6%)	1 [20%] (10%)	**5** **[100%]**
VI	0	0	3 [75%] (12%)	0	1 [25%] (10%)	**4** **[100%]**
TBI	1 [50%] (9%)	1 [50%] (5%)	0	0	0	**2** **[100%]**
CHC	2 [18%] (18%)	1 [9%] (5%)	2 [18%] (8%)	3 [27%] (19%)	3 [27%] (30%)	**11** **[100%]**
MH	0	1 [20%] (5%)	2 [40%] (8%)	2 [40%] (13%)	0	**5** **[100%]**
TOTAL	**11** **(100%)**	**22** **(100%)**	**25** **(100%)**	**16** **(100%)**	**10** **(100%)**	**84** **100%**

Note: Numbers in parentheses indicate column percentages and numbers in brackets indicate row percentages.

Table 15.

Level of 504 plan involvement (n = 67) by primary disability category.

	Not at all involved	**Slightly involved**	**Some-what involved**	**Moderately involved**	**Extremely involved**	**TOTAL**
ADHD	0	3 [20%] (25%)	6 [40%] (24%)	4 [30%] (27%)	2 [10%] (18%)	**15 [100%]**
ASD	1 [50%] (25%)	1 [50%] (8%)	0	0	0	**2 [100%]**
HI	0	0	1 [17%] (4%)	2 [33%] (13%)	3 [50%] (27%)	**6 [100%]**
SLD	1 [7%] (25%)	1 [7%] (8%)	9 [64%] (36%)	2 [14%] (13%)	1 [7%] (9%)	**14 [100%]**
Physical	0	1 [20%] (8%)	2 [40%] (8%)	2 [40%] (13%)	0	**5 [100%]**
VI	0	0	1 [50%] (4%)	0	1 [50%] (9%)	**2 [100%]**
TBI	0	1 [25%] (8%)	3 [75%] (12%)	0	0	**4 [100%]**
CHC	2 [13%] (50%)	3 [20%] (25%)	3 [20%] (12%)	3 [20%] (20%)	4 [27%] (36%)	**15 [100%]**
MH	0	2 [50%] (17%)	0	2 [50%] (13%)	0	**4 [100%]**
TOTAL	**4 (100%)**	**12 (100%)**	**25 (100%)**	**15 (100%)**	**11 (100%)**	**67 100%**

Note: Numbers in parentheses indicate column percentages and numbers in brackets indicate row percentages.

Table 16.

K-12 disability-related accommodations received by accommodation category (N = 306).

Accommodations		
Test-taking	127 (42%)	
Classroom	90 (29%)	
Individual	66 (22%)	
Unsure	47 (15%)	
None received	80 (26%)	
Test Taking		**Other:**
Extended time	113 (36%)	E.g., Alternative to scantron, large print, flexibility with makeup exams, open notes for tests, multiple breaks, and read aloud.
Separate setting	85 (28%)	
Computer use	27 (9%)	
Other:	17 (6%)	
Classroom		**Other:**
Flexibility with attendance	31 (10%)	E.g., Preferential seating, captioned videos, food/drink availability, bathroom breaks when needed, cued speech translator, modified course work, and reduced course load.
Extended time on assignments	51 (17%)	
Note-taking assistance	34 (11%)	
Sign-language interpreter	3 (1%)	
Alternative materials	11 (4%)	
Other:	20 (7%)	
Individual		**Other:**
Assistive Technology	25 (8%)	E.g., FM amplifier system, flexibility with class attendance, alternative methods for in-class speaking, closed captioning.
Textbook modifications	22 (7%)	
Physical environment modifications	12 (4%)	
Other:	25 (8%)	

Note: Numbers in parentheses indicate proportion calculated by sample size.

Table 17.

Type and rate of support resources used during the last year of high school (N = 306).

Resource Type	Never	1-2 times	3–5	6-10 times	> 10 times
Tutoring	188 (61%)	33 (11%)	34 (11%)	11 (4%)	40 (13%)
Extra time; teachers	153 (50%)	37 (12%)	42 (14%)	21 (7%)	53 (17%)
Academic coaching	264 (86%)	20 (7%)	6 (2%)	4 (1%)	12 (4%)
External education center	286 (94%)	7 (2%)	4 (1%)	4 (1%)	5 (2%)

Note: Numbers in parentheses indicate row percentages.

Table 18.

Levels of disability-related concerns prior to entering college (N = 306).

Transition Concern (TC)	Not at all Concerned	Slightly Concerned	Somewhat Concerned	Moderately Concerned	Extremely Concerned
TC academic	62 (20%)	40 (13%)	66 (22%)	58 (19%)	80 (26%)
TC social	83 (27%)	35 (11%)	97 (32%)	41 (13%)	50 (16%)
TC living	93 (30%)	32 (11%)	116 (38%)	29 (10%)	36 (12%)

Note: Numbers in parentheses indicate row percentages.

Table 19.

Levels of agreement with disability-related self-awareness prior to entering college (N = 306).

Transition Self-awareness (TS)	Strongly Disagree	Disagree	Neither A / D	Agree	Strongly Agree
TS understand	25 (8%)	49 (16%)	50 (16%)	115 (38%)	67 (22%)
TS explain	31 (10%)	54 (18%)	48 (16%)	116 (38%)	57 (19%)
TS advocate	32 (11%)	59 (19%)	66 (22%)	102 (33%)	47 (15%)

Note: Numbers in parentheses indicate row percentages.

Table 20.

Timing of college disability registration by primary disability category (N = 306).

	Fresh.	Soph.	Junior	Senior	Unsure	TOTAL
ADHD	43 [50%] (24%)	16 [19%] (29%)	18 [21%] (34%)	5 [6%] (45%)	3 [4%] (43%)	**85 [100%]**
ASD	9 [64%] (5%)	2 [14%] (4%)	2 [14%] (4%)	1 [7%] (9%)	0	**14 [100%]**
HI	10 [63%] (6%)	4 [25%] (7%)	2 [13%] (4%)	0	0	**16 [100%]**
SLD	25 [63%] (14%)	9 [23%] (16%)	5 [13%] (11%)	1 [2%] (9%)	0	**40 [100%]**
Physical	12 [67%] (7%)	2 [11%] (4%)	3 [17%] (6%%)	0	1 [6%] (14%)	**18 [100%]**
VI	2 [40%] (1%)	1 [20%] (2%)	2 [40%] (4%)	0	0	**5 [100%]**
TBI	6 [50%] (3%)	4 [33%] (7%)	1 [8%] (2%)	0	1 [8%] (14%)	**12 [100%]**
CHC	31 [65%] (17%)	6 [13%] (11%)	10 [21%] (19%)	1 [2%] (9%)	0	**48 [100%]**
MH	41 [60%] (23%)	12 [18%] (21%)	10 [15%] (19%)	3 [4%] (27%)	2 [3%] (29%)	**68 [100%]**
TOTAL	**179 [58%] (100%)**	**56 [18%] (100%)**	**53 [17%] (100%)**	**11 [4%] (100%)**	**7 [2%[(100%)**	**306 [100%] 100%**

Note: Numbers in parentheses indicate column percentages and numbers in brackets indicate row percentages.

Table 21.

*Frequency of Disability Office service use by year of disability registration (*N = *306).*

	Fresh.	**Soph.**	**Junior**	**Senior**	**Unsure**	**TOTAL**
Never	23	6	6	0	2	**37**
	[62%]	[16%]	[16%]		[5%]	**[100%]**
	(13%)	(11%)	(11%)		(29%)	**(12%)**
1 – 2 times	14	12	8	3	2	**39**
	[36%]	[30%]	[21%]	[8%]	[5%]	**[100%]**
	(8%)	(21%)	(15%)	(27%)	(29%)	**(13%)**
3 – 5 times	32	14	7	2	1	**56**
	[57%]	[25%]	[13%]	[4%]	[2%]	**[100%]**
	(18%)	(25%)	(13%)	(18%)	(14%)	**(18%)**
6 – 10 times	28	9	11	3	0	**51**
	[55%]	[18%]	[22%]	[6%]		**[100%]**
	(17%)	(16%)	(20%)	(27%)		**(17%)**
> 10 times	82	15	21	3	2	**123**
	[67%]	[12%]	[17%]	[2%]	[2%]	**[100%]**
	(46%)	(27%)	(40%)	(27%)	(29%)	**(40%)**
TOTAL	**179**	**56**	**53**	**11**	**7**	**306**
	[58%]	**[18%]**	**[17%]**	**[3%]**	**[2%]**	**[100%]**
	(100%)	**(100%**	**(100%)**	**(100%)**	**(100%)**	**(100%)**

Note: Numbers in parentheses indicate column percentages and numbers in the brackets indicate row percentages.

Table 22.

Usefulness of Disability Office services by year of disability registration (*N = 306)*

	Fresh.	**Soph.**	**Junior**	**Senior**	**Unsure**	**TOTAL**
Not at all useful	6	4	2	0	2	**14**
	[42%]	[29%]	[14%]		[14%]	**[100%]**
	(3%)	(7%)	(4%)		(29%)	**(5%)**
Slightly useful	15	3	3	1	1	**23**
	[65%]	[13%]	[13%]	[4%]	[4%]	**[100%]**
	(8%)	(5%)	(6%)	(9%)	(14%)	**(8%)**
Somewhat useful	24	4	5	1	0	**34**
	[71%]	[12%]	[15%]	[3%]		**[100%]**
	(14%)	(7%)	(9%)	(9%)		**(11%)**
Moderately useful	36	13	15	2	1	**67**
	[54%]	[19%]	[22%]	[3%]	[1%]	**[100%]**
	(20%)	(23%)	(28%)	(18%)	(14%)	**(22%)**
Extremely useful	98	32	28	7	3	**168**
	[58%]	[19%]	[17%]	[4%]	[2%]	**[100%]**
	(55%)	(57%)	(53%)	(64%)	(43%)	**(55%)**
TOTAL	**179**	**56**	**53**	**11**	**7**	**306**
	[58%]	**[18%]**	**[17%]**	**[4%]**	**[2%]**	**[100%]**
	(100%)	**(100%)**	**(100%)**	**(100%)**	**(100%)**	**(100%)**

Note: Numbers in parentheses indicate column percentages and numbers in the brackets indicate row percentages.

Table 23.

Satisfaction with Disability Office services by year of disability registration.

	Fresh.	**Soph.**	**Junior**	**Senior**	**Unsure**	**TOTAL**
Not at all satisfied	4 [30%] (2%)	3 [23%] (5%)	3 [23%] (6%)	0	3* [23%] (43%)	**13** **[100%]** **(4%)**
Slightly satisfied	6 [46%] (3%)	3 [23%] (5%)	2 [15%] (4%)	1 [7%] (9%)	1 [7%] (14%)	**13** **[100%]** **(4%)**
Somewhat satisfied	26 [60%] (15%)	9 [20%] (16%)	5 [12%] (9%)	3 [7%] (27%)	0	**43** **[100%]** **(14%)**
Moderately satisfied	54 [65%] (30%)	10 [12%] (18%)	15 [18%] (28%)	3 [3%] (27%)	0	**82** **[100%]** **(27%)**
Extremely satisfied	89 [57%] (50%)	11 [7%] (55%)	28 [18%] (53%)	4 [2%] (36%)	3 [2%] (43%)	**155** **[100%]** **(51%)**
TOTAL	**179** **[58%]** **(100%)**	**56** **[18%]** **(100%)**	**53** **[17%]** **(100%)**	**11** **[4%]** **(100%)**	**7** **[2%]** **(100%)**	**306** **[100%]** **(100%)**

Note: Numbers in parentheses indicate column percentages by question and numbers in the brackets indicate row percentages

χ^2 (NA, $N = 306$) = 38.48, $p < 0.01$

*Influential cells

Table 24.

Reported individuals who played a role in student Disability Office registration (N = 306).

	Frequency	Proportion
Reported Individual(s)		
Family Member	197	64%
Friend	46	15%
High school staff member	47	15%
College staff member	105	34%
I made the decision on my own	63	21%
Number of different individuals who played a role *		
0	63	21%
1	127	41%
2	84	27%
3	28	9%
4	4	1%

*Students were allowed to select all choices that applied. Proportions were calculated by sample size ($N = 306$).

Table 25.

Reported individuals who played a role in student Disability Office registration by disability category (N = 306).

	Family Member	**Friend**	**HS Staff**	**College Staff**	**Made own decision**	**TOTAL**
ADHD	53 (63%)	17 (20%)	12 (14%)	29 (34%)	19 (22%)	**85 (100%)**
ASD	12 (86%)	2 (14%)	1 (7%)	4 (29%)	0	**14 (100%)**
HI	11 (69%)	3 (19%)	2 (13%)	3 (19%)	4 (25%)	**16 (100%)**
SLD	26 (65%)	1 (2%)	6 (15%)	16 (40%)	7 (18%)	**40 (100%)**
Physical	12 (67%)	3 (17%)	3 (17%)	6 (33%)	4 (22%)	**18 (100%)**
VI	5 (100%)	1 (20%)	1 (20%)	2 (40%)	0	**5 (100%)**
TBI	8 (67%)	2 (17%)	3 (25%)	7 (58%)	2 (17%)	**12 (100%)**
CHC	31 (65%)	6 (13%)	8 (17%)	11 (23%)	11 (23%)	**48 (100%)**
MH	39 (57%)	11 (16%)	11 (16%)	27 (56%)	16 (24%)	**68 (100%**

Note: Percentages in the parentheses indicate row percentages.

Table 26.

College disability-related accommodations received by accommodation category (N = 306).

Accommodations		
Test-taking	231 (75%)	
Classroom	122 (40%)	
Individual	107 (35%)	
Unsure	22 (1%)	
Test Taking		**Other:**
Extended time	215 (70%)	E.g., Flexibility with makeup exams, multiple breaks, stop clock, ear plugs, read aloud, use of assistive technology (i.e., CCTV), speech-to-text options.
Separate setting	179 (58%)	
Computer use	28 (10%)	
Other:	19 (6%)	
Classroom		**Other:**
Flexibility with attendance	38 (12%)	E.g., Preferential seating, assistive technology (i.e., Smartpen), extended time on classwork, laptop use, and service animal.
Extended time on assignments	45 (15%)	
Note-taking assistance	58 (19%)	
Sign-language interpreter	4 (1%)	
Alternative materials	19 (6%)	
Other:	25 (8%)	
Individual		**Other:**
Assistive Technology	68 (22%)	E.g., Flexibility with class attendance, housing-based accommodations (e.g., emotional support animal), meal-plan waiver, reduced course load waiver, and priority class registration.
Textbook modifications	20 (7%)	
Physical environment modifications	15 (5%)	
Other:	33 (11%)	

Note: Students were allowed to choose multiple answers. Therefore, numbers in parentheses indicate proportion calculated by total sample size *(N* = 306).

Table 27.

Type and rate of support resources used during the past year in college (N = 306).

Resource Type	Never	1-2 times	3–5 times	6-10 times	> 10 times
Academic Advising	33 (11%)	134 (44%)	104 (34%)	24 (8%)	11 (4%)
Academic Support Center	165 (54%)	55 (18%)	43 (14%)	24 (8%)	19 (6%)
Campus Health	101 (33%)	95 (31%)	70 (22%)	22 (7%)	18 (6%)
Career Counseling	183 (60%)	97 (32%)	21 (7%)	3 (1%)	2 (1%)
Counseling Center	179 (59%)	57 (19%)	30 (10%)	22 (7%)	18 (6%)
Financial Aid	140 (46%)	103 (34%)	45 (15%)	8 (3%)	10 (3%)
Writing Support	221 (72%)	51 (17%)	22 (7%)	4 (1%)	8 (3%)

Note: Numbers in parentheses indicate row percentages.

Table 28.

Current levels of disability-related concerns (N = 306).

Current Concerns (CC)	Not at all Concerne	Slightly Concerned	Somewhat Concerned	Moderately Concerned	Extremely Concerned
CC academic	43 (14%)	64 (21%)	67 (22%)	79 (26%)	53 (17%)
CC social	88 (29%)	36 (12%)	104 (34%)	51 (17%)	27 (8%)
CC living	101 (33%)	39 (13%)	121 (40%)	23 (8%)	22 (7%)

Note: Numbers in parentheses indicate row percentages.

Table 29.

Current levels of agreement with disability-related self-awareness (N = 306).

Current Self-awareness (CS)	Strongly Disagree	Disagree	Neither A / D	Agree	Strongly Agree
CS understand	4 (1%)	5 (2%)	22 (7%)	134 (44%)	141 (46%)
CS explain	5 (2%)	16 (5%)	26 (9%)	131 (43%)	128 (42%)
CS advocate	9 (3%)	12 (4%)	44 (14%)	137 (45%)	104 (34%)

Note: Numbers in parentheses indicate row percentages.

Table 30.

Student responses: “Have you ever considered temporarily or permanently dropping out of college?” by disability category and gender.

Disability	**Yes**	**No**
ADHD	48 (56%)	37 (44%)
ASD	6 (43%)	8 (57%)
HI / Deaf	5 (31%)	11 (67%)
SLD	25 (63%)	15 (37%)
Physical	9 (50%)	9 (50%)
VI / Blind	4 (80%)	1 (20%)
TBI / PCS	7 (58%)	5 (42%)
CHC	26 (54%)	22 (46%)
MH	33 (49%)	35 (51%)
TOTAL	**163 (53%)**	**143 (47%)**
Gender	**Yes**	**No**
Male	49 (52%)	46 (48%)
Female	107 (52%)	94 (48%)
Non-binary	4 (57%)	3 (43%)
Not disclosed	3 (100%)	0
TOTAL	**163 (53%)**	**143 (47%)**

Note: Percentages in the parentheses indicate row percentages.

Table 31.

Results of chi-square test of association for gender and timing of disability registration.

	Timing of Disability Registration					
	Fresh.	Soph.	Junior	Senior	Unsure	**TOTAL**
Female	115 [57%] (64%)	41 [20%] (73%)	33 [16%] (62%)	7 [3%] (64%)	5 [2%] (71%)	**201** **[100%]**
Male	61 [64%] (34%)	13 [14%] (23%)	17 [18%] (32%)	4 [4%] (36%)	0	**95** **[100%]**
Non-binary	2 [29%] (1%)	2 [29%] (3%)	1 [14%] (2%)	0	2 * [29%] (28%)	**7** **[100%]**
Not disclosed	1 [33%] (<1%)	0	2 * [66%] (4%)	0	0	**3** **[100%]**
TOTAL	**179** **(100%)**	**56** **(100%)**	**53** **(100%)**	**11** **(100%)**	**7** **(100%)**	**306**

Note: Numbers in parentheses indicate column percentages and numbers in brackets indicate row percentages.
$\chi 2$ (NA, $N = 306$) = 32.77, $p < .01$
*Influential cells

Table 32.

Results of chi-square test of association for TC social and timing of disability registration.

	Timing of Disability Registration					
	Fresh.	Soph.	Junior	Senior	Unsure	**TOTAL**
Not at all concerned	33* [40%] (18%)	23* [28%] (41%)	22* [27%] (42%)	4 [5%] (36%)	1 [1%] (14%)	**83 [100%] (27%)**
Slightly concerned	24 [69%] (13%)	4 [11%] (7%)	5 [14%] (9%)	1 [2%] (9%)	1 [2%] (14%)	**35 [100%] (11%)**
Somewhat concerned	69 [71%] (39%)	11 [11%] (20%)	14 [14%] (26%)	1 [1%] (9%)	2 [2%] (29%)	**97 [100%] (32%)**
Moderately concerned	28 [68%] (17%)	9 [22%] (16%)	2 [5%] (4%)	2 [5%] (18%)	0	**41 [100%] (13%)**
Extremely concerned	25 [50%] (14%)	9 [18%] (16%)	10 [20%] (19%)	3 [6%] (27%)	3 [6%] (43%)	**50 [100%] (16%)**
TOTAL	**179 (100%)**	**56 (100%)**	**53 (100%)**	**11 (100%)**	**7 (100%)**	**306**

Note: Numbers in parentheses indicate column percentages and numbers within brackets indicate row percentages.
χ^2 (NA, $N = 306$) = 33.49, $p < .001$
*Influential cells

Table 33.

Results of chi-square test of association for TC living and timing of disability registration.

	Timing of Disability Registration					
	Fresh.	Soph.	Junior	Senior	Unsure	**TOTAL**
Not at all concerned	39* [42%] (22%)	25 [27%] (45%)	21 [23%] (40%)	6 [6%] (55%)	2 [2%] (29%)	**93 [100%] (30%)**
Slightly concerned	21 [66%] (12%)	3 [9%] (5%)	7 [22%] (13%)	1 [3%] (9%)	0	**32 [100%] (10%)**
Somewhat concerned	81 [70%] (45%)	16 [14%] (29%)	16 [14%] (30%)	1 [1%] (9%)	2 [2%] (29%)	**116 [100%] (38%)**
Moderately concerned	21 [72%] (12%)	5 [17%] (9%)	2 [7%] (3%)	1 [3%] (9%)	0	**29 [100%] (9%)**
Extremely concerned	17 [47%] (9%)	7 [19%] (13%)	7 [19%] (13%)	2 [6%] (18%)	3* [8%] (43%)	**36 [100%] (12%)**
TOTAL	**179 (100%)**	**56 (100%)**	**53 (100%)**	**11 (100%)**	**7 (100%)**	**306**

Note: Numbers in parentheses indicate column percentages and numbers within brackets indicate row percentages.
χ^2 (NA, $N = 306$) = 32.25, $p < .01$
*Influential cells

Table 34.

Results of chi-square test of association for TS understand and timing of disability registration.

	Timing of Disability Registration					
	Fresh.	Soph.	Junior	Senior	Unsure	**TOTAL**
Strongly Disagree	2* [8%] (1%)	10* [40%] (18%)	11* [40%] (21%)	1 [4%] (9%)	1 [4%] (14%)	**25** **[100%]** **(30%)**
Disagree	23 [47%] (13%)	11 [22%] (20%)	12 [25%] (23%)	2 [4%] (18%)	1 [2%] (14%)	**49** **[100%]** **(16%)**
Neither A or D	28 [56%] (16%)	9 [18%] (16%)	8 [16%] (15%)	1 [2%] (9%)	4* [8%] (57%)	**50** **[100%]** **(38%)**
Agree	79 [69%] (44%)	18 [16%] (32%)	13 [11%] (25%)	4 [4%] (36%)	1 [1%] (14%)	**115** **[100%]** **(9%)**
Strongly Agree	47 [70%] (26%)	8 [12%] (14%)	9 [13%] (17%)	3 [5%] (27%)	0	**67** **[100%]** **(12%)**
TOTAL	**179** **(100%)**	**56** **(100%)**	**53** **(100%)**	**11** **(100%)**	**7** **(100%)**	**306**

Note: Numbers in parentheses indicate column percentages and numbers within brackets indicate row percentages.
χ^2 (NA, $N = 306$) = 49.81, $p < .0001$
*Influential cells

Table 35.

Results of chi-square test of association for TS explain and timing of disability registration.

	Timing of Disability Registration					
	Fresh.	Soph.	Junior	Senior	Unsure	**TOTAL**
Strongly Disagree	5* [16%] (3%)	11* [36%] (20%)	14* [45%] (26%)	0	1 [3%] (14%)	**31** **[100%]** **(10%)**
Disagree	30 [56%] (17%)	10 [19%] (18%)	8 [15%] (15%)	3 [6%] (27%)	3 [5%] (43%)	**54** **[100%]** **(18%)**
Neither A or D	23 [48%] (13%)	9 [19%] (16%)	11 [23%] (21%)	3 [6%] (27%)	2 [4%] (29%)	**48** **[100%]** **(16%)**
Agree	87* [75%] (49%)	19 [16%] (34%)	7* [6%] (13%)	2 [2%] (18%)	1 [1%] (14%)	**116** **[100%]** **(38%)**
Strongly Agree	34 [60%] (19%)	7 [12%] (13%)	13 [23%] (25%)	3 [5%] (27%)	0	**57** **[100%]** **(18%)**
TOTAL	**179** **(100%)**	**56** **(100%)**	**53** **(100%)**	**11** **(100%)**	**7** **(100%)**	**306**

Note: Numbers in parentheses indicate column percentages and numbers within brackets indicate row percentages.
χ^2 (NA, $N = 306$) = 56.67, $p < .0001$
*Influential cells

Table 36.

Results of chi-square test of association for TS advocate and timing of disability registration (N=306).

	Timing of Disability Registration					
	Fresh.	Soph.	Junior	Senior	Unsure	**TOTAL**
Strongly Disagree	3* [9%] (2%)	11* [34%] (20%)	15* [47%] (28%)	2 [6%] (18%)	1 [3%] (14%)	**32** **[100%]** **(10%)**
Disagree	37 [63%] (21%)	10 [17%] (18%)	9 [15%] (17%)	2 [3%] (18%)	1 [2%] (14%)	**59** **[100%]** **(19%)**
Neither A or D	32 [49%] (18%)	10 [24%] (29%)	15 [23%] (28%)	0	3 [5%] (43%)	**66** **[100%]** **(22%)**
Agree	76* [75%] (43%)	13 [13%] (23%)	8* [8%] (15%)	3 [3%] (27%)	2 [2%] (28%)	**102** **[100%]** **(33%)**
Strongly Agree	31 [66%] (17%)	6 [13%] (11%)	6 [13%] (11%)	4 [9%] (36%)	0	**47** **[100%]** **(15%)**
TOTAL	**179** **(100%)**	**56** **(100%)**	**53** **(100%)**	**11** **(100%)**	**7** **(100%)**	**306**

Note: Numbers in parentheses indicate column percentages and numbers within brackets indicate row percentages.
χ^2 (NA, N = 306) = 60.10, p < .0001
*Influential cells

Table 37.

Multiple regression analysis of student characteristics on Quality of College Life.

Variable	Estimate	*SE*	*p*	*F*	R^2
				17.81	0.221
Frequency	-1.083	0.625	0.084		
Usefulness	4.266	0.776	< 0.001		
CC social	-2.217	0.549	< 0.001		
CS understand	3.787	1.029	0.0003		
CS advocate	1.559	0.869	0.073		

$p = < 0.05$

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