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**THE PREDICTABILITY OF SELECTED SOCIAL, ACADEMIC, AND  
INSTITUTIONAL FACTORS ON ACADEMIC ACCOMMODATIONS OF  
COLLEGE STUDENTS WITH DISABILITIES**

DISSERTATION

Presented in Partial Fulfillment of the Requirements for  
the Doctor of Education Degree in the Graduate School  
of Texas Southern University

By

J'Naudia D. Hunter-Phillips, B.A., M.S.

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2023

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THE PREDICTABILITY OF SELECTED SOCIAL, ACADEMIC, AND  
INSTITUTIONAL FACTORS ON ACADEMIC ACCOMMODATIONS OF COLLEGE  
STUDENTS WITH DISABILITIES

By

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Texas Southern University

Dr. Danita Bailey-Samples, Advisor

The purpose of this study was to examine the predictability of selected social, academic, and institutional variables on the acceptance of academic accommodations among undergraduate college students with disabilities. Specifically, this study was concerned with the predictable relationship between the social, academic, and institutional variables of ethnicity, gender, SES, GPA, major area of study, faculty support and disability services, and the acceptance of academic accommodations of undergraduate college students.

A predictive correlational research design was employed in the study. To participate in the study, two hundred sixteen (216) undergraduate college students were selected using the purposive sampling technique. To test the hypothesis, pre-existing data were generated by the participating institution's Office of Institutional Research to test the hypotheses.

Furthermore, the data were analyzed in the study by utilizing the Binary Logistic

Regression procedure.

The following conclusions were generated from the results of the study:

1. In general, a binary regression model developed to correctly predict the acceptance of academic accommodations among undergraduate college students with disabilities should not include the social variables of ethnicity, gender, SES, and type of disability.
2. It appeared that undergraduate college students with a medical disability were almost twice as likely to accept academic accommodations than those with physical or learning disabilities.
3. Undergraduate college students with disabilities who were STEM majors were 2.12 times more likely to accept academic accommodations than those who were non-STEM majors.
4. In general, the odds of undergraduate college students with disabilities accepting academic accommodations were significantly higher when academic variables GPA and major area of study were included in the binary logistic model.
5. Any attempt to increase the odds of acceptance of academic accommodations among undergraduate college students with disabilities should include the institutional variables of faculty support and disability services.
6. Finally, it appeared that undergraduate college students with disabilities who received a moderate level of faculty support were 2.79 times more likely to accept academic accommodations than those who received a low level of faculty support.

## TABLE OF CONTENTS

	Page
LIST OF TABLES.....	vi
VITA.....	viii
ACKNOWLEDGMENTS .....	ix
DEDICATION.....	xi
CHAPTER	
1. INTRODUCTION.....	1
Statement of the Problem.....	2
Purpose of the Study.....	3
Significance of the Study.....	4
Theoretical Framework.....	5
Research Hypotheses.....	6
Assumptions.....	7
Limitations/Delimitations.....	7
Definitions of Terms and Variables.....	8
Organization of the Study.....	9
2. LITERATURE REVIEW.....	11
Laws Regarding Students with Disabilities.....	11
Ethnicity.....	14
Gender.....	16
Socio-Economic Status.....	21
Disability Type.....	23

GPA.....	27
Major Area of Study.....	30
Standardized Tests.....	31
Institutional Factors.....	33
Faculty Training.....	34
Faculty Support.....	38
Disability Services.....	43
Summary.....	47
3. METHODOLOGY.....	49
Type of Research Design.....	49
Population Research Setting.....	50
Sampling Procedures.....	51
Source of Data.....	51
Data Collection Procedures.....	52
Identification of the Independent and Dependent Variables.....	53
Null Hypotheses.....	53
Statistical Analysis.....	54
Testing of Statistical Assumptions.....	55
4. DATA ANALYSIS.....	56
Social-Demographic Profile of the College Students in the Study.....	57
Gender.....	57
Ethnicity.....	58
Socio-Economic Status.....	58



Type of Disability.....	59
Academic Major.....	60
Faculty Support.....	60
Disability Services.....	61
Testing of the Hypotheses.....	61
Summary of Hypotheses.....	68
5. SUMMARY, FINDINGS, DISCUSSION, CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS.....	70
Summary.....	70
Findings.....	71
Discussion.....	72
Conclusions.....	75
Implications.....	76
Recommendations for Further Study.....	78
REFERENCES.....	79

## LIST OF TABLES

Table	Page
1. Frequency Distribution of Participants by Gender.....	57
2. Frequency Distribution of Participants by Ethnicity.....	58
3. Frequency Distribution of Participants by Socio-Economic Status.....	59
4. Frequency Distribution of Participants by Type of Disability.....	59
5. Frequency Distribution of Participants by Academic Major.....	60
6. Frequency Distribution of Participants by Faculty Support.....	61
7. Frequency Distribution of Participants by Disability Services.....	61
8. Overall Model Fit Results Regarding the Predictable Relationship Between Social Variables and Academic Accommodations.....	62
9. Clarification Table Results Regarding Academic Accommodations by College Readiness.....	63
10. Regression Coefficients Regarding the Relationship Between Social Factors and Academic Accommodations.....	64
11. Overall Model Fit Results Regarding the Relationship Between Academic Variables and Academic Accommodations.....	65
12. Classification Table Results Regarding Persistence Academic Accommodations....	65
13. Regression Coefficients Regarding the Relationship Between Academic Factors and Academic Accommodations.....	66
14. Overall Model Fit Results Regarding the Predictable Relationship Between Institutional Variables and Academic Accommodations.....	67
15. Classification Table Results Regarding Academic Accommodations.....	67

16. Regression Coefficients Regarding the Relationship Between Institutional Factors and Academic Accommodations.....	68
17. Summary Table of Hypotheses Tested.....	69

## VITA

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Dr. Jamison Hunter, my baby brother and best friend, and sister in love Dr. Patrice Hunter, nieces Jamie D., and Janae D., and nephew Jamison II, I love you all, and pray that you know it. Thank you for encouraging me and motivating me.

Mama (Deloris Hytche), as the tears continue to fall, I am grateful to God for you. You are our ROCK. The love of a grandmother is unmatched and as my only living grandparent you made sure that I was able to keep doing what I needed to, THANK YOU! You and Auntie (Jaqueta Simms) moved to a state you knew nothing about to continue to help raise Kaitlyn and have your "best friend" with you at all times. I appreciate all that you have done and are doing because without you two helping me this would have been impossible.

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## DEDICATION

This document is dedicated to my daughter Kaitlyn Hunter Phillips. Kaitlyn, mommy appreciates you so much. Always know that you were the wind beneath my wings that propelled me to complete this dissertation so that I could be called “Dr. Mommy.” You are my shining star, the air I breathe and the beat of my heart. This degree is yours. Please know that you are the reason that I kept going. You sacrificed the most. There were times I wanted to give up, but your face reminded me that quitting was not an option. I challenge you to remember what Dory said on Finding Nemo...” KEEP SWIMMING.” When you feel like giving up, remember, mommy did this and you can too. Thank you for never complaining, but rather adapting to my physical absence over the years. The best is yet to come and I promise you will reap all the benefits of your sacrifice. “Munchkin” aka “stinka bottom” ...THIS ONE IS FOR YOU!

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## **CHAPTER 1**

### **INTRODUCTION**

Increasingly, students with disabilities can be seen on college and university campuses. The rise in enrollment of these students in higher education is due in part to federally imposed acts that grant students with disabilities certain educational rights. According to the Americans with Disabilities Amendment Act (2008) and Section 504 of the Rehabilitation Act (1973), postsecondary students with disabilities are entitled to academic accommodations. These laws were enacted to protect students with disabilities from discriminatory practices by providing them access to educational opportunities comparable with that of their peers without disabilities (Lovett, 2014).

The pursuit of a higher education by students with disabilities is fraught with several challenges. Fortunately, accommodations are available to ensure that they can attend higher education institutions. It has been well documented that providing accommodations to students with disabilities improves their grades (Troiano, Liefeld, & Trachtenberg, 2010) and their persistence to graduation (Mamiseishvili & Koch, 2011). As a result, postsecondary institutions are now able to better accommodate students with disabilities (Sharpe & Johnson, 2001). There may be differences in accommodation availability from school to school and from state to state (Rehfuss & Quillin, 2005). In many schools, there are disability service offices that are responsible to help students find useful accommodations that can facilitate access to educational opportunities (McCleary-Jones, 2008). Research has found that students who realize their responsibilities and



utilize the disability service office are more likely to succeed academically (McCleary-Jones, 2008).

In addition to academic success, many other factors have contributed to a positive social experience for college students with disabilities (Mamiseishvili & Koch, 2011). Researchers have found that many factors can affect academic success and social experiences of college students with disabilities (Mamiseishvili & Koch, 2011). The students with disabilities, like the other students, must learn to cope with new challenges and responsibilities while managing their accommodations in addition to academic course work (Getzel & Thomas, 2008).

### **Statement of the Problem**

The population of students with disabilities attending postsecondary institutions has risen (U.S. GAO, 2009). Consequently, in order to ensure an optimal, successful college experience for this student population, it is important to plan, train, and provide resources. However, the limited resources available to institutions for providing special programs and services to disabled students potentially impede their access to an equal opportunity education (Getzel & Wehman, 2005).

Students with disabilities are often dissatisfied with the quality and amount of services offered by higher education institutions (Johnson, Zascavage, & Gerber, 2008). To improve the quality of supports that the student receives, the student should be considered as an individual rather than as a member of a disability category (Stodden & Conway, 2003). According to McCleary-Jones (2008), if students are not satisfied with services, they may be less likely to return to the disability service office if they have

questions or concerns about accommodations, and this could result in their struggling academically. (McCleary-Jones, 2008).

Furthermore, students with disabilities note that some postsecondary faculty are resistant to providing academic accommodations; therefore, the needs of these students are not always being met (Webster, 2004). In the absence of adequate faculty support and limited access to accommodations, students with disabilities may struggle to complete their coursework (Stodden & Dowrick, 2000; Trammell, 2003). Some students with disabilities feel they need to rely on themselves for their academic success in postsecondary institutions because faculty support is lacking. They are afraid of being recognized as students with disabilities, and they feel isolated from others (Dowrick, Anderson, Heyer, & Acosta, 2005). Since postsecondary education presents a range of challenges to students with disabilities, research is needed to examine the influence of selected social, academic, and institutional factors on the academic accommodations of college students with disabilities.

### **Purpose of the Study**

The purpose of this study was to examine the predictability of selected social, academic and institutional factors on the academic accommodation of college students with disabilities. Specifically, the research was concerned with the predictable relationship between the social, academic, and institutional factors of ethnicity, gender, socioeconomic status, grade point average, standardized test scores, major area of study, disability services and faculty support and the acceptance of academic accommodations by undergraduate college students.

Answers to the following questions were sought:

1. Do the social variables of ethnicity, gender, socioeconomic status, and disability type have any predictive power regarding academic accommodations of college students with disabilities?
2. Do the academic variables of GPA, standardized test, major area of study have any predictive power regarding academic accommodations of college students with disabilities?
3. Do the institutional variables of faculty training, faculty support, and disability services have any predictive power regarding academic accommodations of college students with disabilities?

### **Significance of the Study**

The results of this study may be used to inform staff, administration, and faculty of how to improve services when providing accommodations to students with disabilities and to revise current practices. This study will also give students insight into available disability services with the aim of helping them be better prepared for college challenges. This type of study will help faculty members better understand the experiences and knowledge they should possess before teaching students with disabilities.

Finally, this study will provide additional information regarding the relationship between student characteristics and accommodations use, so faculty and staff are better informed on how to advise students with disabilities to utilize support that will help them succeed. An understanding of information related to students major and disability type will assist staff and faculty in assigning more individualized accommodations. As the

number of postsecondary students with disabilities increases, the investigation of academic accommodations is becoming more common.

### **Theoretical Framework**

The researcher utilized Bandura's social cognitive theory, which posits that requesting academic accommodations and pursuing supports are persuaded by individual thoughts and feelings (Bandura, 2004). Bandura's social cognitive theory opined that an individual's thoughts and feelings will affect his or her behavior (Bandura, 2004). In order to modify their behavior, it is essential for students to have knowledge of how academic success can contribute to their behavior. According to this theory, in order for any attempt at learning to be successful, it is important for the student to believe in his or her ability to perform well (self-efficacy). Similarly, goals that students set for themselves have an impact on their behavior as well. The loftier the goals of a student, the more likely they will lead to more positive behavior changes compared to a student who has few ambitions. Additionally, whether a facilitator or impediment is present will influence behaviors, thoughts, and beliefs. By reducing the number of impediments students face on their road to success, more facilitators are likely to influence the behavior of the student (Bandura, 2004).

As the theory relates to students with disabilities, during postsecondary education, many of these students lack self-efficacy as they try to cope with new and stressful experiences, especially when they are trying to be accepted by their peers (Conyers et al., 1998). Additionally, if a student's disability affects his or her concentration, effort, and memory, he or she might find it difficult to master academic tasks, which will lower the student's self-esteem (Coetzer, Hanson, & Trimble, 2009). Students with disabilities may

be discouraged from requesting accommodations due to low self-efficacy. Taking advantage of accommodations may seem like a daunting task for students; a lack of confidence or belief may be holding them back (Conyers et al., 1998). Nonetheless, academic accommodations lead to increased confidence in disability students, which in turn leads to increased motivation for task completion (Feldman et al., 2011). The social cognitive theory is used as the theoretical framework to offer the basis for the analysis of the data by demonstrating the relationship between factors (such as social, academic, and institutional factors) affecting the academic accommodation of college students with disabilities.

### **Research Hypotheses**

The following research hypotheses were generated from the purpose and research questions formulated in the study.

Ho<sub>1</sub>: There is a statistically significant predictable relationship between selected social variables (ethnicity, gender, socioeconomic status and type of disability and academic accommodations (accept and not accept) of undergraduate college students with disabilities.

Ho<sub>2</sub>: There is a statistically significant predictable relationship between selected academic variables (GPA, standardized test scores, and major area of study) and the acceptance of academic accommodations (accept and not accept) of undergraduate college students with disabilities.

Ho<sub>3</sub>: There is a statistically significant predictable relationship between selected institutional variables (faculty support and disability services) and the acceptance

of academic accommodation (accept and not accept) of undergraduate college students with disabilities.

### **Assumptions**

The following assumptions were made about this research study:

1. It was assumed that selected social factors of undergraduate college students with disabilities do have some predictive power regarding acceptance of academic accommodations.
2. It was assumed that selected academic factors associated with undergraduate college students with disabilities do have some predictive power regarding acceptance of academic accommodations.
3. It was assumed that selected institutional factors associated with undergraduate college students with disabilities do have some predictive power regarding acceptance of academic accommodations.
4. It was assumed that acceptance of academic accommodations are a significant and vital issue regarding undergraduate college students with disabilities.
5. It was assumed that the archival data collected from the target university's Disability Services Database will be accurate and reliable.
6. Finally, it was assumed that the findings of this empirical study can be generalized to college students with disabilities at similar colleges and universities across the United States.

### **Limitations/Delimitations**

The researcher observed the following limitations and delimitations in the study.

1. The study was limited to undergraduate college students with disabilities.

2. The study was limited to pre-existing data for the 2021-2022 academic school years.
3. The study was limited to undergraduate college students enrolled in an urban university located in the southern region of the United States.
4. Generalizations drawn from the findings of the present investigation were limited to undergraduate college students with similar disabilities in an attempt to assess the predictive impact of social, academic, and institutional related factors on academic accommodations.
5. Finally, this study was limited to undergraduate college students with disabilities who registered with Disability Services at the targeted institution.

### **Definitions of Terms and Variables**

The following variables and terms were operationally defined for the purposes of providing clarity and understanding relative to the focus of the research.

**Academic Accommodations** refer to modifications to assessment, delivery of instruction and services that grant individuals with disabilities equal access to educational opportunities without changing the content. Accommodations may include extended time on tests, interpreters, and note takers.

**Americans with Disability Act (1993)** refers to the Civil Rights legislation protecting individuals with disabilities against discrimination (Yell, 2012).

**Disability** refers to a physical or mental impairment that alters a student's learning.

**Disability Services** refers to an office that provides college support, advocacy services, and resources for students with disabilities.

**Ethnicity** refers to whether an undergraduate college student self-identifies as African American, Anglo American, Hispanic American, Asian American or other.

**Faculty Support** refers to whether a faculty member provides academic accommodations to an undergraduate college student with a disability in their course.

**Gender** refers to whether a college student is male or female.

**Grade Point Average (GPA)** refers to the overall academic performance of college students with disabilities overall academic performance.

**Major Area of Study** refers to an undergraduate college student's academic major.

**Socioeconomic Status** refers to the annual family income of college students with disabilities.

**Standardized Test** refers to an undergraduate college student's total raw score on the SAT.

**Students With Disabilities** refers to students who have different disabilities such as physical impairment, visual impairment, cognitive impairment, motor impairment, and hearing impairment (Dong & Lucas, 2013).

**Type of Disability** refers to the kind of impairment that an undergraduate college student has been diagnosed with.

### **Organization of the Study**

This research proposal was organized into five chapters. Chapter 1 includes the introduction of the study, statement of the problem, significance of the study, theoretical framework, hypotheses, assumptions, limitations and delimitations, definitions of variables/terms, and organization of the study.

Chapter 2 includes a review of selected literature related to the predictability of selected social, academic, and institutional factors for the academic accommodations of college students with disabilities. Chapter 3 consists of the research methodology and the



research design. Also, in this chapter, the population and research setting, sampling procedures, instrumentation, validity and reliability of the instrument, data collection procedures, null hypotheses, independent and dependent variables, and statistical analysis sections are presented. Chapter 4 consists of the organization and analysis of the data including statistical tables and interpretation. Chapter 5 provides an overall summary of the study along with the Findings and Conclusions. Also, this chapter presents a discussion of the findings, as well as the implications and recommendations for the research.

## **CHAPTER 2**

### **LITERATURE REVIEW**

The purpose of this study was to examine the predictive power of selected social, academic, and institutional factors on the acceptance of academic accommodations of college students with disabilities. Specifically, the research was concerned with the predictable relationship between the social, academic, and institutional factors of ethnicity, gender, socioeconomic status, grade point average, standardized test scores, major area of study, disability services and faculty support and the acceptance of academic accommodations of undergraduate college students. Chapter 2 presents a review of literature containing: Laws Regarding Students with Disabilities, GPA, Major Areas of Study, Standardized Tests, Gender, Ethnicity, SES, Disability Types, Institutional Factors, Faculty Training, Faculty Support, and Disability Services. The final section presents a summary.

#### **Laws Regarding Students with Disabilities**

A significant increase in the number of students with disabilities attending college has occurred since the Americans with Disabilities Act of 1990 (ADA) was passed (Newman et al., 2010). With an increase in enrollment, postsecondary institutions are being asked to provide reasonable accommodations in compliance with the Americans with Disabilities Act. A student with a disability has the right to receive an equal education as well as equal access to course content and tests under the ADA. Due to their status as covered entities, schools and testing agencies must provide such

accommodations to students with disabilities. Hence curricular modifications and test accommodations are frequently applied.

College and university students with disabilities can face challenges due to negative attitudes of peers and faculty members, as well as limited accessibility and support services (Tremblay et al., 2008). It has been found that faculty attitudes toward students with disabilities affect their academic achievement significantly (Rao, 2004).

Legislation has been deemed essential for minimizing the barriers faced by students with disabilities over the last few decades. Higher education institutions are required to make reasonable accommodations, improve accessibility, and ensure equal access for students with disabilities under various federal laws, such as the Americans with Disabilities Act of 1990 (ADA), which includes the 2008 Amendment.

In order to comply with Section 504 of the Rehabilitation Act of 1973, postsecondary institutions must ensure that all aspects of campus life, as well as programming, are accessible to all students, and the ADA requires college and university administrators to make adequate academic adjustments to prevent discrimination against individuals with disabilities (U.S. Department of Education, 2005). Although these laws have been implemented and regulated, students with disabilities often do not take advantage of support services because they fail to self-disclose their disabilities or to utilize the accommodations and modifications made available to them by support services.

**Section 504 of the Rehabilitation Act of 1973.** Section 504 of the Rehabilitation Act of 1973 became the first federal civil rights law to specifically safeguard the rights of those with disabilities. Under Section 504, the Office for Civil Rights (OCR) is

responsible for enforcing its provisions at the United States Education Department (USDOE). Federal law prohibits discrimination against disabled individuals in any program funded by the government (Rehabilitation Act, 1973). Section 504 states “Specifically, Section 504 prohibits any program or activity receiving federal assistance from discriminating, excluding, or denying benefits to an otherwise qualified handicapped individual solely by reason of the handicapping condition” (Burley, 2010, p. 2). Over the years, various changes have been made to the original 1973 legislation, but the underlying protections have yet to change.

Federal financial assistance recipients, including public school districts, colleges, and other state and local education agencies, are subject to the conditions outlined in Section 504. Students eligible for Section 504 protections must: (a) have a physical or mental impairment that substantially limits one or more major activities of daily living; or (b) have a record of such an impairment; or (c) be thought to have such an impairment (Your Rights Under Section 504 of the Rehabilitation Act, 2006, para. 3). For an individual to qualify for admission or participation in a postsecondary institution's programs and activities, he or she must meet the academic and technical requirements for admission. Academic accommodations and auxiliary aids and services are required of institutions to afford students with disabilities an equal chance to participate in a school program (OCR, 2005).

**Americans with Disabilities Act of 1990.** A person with a disability may not be discriminated against at work, in government, public accommodations, commercial facilities, transportation or communications under the ADA. As amended by the ADA Amendments Act of 2008, the term "disability" remained the same but changes were

made to some of the words in the definition such as a personal physical or mental impairment limiting one or more major life activities, presence of such a record, or the condition of being considered to have such impairment (ADA, Sec. 12102). There are no specific impairments listed in the ADA.

### **Ethnicity**

The correlation between race and ethnicity and educational attainment in the United States has also been demonstrated (Strayhorn, 2010; Bailey & Dynaski, 2011). The education levels of different racial groups vary widely, according to several recent studies. In prior studies, such as those by Strayhorn (2010) and Bailey & Dynaski (2011), Latino and African American adults had lower education attainment compared to Caucasian students. Studying race and ethnicity variables was the only variable examined in these studies. When races and disabilities are considered together, it is likely that students with disabilities who are also minorities struggle more than those with disabilities who are majority races.

Banks and Hughes (2013) reported on their academic experiences with undergraduate African American males with disabilities. From the disability support service office 12 African American males were selected at a historically Black university. Attention deficit hyperactivity disorder and learning disabilities were identified as disabilities within the sample of male participants. The data from 25 open-ended questions were collected during semi-structured interviews. Participants were asked to reflect on the experiences they had as African Americans and disabled enrollees when they were in college. During an interview segment, participants were asked to consider how historically black colleges and universities (HBCUs) foster a sense of identity for

individuals with disabilities. It was found that the struggle for educational equality in America is closely connected with the history of African Americans and people with disabilities in the United States. In addition, findings showed that faculty who were supportive of students with disabilities did not offer them appropriate accommodations due to this response. Participants were often left to assist themselves, when faculty refused to modify instructions to make content accessible.

A study by McDonald et al. (2007) found that students with disabilities, whom faculty perceived as being cognitively not capable of college academics, could "face discrimination on two fronts" (p. 147). The men in this study believed that their success was due in large part to the disability support specialist. In their proposal, Banks and Hughes (2013) suggested that further study should be conducted about the experiences of African American students with disabilities at other colleges other than HBCUs or colleges that call multiculturalism an important concept but do not make it a fundamental component of their programs.

In their study, Druckman, Levy, and Sands (2021) focused on student disabilities, including type and race. In particular, they hypothesized that students with non-physical disabilities, specifically ADHD, and racial minorities will be subjected to negative attitudes and recommendations. People who worked in disability service offices at accredited general education institutions in the United States were included in the study. An overall sample size of 2,255 schools was chosen from the Integrated Postsecondary Education Data System (IPEDS). Participants were randomly assigned to one of eight experimental vignettes that differed in race (African American/White) and ability (ADHD/vision). A focus on race was highlighted by the use of names strongly associated

with African American or White populations: Jabari Washington for African American conditions and Dalton Wood for White conditions (Butler & Homola, 2017). Stargardt disease was used for visual impairment as a means of determining a physical impairment and ADHD as a method of identifying a non-physical impairment. Participants rated Jabari/Dalton on a 5-point scale whether he would be deserving of accommodations because of his vision impairment/ADHD. A higher rating indicated greater deservingness. There were mixed results. The principles of Section 504 of the Rehabilitation Act state that no student with a disability should be excluded from obtaining accommodations and assistance. If disability discrimination is permitted, it would be contrary to Section 504's ideal. The presence of these biases can affect the perception of student deservingness, the assessment of the student's traits, and the assessment of compliance, all of which may affect the quality of services received. The researchers found that counselors' expectations regarding who will receive accommodations were influenced by biases. The results of the study, however, point to mechanisms and antidotes to racial bias, as race biases are not as severe as researchers had anticipated. Because accommodations play a crucial role in shaping the success of students with disabilities, it would be useful to investigate biases, as well as ways to counter the prejudices of providers involved in improving the lives of these students.

### **Gender**

There are few studies that examined the experiences of transitioning into college (Anderson & Butt, 2017) and those studies do not include students of varying genders, ages, and disability types. This is especially true of undergraduate and graduate students, as well as students of different sexes, ages, and disabilities (Accardo, Kuder, & Woodruff,

2019; Francis et al., 2018; Kendall, 2016). Among students with disabilities in higher education, there are few studies that investigate the gender differences. A study by Downey (2003) suggested that when students were asked to rate their satisfaction with their studies and their impressions of college life, their responses were influenced by the manner in which they were feeling at the time.

By comparing the academic performance and graduation rates of students with and without disabilities, Jorgensen et al. (2005) determined whether students with disabilities were at risk. To determine whether gender could account for any differences between the groups, they examined the effects of gender rather than the presence of disabilities. In this archival study, academic records of 653 students with disabilities were examined alongside 41,350 records of students without disabilities at an urban junior/community college. In total, 653 students with disabilities (315 women and 338 men) were included in the study.

Students reported one disability in 596 cases, two disabilities in 45 cases, and three disabilities in 12 cases. In the study of the 653 students, there were 722 disabilities recorded, 52.6 percent of which were diagnosed as learning disabilities or Attention Deficit Disorder (ADD). These 41,357 students (21,587 women, 19,770 men) did not register with the Centre for Students with Disabilities in spite of meeting eligibility requirements.

For the purpose of analyzing the performance of students with different disabilities, the sample was divided into (a) students with learning disabilities or ADHD (the largest group) and (b) all other students with disabilities. The category of all other disabilities referred to students who had multiple disabilities. Study results revealed that



the group of students with disabilities contained a significantly higher percentage of men than the group of students without disabilities. It was suggested that future research examine factors that hinder and facilitate academic progress for students with disabilities, and compare how students with disabilities who register to receive disability-related services fare.

At an Israeli university, Heiman (2008) examined undergraduate female students' perceptions of the learning environment, coping strategies, and subjective well-being while taking courses on-line. Three different questionnaires were sent via email to 50 women with learning disabilities (LD) and 73 women without disabilities. Prior to the study, dyslexia and dysgraphia were diagnosed in the LD group. Most of the females with LD also had difficulty in the second language (English) as well. They had difficulty reading, writing, and/or spelling in their first language (Hebrew). Disability Support Services registered every participant with LD, and most of them received accommodations including additional time during examinations, leniency for spelling mistakes, and permission to take breaks during examinations. In the control group, students with no learning disabilities studied the same social sciences fields as those with learning disabilities.

This study examined the way students perceive aspects of learning in a higher education setting by completing the Learning Environment (Shin & Chan, 2004) questionnaire. The researcher assessed 29 items including perceptions of support services at the university, feelings of belonging to the university, learning outcomes, satisfaction with the courses, and intention to continue studying at the university; However, only the first three factors were used. In the second questionnaire, the students' coping strategies

were assessed using the Coping Inventory for Stressful Situations (CISS) (Endler & Parker, 1999). In the third questionnaire, Satisfaction with Life Scale (Pavot & Diener, 1993), respondents were asked about their overall happiness with life.

Analysis of variance (ANOVA) was conducted using the variables of learning environment, coping strategies, and satisfaction with life in order to compare the two groups of female students (LD and NLD). Comparing LD students to students in the control group, the researchers found that students with LD felt less connected to the university and perceived less academic assistance and support from the faculty. Academic courses were less satisfactory for students with LD than for students in the control group in terms of their perceived satisfaction with the course. Researchers found that students with LD report using more task-oriented coping strategies than their peers without learning disabilities. Females with LD reported less satisfaction with the academic environment. Additionally, they felt that academic services did not adequately consider their needs. Moreover, female students with LD also demonstrated a greater use of task-oriented and avoidance-oriented coping strategies, and perceived their well-being as less satisfactory than their counterparts in the control group. Studying the learning strategies of students with LD and coping with a different learning environment is a worthy endeavor in the light of the present findings.

Several research studies have found that female students with disabilities may face higher education obstacles more often (Dwyer, 2000). Erten (2011) reviewed the perspectives of students with disabilities studying at an institution of higher education. The female participants studied had learning disabilities. The study participants were chosen based on purposive sampling, which is a method for determining who should be

studied in order to gain insight (Patton, 2002). A flyer explaining the purpose of the project and inviting students to participate was distributed to all OSD students through the center's electronic newsletter. Seven undergraduates and graduate students took part in the study. Five out of seven students with disabilities suffered from Learning Disabilities. The three participants studying at the graduate level received additional services from their faculties, which included writing exams in the department's designated rooms.

To collect data, the researcher used focus groups to discuss how traditional methods of instruction should be changed by professors and instructors. Their report emphasized the importance of addressing all learning styles through a variety of instruction methods. The vast majority of participants reported asking for OSD assistance in contacting course instructors at some time during their postsecondary degrees. As far as accommodating students is concerned, support services and disability centers play a crucial role in university settings. As well, students reported that course instructors sometimes failed to understand and address their disability-specific needs. Students reported difficulties in receiving support services and accommodations due to this lack of awareness. Their inability to access support services and accommodations because of this lack in awareness was detrimental. Findings suggested that colleges and universities should not only provide accommodations for students who have disabilities, but also address hidden attitudes that prevent equal integration. A wider sample of students can be investigated in future research to get a more comprehensive picture of disability-related issues in higher education. The issue can be studied using mixed methods designed both from a large and detailed perspective.

### **Socio-Economic Status**

Disability residents in rural areas have disproportionately lower incomes than rural residents without disabilities (Loopstra & Lalor, 2017). Moreover, poverty and other financial barriers negatively impact college students' ability to achieve academically (Loopstra & Lalor, 2017). According to several studies conducted in rural regions of the United States, the academic achievement levels differ significantly between low- and middle-income students compared to the general population living in poverty (Loopstra & Lalor, 2017; Lacour & Tissington, 2011). Both the non-disability population and the disabled population showed inverse correlations with education attainment rates in Concoran, Gordon, Laren, and Solon (1992). This study supports the previous findings in that Ishitani (2006) found that students with disabilities from lower-income households were 72% more likely to drop out of their academic program than were students from upper-income households.

Researchers Waterfield and Whelan (2017) investigated whether socioeconomic status (SES) impacts students' access to university accommodations. Students with a self-identified learning disability were recruited using snowball sampling. Ten Dalhousie University learning disabled students - eight women, one man and one not solely male or female - underwent semi-structured interviews. Participants were interviewed using a qualitative approach to understand their experiences and to understand how their SES affected their access to accommodations.

The participants were questioned about their ability to access social and economic resources, and all completed a short questionnaire detailing their student loans, and their parents' educational levels. In their responses, four of the students reported that they came

from very wealthy upper middle-class families and that their parents paid all of their expenses. All of the parents had university degrees. The remaining four students came from working-class backgrounds; they had to take out student loans to support themselves during their university studies, received little or no financial support from their families, and their parents had no university education. As far as family background, resources, and support were concerned the two remaining participants were lower middle-class.

A significant factor in access to accommodations is money, according to students from lower socioeconomic backgrounds. Obtaining a psychoeducational assessment is a precondition for receiving formal accommodations, so students who do not have the financial resources cannot access them. Those from richer backgrounds are usually able to choose from a variety of aids and accommodations, whereas those from lower socioeconomic levels are not. It is obvious that SES, forms of capital, and university navigating were integral to participants' struggles in this study. It is likely that financially privileged students will be able to succeed at the university level. Students with greater economic capital appear to be able to obtain a diagnosis, accommodations, and private support services more easily than their counterparts from lower economic backgrounds, who lack economic capital, making accommodations and necessary supports more difficult to obtain.

The results demonstrated that students from middle-class backgrounds had the capital to enhance their opportunities within the university. Diagnoses and accommodations were available to these students and they supplemented university services with private services and disclosed disabilities to their professors as well. While

students from lower socioeconomic backgrounds struggled to find accommodations, those from higher socioeconomic backgrounds had little difficulty.

Due to their disability and the accommodation process, students at universities were doubly marginalized. Diagnoses were difficult to obtain, accommodations were challenging to find, and finally accommodations were received. As a result of disclosing to their professors, their abilities and place at the university were further questioned. The stigmatizing effect of learning disabilities resulted in a sense of empowerment that accommodations were a privilege that was often beyond the reach of these students. Future research should examine whether universities are providing students at all socioeconomic levels with the right kinds of services.

### **Disability Type**

The success rate of students with disabilities varies depending on the type/category of disability they are classified as having (Dong & Lucas, 2013). According to Pingry O'Neill, Markward, and French (2012) and Dong & Lucas (2013), college students with physical disabilities have the highest success rates. A past study has found that students with physical disabilities living in rural areas have greater accessibility difficulties than those with other types of disabilities, such as transportation and access to buildings (Bills, 2017). As a result, it is necessary to research the kinds of barriers associated with different disabilities.

Attention-deficit hyperactivity disorder (ADHD) and learning disabilities are two disabilities that college students frequently report, according to Egan et al. (2014). Egan et al. (2014) found that 5.9 percent of college freshmen self-reported ADHD, and 3.3 percent self-reported learning disabilities. The rate of ADHD-affected students attending postsecondary education is significantly lower than that of their non-ADHD

peers (Barkley, Murphy, & Fischer, 2008) and, of those who enroll in college, the rate is considerably lower in 4-year institutions (Kuriyan et al., 2013).

Field, Sarver, and Shaw (2003) conducted interviews with university students with LD, and found that university size and impersonality were difficult. Communication with university faculty and staff was confusing for LD enrollees, and they found the faculty inaccessible. In their opinion, community colleges offered more nurturing, supportive environments. In fact, university students with LD are more likely to succeed at community colleges when they begin their postsecondary careers than at universities. According to Johnson, Zascavage, and Gerber (2008), 85 undergraduates with learning disabilities were provided with accommodations at a four-year university. Of those who began their postsecondary education, 58% enrolled in a two-year college and then transferred to a four-year university; 40% began at a four-year college. Only 26% of those students who began at a four-year university graduate with a bachelor's degree, compared to 50% of those who begin as two-year college students.

Using sequential mixed-method techniques, Brown (2007) examined the views of students with learning disabilities on academic accommodations and barriers at a California college. In order to analyze the quantitative strand, the author used a survey instrument, and then collected qualitative data via interviews. There were 50 students that completed the survey, but only 12 were interviewed. Study results showed students were very satisfied with the services they received, but they did not use the available services very often. In addition to a small sample size of 50 participants, the study used a single college in one state. Generalizability was thus compromised. The survey was also subject to a limited timeframe for responses. It would have been helpful to know the level of the

participants' learning disabilities, according to Brown. The questions in the survey could also have been misunderstood by participants, even though it was a pilot study. In addition, interviews were conducted to strengthen the research. In conclusion, the author urges the use of students with other types of disabilities in future studies.

As noted in another dissertation, Hernandez (2011) stated, “a gap exists in the accessibility of postsecondary education among learning disabled students” (p. 2). In her research, Hernandez asked, “what problems or barriers do postsecondary students with learning disabilities encounter in accessing transition or support services?” (p. 4). Hernandez examined the factors that resulted in a disparity between accessibility of services. The study involved ten students with learning disabilities who participated in semi-structured interviews as part of a qualitative study about the barriers they encountered in the college process. Hernandez employed triangulation and case studies to aid in the analysis. Hernandez (2011) discovered that students were not inquiring about services and were unaware of them. Some students with learning disabilities experienced accessibility issues, such as using a computer, using required texts, and attending labs. Most of these students were satisfied with the college's services. The study's limitations include the fact that it involved only 10 participants from a college in California. In addition, few references were cited in the research report. Archival data of the students strengthened the findings of the study, which suggested that some students did not enroll in college right after graduation from high school. A continuing research study in which demographic data is considered was recommended (Hernandez, 2011).

Studying the experiences of learners with learning disabilities (LD) at universities was carried out by McGregor et al. (2016). Among university students in the United



States, this study explored whether disability status was linked to differences in students' college experience as well as the prevalence of disability status reported by themselves. Furthermore, McGregor et al. were interested in finding out the percentage of students with LD who are receiving accommodations and whether they are associated with a lower quality of education. Students were surveyed using the Student Experience in Research Universities (SERU) to collect data that can provide a broad summary of their experiences. Students at 11 public four-year doctoral-granting colleges completed the SERU survey in 2014. The survey sought to assess student attitudes towards campus climate, time consumption, obstacles to learning, engagement in and out of the classroom, as well as overall satisfaction.

Researchers surveyed 63,802 students at 11 doctoral-granting universities throughout the U.S. and found self-reported learning disabilities to be a common condition that can affect an individual's university experience. Students with LD had accommodations only in a minority of cases; however, those who reported had more contact with faculty and fewer assignment difficulties. LD students, on average, were older than non-disabled students. Overall satisfaction with the university experience was significantly different between LD and NLD groups. The general campus climate, the social experience, the academic experience, or some combination of these things were less satisfying to students with LD. There was no evidence to suggest that accommodations have negative effects in the present study. Positive outcomes were indicated in two instances. With accommodations, students with LD spent more time outside of class with faculty than students without accommodations.

## GPA

Disabilities have been associated with later student entry to college, low GPAs, and lower graduation rates than those without these disabilities (Koch et al., 2018; Richman, 2013). Studies have shown that disabled students tend to have poorer academic outcomes than their non-disabled peers once they enroll in higher education. Richman (2013) performed an analysis of academic outcomes in college students with learning disabilities or ADHD. Depending on the type of disability-related service they received, participants were placed in one of three groups: those without any services, those with accommodations but no support services (e.g., learning specialist sessions) and those who use accommodations and support services. Those who use accommodations only did not graduate as quickly as those who use both accommodations and support services. The GPAs, withdrawal rates, and graduation rates of students who did not receive disability services were comparable to those receiving accommodations and support services. The results cast some doubt on the effectiveness of disability service, as it is possible that students who did not receive disability services needed fewer services to succeed in college. The fact that students in this sample did not outperform their peers academically by just using academic accommodations alone, is particularly concerning.

In a study of 1,248 students from the Pennsylvania State University's Office of Disability Services, Kim and Lee (2016) examined the effects of accommodations on grade point average (GPA). These data were provided by the Office of Disability Services at Penn State. Among the accommodations available in the ODS are test accommodations and course accommodations. The types of testing accommodations include extending test times or changing testing locations, as well as modifying examination materials, such as

modifying assistive technology to read exams. The different types of course accommodations were: assignment accommodations, classroom accommodations, course participation accommodations such as notetaking assistance, physical environments, and alternative textbook formats.

Based on the results, test accommodations had a clear effect on GPA, with the extension of the testing period and the modification of the exam materials particularly impacting the grade point average. Sireci et al. (2005) supports the use of these variables as stable predictors of success in college among student with disabilities. Based on these results, accommodations such as extended time and material transformations can have a positive impact on test scores. Assignment accommodations had a statistically significant beta weight when added to the course accommodations. The lesser impact of course accommodations when compared to test accommodations may mean that students' grades will be less affected directly by course accommodations. While accommodations only explained a very small portion of the variance in GPA statistically, they certainly play an important role in academic performance. As a result of this small change, other variables predicted GPA more powerfully or that accommodations and grades could be mediated. Kim and Lee recommend that disability specialists in DSS, professors, and administrators across the campus environment acknowledge the factors that promote or impede the use of accommodations and also recognize the importance of accommodations in academic success, in order to assist students with disabilities in achieving their educational goals.

In a study of students with both LD and ADHD on a campus that specifically serves this population, DuPaul et al. (2017) tracked the use of support services and the GPAs over the course of five years. In an analysis of the linear relationship between the

quantity of services and GPA, student characteristics such as gender, race, ADHD, LD, number of classes missed during the semester, and transfer status were considered. The study sample consisted of 1,782 students. During the admissions process, students' disabilities were registered. When applying to the college, students were required to provide documentation of their assessment by a licensed clinician. As an experiment to find relationships between semester GPA and a set of predictors or explanatory variables, Hedeker and Gibbons (2006) constructed two-level hierarchical linear models (HLM) to incorporate their nested data structure (semester GPA within each student). Only full-time enrolled students who spent their first six semesters at a college or university were included since the number of students who spent more than six semesters fell below 50. A relationship was found between an additional hour of coaching and semester GPA increase. Besides, coaching reduced the student's ADHD-related GPA by a statistically significant amount. Each additional coaching hour increased semester GPA by .04 points for this subsample, which is twice as large as the effect on the full sample. As a result, a student with ADHD who received 10 hours of coaching would earn a GPA approximately .40 points higher than the student who received no coaching. GPA had no significant relationship with advising and tutoring hours received by the students in a semester, even after controlling for other variables. As a result, these results emphasize the importance of supporting students with ADHD at the point of performance rather than providing them with content or skill support. DuPaul and colleagues recommended that further research urge students with ADHD or LD to get more tutoring and coaching support during each semester.

### **Major Area of Study**

Among students with disabilities, Terras et al. (2015) found that those who were studying special education or had worked in the field of special education were more likely to seek disability services. In an online setting, students with this educational background were likely to feel more comfortable asking for accommodations, according to the authors. There has been a trend of education and special education students requesting accommodations more than those in other majors (Timmerman & Mulvihill, 2015). Those majoring in special education without disabilities are also reported to be more accepting and understanding of students who are requesting accommodations and utilizing them.

As part of a national survey in the life sciences, Gin et al. (2022) collected information from undergraduate researchers at public and private institutions with a strong research tradition. University websites were used to find life sciences department staff that could send out emails to all undergraduates through a Listserv or mailing list. There were 87 institutions recruited for the study. Students with at least one disability were analyzed using descriptive statistics to determine their general demographics and characteristics. Learning disabilities, physical disabilities, vision loss, hearing loss, and mental health and psychological impairments were categorized as disabilities of students. There was a variety of disabilities reported by undergraduate researchers, but learning disabilities and mental health issues were most common. According to data, students with disabilities are underrepresented in life sciences, and those who participate in research experience a variety of challenges because of their disabilities. In the opinion of the interviewed students, these challenges are only mitigated if students are upfront about

their disabilities and demand accommodations or suggest solutions on their own.

Providing students with flexibility regarding deadlines, meetings, and schedules is one of the recommendations for further study.

To determine if there were differences in academic performance among STEM and non-STEM majors and students with and without disabilities, Hedrick et al (2010) conducted a study. The results indicated that STEM majors reported more enriching academic experiences than non-STEM majors; disability status and STEM major status were not significantly different. The development of individualized resources for students with disabilities pursuing STEM majors was investigated in Cardoso et al. (2016). Findings indicated that people's interactions with each other, accommodations provided, and disability services received have a significant effect on academic success of students with disabilities. Cardoso et al. suggested disability services professionals work with faculty and staff to identify pedagogical practices that will help students with disabilities succeed in STEM majors.

### **Standardized Tests**

An analysis of 825 students at a small arts and technical college found that very few students who had access to extra time actually used it, and even those who did rarely used more than 25 percent (Holmes & Silvestri, 2019). Additionally, students who received extended time at a regional university used the standard time more often than students without disabilities (about half of the additional 50%) (Spenceley & Wheeler, 2016). Almost 5% to 14% more time is required for close to equal access to the SAT for individuals with disabilities, according to Cahalan-Laitusis, King, Cline, and Bridgeman (2006).

According to Spenceley et al. (2020), individual reading and test-taking abilities, as well as test anxiety, predicted whether college students with disabilities needed extra time to access standardized tests. To participate in this study, 37 college students with specific learning disorders (LD) and or attention deficit hyperactivity disorders (ADHD) were recruited. All participants with LD or ADHD were provided with test accommodations of extended time. In the comparison group, 37 students without disabilities were not given extended time to complete tests. A group reading comprehension task and a standardized reading test comprised of letter-word identification, passage comprehension, and sentence fluency was completed individually by all participants. A reading comprehension task completed by university students with accommodations took nearly 14% longer than that taken by peers without accommodations, who took nearly 5% longer to read the same number of items while completing the task. The time used to complete the comprehension task was moderately different between the groups, but this difference could not be attributed to differences in reading ability among the groups. Participants with disabilities expressed significantly more concern about their reading and test-taking abilities than their peers regardless of group differences in reading performance measures. A study found that 38% to 56% of college students did not complete the comprehension test within 20 minutes in the standardization sample of the Nelson–Denny Reading Test (NDRT) (Brown et al., 1993), while 72% of college students failed the comprehension test during standard time in the study of Spenceley et al.

### **Institutional Factors**

It is crucial that a college or university has an atmosphere that allows students with disabilities to feel comfortable and use its services when it comes to self-disclosure. In addition to campus environment, accessibility of campus life, and the barriers for students with disabilities, faculty knowledge can also influence these decisions. The physical, social, and emotional barriers disabled students face in higher education is an institutional factor. Due to these barriers, there are financial difficulties, trouble securing accommodations, and outright discrimination, such as difficulty accessing or staying within built structures. Based on Hutcheon and Wolbring (2012), “these barriers are problematic given that postsecondary experiences (both educative and social) shape students’ beliefs, self-concept, and identity and impact health and further opportunities” (p. 39). To provide support, students need to disclose their disability before they begin their studies. Although higher education institutions should encourage early disclosure, this is not the case because it is not a requirement.

There are both positive and negative academic outcomes for students with disabilities in postsecondary institutions (Vaccaro et al., 2015). Lack of academic support has been described by students with disabilities as a reason for their failure (Costello-Harris, 2019). Students with disabilities are likely to build social relations by participating in departmental tutoring and student organizations (Agarwal et al., 2015). Postsecondary institutions with disability services assist students with disabilities to enroll in a variety of courses (Shaw & Dukes, 2013). In cooperation with the office of disabilities, higher education leaders enhance accommodations and structures that affect students with disabilities (Shaw & Dukes, 2013). Student support that enables



administration and leadership to assist students with disabilities in completing assignments and coursework can reduce the challenges they face (Moisey, 2004).

Students with disabilities are often assisted by college administrators, so that they can overcome academic barriers (Littlepage & Clemson, 2018). It has been found that college administrators support programs focused on diversity and inclusion (Shogren et al., 2015). Perna and Finney (2014) cite training programs that provide academic preparation, knowledge of support services, and access to financial resources as factors that help students with disabilities succeed in their academic endeavors.

Lack of cooperation or extra help from instructors or administrators can hinder the learning process for postsecondary students with disabilities (Hadley & Scatterfield, 2013). According to Lightfoot et al. (2018) cooperation and/or extra help, “increases students with disabilities confidence, encourages the students with disabilities to explore campus support systems, and maintains personal growth” (p. 64). Providing interpreters and note takers as well as other services at postsecondary institutions is a way to assist students with disabilities (McCleary-Jones, 2007). Educating students with disabilities about their rights and responsibilities is the responsibility of college counselors (McCleary-Jones, 2007).

### **Faculty Training**

In their study of faculty attitudes and knowledge toward teaching disabled students, Aksamit et al. (1987) discovered differences among faculty members. Faculty members' experiences with teaching students with disabilities and their opinions regarding their support of students with disabilities were examined in their study. The study suggests that faculty with experience teaching students with disabilities are less likely to develop a bad attitude toward them (Aksamit et al., 1987, p. 57). Initially,

faculty members with little experience are hesitant to engage in teaching students with learning disabilities, believing they will be unable to do so effectively (Becker et al., 2002). Earlier research suggested that a faculty member's misperception of a student's ability to master coursework can be attributed to a lack of knowledge about disabilities, as well as stereotypical perspectives (Beilke & Yssel, 1999, p. 2). Students with disabilities face numerous challenges, some of which faculty members are unaware of (Sniatecki et al., 2015, p. 260).

The lack of training impacts faculty and students with disabilities; faculty members struggle to devise support strategies that utilize a variety of teaching environments (Gladhart, 2010). In Sniatecki et al. (2015), it was found that faculty members' lack of knowledge and awareness about students with disabilities could contribute to a challenging climate (Sniatecki et al., 2015). Faculty who are struggling to understand the cognitive and psychological disabilities of students are concerned about the fact that such disabilities are not visible (Sniatecki et al., 2015). Many faculty members are familiar with students' physical disabilities; however, they struggle to understand students' cognitive and psychological difficulties. Faculty may be particularly uncomfortable making decisions about how to accommodate psychologically handicapped students because the disabilities are not visible or outwardly visible (Sniatecki et al., 2015).

These challenges are not encountered by college faculty before completing their graduate programs: “In higher education, support for students with disabilities did not come up until one was a lead instructor, often late in a graduate program if at all” (Bettencourt et al., 2018, p. 14). Practicing teaching students with disabilities in graduate

programs and professional development programs will enhance the ability of future college faculty members to understand the needs of such students. Some college faculty members desire additional training to support and understand disabled students in the classroom. These findings are supported by Sniatecki et al. (2015). Faculty understanding and perceptions regarding students with disabilities were assessed by Sniatecki et al. The study involved interviews with full- and part-time faculty members from an upstate New York college (p. 261). A special instrument developed by the University of Oregon in 2009 was used for the research (Sniatecki et al., 2015, p. 261). Researchers found that "faculty members expressed a strong interest in professional development opportunities that would assist them in working with students with disabilities" (Sniatecki et al., 2015, p. 265).

There are some colleges that offer faculty members a non-mandatory program to help them understand the challenges faced by college students with disabilities. By participating in these programs, faculty and staff will be better equipped to meet the needs of disabled students. The reality is that evidence-based faculty development programs exist, but they are not the norm for faculty members who need to accommodate students with disabilities (Kim & Aquino, 2017, p. 111). Student support services to support faculty are not mandated by institutions or laws, so some student support services do not support faculty. Students with disabilities need only identify their disability to receive classroom support from the college. The college/university that the student attends provides the student support services required to meet this requirement. In the Bettencourt et al. (2018) study, it became apparent that faculty did not receive adequate training to support students with disabilities:

Participants voiced that they were not trained to support students with disabilities at any point during their academic training. The lone exceptions were those faculty coming from an elementary and secondary teaching background, in which facilitating individualized education plans (IEP) provided exposure to several key ideas. (p. 14)

In their 2002 paper, Salzberg et al. (2002) explained the challenges of educating and understanding students with disabilities and explained how student support services and faculty can resolve these issues. To learn about the level of expertise and training available for educators working with students with disabilities, Salzberg et al. surveyed college directors of student support services and professors. In their study, Salzberg et al. asked ten questions about faculty member preparation to teach students with disabilities and how faculty members approached students with disabilities. According to the study, students with disabilities were not generally satisfied with the accommodations instructors and professors provided to them. The authors of Salzberg et al. pointed out that Disability Service Officers (DSOs) face challenges educating faculty members on how to better teach students with disabilities. In order for faculty to be able to teach without affecting the learning process of students with disabilities, Student Support Services must train faculty in the understanding of students with disabilities. Understanding the accommodations of the students' needs is part of the process of training faculty in teaching students with disabilities.

Gladhart's (2010) study found that only a small number of faculty members were familiar with how to accommodate students with disabilities. The disconnect between student services and faculty often causes faculty members to be apprehensive about addressing or supporting students with disabilities. Colleges and universities can meet the needs of students with disabilities if the problem with student support services and

faculty can be fixed. The time requirements for college professors teaching students with disabilities were studied by Debrand and Salzberg (2005). Among respondents, Debrand and Salzberg found that out of 420, 168 think it is practical to hold one-hour workshops, and 189 think it is practical to hold one to two-hour workshops. In the study, only 13 of the 420 respondents considered workshops longer than two hours practical (Debrand & Salzberg, 2005, p. 49).

### **Faculty Support**

Researchers found that students with disabilities experienced a lack of understanding or support from postsecondary faculty. However, Garrison-Wade (2012) found that academic success can be improved by relying on the student's self-determination, developing an academic plan and improving postsecondary support, such as accessibility and accommodations.

First year students have been investigated by Fletcher et al. (2007) for health issues as well as potential issues affecting both health and academics. Additionally, the researchers examined the practices, experiences, and perceptions of first-year students regarding university services and service referrals, as well as the suggestions made by staff and faculty that deal with these students. An 80-item questionnaire was mailed to chairs of departments or academic counselors within departments, as well as representatives from the staff and faculty, as part of the study. Questions required respondents to indicate whether they had ever dealt with students experiencing health issues and other problems that had the potential to affect their health and, therefore, their academic performance. Furthermore, participants were asked about the resources that are available to students on campus, as well as whether they have referred students to these

resources in the past. Last, all participants were asked to provide feedback about the services provided by the university and if they needed to be improved. Also of note is that the faculty has addressed numerous problems for students that are far beyond their training and abilities. In addition to the existing campus services, faculty and staff should refer students to off-campus services if these are not readily available. To facilitate a smooth transition into the university, individuals from the on-campus service providers, staff, and faculty should work together to extend a greater level of support to first year students.

In Hindes and Mather's (2007) study, they found that faculty members offered less favorable accommodation responses when dealing with students with attention disorders or psychiatric disabilities than when dealing with students with physical disabilities. Dowrick, Anderson, Heyer, and Acosta (2005) determined that some schools had low expectations for students with disabilities. According to Baker et al. (2012), half of faculty and half of students have positive opinions regarding classroom climate, while fewer than one third of students with disabilities and those without disabilities share these views. Compared with faculty, students think faculty are less willing to accommodate their needs. Nevertheless, more than half of the students they surveyed felt their accommodations satisfied their needs.

In a quantitative dissertation study using the social model of disability, McWaine (2011) examined the relationship between teachers' attitudes toward students with disabilities, faculty knowledge of the law, and faculty willingness and ability to accommodate these students. Researchers sought to determine whether full-time academic faculty or adjunct technical faculty had similar attitudes. To assess faculty

attitudes toward students with disabilities, the Scale of Attitudes of Disabled Persons (SADP - Form R) (Antonak and Livneh 1988) was used. Satcher's Accommodation Survey (1992) measured comfort in providing accommodations, and Thompson, Bethea, and Turner's Faculty Knowledge of Disability Laws Survey (1997) assessed faculty knowledge of disability laws that govern students attending higher education institutions. The online survey was completed by 93 participants. Approximately half of the faculty did not have any knowledge of disability law. Moreover, full-time academic faculty and adjunct technical faculty differ significantly in their knowledge of disability law. Academic faculty were less comfortable with providing accommodations than technical faculty. Among the options faculty were comfortable with are extending extra time to complete exams, holding exams in a separate room (with a proctor present), taping lectures, and providing note-taking assistance. In addition to the accommodation results, additional accommodations that faculty were less comfortable with were oral assignments, excusing penalties for spelling mistakes, incorrect grammar and punctuation, providing partial credit, and allowing extra credit assignments. The researcher suggested that future research include factors such as the number of years the faculty members have been in higher education, and training sessions for disabled students when analyzing faculty scores on the three variables (attitude, comfort, and knowledge).

The purpose of the study conducted by Mamboleo et al. (2015) was to investigate the perceptions of students regarding disclosing their disabilities and seeking accommodations. In the data form, participants were asked about their age, gender, type of disability, educational level (freshmen, sophomores, juniors, seniors, and graduate),

enrollment placement method (on campus or online), registration with the Office of Accessibility Services, and the services offered by this office. To examine students' discernment in revealing their disabilities, the Willingness to Disclose Disability (WDD) survey was used. In addition, the Willingness to Accommodate Students (WAS) was used to collect data regarding students requesting accommodations. A large mid-Atlantic university had 1,500 students, registered with disability services, of which 483 requested accommodations for that particular semester. A total of 111 valid survey responses were analyzed following the elimination of duplicates and responses indicating that a student had not requested accommodations for the current semester. One-way ANOVAs were used to investigate the differences between perception scores for each level of education (freshman, sophomore, junior, senior, and graduate). Graduate students generally expressed the most positive perceptions of their instructors' willingness to provide accommodations, with average scores for perceived instructor willingness to provide accommodations being relatively high for all participants. The average score for freshmen was the lowest for all participants. The study found that, many students felt that their instructors were willing to accommodate their needs. Meanwhile, the findings indicated that students at this institution were moderately willing to admit their disabilities.

Study results from Yssel et al. (2016) indicated that students with disabilities benefited from the faculty members' willingness to offer classroom accommodations. The student interviews were based on a semi-structured script and open-ended questions that explored their perceptions and experiences of faculty-student relationships as well as other aspects of postsecondary education. The study involved twelve students with



disabilities whose names were registered with the university's office for persons with disabilities. In the study, two overarching themes emerged, namely the importance of faculty-student relationships, as well as the importance of being independent and self-determined. Few students identified any physical or emotional barriers hindering their success on campus or preventing their general integration. To succeed in college, students with disabilities must have accommodations and group work. In this study, individualized accommodations are demonstrated as crucial.

It can be intimidating for students with disabilities to approach their professors to request accommodations, but communicating their needs is an important part of getting accommodations (Ketterlin-Geller & Johnstone, 2006). Students with disabilities may be anxious and apprehensive about asking their professors for accommodations (Ketterlin-Geller & Johnstone, 2006), but being clear about what they need is essential to receiving accommodations (Foley, 2006). A faculty member's support is critical, since attempts to request assistance leave an impression on students and might affect their decision to seek help in the future (Canto et al., 2005). The likelihood of obtaining help in the future increases for students with disabilities who had a positive experience (Canto et al., 2005). A student who feels comfortable with faculty members will often seek assistance outside of the classroom (Hadley, 2006; Mamiseishvili & Koch, 2011).

As Per research, faculty members often agree to accommodations that do not require much effort on their part, such as extending test times. The need for extended time for success may not suffice for students with disabilities, and when they struggle they are looking to faculty as a source of support to help them succeed (Ketterlin-Geller & Johnstone, 2006; Lindstrom, 2007). Furthermore, because faculty may not understand

the limitations and needs of students with disabilities, they will often perceive students seeking accommodations as trying to avoid coursework, gain an unfair advantage, or reduce standards (Burgstahler & Moore, 2009).

### **Disability Services**

Disability services offices are responsible for providing reasonable accommodations, as well as adjustments, for activities or settings so that people with disabilities can engage equally with those without disabilities (Rath & Royer, 2002). Increasing academic accommodations does not mean changing the fundamentals of teaching and assessment (Ketterlin-Geller & Johnstone, 2006); it means, rather, providing equal access to students with disabilities alongside their peers who are not disabled (Graham-Smith & Lafayette, 2004; Ofiesh, 2007). Accommodations are not meant to provide students with disabilities with an easy advantage; rather, accommodations are meant but rather, to negate barriers to a student's success that may arise from his or her disability (Ketterlin-Geller & Johnstone, 2006). Student access to information and demonstrating knowledge in ways appropriate to their needs contributes to improving success for disabled students (Ofiesh, 2007). After entering higher education, students with disabilities seek accommodations to address higher academic standards, independence, time management, and other difficulties they have not encountered previously (Cawthon & Cole, 2010).

Disability services must be provided to college and university students who disclose their disabilities. A number of studies have shown that most eligible students do not seek services from disability offices or receive such services. Students with disabilities are known to neglect to register with disability service offices so as to receive

services. Making students with disabilities aware of the service provided by disability offices, make it more likely that register for the services available to them and understand how these services can benefit them. Research shows that early and effective use of disability support services can lead to better academic outcomes for students with disabilities (O'Shea & Kaplan, 2017). As a result, studies have focused attention on how students use disability-related services on campus as well as their decision-making processes.

Higher education provides a variety of supports to students with disabilities who disclose their disabilities. McLaughlin (2012) distinguished between accommodations and modifications: the former guarantee equal access to instruction, whereas the latter change the academic expectations of recipients of accommodations. A testing accommodation such as the extension of time allows students to complete the same academic material within a longer period of time.

Disability service offices advise students about accommodations, but students are responsible for securing the accommodations they need (Stodden & Conway, 2003). However, many students lack the skills and knowledge required to assert their rights (Hadley, 2007). Students with learning disabilities were asked by Skinner to describe how familiar they were with federal laws, and all participants lacked knowledge about their rights and responsibilities as part of Section 504 and the ADA at the postsecondary level. Students are unable to understand their rights in obtaining accommodations if they are unaware of what their rights are (Stodden et al., 2001). Furthermore, students with disabilities often ask for accommodations but may not be able to explain why they need

accommodations, how the disability impacts their learning (Ofiesh, 2007), or how accommodations will help them (Trammell, 2003).

Special education programs are typically modified for students receiving services in the K-12 environment. However, postsecondary settings rarely change academic standards for students. As mentioned previously, the ADA focuses mainly on making learning accessible and does not ensure meaningful progress in education (Lovett, Nelson, & Lindstrom, 2015). Disability services and accommodations are only available to college students who identify themselves to their campus disability service office as students with disabilities. In order to achieve equal access to college education, students should register with the disability service office.

Barber (2012) reviewed the types of services provided by American postsecondary institutions for students with disabilities. The number of 2- and 4-year institutions that enrolled students with disabilities reached 88 percent during the 2008-2009 academic year, including more than 99 percent of public colleges and universities. Students with disabilities were provided with extended test times in almost all of the institutions; note takers were available in 77 percent; study skill assistance was available in 72 percent; alternative exam formats were available in 71 percent; and adaptive technology was available in 70 percent. While the accommodations that are offered by disability services offices vary by institution, these findings are consistent with the report from the National Center for Education Statistics (Raue & Lewis, 2011).

Additionally, 169 undergraduate students with disabilities across multiple private colleges participated in an open-ended survey conducted in French (2013). In a quantitative study, the intent was to examine the perceptions of disabled students

regarding the support they receive from their colleges' disability services offices. The survey was completed by 169 participants, while 183 started it. During the analysis, the Office of Disability Services showed that it made reasonable efforts to coordinate and provide any accommodation requested. Students were overwhelmingly satisfied with the disability services they received. The participants also reported that campus disability services provided accommodations and support that aided their studies. Using the results from the study, French recommended conducting a study to interview the directors of the Office of Disability Services in order to discover how they perceive their programs on campus, and the resources available to them.

An Abreu, Hillier, Frye, and Goldstein (2016) study indicated that “the significant positive correlation between average number of visits to Student Disability Services per semester and GPA lends support to the value of such disability support services for academic success among students with disabilities” (p. 326). Abreu et al. (2016) surveyed students with disabilities regarding the usefulness of accommodation options and reported that students with disabilities considered extended time on exams, reduced distractions during tests, and audio recordings of lectures to be the most useful accommodations. In the survey, 85 percent of participants said the disabled services office helped them become successful in college. Abreu et al. (2016) reported that some students felt disability services offices did not provide satisfactory assistance and were more concerned about faculty members than they were about students. The researchers concluded that despite the fact that student perceptions do not necessarily reflect real academic benefits, it is advantageous for researchers to examine how effective disability support services are by taking student perspectives into account.

For her case study on increasing the use of disability services at 4-year universities, Figueroa (2021) conducted a qualitative study. Students who participated in this study were primarily found through word-of-mouth and social media sources, including the university's disability office. The design of the study involved selecting participants who were easy to reach using a purposive sampling process (Leavy, 2017). The use of disability services was assessed by conducting individual interviews with students and staff members. In the study, five students with nonvisible disabilities and four staff members from disability services participated. Data showed that students and staff feel that communication between students, faculty, and staff could increase use of disability services. Collaboration between departments and staff members has also been key to increasing the use of disability services. Participants also emphasized reducing stigma and raising awareness of disabilities, as well as studying and training faculty and staff about disabilities as ways to increase the use of disability services on campus.

### **Summary**

More students identified with disabilities are enrolling in higher education. The types of disabilities experienced by these students have changed along with the increase in students with disabilities at higher education levels. The Individuals with Disabilities Education Act (IDEA) and Title I of the Elementary and Secondary Education Act (ESEA) are both laws established to ensure that students with disabilities have equal access to course content and tests. In order to provide the most appropriate accommodations to students with disabilities, it may be helpful to understand individual students' needs.

Educating faculty to teach students with disabilities is the responsibility of colleges and universities, which entails incurring additional costs associated with these accommodations. When students with disabilities do not identify their disabilities before the beginning of the semester or school year, faculty are insufficiently informed of the type of disabilities. Moreover, these instructors have never been trained in how to make accommodations for students with disabilities to enhance their chances of success. Students with disabilities can adjust to college better with accommodations provided by faculty members. Previous research identified that faculty support is critical for creating self-advocacy and self-determination opportunities which helps students with disabilities to request accommodations in different academic settings (Walker & Test, 2011).

## **CHAPTER 3**

### **METHODOLOGY**

The primary purpose of this empirical study was to investigate the predictability of selected social, academic, and institutional factors on the acceptance of academic accommodations of college students with disabilities. Discussion in Chapter Three was classified into nine (9) major sections: (1) Type of Research Design; (2) Population and Research Setting; (3) Sampling Procedures; (4) Data Source; (5) Data Collection Procedure; (6) Identification of Independent and Dependent Variables; (7) Null Hypotheses; (8) Statistical Analysis; and (9) Testing of Statistical Assumptions.

#### **Type of Research Design**

A quantitative research design was employed in this empirical investigation. The type of quantitative methodological framework used in this study was the correlational research design (see Figure 1). This type of quantitative methodology provided the researcher with the opportunity to determine the predictable relationship between and among variables for the purpose of predicting specific outcomes (Warner 2013). In addition, the correlational research design has allowed the researcher to assess the linear combination effects of the predictor variables on the criterion variable (Warner, 2013). Moreover, according to Warner (2013), the correlational design as a quantitative methodology had the following advantages as an educational inquiry method: (1) it identifies variables that are highly related to produce a parsimonious solution; (2) it provides goodness-of-fit indicators to measure how well the data match the hypothesized



model; and (3) it produces mathematical equations (unstandardized and standardized) to explain the predictive as well as the amount of variance of the predictor variables on the criterion variable.

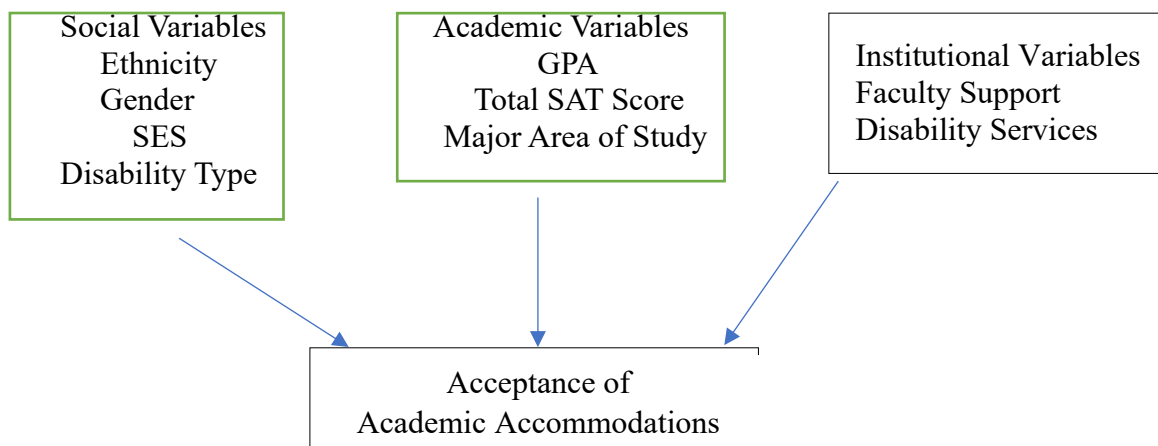


Figure 1. Correlational Design

### **Population Research Setting**

The population of this empirical study was undergraduate college students with disabilities enrolled in a higher education institution located in the southern region of the United States. The target higher education institution consists of four colleges and is a member of the Southern Association of Colleges and Schools Commission on Colleges (SASCOCS).

The target institution's campus encompassed 524 acres and is located on a wildlife and nature preserve. This institution has more than 90 undergraduate and graduate degree programs and three doctoral programs. The academic programs are served by 827 faculty members.

Furthermore, the student population for the Fall 2021 semester was approximately 9,400 students. Forty-two percent of the student clientele was Hispanic, thirty-two percent was White, nine percent was African American, eight percent was Asian, six

percent was international, and three percent was other. Finally, the target institution is recognized as a Hispanic Serving Institution.

### **Sampling Procedures**

A non-probability sampling procedure was used in the present study. The non-probability procedure employed in this study was the purposive (judgmental) sampling technique. This type of non-probability procedure is utilized when the researcher has the appropriated knowledge of the population to evaluate, as well as the sample considered to be representative of that population (Gay, Mills & Arasian, 2012). Additionally, the purposive sampling technique provided the researcher with the opportunity to focus on specific characteristics of the population of interest to answer her research questions. In addition, this sampling allowed the researcher to choose individuals based on common criterion associated with those participants who fit the study (Vogt, 2007).

In the current study, the following criteria were used to collect the sample: (1) the participant was an undergraduate student; (2) the participant must have had a disability; (3) the participant must have registered with the Office of Accessibility Support Center, and (4) the participant must have enrolled at the university during the 2021–2022 academic school year.

### **Source of Data**

The pre-existing (archived) data for the present study was obtained from the target institution's university's Instructional Technology Center, Registrar's Office, and Office of Institutional Research. All three of the above institution's entities were used to collect the data. The primary objective of each of these entities was to work cooperatively and provide data associated with the academic, psychological and career well-being of all

students attending the target institution. Based on the 2021–2022 academic school year, the data collected contained the following:

- Yearly Parameter(s) 2021–2022 academic school year
- Social Factors
  - Ethnicity
  - Gender
  - SES
  - Disability Type
- Academic Factors
  - GPA
  - Total SAT Score
  - Major Area of Study
- Institutional Factors
  - Faculty Support
  - Disability Services

### **Data Collection Procedures**

The researcher emailed the Vice President of Academic Affairs along with the Director of the Disability Services at the target higher education institution to schedule a meeting to discuss the logistics of conducting the present investigation. The email summarized the purpose and the Theoretical Framework of the Study as well as the methodological procedures to be employed in carrying out this empirical investigation. Once permission was granted, the researcher utilized the target university's database to collect the archival data associated with variables to be tested in the study. The

researcher provided a copy of the permission documentation to the Human Subjects Committee for the necessary approval in order to conduct the study. The researcher concurred with all necessary requirements in safeguarding the data. Furthermore, after the data from the university's database was provided to the researcher, she downloaded the data into a statistical software package for screening and recoding. Once this process was completed, the Statistical Package for the Social Sciences (SPSS version 27) was used to run and analyze the data for the researcher.

### **Identification of the Independent and Dependent Variables**

For the current empirical investigation, there are three sets of independent (predictor) variables. The first set of independent variables is classified as Social Factors. The four social variables to enter the logistic model are ethnicity, gender, socioeconomic status, and disability type. The second set of independent (predictor) variables is identified as academic factors. The major academic variables to enter the logistic regression model are GPA, Standardized Test (SAT) Scores, and Major Area of Study. Additionally, the third set of predictors (independent) variables is labeled as institutional factors. The two institutional variables to enter the binary logistic model are faculty support and disability services. The above nine (9) predictor variables were assumed to have some predictive effect on the dependent (logit) variable which is acceptance of academic accommodations (accept and non-accept).

### **Null Hypotheses**

The following null hypotheses were formulated from the previous research hypotheses provided in chapter one of the study.

Ho<sub>1</sub>: There is no statistically significant predictable relationship between selected social variables (ethnicity, gender, socioeconomic status, and disability type) and the acceptance of academic accommodations among undergraduate college students with disabilities.

Ho<sub>2</sub>: There is no statistically significant predictable relationship between selected academic variables (GPA, Standardized Test Scores and Major Area of Study) and the acceptance of academic accommodations among undergraduate college students with disabilities.

Ho<sub>3</sub>: There is no statistically significant predictable relationship between selected institutional variables (faculty support and disability services) and the acceptance of academic accommodations among undergraduate college students with disabilities.

### **Statistical Analysis**

Inasmuch as the outcome (dependent) variable was dichotomous, the Binary Logistic Regression Statistical Procedure was used. The logistic regression technique was employed to examine the relationship between one or more predictor variables and a dependent variable (Warner, 2013).

The predictor variables utilized in a Binary Logistic Procedure can be continuous or non-continuous. In the logistic model, the relationship between the predictor and the predicted values is assumed to be nonlinear. This statistical procedure used the S shaped curve (or sigmoidal), where the curve never falls below or reaches above 1 (Warner, 2013). Finally, a researcher who employs the Binary Logistic Regression procedure

attempts to predict the probability that an individual case belongs to each of two groups (Warner, 2013).

### **Testing of Statistical Assumptions**

The following assumptions are associated with the Logistic Regression Statistical Procedure.

1. It is assumed that the dependent variable is a dichotomous variable taking the value 1 with probability  $P$ , and the value 0 with probability  $P_0 = 1 - P_1$
2. The outcomes must be statistically independent. This means that a single case can be represented in the data set only once.
3. The specificity assumption refers to the logistic model containing all relevant predictors and no irrelevant predictors.
4. All categories in the logistic model must be mutually exclusive and collectively exhaustive – a case cannot be in more than one outcome category at a time. Also, every case must be a member of one of the categories under investigation.
5. Larger Samples – Testing hypotheses involving the logistic regression coefficients in larger samples are required. There should be a minimum of 50 cases per predictor variable (Mertler, Vannatta, & LaVenita, 2021).

## **CHAPTER 4**

### **DATA ANALYSIS**

The purpose of this study was to examine the predictability of selected social, academic, and institutional factors on the acceptance of academic accommodation of college students with disabilities. Specifically, the research was concerned with the predictable relationship between the selected social, academic, and institutional factors of ethnicity, gender, socioeconomic status, grade point average, major area of study, disability services, faculty support and the acceptance of academic accommodation of undergraduate college students. Answers to the following questions were sought:

1. Do the social variables of ethnicity, gender, socioeconomic status, and disability type have any predictive power regarding the acceptance of academic accommodations of college students with disabilities?
2. Do the academic variables of GPA and major area of study type have any predictive power regarding the acceptance of academic accommodations of college students with disabilities?
3. Do the institutional variables of faculty support and disability services have any predictive power regarding the acceptance of academic accommodations of college students with disabilities?

The sample population for the present investigation consisted of 216 college students with disabilities. The results for this investigation were categorized into two

main sections. The first section consisted of social-demographic attributes of the college student participants in the study. The second section contained the testing of the statistical (null) hypotheses generated for this study. The Direct Logistic Regression technique was utilized to analyze the data for this empirical investigation. All three statistical hypotheses were tested at the .05 level of significance or better.

### **Social-Demographic Profile of the College Students in the Study**

There were 216 college students with disabilities who participated in this investigation. The college students were described descriptively by their gender, ethnicity, socio-economic status, type of disability, academic major, faculty support and disability services.

#### **Gender**

One hundred thirty-nine or 64.4 percent of the college students were females. By contrast, 77 or 35.6 percent were males. See Table 1 for these results.

**Table 1**

**Frequency Distribution of Participants by Gender**

<b>Variable</b>	<b>Number</b>	<b>Percent</b>
<b>Gender</b>		
<b>Female</b>	139	64.4
<b>Male</b>	77	35.6
<b>Total</b>	216	100.0



### **Ethnicity**

Regarding the variable ethnicity, there were 94 or 43.4 percent of the college students who identified their ethnic status as White American and 28 or 13.4 percent of them revealed their ethnic background as African American. In addition, 74 or 34.2 percent of the college students reported their ethnic identity as Hispanic and 10 or 4.5 of them indicated their ethnicity was Asian. Finally, 10 or 4.5 percent of the college students expressed their ethnic status as Other. See Table 2 for these analyses.

**Table 2**  
**Frequency Distribution of Participants by Ethnicity**

<b>Variable</b>	<b>Number</b>	<b>Percent</b>
<b>Ethnicity</b>		
<b>White American</b>	94	43.4
<b>African American</b>	28	13.2
<b>Hispanic</b>	74	34.2
<b>Asian</b>	10	4.5
<b>Other</b>	10	4.5
<b>Total</b>	216	100.0

### **Socio-Economic Status**

The variable socio-economic status was measured in two categories. There were 139 or 66.7 percent of the college students who reported that their family income was \$75,000 or less. Likewise, 72 or 33.3 percent of the college students indicated that their family income was \$75,001 and above. See Table 3 for these findings.

**Table 3**  
**Frequency Distribution of Participants by Socio-Economic Status**

<b>Variable</b>	<b>Number</b>	<b>Percent</b>
<b>SES</b>		
<b>\$75,000 or less</b>	139	64.4
<b>\$75,001 and above</b>	77	35.6
<b>Total</b>	216	100.0

#### **Type of Disability**

Type of Disability was classified into three categories for this study. There were 38 or 17.6 percent of the college students who expressed their disability was mental in nature and 52 or 24.1 percent of them reported their disability as physical in nature. Finally, one hundred twenty-six or 58.3 percent of college students acknowledged their disability as learning in nature. See Table 4 for these results.

**Table 4**  
**Frequency Distribution of Participants by Type of Disability**

<b>Variable</b>	<b>Number</b>	<b>Percent</b>
<b>Type of Disability</b>		
<b>Mental</b>	38	17.6
<b>Physical</b>	52	24.1
<b>Learning</b>	126	58.3
<b>Total</b>	216	100.0

### Academic Major

The variable academic major was categorized into two groups for this study. There were 134 or 62 percent of the college students who reported that their academic major was non-stem. Likewise, there were 82 or 38 percent of the college students who majored in stem academic areas. See Table 5 for these findings.

**Table 5**  
**Frequency Distribution of Participants by Academic Major**

<b>Variable</b>	<b>Number</b>	<b>Percent</b>
<b>Academic Major</b>		
<b>Non-Stem</b>	134	62.0
<b>Stem</b>	82	38.0
<b>Total</b>	216	100.0

### Faculty Support

The variable faculty support was in a dichotomous format for this study. There were 125 or 57.9 percent of the college students who reported they had moderate support from faculty members regarding their disability. On the other hand, 91 or 42.1 percent of the college students indicated they had low support from faculty members with respect to their disability. See Table 6 for these results.

**Table 6**  
**Frequency Distribution of Participants by Faculty Support**

<b>Variable</b>	<b>Number</b>	<b>Percent</b>
<b>Faculty Support</b>		
<b>Low</b>	91	42.1
<b>Moderate</b>	125	57.9
<b>Total</b>	216	100.0

### **Disability Services**

The variable disability services were divided into academic and non-academic for this investigation. There were 28 or 13 percent of the college students who reported their disability as non-academic. By contrast, 188 or 87 percent of the college students expressed their disability as academic. See Table 7 for these results.

**Table 7**  
**Frequency Distribution of Participants by Disability Services**

<b>Variable</b>	<b>Number</b>	<b>Percent</b>
<b>Disability Services</b>		
<b>Non-Academic</b>	28	13.0
<b>Academic</b>	188	87.0
<b>Total</b>	216	100.0

### **Testing of the Hypotheses**

$H_{01}$ : There is no statistically significant predictable relationship between selected social variables (ethnicity, gender, socioeconomic status, and disability type) on

the acceptance of academic accommodations (accept and not accept) of undergraduate college students with disabilities.

A direct logistic regression technique was computed to assess the predictable relationship between social variables (ethnicity, gender, socioeconomic status, and disability type) and the acceptance of academic accommodations (accept and not accept) among college students with disabilities. Regression results revealed that the overall model of the four social variables were not statistically reliable in distinguishing between those college students with disabilities who would accept academic accommodations and those college students with disabilities who would not accept academic accommodations (-2 Log likelihood = 211.074,  $X^2(8) = 14.597$ ,  $p > .05$ ). Additionally, according to the Nagelkerke R Square test, the social variables, ethnicity, gender, SES, and type of disability, together, accounted for 10.1 percent of the variance in academic accommodation.

**Table 8**

**Overall Model Fit Results Regarding the Predictable Relationship Between Social Variables and Academic Accommodations**

<b>Model</b>	<b>Chi Square</b>	<b>Df</b>	<b>P</b>
<b>Final</b>	14.597	8	.067

2 Log likelihood = 211.074; Nagelkerke R Square = .101

Moreover, the classification table (Table 9) indicated that 98.2 percent of the cases in the target group (Accept group) were correctly classified by the model. On the other hand, 6.4 percent of the cases in the “Other” group (non-Accept group) were correctly

classified by the model. Overall, the model correctly classified 78.2 percent of the cases (See Table 9).

**Table 9**  
**Classification Table Results Regarding Academic Accommodations**  
**by College Readiness**

<b>Academic Accommodations</b>	<b>Non-Accept</b>	<b>Accept</b>	<b>Percent Correct</b>
<b>Non-Accept</b>	3	44	6.4
<b>Accept</b>	3	166	98.2

Overall Correct = 78.2

Furthermore, the Wald Statistics was used to examine the contribution of each individual predictor on college students with disabilities acceptance of academic accommodations. The Wald Test revealed that the social variable type of disability ( $Z = 4.933$ ,  $p < .05$ ) was found to be an independent predictor of the acceptance of academic accommodations among college students with disabilities (Table 10). Further, the odds ratio for type of disability estimated that the odds of acceptance of academic accommodations would increase by a factor of 1.610 for each unit increase in type of disability, when considering ethnicity, gender, and socioeconomic status (Table 10).

**Table 10**  
**Regression Coefficients Regarding the Relationship Between Social Factors and**  
**Academic Accommodations**

<b>Variable</b>	<b>B</b>	<b>SE</b>	<b>Wald</b>	<b>Df</b>	<b>p</b>	<b>Exp (B)</b>
<b>White</b>	-.331	1.120	.087	1	.768	.718
<b>Black</b>	-.261	1.197	.0148	1	.826	.769
<b>Hispanic</b>	.118	1.167	.010	1	.919	1.125
<b>Asian</b>	.035	1.307	.001	1	.919	1.035
<b>Other</b>	-1.763	1.051	2.82	1	.094	.172
<b>Gender</b>	.443	.375	1.393	1	.238	1.557
<b>SES</b>	.596	.402	2.202	1	.138	1.815
<b>Type</b>	.476	.214	4.933	1	.026	1.610*
<b>Constant</b>	1.050	1.110				

\*Significant at the .05 level

$H_{02}$ : There is no statistically significant predictable relationship between selected academic variables (GPA and major area of study) on the acceptance of academic accommodations (accept and not accept) of undergraduate college students with disabilities.

Presented in Table 11 were the Binary Logistic Regression analyses regarding the predictable relationship between academic variables and the acceptance of academic accommodations of undergraduate college students with disabilities. The regression results indicated that the two academic variables of GPA and major area of study were statistically reliable in predicting those college students with disabilities who would

accept academic accommodations and those college students who would not accept academic accommodations (-2 Log likelihood = 218.991,  $X^2(2) = 7.310$ ,  $p < .05$ ). Moreover, the Nagelkerke R Square procedure revealed that the academic variables (GPA and major area of study), collectively, accounted for 5.1 percent of the variance in acceptance of academic accommodations (See Table 11).

**Table 11**

**Overall Model Fit Results Regarding the Relationship Between Academic Variables and Academic Accommodations**

<b>Model</b>	<b>Chi Square</b>	<b>Df</b>	<b>P</b>
<b>Final</b>	7.310	2	.032*

2 Log likelihood = 218.991; Nagelkerke R Square = .051

\*Significant at the .05 level

Additionally, the classification table (Table 12) revealed that 100 percent of the cases in the target group (accept group) were correctly classified by the model. By contrast, 0.0 percent of the cases in the “Other” group (non-Accept group) were correctly classified by the model. Overall, the model correctly classified 78.2 percent of the cases (See Table 12).

**Table 12**

**Classification Table Results Regarding Persistence Academic Accommodations**

<b>Academic Accommodations</b>	<b>Non-Accept</b>	<b>Accept</b>	<b>Percent Correct</b>
<b>Non-Accept</b>	0	47	0.0
<b>Accept</b>	0	169	100.0

Overall Correct = 78.2



Furthermore, the Wald Statistics reported that the variable major area of study ( $Z = 4.227, P < .05$ ) was found to be an independent predictor of the acceptance of academic accommodations among college students with disabilities. Also, the model estimated that when controlling for GPA, the odds of acceptance of academic accommodations would increase by a factor of 2.15 for each unit increase if the student was a stem major instead of a non-stem major (Table 13). Therefore, hypotheses two was rejected.

**Table 13**  
**Regression Coefficients Regarding the Relationship Between Academic Factors and Academic Accommodations**

<b>Variable</b>	<b>B</b>	<b>SE</b>	<b>Wald</b>	<b>Df</b>	<b>p</b>	<b>Exp (B)</b>
<b>GPA</b>	-.437	.253	2.974	1	.085	.646
<b>Major</b>	.766	.372	4.227	1	.040	2.151*
<b>Constant</b>	2.357	.802				

\*Significant at the .05 level

$H_{03}$ : There is no statistically significant predictable relationship between selected institutional variables (faculty support and disability services) on the acceptance of academic accommodations (accept and not accept) of undergraduate college students with disabilities.

Presented in Table 14 were the Standard Binary Logistic analyses pertaining to the predictable relationship between institutional variables and the acceptance of academic accommodations of undergraduate college students with disabilities. The regression results indicated that the two institutional variables (faculty support and disability services) were statistically reliable in predicting those college students with

disabilities who would accept academic accommodation and those college students who would not accept academic accommodations (-2 Log likelihood = 216.935,  $X^2(2) = 9.366$ ,  $p < .01$ ). In addition, the Nagelkerke R Square technique revealed that the 6.5 percent of the variance in acceptance of academic accommodations can be explained by faculty support and disability services (Table 14).

**Table 14**  
**Overall Model Fit Results Regarding the Predictable Relationship Between Institutional Variables and Academic Accommodations**

<b>Model</b>	<b>Chi Square</b>	<b>Df</b>	<b>P</b>
<b>Final</b>	9.366	2	.009**

2 Log likelihood = 216.935; Nagelkerke R Square = .065

\*\*Significant at the .01 level

Furthermore, the classification table revealed that 100 percent of the cases in the target group (accept group) were correctly classified by the model. Nonetheless, 0.0 percent of the cases in the “Other” group (non-Accept group) were correctly classified by the model. Overall, the model correctly classified 78.2 percent of the cases (See Table 15).

**Table 15**  
**Classification Table Results Regarding Academic Accommodations**

<b>Academic Accommodation</b>	<b>Non-Accept</b>	<b>Accept</b>	<b>Percent Correct</b>
<b>Non-Accept</b>	0	47	0.0
<b>Accept</b>	0	169	100.0

Overall Correct = 78.2

Moreover, the Wald Statistics reported that the variable faculty support ( $Z = 9.040$ ,  $P < .01$ ) was an independent predictor of the acceptance of academic accommodations among undergraduate college students. Likewise, the odds ratio for faculty support estimated that when disability services was statistically adjusted for, the odds of acceptance of academic accommodations was 2.79 times greater for undergraduate college students with disabilities who receive moderate support from faculty members than those who receive low faculty support (Table 16). Consequently, hypotheses three was rejected.

**Table 16**  
**Regression Coefficients Regarding the Relationship Between Institutional Factors and Academic Accommodations**

<b>Variable</b>	<b>B</b>	<b>SE</b>	<b>Wald</b>	<b>Df</b>	<b>p</b>	<b>Exp (B)</b>
<b>Support</b>	1.026	.341	9.040	1	.003	2.791***
<b>Services</b>	.024	.205	.013	1	.909	1.024
<b>Constant</b>	.736	.305				

\*\*Significant at the .01 level

### Summary of Hypotheses

There were three main statistical (null) hypotheses tested in this prevailing study. All three were examined to assess the relationship and predictability of social, academic, and institutional variables on the acceptance of academic accommodations of undergraduate college students with disabilities. Two of the three statistical hypotheses were found to be significant.

Academic variables (hypothesis two) major area of study and grade point average were found to be statistically reliable in distinguishing those undergraduate college students who would accept academic accommodations and those who would not accept academic accommodations. The variable major area of study was found to be an independent predictor of acceptance of academic accommodations. In addition, the institutional variables (hypothesis three) of faculty support and disability services were found to be statistically reliable in distinguishing those undergraduate college students who would accept academic accommodations and those who would not accept academic accommodations. The variable faculty support was found to be an independent predictor of acceptance of academic accommodations (See Table 17).

**Table 17**

**Summary Table of Hypotheses Tested**

<b>Hypotheses</b>	<b><math>\chi^2</math></b>	<b>Df</b>	<b>Conclusion</b>
<i>H<sub>01</sub></i>	14.597	8	Non-Significant
<i>H<sub>02</sub></i>	7.310*	2	Significant
<i>H<sub>03</sub></i>	9.366**	2	Significant

\*Significant at the .05 level

\*\*Significant at the .01 level

**CHAPTER 5**  
**SUMMARY, FINDINGS, DISCUSSION, CONCLUSIONS, IMPLICATIONS**  
**AND RECOMMENDATIONS**

**Summary**

The purpose of this study was to examine the predictability of selected social, academic, and institutional variables on the acceptance of academic accommodations among undergraduate college students with disabilities. Specifically, this study was concerned with the predictable relationship between the social, academic, and institutional variables of ethnicity, gender, SES, GPA, major area of study, faculty support and disability services, and the acceptance of academic accommodation of undergraduate college students.

A predictive correlational research design was employed in this study. Two hundred sixteen (216) undergraduate college students were selected using the purposive sampling technique to participate in the study. Pre-existing data were generated by the participating institution's Office of Institutional Research to test the hypotheses.

Furthermore, the data were analyzed in the study by utilizing the Binary Logistic Regression procedure. The following three statistical (null) hypotheses were formulated and tested at the .05 level of significance or better in this investigation.

$H_{01}$ : There is no statistically significant predicable relationship between selected social variables (ethnicity, gender, socioeconomic status, and type of

disability) and the acceptance of academic accommodations (accept and not accept) of undergraduate college students with disabilities.

$H_{O_2}$ : There is no statistically significant predicable relationship between selected academic variables (grade point average, and major area of study) and the acceptance of academic accommodations (accept and not accept) of undergraduate college students with disabilities.

$H_{O_3}$ : There is no statistically significant predicable relationship between selected institutional variables (faculty support and disability services) and the acceptance of academic accommodations (accept and not accept) of undergraduate college students with disabilities.

### **Findings**

The following findings were obtained from the results of the study:

1. The social variables of ethnicity, gender, socioeconomic status, and type of disability were not significant in predicting those undergraduate college students with disabilities who would accept accommodations and those who would not accept accommodation.
2. The social variable type of disability was an independent predictor of the acceptance of academic accommodation among undergraduate college students with disabilities.
3. The academic variables of GPA and major area of study were statistically reliable in predicting those undergraduate college students with disability who would accept accommodations and those who would not accept accommodation.

4. The academic variable major area of study was an independent predictor of the acceptance of academic accommodations among undergraduate college students with disabilities.
5. The institutional variables of faculty support and disability services were statistically reliable in predicting those undergraduate college students with disability who would accept accommodations and those who would not accept accommodation.
6. Faculty support as an institutional variable was an independent predictor of the acceptance of academic accommodations of undergraduate college students with disabilities.

### **Discussion**

One of the most interesting findings of the present study was the significant influence of institutional factors on the acceptance of academic accommodation among undergraduate college students with disabilities. The institutional variables of faculty support and disability services were statistically linearly related to the acceptance of academic accommodations by undergraduate students with disabilities. The findings were consistent with those of Mamboleo et al. (2015), McDonald, et al. (2007), Banks and Hughes (2013), Rao (2004), Shogren et al. (2015), Sniatecki et al. (2015), Cawthon and Cole (2010), O'Shea and Kaplan (2017) and French (2013).

All the above researchers found that the institutional factors of faculty support and disability services were related to the accommodation status of college students with disabilities. Nonetheless, it should be noted that only the variable faculty support was found to be an independent predictor of the acceptance of academic accommodations

among undergraduate students with disabilities. These findings correspond to those of Hindes and Mather (2007), (Baker, et al.(2012), McWaine (2011), and Yssel et al. (2016). A reasonable explanation for these findings may be that faculty members, because of the social relationships they have formed with college students with disabilities within the classroom environment, are more understanding and supportive of their academic needs. By understanding and being supportive of their needs, they are the ones who are more capable of developing and implementing instructional strategies to assist them in overcoming the various barriers that might hinder their academic progress on college campuses.

Even though the variable disability services was not an independent predictor, it was significantly related in conjunction with faculty support with regard to the acceptance of academic accommodations of college students with disabilities. Previous research reported that college students were overwhelmingly satisfied with the disability services they received on college campuses (French, 2013). An explanation regarding these findings associated with disability services and academic accommodations may be that as a group, these students were provided with the necessary accommodations they requested so they could be academically successful in their classes.

Moreover, another significant finding pertained to the present study was the significant predictable relationship found between academic factors and the acceptance of academic accommodations among undergraduate students with disabilities. Specifically, the academic variables of GPA and major area of study were found to be significantly linearly related to the acceptance of academic accommodations among college students with disabilities. These findings were consistent with those of Timmerman and Mulvihull



(2015), Hedreick, et al. (2010), Cardoso et al. (2016), DuPaul, et al. (2017), Sireci, et al. (2005) and Kim and Lee (2016).

The aforementioned researchers found that the academic variables of major area of study and GPA were significantly related to the acceptance of academic accommodations among undergraduate students with disabilities. A plausible explanation for these findings may be that college students with disabilities were very satisfied simultaneously with both their academic progress as well as with their major area of study. Because of this, they are more aware of how these factors contribute collectively to their ability to acquire accommodations services on college campuses.

Additionally, the academic variable major area of study was found to be an independent predictor of the acceptance of accommodations among undergraduate college students with disabilities. Undergraduate college students who were STEM majors were more likely to accept academic accommodations than non-STEM students. These findings were not favorable to those of Hedrick et al. (2010). Hedrick and his colleagues found no difference in the accommodation status of STEM and non-STEM students. A substantial explanation for these findings may be that regardless of their academic major, undergraduate students with disabilities have accepted accommodation services as an essential component to achieving academic success on college campuses.

Finally, and somewhat surprising was the lack of a significant predictable relationship between social variables and the acceptance of academic accommodations among undergraduate college students with disabilities. These findings were not supported in the works of Strayhorn (2010), Bailey and Dynaski (2011), Jorgensen et al. (2005), Shin and Chan (2004), Waterfield and Whelan (2017), Loopstra and Lalor (2017)

and LaCour and Tissington (2011). All these researchers found that social variables were statistically related to the acceptance of academic accommodations among college students with disabilities.

Although, since social variables as a group were found not to be statistically reliable in predicting academic accommodations, the social variable type of disability was found to be an independent predictor of these phenomenon. These findings parallel those of Heiman (2008), Dong and Lucas (2013), O'Neill, Markward and French (2012), and Field, Sarver and Shaw (2003). These researchers found that type of disability was an independent predictor of academic accommodations among undergraduate college students with disabilities. A theoretical explanation for these findings may be that college students with a medical disability are the ones that are provided more academic accommodation services than those with a learning disability as well as a physical disability.

### **Conclusions**

The following conclusions were generated from the results of the study:

1. In general, a binary regression model developed to correctly predict the acceptance of academic accommodations among undergraduate college students with disabilities should not include the social variables of ethnicity, gender, SES, and type of disability.
2. It appeared that undergraduate college students with a medical disability were almost twice as likely to accept academic accommodation than those with physical or learning disabilities.

3. Undergraduate college students with disabilities who were STEM majors were 2.12 times more likely to accept academic accommodation than those who were non-STEM majors.
4. In general, the odds of undergraduate college students with disabilities accepting academic accommodation were significantly higher when academic variables GPA and major area of study were included in the binary logistic model.
5. Any attempt to increase the odds of acceptance of academic accommodation among undergraduate college students with disabilities should include the institutional variables of faculty support and disability services.
6. Finally, it appeared that undergraduate college students with disabilities who received a moderate level of faculty support were 2.79 times more likely to accept academic accommodations than those who received a low level of faculty support.

### **Implications**

The following implications are offered for consideration by college administrators:

1. The significant relationship that exists between institutional variables and the acceptance of academic accommodation among undergraduate college students with disabilities suggests that there is a need, on the part of college administrators and their staff who are responsible for the total well-being of all students, to consider the effects of faculty support and disability services. It is well documented that faculty support in conjunction with the Office of Disability Services is a vital entity on college campuses to assisting students with disabilities in negotiating the college environment. Thus, it is imperative that higher education administrators work closely with faculty members in developing

accommodation interventions to help undergraduate students with disabilities to integrate more smoothly into the total college environment.

2. The relationship found between academic variables and the acceptance of academic accommodations among undergraduate college students with disabilities suggests that there is a need not only for academic intervention but also more social support interventions to enhance the academic and psychological well-being of these students. It is imperative that the academic and student services components of the institution need to develop strategies to help students with disabilities develop a sense of belonging on their campuses which will translate into success in the classroom as well as help them to grow as a person socially.
3. Finally, the lack of significant relationships found between social variables and the acceptance of academic accommodations among undergraduate college students with disabilities suggest that college administrators and faculty members alike should still be aware of the influence that social and personal characteristics have on the academic performance of these students. The literature pointed out that social variables such as gender, ethnicity, socioeconomic status, and type of disability do have some predictive power regarding students with disabilities accepting or not accepting accommodations. It is from this perspective that there is an apparent need for administrators on higher education campuses to develop programs to encourage students with disabilities to ask for and participate in accommodation services that will help them in their effort to receive their college degree.

### **Recommendations for Further Study**

In order to further extend the findings of this study, the researcher recommends that:

1. A study be conducted to examine the predictive power of selected family and cultural factors on the acceptance of academic accommodation on the part of students with disabilities.
2. A study be conducted to investigate the attitudes of college students with disabilities and those without disabilities on accommodation services.
3. A follow-up study be conducted which will include a larger sample of undergraduate college students with disabilities from different geographical regions across the United States. Such a study will provide a more detailed picture of the predictability of social, academic, and institutional variables on the academic accommodations among college students with disabilities.
4. Finally, a study be conducted to compare undergraduate and graduate students on the acceptance of accommodation services on college campuses.

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