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The Impact of Student Support Services on Academic Success at a Select Historically Black College and University

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THE IMPACT OF STUDENT SUPPORT SERVICES

ON ACADEMIC SUCCESS AT A SELECT

HISTORICALLY BLACK COLLEGE AND UNIVERSITY

by

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DEDICATION

To the almighty, Father, my provider, my greatest source of strength, and wisdom: thank you for your divine interventions and for keeping me in your grace and mercy. I dedicate this work to my husband and girls, Dr. Tony Cummings, Kyra and Eleana Cummings, whose love and continued support kept me focused. I owe it all to you guys. I also dedicate this work to my parents, Maurice and Octavia Bernard. You taught me the value of hard work and the importance of a good education. Last but not least, to my extended family Adrian, Lisa, Lucrecia, Carla, Leanne, Sheldon, Margaret and Aunt Jean. You loved, encouraged, and supported me all the way through.

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ABSTRACT

The purpose of this study was to determine and examine the impact of student support services (SSS) on academic success at a historically black college. The study was grounded in the theoretical framework of Astin's Input-Environment-Outcome Model (IEO), Scholssberg's theory of marginality, holistic theory , facilitation theory, and the theory of sensory simulation (Dunn, 2002; Anderson et. al., 2011; Dennick, 2014 and Pritchard, 2013)

A mixed method approach was used to quantify and explicate triangulated data, which included the N-LSSI survey, archival data, and focus group interviews. The N-LSSI survey used a 7-point Likert Scale, and students from The College completed the instrument. The longitudinal nature of the study meant that the assumption of independent observations required by ANOVA was violated. Therefore, I used MANOVA to analyze SSS and Non-SSS student academic achievement data (i.e., GPA, Accuplacer test scores). This analysis also determined whether significant differences existed between the SSS and Non-SSS student participant groups based on means of the predictors. Qualitative data were organized, evaluated, and interpreted using open, axial and selective coding with MAXQDA, a qualitative data analysis software program.

The results of the analyses showed there were no significant differences between the two student groups relative to GPAs. In contrast, Accuplacer math scores, reading scores, and writing scores were significantly different. The retention differences between SSS and Non-SSS students were significant in 2011 and 2012, while graduation data revealed significant differences in 2012.

Results from the N-LSSI survey produced no significant difference between SSS and Non-SSS satisfaction with The College, while focus group interviews revealed student satisfaction levels were virtually the same.

CHAPTER 1: INTRODUCTION

The state of our educational system is the subject of a contentious debate that questions

its effectiveness (E. L. Baker, 2013; Riley & Louis, 2013). Some criticisms of the current system

center on issues of teacher performance, curriculum development, and state-mandated

standardized testing (Jackson, 2001). There are educators and legislators who believe teachers

should be paid based on the performance of their students on standardized tests or end-of-year

exams (i.e., merit pay), and others who support a pay scale that is based on seniority and time in

grade (i.e., union contracted pay). Then there are those who believe that much of the curriculum

in use today by school districts across the country is not challenging enough for students or that

it fails to promote a positive learning environment. As for the issue of standardized testing, there

are those educators who vehemently support its use, arguing that such testing is fair,

comprehensive, and provides no student with an unfair advantage over another (Jackson,

2001)—an assertion with which those who oppose this style of testing strongly disagree.

This debate, no doubt, will go on well into the future as parents, teachers, and school

districts come together to find ways to resolve these pressing issues. Perhaps Kinchella and Weil

(2001) said it best: "Either you're in favor of higher standards or you are presumably content

with lower standards" (p. 768). Otherwise stated, either one is in favor of more stringent testing

for students, in many cases standardized testing, or one is not. Furthermore, this current debate

over the merits of educational policies, such as No Child Left Behind (NCLB) and Race to the

Top (RTTT), is an attempt to address concerns articulated by Kincheloe and Weil.

The Department of Education (DOE) introduced NCLB in January of 2002 at the

direction of President George W. Bush. NCLB is a DOE initiative that seeks to educate children

in public schools throughout the United States at the same rate of progression, thus leaving "no

child behind." At the core of NCLB is an initiative that seeks to hold teachers and school districts across the country accountable for student achievement in the classroom. In keeping with the Higher Education Reform Movement of the 1980s, the act dictates that teachers teach from a uniform curriculum and gauge the progress of each student by means of standardized testing. Such imposition amounts to a mandate to educators that specifies numerous recommendations (Jackson, 2001).

These types of examinations are administered annually by most school districts at the end of the school year, although NCLB does not set national achievement levels for students; the results determine whether a student is promoted or retained at his or her current level. Accusations levied against teachers primarily by those who oppose NCLB focus heavily on the state test rather than educating students (*The Washington Post*, February 20; Fair Test, 2007; Russo, 2008). In other words, there are those who feel that educators are being forced to adapt a stringent, drill and practice strategy that streamlines subject material that is likely to appear on end-of-year exams, as opposed to concentrating on improving student" area of academic weakness. In Weil's surveys, these same individuals have also expressed their disapproval of the policy of assigning letter grades "A," "B," "C," "D," "F" to schools based on NCLB test results (Weil, 2002).

Proponents of NCLB tend to cite a rigorous curriculum that this policy promotes and hold teachers accountable for academic achievement as some of their primary reasons for supporting the initiative. These individuals are typically school administrators and state lawmakers (Butzin, 2007; Koyama, 2011; Sunderman, et al., 2005). Much of the opposition to NCLB over the years has come from parents and teachers who voice their frustration with statewide standardized

testing imposed on local school districts. The remedy to the inadequacies of NCLB, for some, is President Barack H. Obama's Race to the Top initiative.

The introduction of the RTTT in July of 2009 was a part of the American Reinvestment Act under President Obama's administration (Department of Education, 2011, October 20). The act awarded points to teachers and principals in school districts that made consistent strides commensurate with predetermined nationwide standards. These standards included the following: (a) create performance-based standards for teachers, (b) promote the use of charter schools, and (c) implement widespread use of technology in the classroom (Department of Education, 2011), a move some believe has questionable benefits (Paiva, 2010).

RTTT, like NCLB, was not without its critics. In fact, there were those who said that promoting the use of charter schools undermined the role of public schools, a signature component of RTTT. Similarly, some opponents of the policy commented that components such as performance pay standards, a provision that rewards teachers based on student test scores, fundamentally restricted teachers in the classroom by asking them to teach with fewer resources and in many instances with the same pay. A recent battle in the Florida legislature in 2011 reflected this concern. Subsequently, newly elected governor of the state Rick Scott signed into law a highly controversial merit pay bill (*The Florida Times-Union*, 2005, February 8), Senate Bill 736, which amongst other provisions eliminated teacher tenure in the state. For many teachers in the state, having tenure meant job security, a benefit that the merit pay bill sorely undermined.

Across the country on college and university campuses, teachers, administrators, and parents in school districts directly felt the effects of NCLB and RTTT. Students also felt the impact of years of dramatic changes in our education system, moreover, with the absence of

reliable education policies. Gewertz (2011) noted that students were applying for entry into college without possessing the critical math, reading, and writing skills they need to be successful. Likewise, many institutions of higher learning turned students away because they were underprepared for college. While some schools struggle to adjust to the new reality of poorly performing applicants, others, primarily Historically Black Colleges and Universities (HBCUs), have been dealing with this unfortunate reality for decades.

For years, one HBCU has welcomed students from low socioeconomic backgrounds to its campus via an open enrollment process, a process that requires a high school diploma or General Equivalency Diploma (GED) certificate for entry into its academic programs (The College, 2005). It has become The College's mission to educate these students and prepare them for the real world. The establishment of the HBCU in the 1800s, referred to in this study as "The College," educates descendants of newly emancipated African slaves (The College, 2010). One of several historically black institutions in the United States, it is home to hundreds of students who are enrolled in nine different baccalaureate programs. The student body is primarily composed of young adults, ages 18 to 25. The university's or college leadership team comprises a president, vice president, five department directors, and 120 staff and faculty members. These individuals manage and implement the institution's faith-based curriculum.

The College recruits mostly from impoverished areas throughout the southern United States. The proportion of this group of students at The College is nearly 90%, and because of their low-income, first-generation classification by the state, they qualify for government tuition assistance (The College, 2005). Thayer (2000) noted that first-generation college students are likely to enter college with less academic preparation and have limited access to information about the college experience either firsthand or from relatives. For many of these students,

government support is the only source of income they receive while enrolled in college. These students are generally twice as likely to withdraw prematurely from college as those who do not receive government assistance.

The campus of The College spans approximately 20 acres across a city in a large southern state. Pedestrian, bicycle, and motor vehicle traffic flow over the main highway through the campus, making it one of the most heavily traveled state roadways in the area.

The College operates on a modest budget of private donations and government grants. Typically, colleges and universities with large amounts of residual cash in their treasury are financially better equipped to provide their poorly performing students with targeted remedial programming. Some of these students, because of poor program financing, opt for vocational, technical, or remedial programs, which may impede their progress (Striplin, 1999; Turner 2012). "Most academic studies of school finance, sooner or later, ask us to consider the same question: How can we achieve more equity in education in America?" (Kozol, 1991, p.175). The answer to this question may be quite simple, at least for The College: Raise more revenue. Often, the greater a school's endowment (i.e., financial asset donations), the more residual cash it has to spend on intervention programming (e.g., tutoring, counseling, career development).

The College receives annual donor contributions of $1.8 million for the maintenance and upkeep of 30 buildings and structures on campus, as well as for the implementation of nine undergraduate degree programs (The College, 2010; 2013). These donations, made by local business leaders and individual contributors, are a critical component of the school's overall financial picture. A portion of this funding supports academic programming designed to boost student enrollment, retention, and graduation rates. According to the U.S. Department of

Education (1997), TRIO programs, an umbrella term for educational opportunity services, creates a support mechanism for these goals.

TRIO is a government program that offers supplemental tutoring, counseling, and remedial services specifically structured to help colleges and universities increase retention and graduation rates (Department of Education, 1997). The TRIO program, adopted by The College in 2005, provides low-income first-generation students with a series of federally funded educational programs to assist them with making the transition from high school to college life (Department of Education, 2003; The College, 2010). A first-generation student is defined as "an individual both of whose parents did not complete a baccalaureate degree; or in the case of any individual who regularly resided with and received support from only one parent, an individual whose only such parent did not complete a baccalaureate degree" (Department of Education, 2011, September 23, p. 3).

Wilson (2006) observed a direct correlation between students' institutional experiences and a school's retention and graduation rate. His report suggested that students who experience difficulty with academics, the social life on campus, and adjusting to the institutional subculture while in college may feel a need to abandon their higher education goals altogether. Moldenhauer (2002) found that the number one predictor of college success is student connection to the campus. These and other similar reports on retention (Gansemer-Topf & John, 2003) may prove beneficial in examining The College's low enrollment, retention, and graduation rates.

According to the Council for Opportunity in Education (Department of Education, 2007a, April 11), the following percentages represent the ethnic breakdown of students participating in TRIO programs nationwide: 37% White Americans; 35% African Americans; 19% Hispanic

Americans; 4% Native Americans; and 4% Asian Americans. These numbers are significant in that they highlight the financial importance of the TRIO program to The College. Although TRIO resources were not deployed based on the race or ethnicity of a recipient, the fact that more than 90% of the students attending The College received government funding through Pell Grants cannot be ignored (The College, 2005). A substantial decline in student enrollment and retention numbers for this school could mean substantial losses in revenue because of its sizable minority population. As with many other institutions of similar size across the country, The College cannot afford to lose federal funding because of poor enrollment and retention numbers. Such losses could be potentially crippling to The College's bottom line.

Statement of the Problem

Despite adopting and implementing the TRIO program, The College has experienced subtle—but steady—declines in its enrollment and retention numbers over the years. Student enrollment in 2005 was over 1,300 (*The Florida Times-Union*, 2005, February 8), in 2010 it was 769 (The College, 2010) and during the 2013school year it was 925 (The College, 2013). This was problematic because, according to the DOE, educated individuals are more likely to find well-paying jobs than uneducated individuals (Department of Education, 2011, August 4); education is considered the ticket to prosperity in America (Darby, 2009). Moreover, published reports by the Youth Policy Forum in 2000 found that children in the United States lacked training in high technology STEM jobs of the future (Hagedorn, 2012; Jurich & Estes, 2000). This report underscored the importance of a post-baccalaureate education in our society, as well as the need for college and university administrators to search continuously for ways to increase their enrollment and graduation percentages.

Clearly, the continuous decline in enrollment at The College signaled an evaluation of existing programs in examining the TRIO program at The College. This study examined Student Support Services (SSS), one of three programs (i.e., Upward Bound, Talent Search, and SSS) that form TRIO, focusing on the impact of tutoring, counseling, supplemental instruction, and other services on student enrollment, retention, and graduation rates. TRIO is an umbrella term used to describe three educational opportunity services programs (Department of Education, 1997).

In a 2005 grant proposal, prior to the adoption of TRIO, The College identified several academic areas that revealed student poor performance (e.g., reading, writing, and mathematics). These subject areas were essential to the academic growth and development of college students. In addition, The College cited a number of other student support areas that needed improvement: boosting student's study skills, developing time management skills, and working on increasing Standard Achievement Test (SAT) scores for potential students. These low performing students were typically enrolled based on their GPA (i.e., at least 2.0 or higher) rather than on their SAT scores, which were, on average, below The College's 800 point minimum requirement. The school's Office of Institutional Advancement (OIA) data show that the GPA scores of these students were typically .12 grade points higher than the HBCU's standard for entry (The College, 2005).

The College also provided freshmen students with remedial blocks of instruction in an effort to remedy low performances in reading, writing, and mathematics. Fifty-two percent of the school's freshmen class received this support training. However, despite the additional support, only 30% of the freshmen class enrolled in 2005 coped academically (i.e., sustained a 2.0 GPA).

Statement of Purpose

The purpose of this study was to determine and examine the impact of student support services (SSS) on academic success at a historically black college. The study was grounded in the theoretical framework of Astin's Input-Environment-Outcome Model (IEO), Scholssberg's theory of marginality, holistic theory, facilitation theory, and the theory of sensory simulation.

Theoretical Framework

Astin's Input-Environment-Outcome Model (I-E-O), as well as several other relevant theories (Dunn, 2002; Pascarella et al., 2005; Evans et al., 2009), is framed by concepts that explain issues associated with the impact of student support services on academic success. According to this body of research, The College environment and student involvement significantly influence students' persistence, learning outcomes, satisfaction, and achievement (Hattie, 2003; Kelly, 1996; Norwani, 2005; Thurmond, Wambach, & Connors 2002).

Figure 1. *Astin's I-E-O Model*
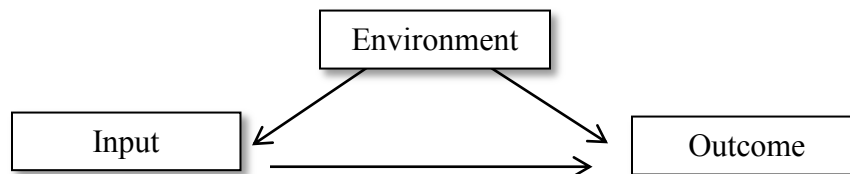
Figure 1. Astin's model (1993) showing the relationship between the college environment (process), student input (involvement) and student outcomes (achievements).

In addition to Astin's model, several other theories conceptually underpin this study. First, Schlossberg's theory of marginality posits that students who did not feel they belonged in college were likely to achieve negative outcomes (Evans, Forney, & Guido-Dibrito, 1998). Schlossberg's theory (2011) emphasizes the need for postsecondary institutions to reach out to

new students and make them feel included early in college (Dunn, 2002). This theory is especially relevant to SSS student enrollment. The fact that most SSS students are from first-generation, low-income households (Department of Education, 2011, October 4) made them vulnerable to marginalization in a college setting. Such marginalization could interfere with students' ability to acclimate successfully while in school (Council for Opportunity in Education, 2007) while limiting their chances of achieving academic success.

Research has shown that most SSS students enter college with deficiencies in reading, writing, and mathematics, subject areas deemed critical to academic success (Gewertz, 2011). As a result, many colleges and universities offer remedial services to their students. Sixty percent of students in public two-year colleges and 25% in four-year colleges and universities require at least one year of remedial coursework (Adelman, 2005; Levin et al., 2008; Calcagno, et al., 2008). The coursework offered generally focused on strengthening a student's knowledge through drill and practice exercises that focus on students learning style (i.e., visual learning vs. auditory learning).

Walsh (2000) reported that college students who were uncertain about their academic goals tend to struggle the most while in school. Goal clarification, according to Tinto (1993), is a complex part of a student's personal growth, and as Friedlander (1980) has observed, low-income, minority, first-generation students, who typically have the greatest need for remedial assistance, enroll in these services the least. These students generally lack *college knowledge* (i.e., an understanding of college norms). They often do not understand the necessary steps that are required to prepare for college life (e.g., financing a college education and completing an admissions application), or how to make the connections between their career goals and educational requirements (Vargas, 2004). Pogson and Tennant (1995) explained in their adult

social construction theory that because adults sometimes enter college with definitive views about the role school plays in their life experiences, their attitude towards learning metacognitive knowledge and skills could range significantly, depending on their background or culture.

Laird (1985), in his theory of sensory stimulation, contended that 75% of adult college age students learned best when given visual aids. He further explained that 13% of adults preferred hearing instructions read aloud to them, while 12% learned best using a hands-on, constructivist, active approach to learning. SSS typically offer services that use varied tactile approaches to increase the student's academic performance. By evaluating these remedial services, educators at The College could use the results to determine which services facilitated and stimulated SSS student learning as well as assessed each service's impact on the overall SSS student population (Charles & Mertler, 2002; Heine, n.d.).

Holistic theory suggests that an individual's character incorporates many factors, including emotions, desires, intelligence, and intuition (Laird, 1985), all of which can influence behavior. In order for meaningful learning to occur, these factors must be activated or initiated through meaningful experiences and determined action. Therefore, a well-designed college curriculum should reflect or address all these elements and relate them to the needs of students and their academic success. It is critically important that colleges and universities examine whether an academic program is producing intended results or meeting expectations (Richardson, 2011). The program services evaluated in this study was Student Support Services at The College. Academic performance indicators such as student enrollment and retention, grade point averages, test scores (Fike & Fike, 2008; Seidman, 2005; Weissman, Bulakowski, & Jumisko, 1997; Wild & Ebbers, 2002), and services that specifically target academic

performance (Duncan & Dick, 2000; Hill & Craft, 2003; Muraskin, 1997) were the primary focus of this study.

It was essential to the academic performance of the students at The College that similar institutions offered the most comprehensive package of support services available to allow students to adjust quickly to college life. A thorough assessment of factors that directly affect academic performance and motivation, assembled in a package, is viewed as being beneficial to students and educators in higher education institutions.

Burns (1995) theory of learning recognized several factors that explain learning as behavioral change, factors that include adaptation of one's thinking, attitude, and emotions. Renchler (1992) noted the importance of curiosity and the fact that educators understand implicitly that students are innately curious and can be motivated to learn. This underscores the importance of developing positive classroom environments that ignite students' curiosity (Council for Opportunity in Education, 2007; Loftus, 2005; Quirk, 2005).

Tinto (1993) maintained that instructional experience directly influenced and facilitated students' social and academic integration in the higher education environment. Riley and Coleman (2011) have observed that educators often indicate that one of the reasons students leave low performing schools is because of poor learning environments. Students have at times voiced similar frustrations (Thayer, 2000). For these reasons, the facilities and environment in which SSS functions were examined for signs of deficiencies that would potentially disrupt instructor-student engagement. Engagement, as Kuh, Kinzie, Buckley, Bridges, and Hayek (2006) argued, is an aspect of student behavior and institutional performance that colleges and universities can and should seek to improve.

Student motivation to graduate or student loyalty to an institution is another academic performance indicator that directly influences student behavior. If students perceive that a school is not acting in their best interest (Hartman & Schmidt, 1995), or that the quality of programming is poor (Thayer, 2000), then they are less motivated to graduate from that institution. The National Symposium on Post-Secondary Student Success (Kuh, Kinzie, Buckley, Bridges, & Hayek, 2006) observed that "At high performing colleges with better than predicted graduation rates, people constantly remind themselves of their pursuit of excellence by periodically reviewing campus priorities, policies, and practices to ensure that what is enacted is of acceptable quality" (p. 99). The need to examine the impact that support services such as academic counseling, tutoring, financial aid, scholarship assistance, SSS staff, environment, and facilities (independent variables) have on student achievement (dependent variable) at The College is essential to the pursuit of excellence at the institution.

For SSS to have a lasting influence on academic success at The College, a conducive environment is needed on campus to support academic achievement (Deal, 1987; Mackenzie, 1983; Renchler, 1992). Because most new students at this school are first-generation, they are less likely to enter college academically prepared to meet the challenges of higher education (Thayer, 2000; Miranda et al., 2007; Roberts et al., 2010). Therefore, the environment in which these services support SSS students was examined to determine the effect the SSS program had on their ability to achieve academic success.

The fourth theory that helped frame this study was facilitation theory, which suggests that students learn if educators, in this case SSS staff, facilitate the learning in an environment that is nonthreatening (Laird, 1985). This theory assumes that students have a natural willingness to learn, which may not necessarily be the case at The College. It also promoted the view that, in

many instances, students are reluctant to change ideas or beliefs they thought were true, thereby making it much more difficult for educators to reach them intellectually. As facilitators, the SSS staff must be aware of these potential pitfalls if they are to promote a student support program that creates an internal locus of control.

In summary, the administrators, staff, and academic policies at The College had to demonstrate that students' education was the primary focus of the institution. As the theory of marginality suggests, students who do not feel a sense of belonging or connection to the institution typically produce negative outcomes that could negatively affect enrollment. In addition, administrators and staff of the institution need to familiarize themselves with the different approaches that stimulate learning amongst its student population.

The theory of sensory stimulation offers best practices for implementing visual learning tools to increase student involvement in their learning, which would potentially enhance perceptions of the college priorities while decreasing feelings of marginalization. The holistic theory suggests that the whole person is continually being motivated by one need or another (Maslow, 2013), such as satisfying physiological needs, safety needs, the need to belong to something, or the need to improve self-esteem, an act which ultimately leads to self-actualization ("The Glaring Facts," 2011). How students feel intellectually can influence their behavior emotionally, physically, and spiritually, which may directly influence their perception of academic priorities of their school. In addition, by offering a supportive learning environment as suggested by the facilitation theory, educators can help improve students' perception of the college and their prospects of graduating from the institution.

Research Questions

The following research question guided this study: What is the effect of Student Support

Services (SSS) on academic success at The College? In addition, the study examined five

ancillary questions:

1. Is there a statistically significant difference between academic achievement (GPA,

    ACCUPLACER test scores) of SSS students and non-SSS Students?

2. Is there a statistically significant difference between the retention rate (i.e., the percentage

    of students who did not transfer and withdraw after two semesters in the study period) of

    SSS and non-SSS students?

3. Is there a statistically significant difference between the graduation rate (i.e., percentage

    of students receiving their college degree) of SSS and non-SSS students?

4. Is there a statistically significant difference between SSS and non-SSS students'

    satisfaction with The College?

5. What are SSS students' experiences with the SSS program?

Hypotheses

H_1: SSS students attending The College statistically achieve higher academic scores (GPA, test

    scores) than non-SSS students.

H_2: There is a statistically significant difference between the retention rates of SSS and non-SSS

    students.

H_3: There is a statistically significant difference between the persistence to graduation for SSS

    and non-SSS students.

H_4: SSS students' degree of satisfaction, perception of, and experiences with The College are

    more favorable than those of non-SSS students.

H5: Student Support Services students have a more favorable experience with college than non-SSS students.

Definitions of Terms

- *Academic achievement/success* describes those students who have a 2.0 or greater GPA and attained their bachelor's degree in four years or less.

- *First generation* describes those students attending The College whose parents' highest level of education is no higher than a high school diploma.

- *Funding* refers to public and private money that is used for operating cost by The College.

- *Graduation rate* refers to the percentage of students receiving their college degree.

- HBCU is an abbreviation for Historically Black Colleges and Universities. These institutions were established by slaves for the purposes of educating their descendants. The HBCU examined in this study was founded in the mid-1800s.

- *Low-income students* are those students who come from impoverished backgrounds. The gross household income of these students is typically less than $12,000 a year, or not more than 150% of the poverty amount depending on the size of the household (Department of Education, 2011, October 23).

- *Non-retained* refers to those students who advanced to the next grade level or graduated.

- *Post Baccalaureate Achievement* describes those students who have earned a four-year degree from an accredited college or university.

- *Retained* refers to those students who did not advance to the next grade level.

- *Retention rate* refers to the percentage of students who did not transfer and withdraw during the first two semesters of the study period.

- *TRIO* is an umbrella term used to describe three educational opportunity services programs—Upward Bound, Talent Search, and Student Support Services (Department of Education, 1997). *Upward Bound* UB is the first of the TRIO programs introduced by the U.S. Department of Education as a part of the 1964 Economic Opportunity Act, an act that was designed to help reduce poverty in the United States.

- *Student Satisfaction* is measured by the *Noel-Levitz Satisfaction Survey*.

- *Student Experience* is ascertained from focus groups interviews.

- *Student Support Services* (SSS) is a federal program instituted in 1968 for the purposes of providing educational support to students from low socioeconomic backgrounds. The program is the third federally funded TRIO initiative.

- *Talent Search* (TS) is the second of the three original TRIO programs created as part of the Higher Education Act of 1965.

Significance of the Study

This mixed-method causal-comparative study examined Student Support Services, a federally funded TRIO program, that determined the effect of components of the program on student academic success at The College. Academic success was a primary factor observed in the study. Astin (1999) stated that the theory of involvement indicated that "Students learn by becoming involved" (p. 133). He contended that for students to be successful in college, they must invest large amounts of their time and energy in learning, and that the learning is proportional to the quality and quantity of student involvement. This idea suggests that if students demonstrate commitment to their studies and the school that they attend, then their actions could lead to significant improvements in academic achievement.

The results of this study could serve as a basis for other studies, results from which could inform policy and program improvement at The college. The findings could help identify new solutions to low retention and graduation rates and influence SSS policy at The College.

Assumptions of the Study

This study was based on the following assumptions:

1. Students enrolled in Student Support Services desired to be in the program and took personal ownership of their academic success.

2. Students in the SSS program spoke truthfully and candidly about their experiences in the program and the benefits and advantages it provided them.

3. Student Support Services staff spoke truthfully and candidly.

Summary and Organization of the Study

The College, in order to adequately address issues of low retention and graduation rate, needed to understand the impact of SSS on student achievement (i.e., Accuplacer test scores, GPAs, dropout numbers). The need to understand how retention and graduation rates affected student achievement was of great significance to the survival and competitiveness of The College. In adopting SSS in 2005, The College showed a desire to improve student achievement by implementing a program designed to aid 90% of its low-income or Pell Grant-eligible first-generation student population (The College, 2005). A desire, however, was not enough to ensure student success, which was predicated on students' positive institutional experience resulting in increased retention and graduation rates (Wilson, 2006).

Whereas Chapter 1 introduced the study and explained the problem, purpose, theoretical framework, research questions, hypotheses, significance, and assumptions, Chapter 2 examined the history and background of TRIO services. It also reviewed and discussed extant empirical

literature on student recruitment and retention, student involvement in the learning process, factors that contribute to student success in college, and the impact of SSS programs on student achievement in college. Chapter 3 introduced and discussed the research design, population and participants, instrumentation, data collection, treatment of the data, data analysis, ethical considerations, and limitations and delimitations of the study. Chapter 4 will discuss how the data were analyzed relative to the research questions and hypothesis. Lastly, Chapter 5 will present a summary of the study, discussion of the relationship between the findings and research literature, and concluded with implications for future research, recommendations and conclusions.

CHAPTER 2: LITERATURE REVIEW

Introduction

This chapter reviews the history and background of the TRIO program through literature on student academic success in college. The review addresses related research and theories on students' academic intelligence, student reading scores, student recruitment and retention, and student institutional involvement. In addition, the chapter highlights components of the TRIO program: Upward Bound, Talent Search, and Student Support Services, with an emphasis on SSS. The chapter begins with a brief history and background of the TRIO program.

History and Background of the TRIO Program

In our world, knowledge is the capital and premier wealth-producing resource, making the process of education the ultimate supplier of power (Drucker, 1989). Policymakers in this country have understood the truth in this observation since 1867, the year educating our children officially became a national priority (Department of Education, 2006). Educating our children is one of the most important reasons for maintaining a democratic society (National Governor's Association, 1995). A strong democracy essentially guarantees that our children will be able to compete in a twenty-first century global marketplace. However, before students can compete on the global stage, they must first possess the knowledge and skills necessary to succeed academically in secondary and postsecondary schools (Education Trust, 1997; Department of Education, 2006). This is a task easier said than done for a myriad of reasons—for example, the reality of the nation's high school dropout rate and the profound impact it has on college enrollment.

According to the Alliance for Excellent Education (2009), more than 7,000 children drop out of high school each year in the United States, many of whom return to school at a later date

to seek their General Equivalency Diploma (GED) from a community college (Wilson, 2006). However, many of these students, because of poor academic performance (Goodman & Young, 2006; Madden, 2014), are less likely to pursue a baccalaureate degree from a four-year university. This is a disturbing fact for educators and policymakers who have spent decades searching for ways to improve this nation's struggling schools (Dewey, 2007; Riley & Coleman, 2011). Both groups have written books and articles in education journals and periodicals that communicate the same message: The whole education system is in a "state of crisis" (Tyack & Cuban, 1995; Lubienski, 2001) and continual reform is necessary. Parents and students across the nation have also weighed in on the need for continual improvements to the system. Nevertheless, no absolute solutions have emerged with which everyone agrees, or that everyone believes would change the status quo in education.

Equal Opportunity Access to College Government Intervention

Equal access to educational opportunities has been a focus of government leaders since World War II (Department of Education, 2006). The Montgomery GI Bill was the first of many government programs specifically geared towards educating America's children. In 1944, Congress passed and President Franklin Delano Roosevelt signed into law a bill that gave military veterans the right to earn a college degree or attend a vocational school in exchange for their honorable service to the nation. In an attempt to explain the impact of the GI Bill on education and job creation, a prominent journalist noted the following about job training and education in this country:

> There are advantages to the U.S. system. We do not do not stream people too early in their lives, and we allow for more thinking that is creative. But the path to good jobs for the future is surely to expand apprenticeship programs substantially so industry can find

the workers it needs. This would require a major initiative, a training triangle in which

the government funds, the education system teaches and industry hires—though to have

an effect, the program would have to be on the scale of the GI Bill. (Zakaria, 2011, p. 34)

This quotation illustrates, perhaps, the size and scope of the GI Bill on an entire nation

over the years. The expansiveness of the GI Bill coincides with other future programs of similar

size and scope in this country to improve the current educational system. Furthermore, an

amendment to the GI Bill recently introduced allowed family members of service members to

receive educational benefits (Military.com, 2009).

Similarly, the Title VI of the Civil Rights Act of 1964, endorsed by President John

Kennedy in 1963, prohibits discrimination based on a person's race, color, and national origin.

This act paved the way for the passage of the Higher Education Act of 1965, which created a

series of funding programs to assist disadvantaged and low-income students. These programs

include the Federal Pell Grants, Federal Family Education Loans, Academic Competitiveness

Grants, and Federal Perkins Loans. Each of these programs opened doors of support for children

interested in pursuing a post-secondary education. Title VI funding, according to the Council for

Opportunity in Education (2007), accounts for approximately 97% of the money allocated to

students under the Higher Education Act. The need for these types of financial aid programs

cannot be overstated, considering that financial setbacks are among the primary reasons students

withdraw from college (Smith, 1990; Stolar, 1991).

Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR UP),

another government program designed to create equality in education, offers tutorials to middle

school students to help prepare them for undergraduate studies. The following student's

testimonial attests to the value of GEAR UP to disadvantaged children:

Finally, I got a lot of help, and they also taught me how not to get nervous when a test comes. I started getting better grades and also better scores. . . . My parents and my teacher were really proud of me. I was really proud of myself (Prickett, 2004, p.29).

The support that this student received from his parents and teacher was paramount in boosting his test scores. This type of support mechanism proves essential to the success of low socioeconomic, first-generation students in college. In fact, many college and universities set up Early Alert Teams specifically for this purpose (Wasley, 2008).

Likewise, colleges and universities established and conducted formal mentoring programs to assist freshmen students' transition into college life and become successful academically (Council for Opportunity in Education, 2007; Loftus, 2005). Incremental steps are used to measure college freshmen success (Saunders & Maloney, 2004). Therefore, colleges and universities are opting to assign mentors earlier in their programs to assist students in becoming more self-regulated by developing strong self-efficacy towards a college degree. Mentoring, coupled with other academic services such as counseling, study skills training, and career education, plays a major role in these institutions' ability to retain low socioeconomic, first-generation students beyond their first year of college (Dale, 2008).

In addition to the aforementioned services, SSS also assists students with physical and academic disabilities. Disabled students receive access to similar support services that all other SSS students enjoy but are afforded more access and support services than the typical SSS student. Since the 1960s, more than a half-dozen targeted support programs have been created for disabled individuals: Title VI, Civil Rights Act of 1964, the Elementary Act of 1965, Title IX—Education Amendments of 1972, Rehabilitation Act of 1973, and the Education of All Handicapped Children Act of 1975 (Department of Education, 2006). SSS staff also ensures that

students with disabilities have access to all resources available within the program.

Some schools across the country have on-campus special learning environments with supportive mentors in place to support students with disabilities adjust to the realities of learning in a college setting (Council for Opportunity in Education, 2007; Loftus, 2005; Quirk, 2005). In order to qualify for SSS, students with disabilities must illustrate that they pre-qualify to receive disability services as approved by the federal government. Research has shown that students with disabilities who receive support early in college tend to need fewer support services as they transition over the years from freshman to senior status (Zafft , Hart, & Zimbrich, 2004).

Several financial aid programs are available to assist SSS students with paying for college. The Family Education Loan Program is a federally funded initiative designed to help students' secure guaranteed student loans. The four types of loans offered as a part of this program are (a) Stafford, (b) Unsubsidized Stafford, (c) Plus, and (d) Consolidation (Department of Education, 2011, October 23). The Stafford loan allows students to forgo interest payment on their government loans while they are enrolled in school. The federal government pays the interest accrued during this period. An Unsubsidized Stafford differs slightly from the Stafford in that the federal government does not pay the accumulated interests of the loan; however, the interest does not compound as long as the student remains enrolled in school (Stafford Loans, 2011). Some students discover early into their college career that Stafford loans are not always easy to manage. This is evident in the testimonial of a student who realized that a conventional loan might have been a better option for him:

Because I had one Stafford student loan and one private student loan, consolidating the two made little sense, because I would lose the advantageous rate of the Stafford loan. First, I studied what both payments would be without any refinancing. The monthly

payment amount on the small private loan seemed manageable, but the larger payment to my Stafford loan concerned me. (Bills.com, 2011, paragraph 6)

Moreover, parents of college students who wish to finance their child's education are privy to these loans (ParentPlusLoan, 2011). Furthermore, consolidation loans assist college students who have more than one student loan by combining all loans into a single manageable payment plan (Department of Education, 2011, October 23).

In the past, educators and policymakers proposed several reforms to the nation's educational system. These proposals have sparked contentious debate on the topic of reform (Stedman, 1993). These controversial discussions have led to some successful education reform initiatives such as Pell Grants, the GI Bill, and the TRIO program. Despite many documented successes of these reform programs, the types of changes both educators and policymakers alike deem essential to the remaking of this nation's educational system into an "ultimate supplier of power" (Drucker, 1989) remain stubbornly elusive as they vary from institution to institution.

Rationale for the Study

Notwithstanding all of the positive research in support of TRIO programs, a critical need still exists. It is best stated as follows:

No matter which factors are selected to explain TRIO's widespread

success, and regardless of the weight given one over the other, these

findings say little about the success achieved by individual TRIO

programs at the local level. Due to the wide variety among TRIO

programs and the fact that each represents a unique contract between the

U.S. Department of Education and a university, college, or community

organization, entirely different factors come into play to explain the

success of specific programs. What are these factors, and how are they

manifested to define success at each TRIO site? (Mahoney, 1998, 381)

The federal program TRIO, originally known as Special Services for Disadvantaged

Students (Department of Education, 2011, September 23), originated in 1968 after the U.S.

government combined Student Support Services SSS with Talent Search and Upward Bound.

But unlike Talent Search and Upward Bound, which target middle and high school students

respectively, SSS focuses on providing academic resources to college and university students.

These programs, as of 2007, netted colleges and universities nationwide nearly $883 million

from the Department of Education. The following year, an additional $878 million was granted

to institutions of higher learning around the country.

Today, TRIO–more specifically SSS–has accounted for billions in educational funding to

college and university students (Department of Education, 2007b). The number of students

receiving money from the program is nearly 850,000 (Department of Education, 2011, October

23). These students are low-income, first-generation college prospects that need assistance

navigating middle and high school on their way to undergraduate level studies, many of whom

tend to enter college with low reading and writing skills. These skills are essential to anyone

seeking an active role in today's workplace (Rozakis, 2000).

Nearly 3,000 TRIO SSS related projects launch successfully by the U.S. government

each year, directly benefiting students while addressing the issue of poverty in this country.

However, the programs assume a different outlook based on the population and need of the

college. For example, some programs provide services that are geared toward improving a

student's GPA via tutoring services in reading, writing, and mathematics, while others provide

services that seek to improve student attendance and retention. The goal of the TRIO program is

to improve the student's overall chances of graduating from college (Department of Education, 2011, September 12).

TRIO was introduced as a means of identifying and closing a growing achievement gap in America between impoverished students, many of whom are African Americans, and those who are financially well-off (Department of Education, 2011, September 12). A way to improve the achievement gap in this country, specifically among the African American population, is simply to improve the quality of education that they receive (Slavin & Madden, 2006).

Additionally, The College, like many other institutions, receives thousands of dollars from the DOE to enroll new students into TRIO SSS. A TRIO SSS grant written for The College in 2005 indicated that the institution applied for approximately $200,000 to enroll new students in the services (The College, 2005). Three support programs were incorporated into The College's educational strategy, which included active recruitment of high school students via Upward Bound summer camp activities. Upward Bound provides a vehicle for program officials to bond with future students and their parents.

Despite the widespread implementation of TRIO SSS by staff and administrators at The College, the percentage of graduating seniors continues to be substantially lower than other HBCUs of similar population size. If The College and other HBCUs with low graduation rates wish to compete with other colleges and universities, the graduation and retention rates will have to improve. By evaluating the impact of TRIO services (more specifically SSS) at The College, this study will provide empirical data that could help The College and other HBCU institutions improve these services and thus increase enrollment and retention rates and support their mission and function well into the twenty-first century.

Assessing the Intelligence of College Students

A student's degree of intelligence plays a significant role in his or her ability to learn in a college setting. Institutions of higher learning use a variety of tests to determine a student's ability to learn. These tests include the ACCUPLACER, the Standard Achievement Test (SAT), American College Test (ACT), and College Level Examination Program (CLEP). These standardized tests assess knowledge in reading, writing, mathematics, science and social studies (College Board, 2012; The Act, 2012). In addition to test scores, institutions of higher learning monitor student grade point averages (GPA), attendance, and withdrawal data for indicators that could potentially influence student academic success (e.g., declines in GPA scores, increased in absenteeism, and low retention numbers). Due to technological advancements, Johnstone and Krauth (1996) noted that colleges and universities across the country were mandated to monitor and reexamine the impact of student support services. This often resulted in significant changes to school policies and procedures that govern support services.

Student Recruitment and Retention

Garfield and McHugh (1978; Orfield, 2014) documented instances where colleges and universities were recruiting students below the institutions' normal admissions standards. Such recruitment was an attempt to amend standards without altering the scholastic image of their respective institutions or risking reductions in their traditional student population. Research that examined the changes in admissions standards of 124 institutions indicated 94% dependency on student support services to ensure achievement of academic goals through boosting enrollment and retention (Garfield & McHugh, 1978; Orfield, 2014).

These goals, according to Tillman (n.d.), came to fruition because of students' satisfaction with their institution and the probability of completing school on time, factors directly influenced

by student support services. Tillman found a link between students' positive attitudes towards the benefits they received from their learning experience that contributed to their academic success and their willingness to share such experiences with potential students, thus creating a ripple effect on academic recruitment goals. Additionally, Tillman discovered that students who felt positive about their chances of graduating from their college of choice would be more apt to recommend the school services to others. The study found that the more support services made available to students, the better they felt about their chances of success.

Lau (2003) also recognized that colleges and universities grappled with student retention. This, however, questions the effectiveness of these student support services. Lau's study, *Institutional Factors Affecting Student Retention,* asserted that it was the responsibility of university administrators, faculty, and students to improve retention rates. His research showed that from 2000 to 2003, four-year graduation rates nationwide were only 38%, in contrast to the 50% five- and six-year graduation rates (Money, 1997). Elliott and Healy (2001) recognized that "as universities plan recruiting and enrollment management strategies, they have to first identify what is important to students to attract them, and then deliver a quality education to retain them" (p.10).

Dale (2008), Foley and Pang (2006), and Rogers, Gilleland, and Dixon (1988) discovered that it was possible to target a specific group of students for recruitment and retention if college officials understood what those students needed to succeed in college. This reality could be of interest to college and university officials who usually place great emphasis on meeting the academic needs of students (Cheng & Tam, 1997). Their studies suggested that if school administrators wanted to fulfill the needs of their students, they had to focus their attention on improving the quality of education their students received.

Likewise, a multi-model approach to providing quality service recommended by Cheng and Tam (1997) included seven strategies for improving school quality. The first strategy was Goal and Specification Model approach. This approach proposed that school administrators achieve the stated goals of their institution consistent with existing policies and procedures. Second, the Resource-Input Model proposed that administrators seek out quality resources for the betterment of the institution. Third, the Process Model focused the attention of administrators on making the learning experience at their schools as relaxing and productive as possible for the students and teachers. Fourth, they stated that administrators need to concentrate more on satisfying the needs of all their customers (i.e., teachers, parents, students, community leaders) using a Satisfaction Model. This model was recommended for all involved in improving the quality of education at a school system.

The fifth model identified by Cheng and Tam focused on improving reputation and legitimacy, giving birth to its title the Legitimacy Model. This model supported administrators seeking to improve the rate of improvement and overall standing of their school. Sixth, the Absence of Problems Model was a means for administrators to eliminate problems and issues within their school walls before they can negatively affect the institution. Finally, the Organizational Learning Model focused on having administrators recognize and adjust to rapid changes in their school's environment. These seven models are important to the long-term plan of achieving quality in schools.

Cheng and Tam (1994) recognized that staff professional development is vital in improving the quality of education. Staff professional development activities empower teachers and administrators to improve their degree of satisfaction and beliefs about the value of their own educational goals. These activities often include individual and team building techniques,

information on competent teaching and management strategies, and ways to improve the environment of a school. Cheng and Tam noted that administrators received more professional development than teachers did, while development focused primarily on management, leadership, and team building methods.

The development activities were administered in three levels—individual, group, and school. On the individual level, staff members developed skills that they needed to complete assigned tasks. The group level was designated for teachers and administrators to conduct collaborative learning exercises and strengthen each other as a team. School development activities were geared toward administrators and teachers, who learned the fundamentals of improving the school environment through better teaching and learning techniques.

Research by Chaney, Muraskin, Cahalan, and Rak (1997) has shown that academic services provided by SSS significantly improved many students' chances of academic success while in college. The study revealed that SSS had a positive impact on the success, persistence, and retention rates of college students. Findings from this study suggested that students enrolled in SSS were less likely to drop out of school and more likely to accumulate more college credits, earn higher GPAs, and graduate comparable to students who did not participate in SSS. This bodes well for SSS students enrolled in college today, especially minority students, who according to the American Council on Education (Ottinger, 1989), have struggled academically in the past.

Empirical literature suggests (Alliance for Excellent Education 2009; Gansemer-Topf & John, 2003; Terenzini et al., 1996), a number of reasons students choose to drop out of college. Many choose to leave for financial reasons, concerns about the learning environment of the institution, inability to manage their workload, or lack of motivation. Terenzini et al. noted

students who left school for financial reasons cited changes in their career and personal goals as well as an incompatibility with the institutions as contributing factors.

These reasons, although troubling, were largely beyond the control of college administrators. Students who cited environmental concerns as their reason for leaving college early mentioned that their institution simply did not provide the quality of education or educational environment they had envisioned at the initial enrollment phase. Students who indicated that they had trouble managing their workload were shown to have lacked the fundamental basics in mathematics and writing prior to enrolling in college, an area in which college administrators were seen as having limited control because of their ability to provide pre-requisite courses in math and writing.

Finally, students highlighted lack of motivation as a reason for leaving college early, another factor in which college administrators were seen as having limited control. According to the findings in the Terenzini et al. study, administrators acted appropriately in assisting students in transitioning from high school to college by providing struggling students with mentors. This support helps students adjust to college life through counseling services. Mentors were tasked with supporting new students ensuring smooth transition to college life. These practices motivated students to stay in school and eventually graduate.

If colleges and universities are to maintain a competitive edge in the twenty-first century, it is vital they implement ways to sustain a motivated student population. Student trust in a college or university thereby becomes a vital component that impacts the achievement of their academic goals (Grossman, 1999; Hartman & Schmidt, 1995).

Elliott and Haley (2001) surveyed 1,805 college students ranging from freshman to senior status to determine their degree of satisfaction with their college in areas such as academic

advising, campus climate, campus support services, instructional effectiveness, recruitment and

financial aid assistance. The survey assessed the attitudes of students in 11 areas of interest.

Independent variables in this survey included areas of interest and students' attitudes (i.e., degree

of satisfaction) as the dependent variable. The findings showed that students were most satisfied

with matters of academic advising and instructional effectiveness. In other words, students

trusted their institution with their academic progress. The students remained enrolled at their

respective institution until they graduated. The survey also showed that if students trusted their

institution, the institution could retain students and better compete with similar institutions. Such

findings corroborate Grossman's (1999) study.

In a longitudinal study on student learning, Schroeder (1996) and Tinto (1988) found,

through a predictive model of integration, that student departures from institutions of higher

learning might have been linked to institutional integration. This study examined Astin's theory

of student involvement, which suggested that students who study often, spend much of their time

on campus, interact frequently with faculty and staff, and participate in various school

organizations were self-regulated. Uninvolved students were those who spend little time on

campus, rarely interact with school officials, and decline to take part in group activities. The

study utilized a series of interviews with and surveys of students attending The College.

In a related study, Pascarella and Terenzini (1991) examined more than 2,600 research

studies to determine how college affects students. Their findings revealed six areas of interest:

(a) long term effects of college, (b) conditional effects of college, (c) within effects of college

(i.e., inside experience), (d) between college effects (i.e., postsecondary school experience), (e)

net effect of college, and (f) change during college (i.e., changes in behavior). These factors are

vital to higher education policymakers and practitioners to consider when developing recruitment

and retention policies and programs. They are also important for studies such as this that attempt to explore the impact of a federal program on student success in HBCU institutions. A thorough exploration of these factors could offer new and better ways of administering SSS resources to participants of the program.

Student Involvement in the Learning Process

Student involvement, according to Astin (1999), refers to "the amount of physical and psychological energy that the student devotes to the academic experience" (p. 518). Chaney et al. (1997) found that SSS students, within the first two years of entering the program, typically increased their GPA scores by more than a tenth of a percentage point when they were directly involved in their academic tasks. Additionally, the research showed that by year three of the SSS program, student retention grew by at least 10%. Student access to SSS resources resulting in improvements in their academic performance contributed to the increases in GPA scores and third-year student retention rates. Astin (1999), in the theory of student involvement, asserted that such results were evident when students became more involved in their own learning. He also noted the measurement of student involvement was potentially both qualitative and quantitative by monitoring behavior in an academic setting.

Astin (1993) observed that a student's involvement in learning (e.g., the amount of time a student spends on classroom assignments, or a student's ability to understand what he or she learned in class) guides cognitive thought process. Pascarella and Terenzini (1991) also noted that the extent of this involvement has a profound impact on a student's academic success. In similar research, Chaney et al. (1997), using a quasi-experimental design and regression analyses to assess the actual impact of SSS on 2900 students, found a significant increase in the academic success rate of SSS students who participated in other TRIO services prior to attending college.

Factors Contributing to Student Success in College

Numerous factors contribute to the success of first-generation students in college. One such factor is family involvement, the importance of which cannot be overstated. College and university administrators must find ways to engage students' families in order to facilitate sustained learning increases in reading, writing, and math. Many schools engage family members by offering workshop sessions in reading, organizing reading volunteers, and helping parents strengthen students' reading skills, which include reading for pleasure at home (Baker & Moss, 2001; Sheldon & Epstein, in press-a). Similarly, Sheldon & Epstein (in press-b) recognized that involving student families in math curriculum, assessments, and homework support activities could have a positive effect on student academic achievement.

A longitudinal study that examined 100 minority first-generation college students found that social environmental support and personal motivation both played significant roles in helping students become successful in college (Dennis, Phinney, & Chuateco, 2005). The study showed that lack of family and peer support were good predictors of failure in college. Despite the fact that students in the study came from households with parents who had never attended college (Brooks-Terry, 1988; Zalaquett, 1999), they typically did well in school when encouraged by their parents to do better for themselves (Lopez, 2001).

Bronfenbrenner and Morris (1998) examined patterns of interaction between students and their immediate environment, referred to as the *proximal process,* noting that the most important proximal processes were interaction and support from family members, both of which played a critical role in student achievement. Markus and Kitayama (1991) found that motivation to attend college can be both interdependent and individualistic, and that interdependent students, those who sought the support of their family while in college, were generally motivated by their

desire to meet their parents' expectations, while individualistic, self-regulated students were motivated by personal reasons. However, research by Cote and Levine (1997) suggested that students who possess the intellectual motivation to attend college tend to perform better than students with other forms of motivations. Nevertheless, support from parents remains critically important for academic success in college (Meeus, 1996).

The Impact of SSS Programs on Student Outcomes

Research has shown a correlation between students' attitudes towards reading and the motivation to read (Duncan, 2010; Seitz, 2010; Usen, 1999). The more enthusiastic a student is about his or her reading, the more enthusiastic that student becomes about learning (Astin, 1993; Duncan, 2010). Instructors play a pivotal role in motivating students to read more in the classroom. Usen (1999) discovered that by assessing students' reading interests, creating peer grouping, understanding students' abilities, increase reading time, and evaluating their accomplishments, instructors motivate students to read more. Such actions help students develop a better understanding of their attitudes toward reading.

Heathington and Alexander (1978) and Seitz (2010) created an assessment tool to examine students' attitudes in this area. The 10-question assessment instrument consisted of yes or no answer choices to reading behaviors typically exhibited by students. The results of the assessment allowed instructors to provide students with constructive feedback that kept them interested in reading. Research has also shown that instructors have a significant effect on the amount of time students spend reading (Anderson, Wilson, & Fielding, 1988; Loh, 2009) as well as their degree of reading fluency (Fuchs, Fuchs, Hamlett, Walz, & Germann, 1993).

Loh (2009) and Seitz (2010) discovered that reading fluency contributed to both the number of word errors made while reading, and the oral reading rate or the chronometric aspect

of processing words. This is a significant observation because many students enter The College with low SAT scores in reading (The College, 2005). Wasik and Slavin (1993) also found that learning reading fluency begins in elementary school and is enhanced throughout life.

A meta-analysis of intervention studies on reading between 1975 and 1998 showed that supplemental readings were highly effective in boosting reading fluency among elementary school children (Elbaum, Vaughn, Tejero, & Watson, 2000). Studies of elementary and middle school readers (Elbaum et al., 2000) and college level students (Rheinheimer & McKenzie, 2010) found that tutoring produced consistently positive results. In their study, Elbaum, Vaughn, Tejero, and Watson (2000) examined reading outcomes for more than 1,500 students and compared 29 studies. The researcher used a data set of 241 effect sizes from the total number of studies identified.

Some studies examined more than one group of students who received tutoring services. The data set from which the effect size was calculated included 45 independent samples. This reading-related tutoring revealed the most effective means of boosting student achievement. Rheinheimer and McKenzie (2010) in their study, *The Impact of Tutoring on Student Success of Undeclared Students,* examined the impact of tutoring at the college level. The authors used descriptive statistics and t-test comparisons to analyze data from 117 female and 90 male college students who were afforded tutoring based on their final GPA, VSAT, and MSAT scores. The findings showed that students who received tutoring had a lower expectation for withdrawal and a higher expectation for graduation. Nevertheless, tutoring did not necessarily increase GPA scores.

Cohen, Kulik, and Kulik (1982) and Mathes and Fuchs (1994) published studies that showed elementary and high school students who received tutoring in the classroom made

significantly higher gains academically than students who received no tutoring services. In

another study, Kennedy, Birman, and Demaline (1986) and Karweit and Wasik (1992)

highlighted the importance of in-class tutoring. Both studies revealed that a high percentage of

these students at grade level were at risk of failing because tutoring services were not available.

According to the study, teachers recognized the benefits of tutoring but had concerns of

classroom time constraints.

Other empirical studies have validated this tutoring approach to learning, especially in

college students identified as high failure risks (Bloom, 1984; Jenkins, Mayhall, Peschka, &

Jenkins, 1974; Juel, 1991; Wasik & Slavin, 1993). Adler (1998), for example, found an increase

in the number of parents of college students who were struggling academically turning to one-

on-one tutoring services. With the implementation of tutoring in schools, teachers grappled with

limited sessions that were insufficient in addressing student needs in tutoring. Teachers spent

tutoring sessions clarifying information for students (Moody, Vaughn, & Schumm, 1997).

However, one-on-one instruction by trained personnel during classroom hours was a way of

ensuring that all students received the necessary reading instruction that they needed to be

successful academically. Hence, federal and state lawmakers, as well as educational leaders and

policymakers, favored the idea of offering one-on-one instruction to struggling readers. They

provided financial support that increased personnel to boost student one-on-one tutoring services.

Conceptual Framework

The conceptual framework of this study encompassed a partial adoption from Astin's

I-E-O model highlighted in Figure 2. It showed the interrelationship between college

environments (process), student input (involvement), and student-teacher relationship and its

impact on four outcome variables—GPA, test scores, retention, and graduation rate.
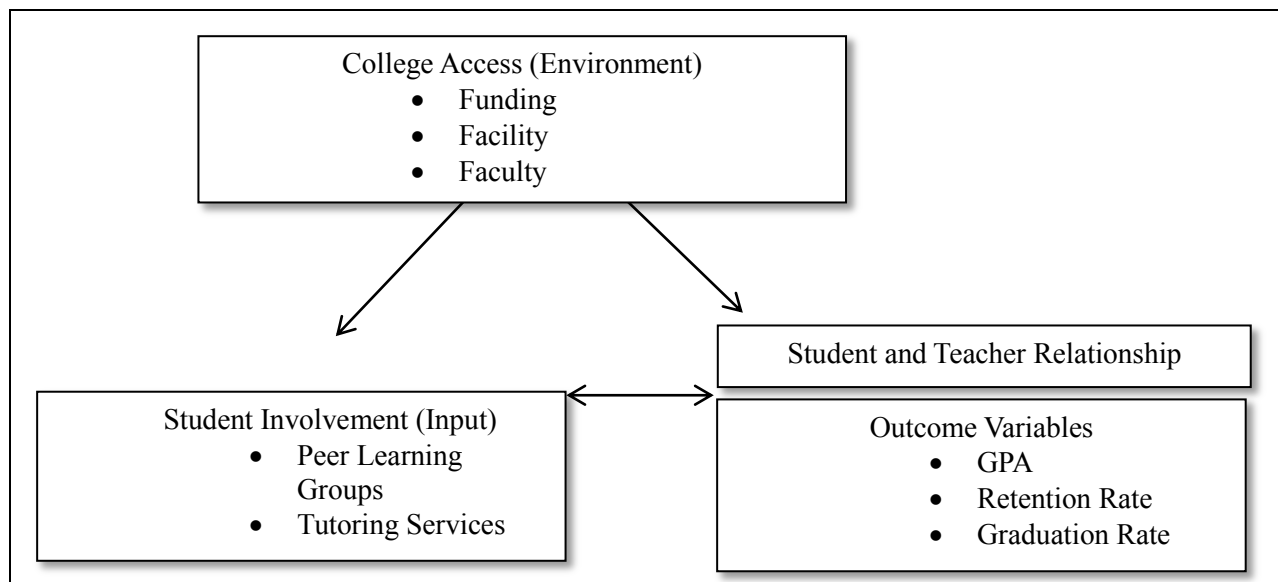
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│         ┌──────────────────────────────────┐                         │
│         │  College Access (Environment)    │                         │
│         │      • Funding                   │                         │
│         │      • Facility                  │                         │
│         │      • Faculty                   │                         │
│         └──────────────────────────────────┘                         │
│                                                                       │
│                                    ┌──────────────────────────────┐  │
│                                    │ Student and Teacher          │  │
│                                    │ Relationship                 │  │
│                                    └──────────────────────────────┘  │
│  ┌──────────────────────────────┐  ┌──────────────────────────────┐  │
│  │ Student Involvement (Input)  │  │   Outcome Variables          │  │
│  │    • Peer Learning           │◄─►│      • GPA                   │  │
│  │      Groups                  │  │      • Retention Rate        │  │
│  │    • Tutoring Services       │  │      • Graduation Rate       │  │
│  └──────────────────────────────┘  └──────────────────────────────┘  │
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Figure 2. Conceptual map based on Austin's I-E-O Model (1993) depicting the correlation between environmental influence, student involvement, and student academic outcomes.

College Access

Cabrera, Burkum, La Nasa, and Bibo (2005) found several reasons that minority students delay entry into college—socioeconomic status, aspiration, academic preparation, peer support, and early parenthood. Gonzalez, Stoner, and Jovel (2003) noted that governments had to find ways to properly fund high schools if they were to effectively combat socioeconomic circumstances that prevent minority students from entering college. While researching socioeconomically disadvantaged Latino students in the Los Angeles metropolitan area, they also found that well-funded high schools helped to create opportunities through education that these students would not have without proper funding. In a similar study of four Mexican American public high schools, Bullington and Arbona (2001) found that social enrichment programs introduced in public high schools helped to create educational opportunities for these students. Another related study, Arbona and Nora (2007), also discovered that the students' aspirations and expectations of attending college were as high as those of their White counterparts when considering future employment opportunities and the skills needed to secure a good job.

A study by Cabrera et al. (2005) indicated that preparation for minority college students worked best when introduced in their middle school years. Curricula that focused on critical college skills at this early stage tended to yield skills and competencies most needed by these students in college. Financial aid was, therefore, identified as a means to increase minority students' probability of opting to pursue a college education. Cooper (2002) and Dennis, Phinney, and Chuateco (2005) asserted that student peer support was pivotal in shaping their decision to purse a higher education. Peer involvement is another bridge of support. Cooper (2002) aligned it with other forms of support including counseling and mentoring.

In another study, Swail, Cabrera, Lee, and Williams (1990) found that many minority students, especially Latino students, are more likely than White students to have children before the age of 26. Parenthood sharply decreases the chances that they will opt to pursue a college degree due to the added financial restraints of having a child at an early age. The research also showed that targeted efforts to identify these students and introduce them to post-secondary education at this early stage increase the chances of their opting to pursue a college degree and forgo having a child before age 26. In doing so, minority students avoided the added burdensome expenses associated with starting a family and were better able to prepare for the rigors of college life.

Relative to money and its impact on academic success in college, several studies (Card & Krueger, 1996; Heverly, 1999; Porter, 2000; Pritchett & Fulmer, 1997; Schroeder, 1996) indicated a link between expenditures and success rates of college students. The studies suggested that the proper funding of students increased their chances of earning a college degree. The studies revealed a positive relationship between education spending and student achievement by examining 125 studies on student learning outcomes. The findings from the

studies revealed that student achievement actually increased because of outreach initiatives to improve student financial burdens while in college. The authors also found that increased education spending in technology and instructional materials provided positive increases in student achievement as well as higher disbursements in education. Increased funding, in addition to student achievement, also enhanced both graduation and retention rates.

On the other hand, Smart, Ethington, Riggs, and Thompson (2002) found that increases in funding did not necessarily result in improved student leadership abilities. According to Ryan (2002), researchers found that "instructional expenditures have a negative effect on students' leadership abilities, while expenditures on student services have a positive effect" (p. 14). The authors conclude that this finding, by accounting for the mediating effects of student participation in an "enterprising major" and leadership activities, also lends support to Pascarella and Terenzini's (1991) view that student effort and student interactions are primary in shaping the effects of college on students. At the same time, the findings of Smart, Ethington, Riggs, and Thompson suggest more complex effects by expenditure categories (indirect and direct, positive and negative) in contrast to Astin's (1993) conclusion that expenditures exert a small, positive effect on students.

Hanushek (1997), Fortune (1993), Hodas (1993), and Levin (1993) argued that the ability to determine the actual impact of increased funding on educational achievement remained unclear. Nevertheless, Astin (1993) found that there was a marginal effect of increased educational funding on student achievement. Despite the mixed reviews about the impact of increased funding on education outcomes, the demand for better value in education at colleges and universities has steadily increased over the years (Department of Education, 2006).

Student Involvement

University administrators have been struggling for years to understand the impact of Student Support Services on the academic success of college students. Success indicators such as student test scores, GPAs, and retention and graduation have produced better insight, which has led to improved understanding of their impact on academic success (Charles & Mertler, 2002; Heine, n.d.; Rogers, Gilleland & Dixon, 1988). Cruce, Wolniak, Seifert, and Pascarella (2006), in their survey of 3,895 undergraduate college students, examined the linkage between educational aspirations (i.e., plan for attaining a degree), learning orientations, and career expectations. These measures included three separate multiple-choice tests, developed by the American College Testing (ACT) program, which examined general education skills and competencies of the participants. The results of the study revealed that measures of cognitive development (i.e., reading comprehension, mathematical knowledge, and critical thinking skills), coupled with good learning orientation skills (i.e., openness to diversity and challenge, learning for self-understanding, and preference for higher-order cognitive tasks) were positively related to student success and achievement outcomes (i.e., earning a college degree). Similar connections between expectations and successful academic outcomes were found in a survey of 204 undergraduate students conducted by DeBerard, Speilmans, and Julka (2004).

Determining how these connections collectively influence student success has been an ongoing battle. Astin (1993), Tinto (1993), and Pascarella and others (1991; 2005; 2008) have contributed immensely to the understanding of how student interaction, social networking, and student involvement in a college environment have collectively influenced college students' academic success (Charles & Mertler, 2002). Astin (1985) and Kuh (2002) have contributed to the knowledge of the relationship of these variables with their research on student engagement

and the theory of student involvement. Results from their studies have demonstrated that good educational practices (i.e., critical thinking skills, openness to diversity and challenges) relate to post-occupational status and income growth (Astin, 1993). Kuh (2002) examined the student engagement concept focusing on the amount of interaction students have with their peers and instructors, while Astin (1993) explored through his theory of involvement the amount of time students spent in active learning. Both ideas have been heavily cited by educators as leading research in the area of student success (Barrington, 1999; Chaney, Muraskin, Cahalan, & Rak, 1997; Gansemer-Topf & John, 2003; Wilson, 2006; Yorke, 1999).

Thomas (2002), Bell (2001), Duncan and Dick (2000), and Yorke (1999) noted that involvement requires an investment of time and energy, both psychological (i.e., test scores and GPAs) and physical (i.e., attendance) commitment from college students. Gewertz (2011), Hill and Craft (2003), and Astin (1993) showed that student commitment, coupled with investments by educational institutions, routinely led to desired educational outcomes or improved academic success rates in college students. Similarly, Berger (2000) and Pascarella and Terenzini (1991) found that greater involvement by students in their learning typically led to greater knowledge attainment. Equally important is the fact that research has shown that college programs could contribute to student involvement in peer-to-peer and group activities. The Council for Opportunity in Education (2007), Baker and Moss (2001), and Pascarella and Terenzini (1991) contended that programs requiring direct involvement by college students, such as peer tutoring services, computer based tutorials, and study skills learning, improved learning outcomes.

In a mixed-method study of tutoring services, Barrington (1999) administered 900 surveys and conducted 17 interviews to determine the effects of tutoring on student achievement. Results from the study showed that 41% of the respondents felt encouraged to provide tutoring

services to others after receiving tutoring services at their school, while another 40% were unaware that their university offered tutoring services at school. But McInnis**,** James, and Hartley (2000), in sharp contrast to Berger (2000), Barrington (1999), and Pascarella and Terenzini (1991), warned that too much involvement could be detrimental to academic success because college students often receive tutoring from a peer as opposed to a knowledgeable college professor. MacDonald (2001) agreed with McInnis et al. (2000b), adding that students' learning outcomes were based on their ability to conceptualize what they had been taught by instructors and not by peers or other individuals.

Student and Teacher Relationships

Teacher-student relationships are critically important to improving student success. Jonides and Gregerman (1996) and Thomas (2002) conducted research using surveys that measured teacher involvement, or nurturing, based on students' academic performance indicators—GPA, graduation rates, and general academic progression. The results of the surveys were mixed. Thomas's (2002) qualitative study was of composed six focus groups, totaling 32 participants. While using the performance indicators as dependent variables, he found that a negative school climate could hinder the student and teacher relationship. This was largely due to individual students' perceptions of the quality and nature of interactions they had with their instructors.

In contrast, in their study of freshman and sophomore minority college students seeking four-year degrees, Jonides and Gregerman (1996) noted that researching and monitoring student academic indicators actually helped to strengthen student and teacher relationships and improve student retention in college. In a similar study, Astin (1999), examining data from more than 200,000 students, found that instructors were more effective when they focused on outcomes

from pedagogical efforts. He contended that these outcomes, as well as the student's degree of involvement in academic work, had the potential for both quantitative and qualitative analysis.

Researchers believed that teacher professional development and effectiveness were also ways of improving student success. In a mixed method study of 28 teachers, Bell (2001) synthesized the results from surveys and reflective reports to determine the impact of teacher development on student success rates. Factors such as improvement in teaching practices, developing confidence, and peer reviews were the focus of this study. The findings revealed that three quarters of the teachers felt that professional development helped improve their teaching skills, practices, confidence, collegiality, and personal development.

A teacher development program of two or more years is typically required for teachers to experience improvements in these developmental areas (Bell, 2001). Bernstein, Jonson, and Smith (2000) sampled similar development factors as part of a survey of 12 educational institutions. The results showed significant improvements in student learning that directly attributed to investments made in teacher development. Furthermore, Feldman (1989) examined 22 of the most important characteristics of teachers according to college students and found that clarity, understanding, preparation, and organization contributed to the existence of positive teacher and student relationships. Building on Feldman's work, Hativa, Barak, and Simhi (2001) examined these factors in a similar study and found that participants felt it was essential to their academic success that they succeed in at least one of the areas.

Focusing on students and their effectiveness, Patrick and Smart (1998) surveyed a small group of students (Brown & Atkins, 1993; Entwistle & Tait, 1990; Swartz, White, & Stuck, 1990) and found that student perceptions of college instructors' effectiveness played a major role in the academic success. The findings of the survey revealed that college students preferred

teachers who focused on informed delivery of lectures, promotion of resource-based learning, use of tutorials in the classroom, and incorporation of project group exercises. Lectures were an excellent means of communicating new ideas and concepts to students in the classroom, while resource-based learning was an effective means of achieving comparable learning outcomes amongst student groups. Tutorials and project group exercises were also effective means of consolidating learning outcomes and providing appropriate guidance and monitoring sources (Entwistle, 1992).

Summary

TRIO evolved as a means of addressing a growing achievement gap in America between impoverished students, many of whom are African Americans, and those who are financially well-off (Department of Education, 2011, October 20). A way to improve the achievement gap in this country, specifically among the African American population, is simply to improve the quality of education that they receive (Slavin & Madden, 2006).

In this chapter, academic barriers such as college access, student involvement, and the relationship between student and teacher the college level, provided a degree of understanding of the factors that inhibit the academic success of African-American students in college. In addition, a conceptual framework based on Astin's I-E-O Model (1993) presented a roadmap depicting the correlation between the academic barriers and student achievement. The theoretical framework listed each barrier into three categories: *environment* (college access), *input* (student involvement), and *outcome* (student and teacher relationship). Environmental factors determined student access to college funding, facilities, and faculty, while input variables determined or influenced the extent of student involvement, and outcome variables such as GPA, retention rate, and graduation rate were indicators of student success.

Relative to money and its impact on academic success in college, several studies (Card & Krueger, 1996; Heverly, 1999; Porter, 2000; Pritchett & Fulmer, 1997; Schroeder, 1996) indicated a link between expenditures and success rates of college students. The Council for Opportunity in Education (2007), Baker and Moss (2001), and Pascarella and Terenzini (1991) contended that programs requiring direct involvement by college students—such as peer tutoring services, computer based tutorials, and study skills learning—improved learning. Teacher-student relationships were critically important to improving student success. Jonides and Gregerman (1996) and Thomas (2002) conducted survey research that measured teacher involvement, or nurturing, based on students' academic performance indicators—GPA, graduation rates, and general academic progression. Jonides and Gregerman (1996) noted that researching and monitoring student academic indicators actually helped strengthen student and teacher relationships and improve student retention in college.

TRIO and SSS history provided an insight into the effectiveness of the programs relative to improving student academic success rates in past years. The theoretical framework used in this study supported the notion that student achievement inextricably linked to college success variables (funding, facility, faculty, and student relationships) and student-teacher relationships. These variables and their interrelationships formed the basis of future research that expanded knowledge in these areas. I attempted to develop that knowledge by examining whether significant differences existed between SSS and non-SSS students relative to academic achievement (GPA), retention rate, and graduation rate at The College.

CHAPTER 3: METHODS AND PROCEDURES

Introduction

This chapter discusses the research design, population and participants, instrumentation, data collection, treatment of the data, data analysis, ethical considerations, and limitations and delimitations of the study.

As discussed in Chapter One, The College experienced lower average enrollment and graduation rates than other HBCUs in large southern states. This was problematic considering that 90% of the students at The College receive federal funding from the U.S. government (The College, 2005). The reduction of federal funding could have a tremendous impact on the number of students who pursue degrees from The College. In addition, a reduction in federal funding could affect the quality of programming the school offers potential students. The College adopted student Support Services in 2005 to stem declining student enrollment and to increase retention rates. To date, it is unclear if SSS has had the intended effect on these rates.

By measuring or looking at student outcome variables such as academic achievement, attitudes, and graduation and retention rates, this study attempted to determine the effectiveness of the SSS at The College. Findings could help The College identify and target specific SSS resources, take corrective measures to reduce student dropout rates, and increase enrollment.

The study was designed to provide answers to the following questions:

1. Is there a statistically significant difference between academic achievement (GPA, Accuplacer test scores) of SSS students and non-SSS Students?

2. Is there a statistically significant difference between the retention rate (i.e., the percentage of students who did not transfer and or withdraw during the study period) of SSS students and non-SSS Students?

3. Is there a statistically significant difference between the graduation rate (i.e., percentage of students receiving their college degree) of SSS and non-SSS students?

4. Is there a statistically significant difference between SSS and non-SSS students' satisfaction with The College?

5. What are SSS students' experiences with the SSS program?

The study also addresses the following five hypotheses:

H1: SSS students attending The College statistically achieve higher academic scores (GPA, test scores) than non-SSS students.

H2: There is a statistically significant difference in the retention of SSS and non-SSS students.

H3: SSS students attending The College graduate at a higher percentage rate than non-SSS students.

H4: SSS students' degree of satisfaction, perception of, and experiences with The College are more favorable than those of non-SSS students.

H5: SSS students have a more favorable experience with The College than non-SSS students do.

Research Design

A causal comparative mixed-method case study design was used to frame and guide the study. A causal comparative study examines the relationship between one or more independent variables (SSS and non-SSS students) and one or more dependent variables: GPA, Accuplacer test scores, graduation and retention rates (Johnson & Christensen, 2008). In this study, the variables of interest were student retention and graduation rates, and student achievement (i.e., average GPA, Accuplacer test scores, SSS or non-SSS participant, and satisfaction data). Gay, Mills, and Airasian observed that "Case studies can be particularistic, descriptive, and heuristic" (2012, p. 445). This study was particularistic and focused on the effectiveness of the TRIO

Program. Second, I collected and analyzed both quantitative and qualitative data that described

the effectiveness or ineffectiveness of the SSS program at an HBCU institution. Third, I

attempted to document participants' understanding of the SSS Program at The College. Analysis

of archival and interview and survey data addressed five research questions.

I conducted interviews with student participants, administered the questionnaire, and

examined archival data (Creswell, 2013; Gay, Mills, & Airasian, 2012; Johnson & Christensen,

2008). Qualitative data collected from interview participants included open-ended questions

designed to elicit information about their experiences with SSS at The College. The survey

questionnaire included closed-ended questions designed to gather quantitative data on student

satisfaction at The College (Creswell, 2013; Johnson & Christensen, 2008). Archival data

(GPAs, test scores, and attendance records) were used to determine whether there were

significant differences between SSS and non-SSS students relative to the dependent variables.

Likewise, data source triangulation based on interviews and questionnaires helped identify

themes and patterns in participants' responses.

Setting

The College was established in1866 to educate descendants of newly emancipated

African slaves (The College, 2010). One of several historically black institutions in the United

States, The College is home to 840 students enrolled in nine different baccalaureate programs

through an open enrollment policy. It is located in predominantly black neighborhood, and the

student body is comprised of young adults ages 18 to 25. The school's administration is

comprised of a, president, vice president, five department directors, and 120 faculty and staff

members and is governed by a Board of Trustees. These individuals implement and manage the

institution's faith-based curriculum.

Population and Participants

Quantitative Population

The population for this study was 840 undergraduate students who attend The College (160 SSS students and 680 non-SSS students), and the study sample consisted of 150 SSS and 150 non-SSS students. The average age of these students was 19 years. They were of African American (31%) and Hispanic (22%) descent from households with income less than $12,000 annually and have at least one dependent child (Department of Education, 1998; Department of Education, 2011, September 12; Muraskin, 1997).

A national longitudinal study of Student Support Services noted that students in this study typically have a history of poor academic achievement, poor self-esteem, and low self-confidence (Department of Education, 1998). Ninety-six percent of these students were the first in their families to complete high school and attend an institution of higher learning. Many of their parents either did not finish high school or simply dropped out (Department of Education, 1998). Most of them progress through college at a much slower rate than traditional students who do not require SSS services (Muraskin, 1997). SSS students were more likely to enroll in school part-time and attend multiple colleges, rarely earning enough credits to graduate. As research has shown, students who enter college with confidence and self-discipline tend to be much more successful than those with low self-esteem (Department of Education, 2011; Duncan, 2010; Seeman, 2001).

Table 1 shows the number and proportion of SSS and non-SSS male and female students at The College by subject, gender, and ethnicity. Importantly, it shows that the proportion of male SSS students enrolled in the three subjects ranged from 1.8% in writing to 2.9% in mathematics, and the proportion of female students ranged from 3.1% in reading to 5.3% in mathematics.

Table 1

Number and Percent of SSS and Non-SSS Students at The College by Gender, Ethnicity, and Subject

	(Male Population)		SSS Students by Gender and Ethnicity				
Subjects	Non-SSS Students	SSS Students (%)	Black	White	Hispanic	Asian	Other
Mathematics	816	24 (2.9%)	22	01	00	00	01
Reading	819	21 (2.6%)	21	00	00	00	00
Writing	825	15 (1.8%)	15	00	00	00	00
	(Female Population)						
Subjects	Non-SSS Students	SSS Students (%)	Black	White	Hispanic	Asian	Other
Mathematics	798	42 (5.3%)	42	00	00	00	00
Reading	815	25 (3.1%)	24	01	00	00	00
Writing	807	33 (4.1%)	33	00	00	00	00

Data Source: Registrar's Office at The College (2012–2013).

Qualitative Population

I interviewed two focus groups of eight (8) SSS students and eight (8) non-SSS students during the qualitative phase of the study. The SSS focus group consisted of three (3) males and five (5) females, and the non-SSS group consisted of three (3) male students and five (5) females randomly selected (i.e., via a table of random numbers) from a list of students enrolled at The College. The focus groups were similar in the size and socioeconomic background to ensure that individuals with firsthand experience at The College were included in the groups (Marshall & Rossman, 2011). I conducted the interviews in the TRIO lab at The College.

Data Source and Instrumentation

Quantitative Data Source

I collected archival data (test scores, GPA records, and attendance statistics) from The College. These data were securely housed in filing cabinets and a computer database inside the Registrars' Office, Office of Admissions, and the Office of Planning and Research.

In addition to archival data, I administered The Noel-Levitz Student Satisfactory Inventory (N-LSSI, Version A, 2010) to participants to examine the difference in group mean and standard deviation scores. This version of the instrument was used to gauge students' degree of satisfaction with The College. The N-LSSI has 116 questions specifically designed to gather information from study participants about their degree of satisfaction with the quality of institutional services such as academic advising and instructions, admission and financial aid, campus environment, safety and security, and campus life. The questions in the instrument were developed to evaluate students' experiences on a four-year college campus. The N-LSSI uses a 7-point Likert scale ranging from "very important" to "not important at all" to assess the importance of institutional factors to college students, as well as their degree of satisfaction measured of a scale ranging from "very satisfied" to "not satisfied at all" with the services provided by the institution. According to the instrument's developers:

> The Student Satisfaction Inventory was a very reliable instrument [sic]. Both the two-year and four-year versions of the SSI show exceptionally high internal reliability. Cronbach's coefficient alpha is .97 for the set of importance scores and is .98 for the set of satisfaction scores. It also demonstrated good score reliability over time; the three-week, test-retest reliability coefficient is .85 for importance scores and .84 for satisfaction scores. (Noel-Levitz, 2012, p. 5)

Qualitative Data Source

In addition to collecting data with the N-LSSI, I conducted semi-structured open-ended interviews with two focus groups. A copy of the Participant Interview Questionnaire is in Appendix B. The questions were presented to the 16 participants in the same manner throughout the sampling session. Each participant was encouraged to answer all five questions on the questionnaire, and his or her response was audio recorded then transcribed.

Data Collection

Quantitative Data Collection

I presented a letter (Appendix C) to the president of The College requesting entry to the research site, an invitation letter to the participants (Appendix D), and an informed consent letter (Appendix E) detailing the conditions for taking part in the study to each participant before he or she received a copy of the instrument.

Student satisfaction data were collected from all SSS students and a sample of non-SSS students via the Noel-Levitz Student Satisfactory Inventory (N-LSSI). The N-LSSI made it possible to gauge students' level of satisfaction with the support services they received at The College. The N-LSSI was administered to 160 SSS participants and a random sample of 160 non-SSS participants inside the TRIO Lab. Participants took approximately 40 minutes to complete the instrument, which I collected.

Accuplacer test scores were examined to determine average reading, math, and writing scores, and student's GPAs were examined to determine how many SSS students maintained a 2.0 or higher while in the program, and data on retention rate were examined to determine how many SSS participants remained after two semesters in the program. Finally, the graduation rates were examined to determine if a significant difference existed between SSS students and

non-SSS students. Archival and N-LSSI data were matched by first organizing both data sets in an Excel spreadsheet and then transferring the data to SPSS (Version 22) for analysis.

Qualitative Data Collection

There are many strategies for collecting qualitative data. Wolcott (1992) used diagrams of tree trunks to explain 25 different strategies (e.g., field notes, interviews, focus groups, anecdotal logs, reflective journals, observations, etc.). Denzin and Lincoln (2005) introduced a similar but smaller group of strategies (e.g., interviews, documents and materials, observations, focus groups, etc.). These scholars advised that any strategy used to collect data must address philosophical assumptions about the nature of the current conditions (i.e., the ontology), and how the study participants gained the knowledge about these conditions (i.e., epistemology). In addition, there must be an attempt to sufficiently explain the values of understanding these conditions (i.e., axiology) and the nature by which these conditions were assessed (Creswell, 2013).

Qualitative research uses various interpretive methods to address research assumptions (Denzin & Lincoln, 2005), while quantitative research examines the assumptions using measurement techniques (Johnson & Christensen, 2008). In this study, I conducted focus group interviews, and an N-LSSI instrument was administered to better understand the experiences of SSS and non-SSS participants in the program. I conducted focus group interviews were conducted to ascertain the perspective and meaning (i.e., understanding) of each participant's experience while in the program (Patton, 2002). Two focus group interviews were conducted with 16 participants—eight in each group. The five-question Focus Group Interview Questionnaire (Appendix B) was used to structure and guide the interview process. The interview groups were similar in size and socioeconomic background. Individuals in both groups

had firsthand experience at The College (Marshall & Rossman, 2011). The interviews were

conducted in the TRIO lab at The College. Participants were given an opportunity to respond to

each of the five questions and to listen to responses from other group members. Once each

group member had an opportunity to participate, I conducted a more focused group discussion to

probe and clarify the group's collective position on each of the interview questions.

A digital audio recorder was used during each interview. Responses were transcribed and

coded using pseudonyms, and at the conclusion of the interview sessions, participants were

offered an opportunity to complete the Noel-Levitz Satisfaction Survey. Data were analyzed with

the help of MAXQDA 11, a qualitative data analysis software program.

Credibility, Dependability/Positionality, and Confirmability

Credibility. Credibility is the quality of being trustworthy and believable

(Creswell, 2013). I conducted member checking after I conducted the interviews and

transcribed participants' responses. Participants were given an opportunity to review their

final comments at the end of the interview session and to add to, delete, or revise

comments in the transcript to accurately reflect their intended responses to the questions.

Triangulation, a qualitative technique for ensuring credibility, involves the use of

multiple procedures and sources to corroborate interpretation of the data (Azulai &

Rankin, 2012; Creswell, 2013; Gay et al., 2012; Huberman & Miles, 2002; Leech &

Onwuegbuzie, 2007; Marshall & Rossman, 2011; Patton, 2002; Yin, 2009). Analytic

triangulation is the use of two or more strategies used to help researcher understand the

phenomenon being studied (Azulai & Rankin, 2012; Leech & Onwuegbuzie, 2007;

Thurmond, 2001). In this study, I conducted focus group interviews to determine the

extent of participants' satisfaction with the SSS. GPAs, test scores, retention data from the

Registrar's Office, school's website, and records office were sampled and the content analyzed. In addition, I collected data from participants using the N-LSSI survey questionnaires to understand the degree of satisfaction, or dissatisfaction, participants had with the SSS program. Archival data were also collected to provide a historical perspective of SSS and non-SSS student performance. By triangulating these sources of data, I was able to present a complete assessment of impact of SSS on students at The College.

Dependability/Positionality. During the qualitative phase of the study, stability and consistency of data interpretation (Baxter & Eyles, 1997; Gay et al., 2012) were addressed through my dependability and positionality. My knowledge of and experience at The College helped me to understand participants' responses but did not interfere with an objective analysis and interpretation of the data.

In the fall of 2006, I was an employee at The College assigned to the SSS program. It was during my employment with the college that I came to understand the importance of SSS and its value to improving the education of students. I observed new students who entered the college barely meeting the entry-level requirements for reading, writing and math, improve their overall scores in these subject areas after seeking and receiving assistance from SSS. Although my role with the SSS program was limited (i.e., mostly counseling and advising), I was able to guide many students to the program resources that they needed to improve their academic performance.

Growing up in a household of educators (i.e., five siblings were teachers), I learned the value of attaining a good education and the importance of striving to attend college. I understood that struggles of living in a low-income household, like many SSS students at The College, wondering where money would come from to attend college if the opportunity arose.

Nevertheless, unlike so many students at The College, I had a supportive family who were actively engaged in my education throughout my secondary and post-secondary school years. I found the SSS program to be a family support structure for many students who attended The College while I was a faculty member.

In addition to using my positionality to address dependability during the qualitative data collection, analysis, and interpretation phrases of the study, I used a random process of selecting participants to take part in this study, coupled with confidential grouping, direct observations, and consistency while conducting the interviews to ensure my biases or subjectivity did not undermine dependability. Also, follow-up interviews were conducted when I believed some segments of the interview data needed to be clarified. I also used field notes and memos created during the interviews to clarify and understand my subjectivity.

Confirmability. This addresses whether findings can be confirmed by another individual or study (Marshall & Rossman, 2011). The steps and procedures I followed to collect and analyze the interview data are described in this chapter. Together they created an audit trail that can be used to confirm the veracity of the qualitative part of the study. I also used field notes and memos to clarify and corroborate the data collection, analysis, and interpretation phases of the study.

Development of the Interview Protocol and Procedures

An Interview Questionnaire Form (Appendix B) was used to collect information from focus group participants during the interview process, as well as to guide follow-up questioning (Bogdan & Biklen, 2003). The form, which consists of 5 open-ended questions, was designed to capture the participants' overall experiences and perceptions of the SSS in their own words (Bogdan & Biklen, 2003; Marshall & Rossman, 2011; Yin, 2009). The interview questions

resulted from a careful review of the SSS literature and my knowledge of The College.

Pilot Testing Procedure

After I obtained IRB approval, I pilot tested the interview form with ten SSS and ten non-SSS students to determine the validity of the instrument. This allowed for questioning errors to be detected (e.g., typos, unclear syntax) and corrections before the instrument was used in the study. Pilot participants were randomly chosen from a list of students enrolled at The College. They were asked to accompany this researcher to the school's computer lab (i.e., private setting for confidentially) in two groups of 10, where they were each handed an interview form and writing pen to complete the questionnaire. Participants were closely monitored, and all questions and concerns that they had about the form were immediately addressed and notated. One concern was the use of initials (SSS) to describe support services (i.e., SSS). The decision was made to drop the initials altogether and spell the words out completely to avoid problems in the future. Another student suggested the need for an explanation and an example of how to begin his or her responses to the questions (i.e., a lead-in statement). The suggestion was rejected with an explanation that carbon-copy style responses (i.e., similar) were likely if the suggestion were adopted. Therefore, to avoid the likelihood of this occurring, no lead-in statement was included on the form.

The pilot interviews were conducted in the same manner with both groups. Participants were asked to fill out the questionnaire in its entirety prior to meeting in their respective groups. The participants were encouraged to begin with question one of the questionnaire and work their way through to question five. This direction was given to keep participants from answering the questions out of sequence. After completing the questionnaire, the pilot participants were asked to assemble in their pre-identified groupings for a 15 minute discussion. The questions were read

aloud by this researcher to both groups (in separate rooms of the computer lab), and a separate 15 minute discussion was conducted with both groups. The data were analyzed and transcribed to better understand the collective perception and views of each group and to determine whether the interview questions were valid.

Treatment of Data

Treatment of the Quantitative Data

Archived data used in this study were secured in filing cabinets and computer databases inside the Registrars' Office, Office of Admissions, and the Office of Planning and Research at The College. After the retrieval, the data were downloaded in MS Excel, transferred to SPSS, and stored on the University of North Florida's secure server. Only this researcher, her advisor, UNF IRB personnel, and appropriate federal officials had access to the data.

Treatment of the Qualitative Data

Interview data collected from participants during the focus group sessions were transcribed and stored on UNF's secure server. Data were organized, evaluated, and interpreted using MAXQDA software for qualitative and mixed method data analysis. To ensure confidentiality, the transcribed data were stored on the University of North Florida's secure server and access was restricted to the researcher, her advisor, UNF IRB personnel, and appropriate federal officials.

Data Analysis

Quantitative Data Analysis

The academic progress of SSS participants was examined by analyzing archival data from records kept by The College (i.e., average GPA, Accuplacer test scores, retention and

graduation rates, and satisfaction data). Archival data from 2009 through 2012 provided three years of data (2008/09 – 2011/12) for analysis and interpretation.

The collected data were organized according to the number, average, and percentage of SSS participant responses. Statistical Package for the Social Sciences SPSS software (version 20) was used to organize and analyze SSS and non-SSS student data from 2009-2012. Specifically, Multivariate Analysis of Variance (MANOVA) was used to analyze academic achievement data (average GPA, Accuplacer test scores, SSS or non-SSS participant, and satisfaction data) and student satisfaction data collected with the N-LSSI. The procedure was based on three assumptions, which Green and Salkind (2014) discussed: (a) the variables were multivariately distributed, (b) there were the same population variance and covariance among the dependent variables across all factor levels, and (c) participants were randomly sampled and there was independence of scores on a variable for any one participant.

MANOVA proceeded by first estimating an omnibus statistic that tested the null hypothesis that there were no group differences between the means of *any* dependent variable. Provided this omnibus statistic, known as Wilks' lambda, was significant, then the MANOVA was followed up with separate ANOVAs to determine which of the dependent variables yielded significant result. MANOVA was robust relative to violations of the homogeneity assumption with equal sample sizes. The assumption was met since this study had an equal number of SSS and non-SSS participants.

In keeping with the analysis procedure discussed by George and Mallery (2007), Green and Salkind (2014), and Hair, Black, Babin, Anderson, and Tatham (2010), preliminary statistics (e.g. means, standard deviations) of MANOVA were examined to determine whether significant differences existed on means of the independent variables between the SSS and non-SSS groups.

The Wilks' Lambda test was used to determine whether "the population means on the multiple

dependent variables are equal across all groups" (Green & Salkind, 2014, p. 201). Coefficient for

the discriminant functions were examined to determine the strength of relationships between

functions and the four predictor variables, and the Kappa was examined to "assess the accuracy

in prediction of group membership" (Kidd & Parshall, 2000, pp. 293-308). Results from the

analysis were displayed in tables and graphs (boxplots) consistent with APA format.

Qualitative Data Analysis

Data collected during the interview process were imported and analyzed by open, axial,

and selective coding processes in MAXQDA professional software for qualitative data analysis

(see interview protocol in Appendix B). Open coding allowed the information to be

deconstructed sentence by sentence. Emerging concepts were summarized and grouped using

names and labels to identify common themes. Concept summarization was used to describe the

meaning of each indicator (Marshall & Rossman, 2011). Axial coding allowed for elaboration of

the open coded information by explaining relationships between codes. Commonalities in the

language were examined to determine whether relationships existed between participants'

statements about their experiences at the college (Patton, 2002). Selective coding was used to

define, develop, and refine core concepts identified during the open and axial coding processes.

Selective coding was also used to establish relationships between core concepts and identify

emerging themes (Marshall & Rossman, 2011; Patton, 2002). Constant comparative analysis and

inductive analysis were used to identify patterns and themes in the data (Marshall & Rossman,

2011; Patton, 2002) and emerging themes were constantly compared to identify and clarify other

themes. "The 'basic, defining rule' of constant comparison was that, while coding was an

indicator for a concept, one compares that indicator with previous indicators that have been coded in the same way" (LaRossa, 2005, p. 841).

Ethical Considerations

I used academic protocol was to maintain ethical standards during the study. Permission to conduct the study was requested from the president and the academic vice president at The College (Appendix C). Following my committee's recommendations, I submitted the proposal to the Institutional Review Board (IRB) at the University of North Florida. Upon approval I began the study at The College and identified participants and requested their participation via informed consent (Appendix F).

Each participant was assigned a randomly selected letter and number (i.e., A1, A2, B1, B2, etc.). The letter and number combination uniquely identified each participant during the study without compromising his or her privacy. Participants were informed that that they were not obligated to complete the survey instrument. Interview participants were also informed of the voluntary nature of participating in the study. They had the option to decline to answer questions with which they were uncomfortable. They were also at liberty to make changes or clarify the transcript, withdraw responses to questions, and withdraw from the study at any time they wished to without penalty or loss. Furthermore, I assured participants that their information is confidential and that pseudonyms would be used to protect their identity and their school's identity. Each participant was asked to read and sign the Informed Consent Form and before the interview and administration of the N-LSSI was given a copy for their records.

After administering the N-LSSI and conducting the interviews, I transcribed, encrypted, and stored the data on UNF's secure server. The audio recordings and other archival data were also encrypted and stored on UNF's secure server.

Limitations and Delimitations

The limitations of this study include an inability to control the behavior of the sample population (e.g., individuals withdrawing from the study unexpectedly or being unwilling to contribute time to the study). The population was limited to those students attending The College, a relatively small population of 840 students. Because participation in this study was voluntary, refusal to participate fully in the study could have affected data quantity and quality.

Furthermore, the study has several delimitations. First, it focused on a specific group of low-income, first-generation college students in their junior and senior year at The College, an institution identified as a Historically Black College or University (HBCU). Second, the study was limited to Student Support Services, a component of the federally funded TRIO program series. Third, it was delimited to selected dependent variables (i.e., academic achievement, college graduation rates, and college retention rates). Finally, only data from three academic years (2009-2010, 2010-2011, and 2011-2012) were analyzed.

CHAPTER 4: DATA ANALYSIS AND RESULTS

The purpose of this study was to determine and examine the impact of student support services (SSS) on academic success at a historically black college. The study was grounded in the theoretical framework of Astin's Input-Environment-Outcome Model (IEO), Scholssberg's theory of marginality, holistic theory, facilitation theory, and the theory of sensory simulation. This chapter presents an analysis of the data relative to these research questions:

1. Is there a statistically significant difference ($p \leq .05$) between academic achievement (GPA, ACCUPLACER test scores) of SSS students and non-SSS Students?

2. Is there a statistically significant difference ($p \leq .05$) between the retention rate (i.e., the percentage of students who did not transfer and withdraw after two semesters in the study period) of SSS and non-SSS students?

3. Is there a statistically significant difference ($p \leq .05$) between the graduation rate (i.e., percentage of students receiving their college degree) of SSS and non-SSS students?

4. Is there a statistically significant difference ($p \leq .05$) between SSS and non-SSS students' satisfaction with The College?

5. What are SSS students' experiences with the SSS program?

The data represent repeated observations taken across three years on measures of GPA, math scores, writing scores, reading scores, retention, and graduation, with the sample consisting of 300 students equally divided between SSS and non-SSS participants. The primary independent variable is SSS participation, which is measured on a nominal scale (participated or not). The longitudinal nature of the study means that the assumption of independent observations required by ANOVA was violated, and hence methods appropriate for repeated measures were necessary.

MANOVA accounts for within-subjects dependencies (i.e., the fact that an observation at time 1 is not independent of an observation on the same subject at time 2) and is therefore appropriate for answering the research questions related to the dependent variables measured on an interval or ratio scale: GPA, Accuplacer math, writing, and reading. Separate MANOVAs were conducted for each of these outcomes, with the three yearly scores representing the repeated measures. That is, one MANOVA was conducted for GPA, one for math, and so on. It was possible to include all 12 dependent measures simultaneously in a single model (4 variables X 3 time points), but doing so would have raised questions about power. With so many variables in a single MANOVA, a larger sample size would have been required to find true statistically significant results compared to running the models separately. Thus, Tables 2 through 6 present separate MANOVAs for the four different variables. A robustness analysis found that the inferences are unchanged by fitting a single model.

MANOVA is inappropriate for modeling retention and graduation, as these are categorical variables. Instead, chi-square tests were used to explore whether there were any systematic differences on these outcomes between those who did and did not participate in SSS. A chi-square test was used when both the dependent and independent variables were measured on nominal scales. These variables, however, also consist of repeated measures. Thus, the problem of non-independence remains, which can cause results to appear significant when they are not.[1] Thus, the chi-square tests were evaluated for significance using a Bonferroni adjustment in which the p-value required for significance was .05 divided by the number of tests. That is, to declare a significant result at the .05 level, it was necessary to observe a p-value less than $.05/3 = .017$.

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[1] Intuitively, the problem exists because there is always a non-zero chance of being wrong when finding a significant result, and the more statistical tests one does, the more likely such an incorrect result will occur.

Descriptive Statistics

Table 2 displays descriptive statistics for each of the dependent variables measured on an interval or ratio scale. The numbers are broken down between SSS participant, non-SSS participants, and both groups together. An examination of the univariate distributions of the GPA variable revealed a few outliers, with a small number of individuals having GPA scores of zero. These outliers were recoded as missing before calculating the means and standard deviations for the GPA variable, and are not considered in the GPA MANOVA.

Table 2

Descriptive Statistics

	SSS			Non-SSS			Whole Sample		
Variable	N	Mean	SD	N	Mean	SD	N	Mean	SD
2010 GPA	146	2.567	0.575	150	2.484	0.761	296	2.525	0.676
2011 GPA	149	2.387	0.725	150	2.367	0.758	299	2.377	0.741
2012 GPA	143	2.419	0.684	149	2.394	0.814	292	2.406	0.752
Math 2010	150	50.033	22.042	150	36.040	19.268	300	43.037	21.823
Math 2011	150	66.007	16.037	150	46.587	20.211	300	56.297	20.648
Math 2012	150	70.400	16.647	150	33.893	17.542	300	52.147	25.015
Writing 2010	150	53.647	21.502	150	67.460	18.709	300	60.553	21.276
Writing 2011	150	69.167	16.919	150	65.753	15.770	300	67.460	16.416
Writing 2012	150	56.627	20.652	150	69.093	15.414	300	62.860	19.233
Reading 2010	150	35.740	18.277	150	53.713	21.779	300	44.727	21.997
Reading 2011	150	46.880	20.219	150	56.773	17.637	300	51.827	19.578
Reading 2012	150	59.447	20.564	150	56.227	20.993	300	57.837	20.807

The table shows that the GPA means are relatively comparable between the two groups. For example, the mean GPA of 2011 SSS participants was 2.387 ($SD = .725$), while the mean GPA of non-SSS participants was 2.367 ($SD = .758$). There are larger differences in math scores, with SSS participants performing better on average than the non-SSS respondents. In 2011, the mean math score was 66.007 ($SD = 16.037$) for the SSS respondents and 46.587 ($SD = 20.211$)

for the non-SSS students. Differences between the two groups in both reading and writing were also present, but the scores were generally higher for the non-SSS students.   There were two exceptions. In 2011, SSS respondents scored higher in writing ($M = 69.167$, $SD = 16.919$) compared to non-SSS respondents ($M = 65.733$, $SD = 15.770$). In 2012, SSS respondents scored higher in in reading ($M = 59.447$, $SD = 20.564$) compared to non-SSS respondents ($M = 56.227$, $SD = 20.995$).

The remaining two dependent variables were measured on a categorical scale. The first variable, retention, originally consisted of four categories: withdraw, transfer, dropped out, and retained. A preliminary review of the response frequencies revealed that there were relatively few individuals in any one of the three non-retained categories. The chi-square test used to examine group differences on this variable is robust only when there are sufficient numbers in each category. Thus, the non-retained categories were collapsed into a single group, yielding a variable with two possible scores: non-retained or retained.

The distribution of both the retention variable and the graduation variable (graduate versus not graduate) are presented in Table 3. As in Table 2, the summaries are grouped by SSS participation as well as the sample as a whole. There is a general increasing trend over time for both variables in each group, but the SSS group has both lower retention and graduation rates in any given year relative to the non-SSS group. The percentages of non-retained individuals among SSS respondents was 8%, 38.7%, and 32% for the years 2010, 2011, and 2012, respectively, compared to 7.3%, 8.7%, and 10% for the non-SSS respondents. Likewise, graduation rates were 18%, 19.3%, and 20% for the SSS group but higher for the non-SSS group at 29.3%, 29.3%, and 40.7%.

Table 3

Frequencies

Variable	SSS Frequency	Percent	Non-SSS Frequency	Percent	Whole Sample Frequency	Percent
Retention 2010						
Not Retained	12	8.0	11	7.3	23	7.7
Retained	138	92.0	139	92.7	277	92.3
Retention 2011						
Not Retained	58	38.7	13	8.7	71	23.7
Retained	92	61.3	137	91.3	229	76.3
Retention 2012						
Not Retained	48	32.0	15	10.0	73	24.3
Retained	102	68.0	135	90.0	227	75.7
Graduated 2010						
Yes	27	18.0	44	29.3	71	23.7
No	123	82.0	106	70.7	229	76.3
Graduated 2011						
Yes	29	19.3	44	29.3	73	24.3
No	121	80.7	106	70.7	227	75.7
Graduated 2012						
Yes	30	20.0	61	40.7	91	30.3
No	120	80.0	89	59.3	209	69.7

Figures 3 through 9 present graphs that better portray the information contained in Tables 2 and 3. The first five figures are boxplots that summarize the different yearly measures separately by SSS participation. A boxplot provides a summary of a variable's distribution. The boxes cover the interquartile range of values, from the 25th percentile to the 75th percentile, with the line in the middle representing the median (the 50th percentile). The lines extend either to the end of the range of data or up to 1.5 times the distance of the interquartile range. Any dots that appear beyond the lines represent possible outliers. A variable that is distributed normally will have a median line in the middle of the box, lines that extend the same distance on both sides of the box, and few to no outliers. Note that an assumption of MANOVA is multivariate normality,

which requires that each individual variable be distributed normally.

Figure 3 shows the distribution of scores on the GPA variable. Although there is some negative skew (the lines are longer on the lower end of the boxes), the distributions are sufficiently close to normal that the added complexity of a variable transformation would not be worth the better approximation to normality. The central tendencies, here represented by the medians, indicate that there are not very large differences between the two groups of respondents in terms of GPA during any of the three years. These echo the results in Table 2.
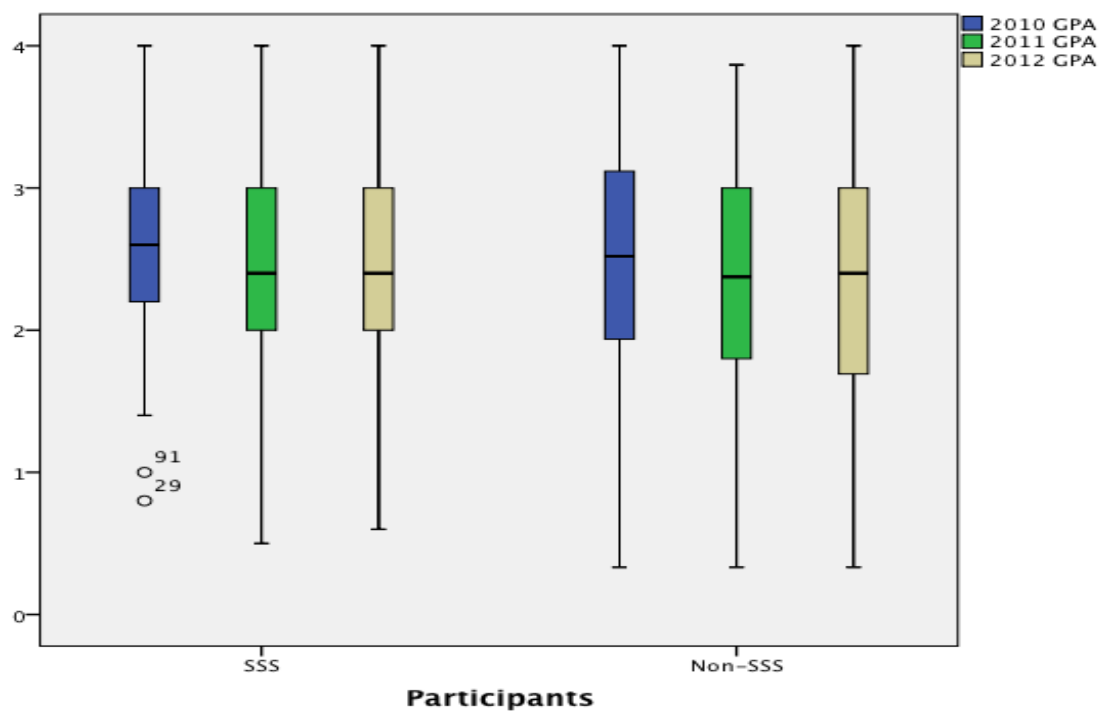
Figure 3. Distribution of GPA Sources

Figure 4.1 shows the distribution of math scores. Here the skew is much more pronounced but in a positive direction. The lines extend much further upwards, and there are many outliers in both groups. Thus, the math scores were transformed by taking the natural log of the variable, yielding the distribution in Figure 4.2 The transformed variable continues to exhibit some skew, but the distribution is much closer to the symmetry of a normal distribution.

Even with the transformation, the central tendency appears to be higher for SSS participants.

That is, this visual inspection of the data suggests that SSS participation was more beneficial and
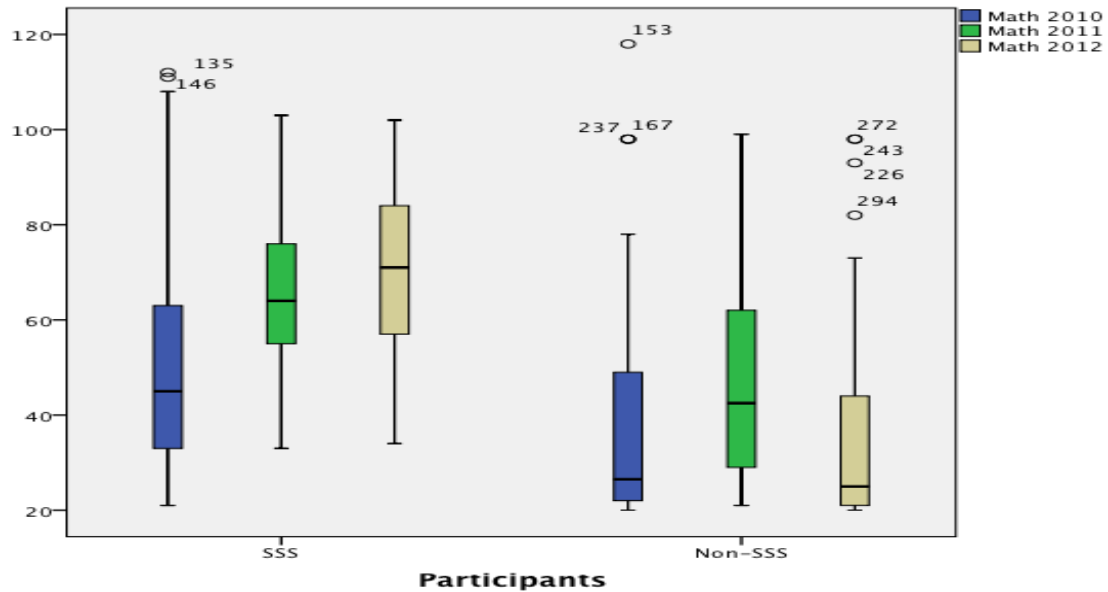
relative to math performance.
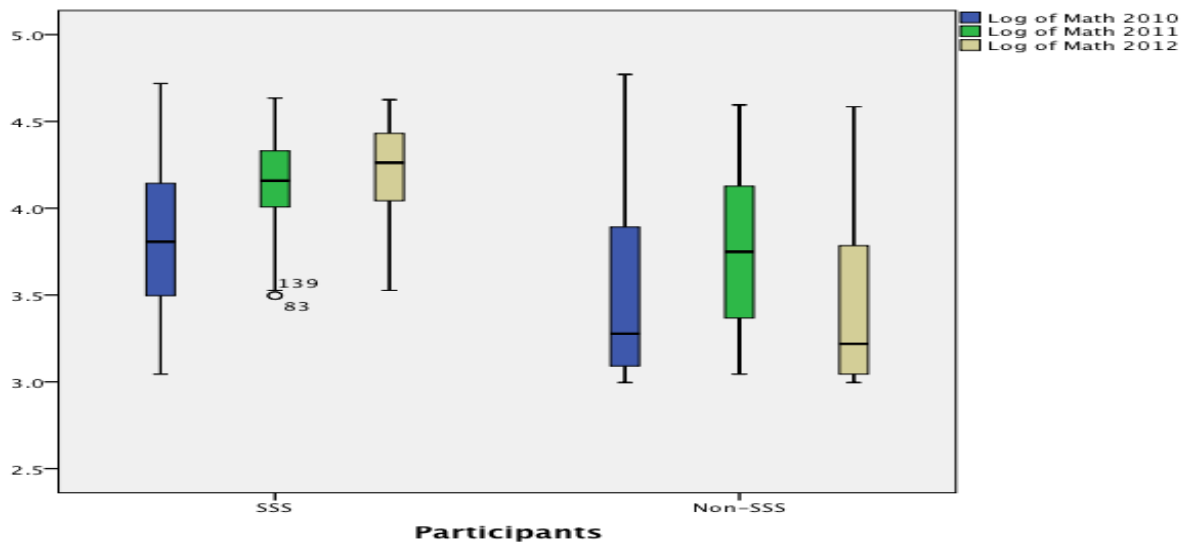

Figure 4.1. Distribution of Math Scores

Figure 4.2. Log of Math Scores

Figure 5 provides the boxplot for writing scores. Here the distributions are very close to normal, meaning no transformation is required. With the exception of 2011, the central tendencies are generally lower for the SSS group compared to the non-SSS group.
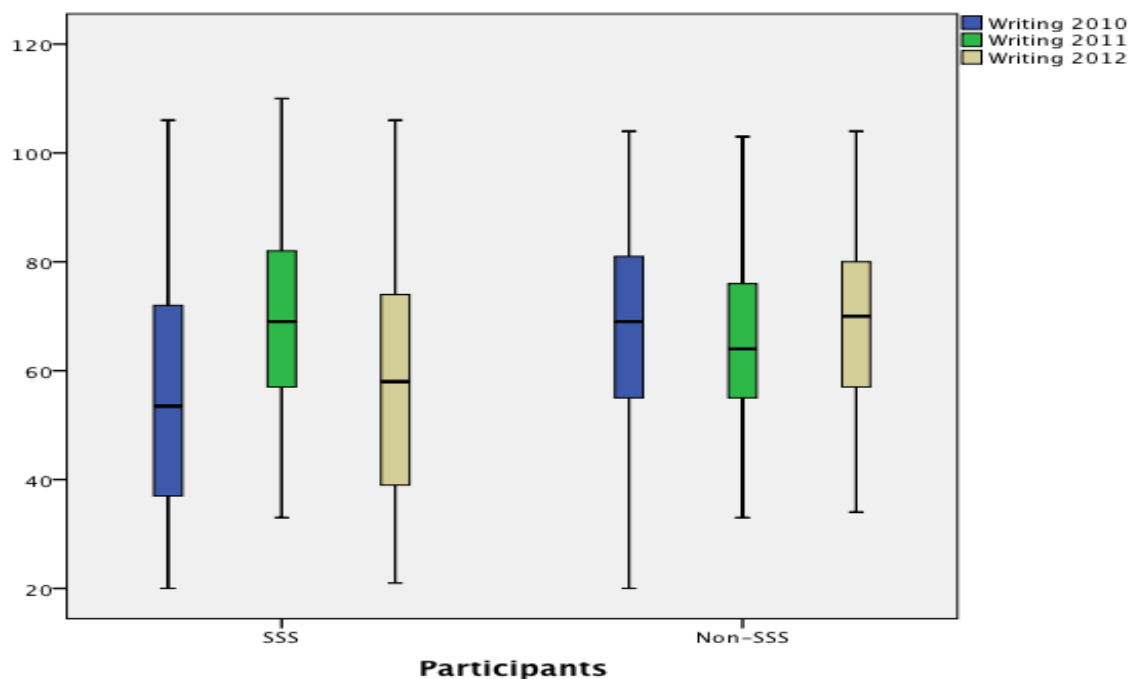
Figure 5. Distribution of Writing Sources

Figure 6 displays the boxplot for reading scores. The 2010 data for SSS respondents are clearly skewed in a positive direction by three outliers. However, none of the other boxes show the same kind of skew, and it does not make sense to transform just one year of data for one group. Hence, no transformation was performed on this variable. In 2010 and 2011, the median scores were higher for the non-SSS group compared to the SSS group, but the latter overtook the former in 2012.
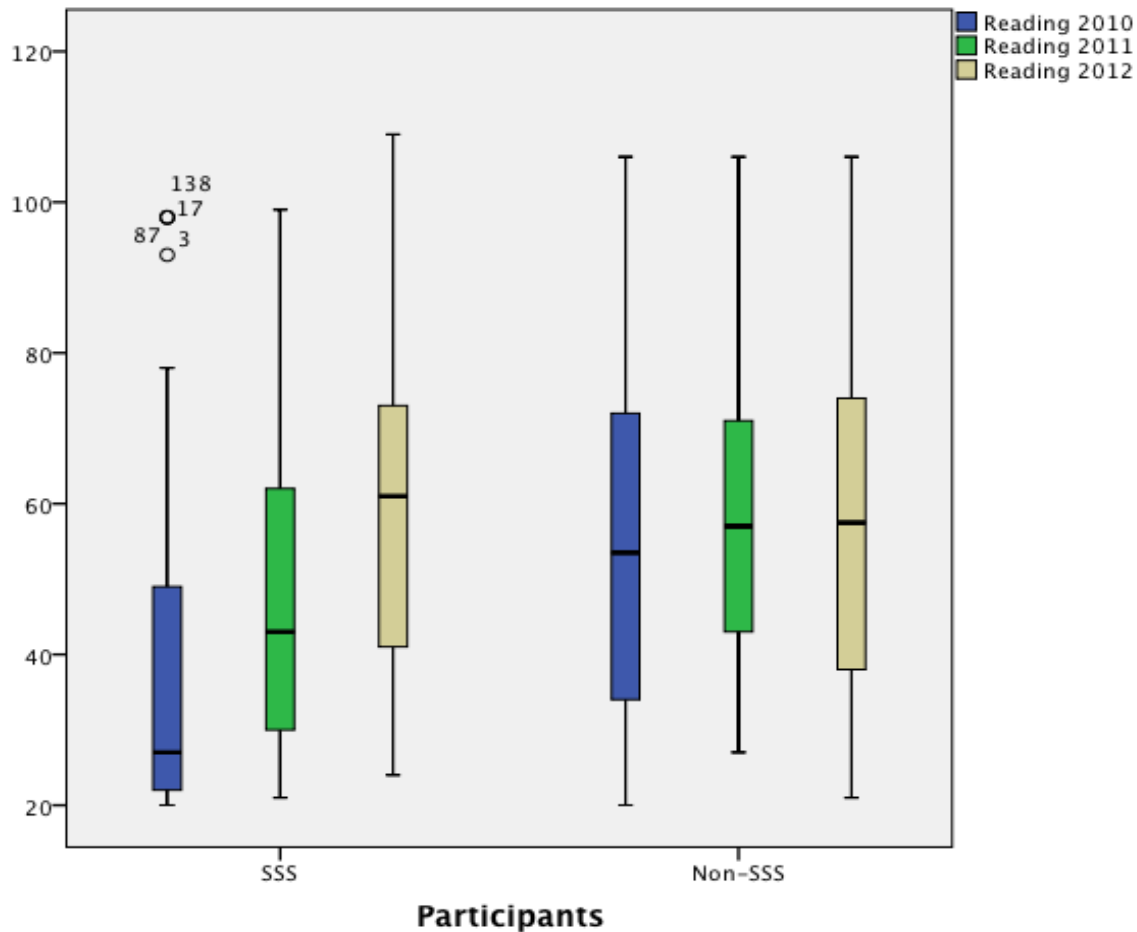
Figure 6. Distribution of Reading Scores

The final two variables (graduation rate and retention) are categorical and hence are better captured by bar charts. Figures 7.1, 7.2, and 7.3 summarize graduation rates for 2010 through 2012. The height of the bars suggests that non-SSS participants typically outperform SSS participants. Figures 8.1 through 8.3 summarize retention across the three years. It shows that, in each case, retention is higher for non-SSS participants.
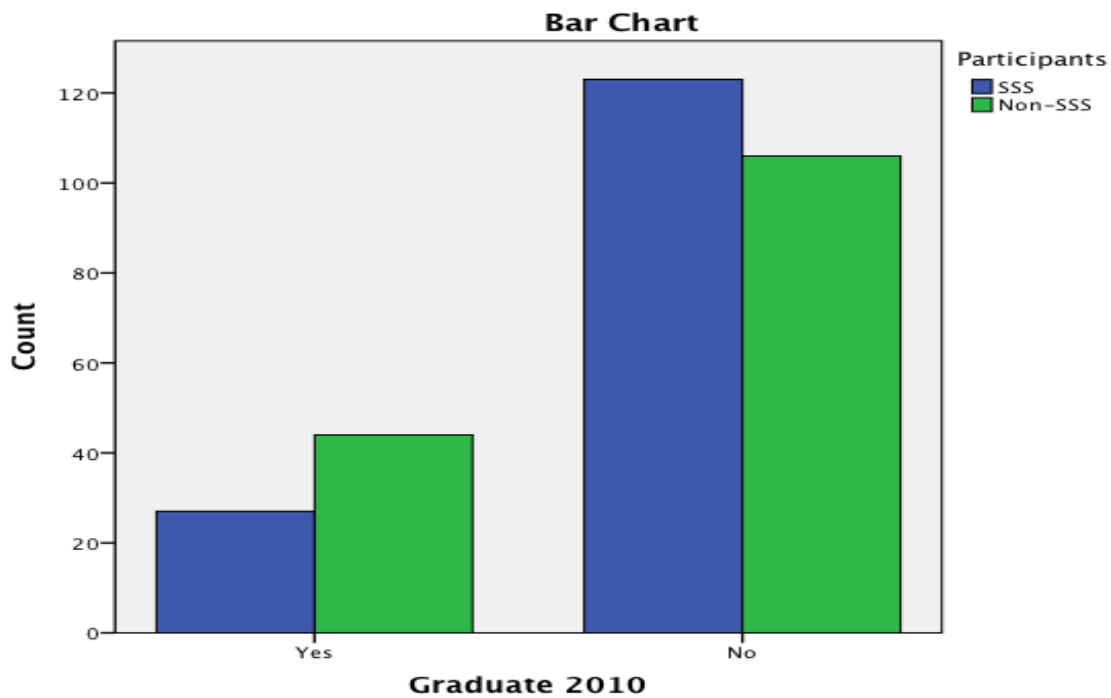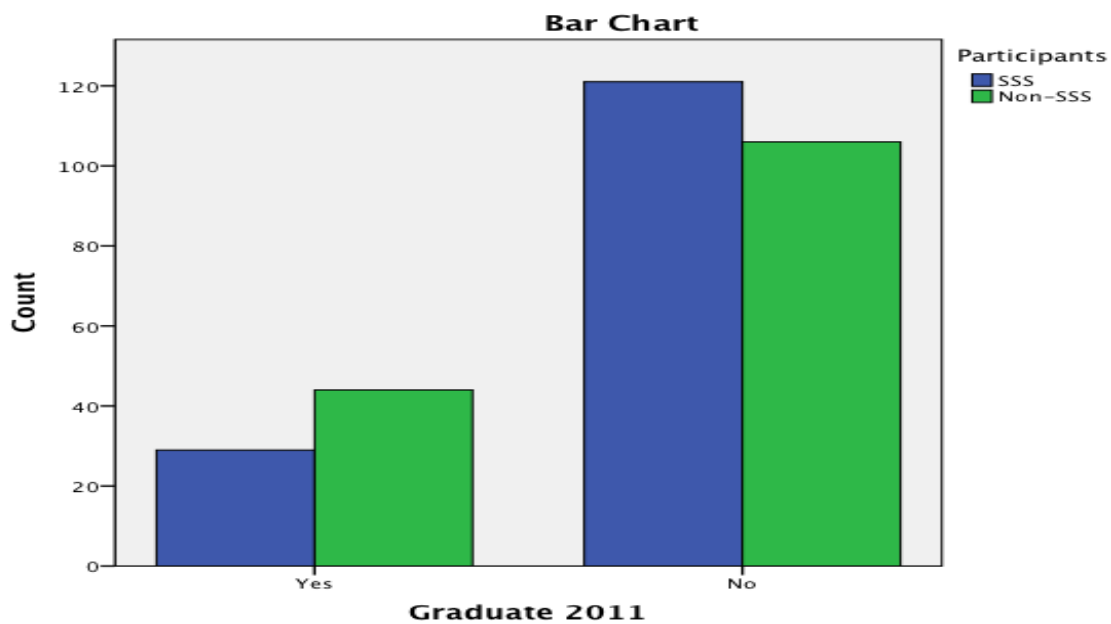
Figure 7.1. Graduation Rates for 2010

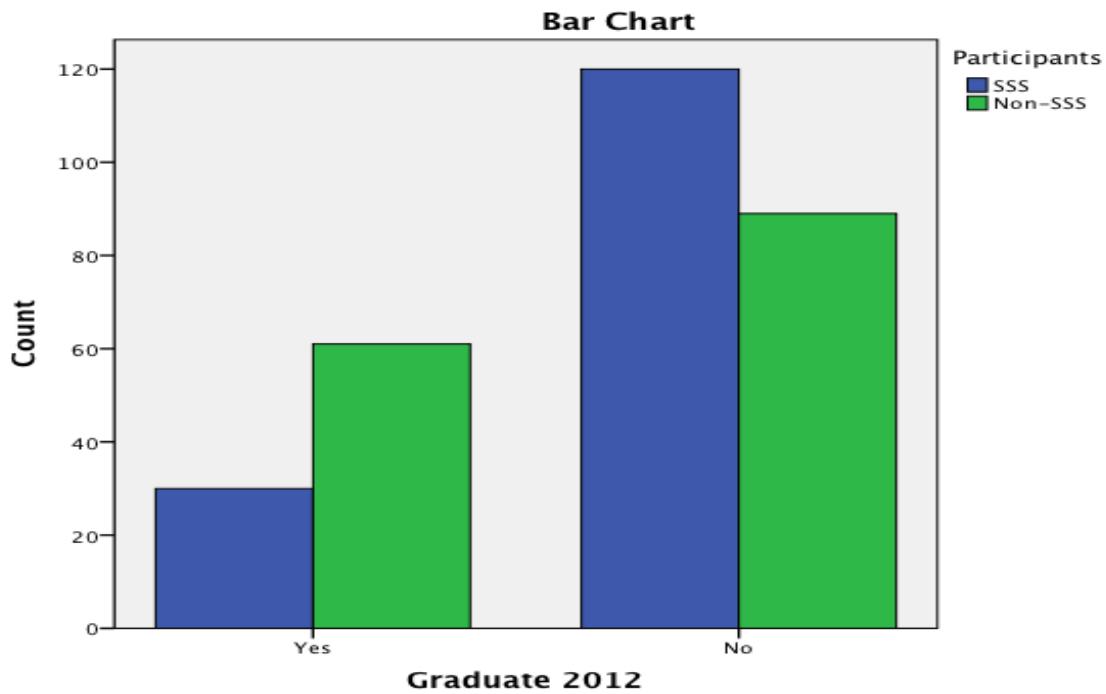Figure 7.2. Graduation Rates for 2011
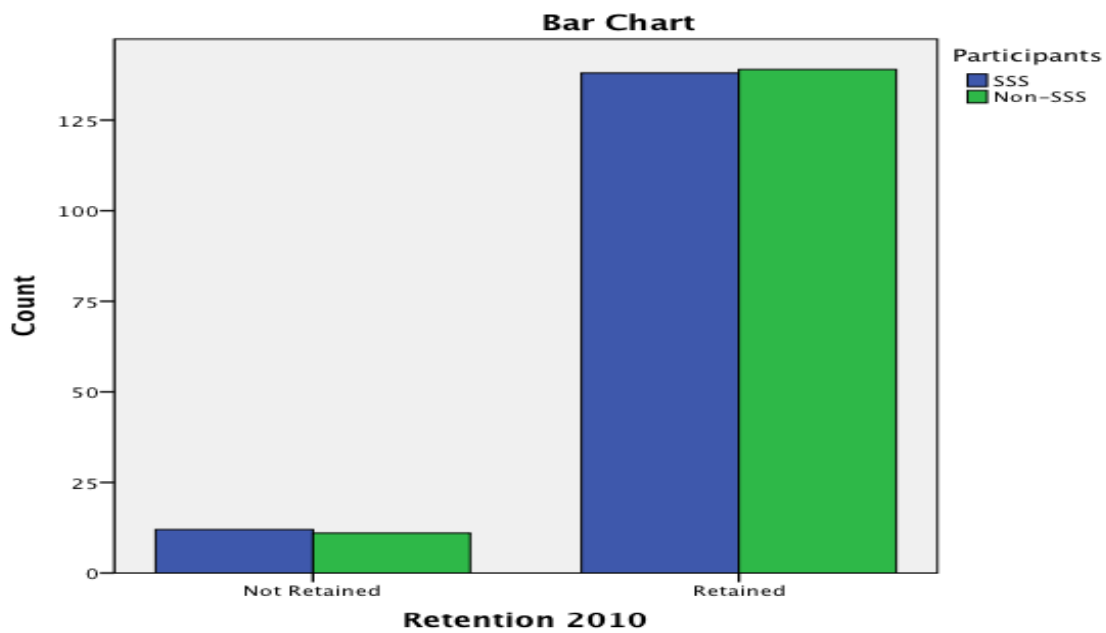
Figure 7.3. Graduation Rates for 2012

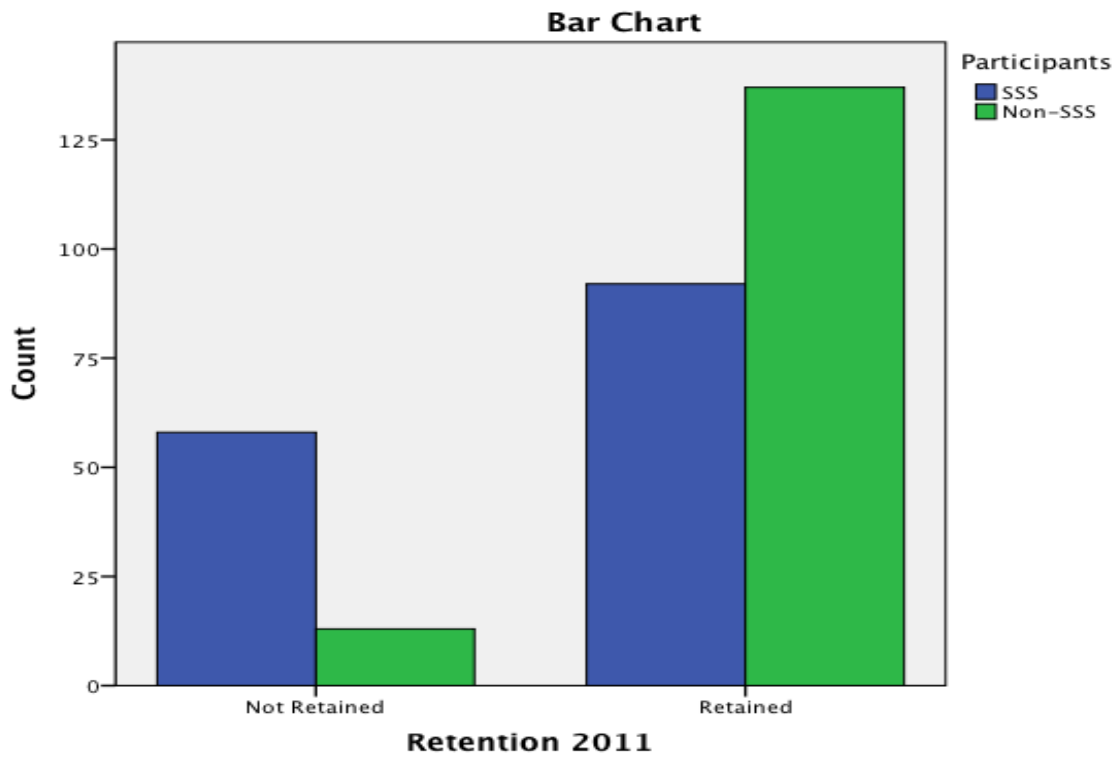Figure 8.1. Retention Rates for Years 2010
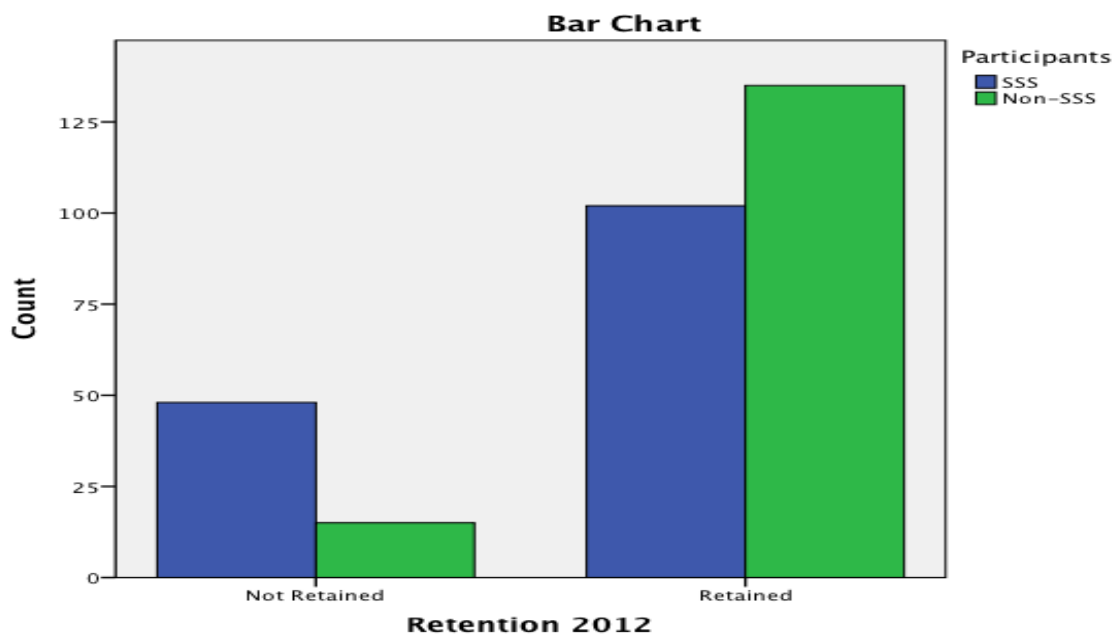
Figure 8.2. Retention Rates for Years 2011

Figure 8.3. Retention Rates for Years 2012

These initial review of the data suggest that GPA differences are negligible between the two groups, that SSS students outperform non-SSS students in math, that non-SSS students usually outperform SSS students in reading and writing, and that both retention and graduation rates are higher for non-SSS students than SSS students. There is still the possibility that inferences made on the basis of descriptive statistics are simply due to sampling variability and overstate the true extent of differences in the population. That is, they do not necessarily say that the results are statistically significant. The next section turns to inferential statistics to determine if it is possible to reject the null hypothesis that there are no real differences in the population.

Inferential Statistics

Group differences will be tested for the GPA, math (log), reading, and writing variables using MANOVA, which requires certain assumptions be met. These are the following:

- *Independence of Observations*: This assumption means that each group (SSS and non-SSS) should be unique, such that no person in the SSS group is also observed in the non-SSS group. The independence assumption was met by the design of the study.

- *No Univariate or Multivariate Outliers*:
  - *Univariate Outliers*: Initial analyses identified univariate outliers on the GPA variable among the SSS group. These scores, which were 0.00, were recoded as missing, meaning that the outlying individuals were not included in the analyses of the GPA variable. In addition, the boxplots showed quite a few outliers on the math variable. The log transformation dealt with this problem by bringing very high values closer in line with the rest of the observations. Any remaining outliers observed in the boxplots were not large enough to be considered problematic.

- o *Multivariate Outliers*: This assumption means that no observation is far from the group centroid (i.e., the mean on all variables simultaneously). A chi-square test statistic was used to determine if any observations could be considered multivariate outliers according to the method described in Tabachnik and Fidell (2013, p. 282). Testing all 12 dependent variables simultaneously—the most conservative test possible—it was not possible to reject the null hypothesis of no outliers. That is, the assumption was met.

- *Multivariate Normality*: This assumption guarantees that the statistical tests (i.e., p-values) are accurate. Multivariate normality requires as a necessary but not sufficient condition that all variables are univariate normal, which was shown to be closely but not completely met in the boxplots. However, given the sample size, the central limit theorem guarantees that the sampling distribution of the means is normal, and thus the p-values can be trusted (given that the other assumptions are met).

- *Linearity*: This assumption requires that the dependent variables are linearly related to each other such that, if graphed against each other, there is no evidence that the relationship would be better captured by a curved line. This assumption was tested by looking at scatterplots like the one in Figure 9 for the GPA variable. In the figure, one does not see a tendency of the data to increase and then decrease, or to increase at a changing rate when reading from left to right. Thus, the assumption was met. In addition, linearity requires that the relationship between the independent variable and dependent variable be linear as well. With just one independent variable having only two categories, the assumption was met.
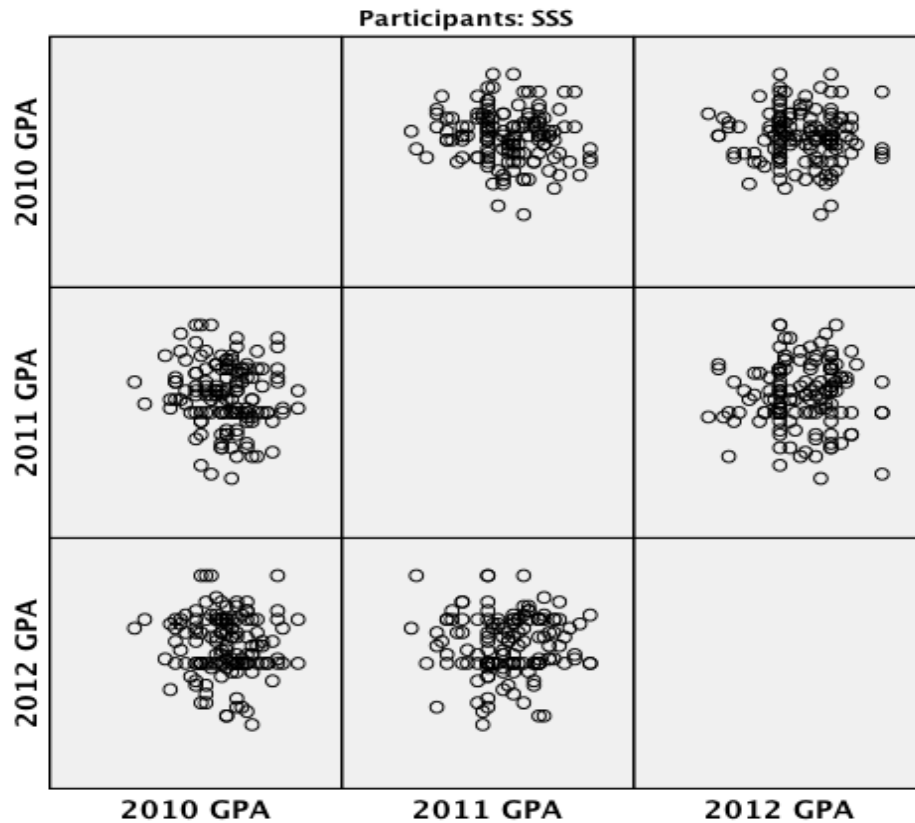
Figure 9: Linearity Graph Using Scatterplots

- *Homogeneity of Covariance Matrices*: The assumption of homogeneity requires that the variances and covariances of the dependent variables be the same in both groups. This assumption can be assessed using Box's M test, which SPSS reports. Tabachnik and Fidell (2013) said that the test can be overly sensitive (p. 254). However, MANOVA is robust relative to violations of the homogeneity assumption with equal sample sizes (i.e., the assumption is violated more often than it should). Since this study has an equal number of SSS and non-SSS participants, the assumption was met.

- *No Multicolinearity*: Multicolinearity refers to the situation that occurs when one variable is a perfect linear combination of the others. In other words, one variable is entirely re-

dundant to the others. One statistic that is used to assess multicolinearity is the Variance Inflation Factor (VIF), which is interpreted as indicating that multicolinearity is becoming a problem when its value is greater than 10. The VIF was calculated considering all of the dependent variables simultaneously, the most conservative way of testing multicolinearity for these data. The largest value among all dependent variables was 1.5, well below the threshold at which multicolinearity becomes a concern. Thus, this assumption was met as well.

MANOVA proceeds by first estimating an omnibus statistic that tests the null hypothesis that there are no group differences between the means of *any* dependent variable. If this omnibus statistic, known as Wilks' lambda, is significant, then the MANOVA is followed up with separate ANOVAs to determine which of the dependent variables yield the significant result. The multivariate results are displayed in Table 4.

Table 4

MANOVA Results

	Wilks' Lambda	F	df1	df2	p
GPA	.995	0.508	3	283	.677
Math (Log)	.359	176.478	3	296	p < .001
Writing	.804	24.052	3	296	p < .001
Reading	.782	27.457	3	296	p < .001

Research Question and Hypothesis 1: Is there a statistically significant difference between academic achievement (GPA, Accuplacer test scores) of SSS students and non-SSS Students?

H1: Student Support Services (SSS) students attending The College statistically achieve higher academic scores (GPA, test scores) than non-SSS students.

Table 4 reinforces the interpretation of the descriptive statistics and the figures examined in the previous section. First, there are no significant group differences in GPA (λ = .995, $F(3, 283)$ = .508, p = .678, Wilk's Λ = .995, η^2 = .005). That is, it is not possible to reject the null hypothesis that the groups are the same for any of the three years considered. Second, there are significant differences in the log of math scores (λ = .359, $F(3, 296)$ = 176.478, p < .001, Wilk's Λ = .359, η^2 = .641). In other words, there are significant differences in at least one of the years (the follow-up ANOVAs will clarify which years). Third, the groups are significantly different in terms of writing scores (λ = .804, $F(3, 296)$ = 24.052, p < .001, Wilk's Λ = .804, η^2 = .196), and, finally, they are significantly different in terms of reading scores (λ = .359, $F(3, 296)$ = 27.457, p < .001, Wilk's Λ = .782, η^2 = .218).

Table 5

Follow-up ANOVAs

	Type III Sum of Squares	df	Mean Square	F	Sig.	Eta Squared
Log of Math 2010	9.104	1	9.104	46.044	p < .001	.134
Log of Math 2011	12.713	1	12.713	99.473	p < .001	.250
Log of Math 2012	48.849	1	48.849	376.260	p < .001	.558
Writing 2010	14310.613	1	14310.613	35.232	p < .001	.106
Writing 2011	873.813	1	873.813	3.267	.072	.011
Writing 2012	11656.333	1	11656.333	35.104	p < .001	.105
Reading 2010	24228.053	1	24228.053	59.942	p < .001	.167
Reading 2011	7340.853	1	7340.853	20.395	p < .001	.064
Reading 2012	777.630	1	777.630	1.801	.181	.006

Although the multivariate results indicate that there are significant differences in the non-GPA variables, they do not tell us if the differences are present in every year. Thus, Table 5 displays results from separate ANOVAs conducted separately for each year of data. To protect against the possibility of finding a significant result simply due to running multiple tests, significance should be assessed using a Bonferroni-adjusted p-value of .017.

Even with the more conservative threshold for declaring significance, all three years of math scores produce p-values less than .017. In other words, the observed differences between SSS participants and the lower scores of the non-SSS participants are indeed statistically significant. The observed group differences in writing scores are significant in both 2010 ($M_{diff} = 13.813$, $SE_{diff} = 2.237$, $F(1, 298) = 35.232$, $p < .001$, $\eta^2 = .106$) and 2012 ($F(1, 298) = 35.101$, $p < .001$, $\eta^2 = .105$), though not 2011. Finally, the significant omnibus statistic for reading was significant in the years 2010 ($F(1, 298) = 59.942$, $p < .001$, $\eta^2 = .167$) and 2011 ($M_{diff} = 12.467$, $SE_{diff} = 2.104$, $F(1, 298) = 20.395$, $p < .001$, $\eta^2 = .064$).

Taken together, these results indicate the following. SSS participants significantly outperform non-SSS participants in math every year. SSS participants significantly underperform non-SSS participants in writing and reading during 2010 and 2011. Finally, non-SSS students outperformed SSS students in the first two years, but by year 3 the SSS students had caught up to non-SSS students and were statistically their equal.

Research Question and Hypothesis 2: Is there a statistically significant difference between the retention rate (i.e., the percentage of students who did not transfer and withdraw during the study period.) of SSS students and non-SSS Students? *H2*: There is a statistically significant difference in the retention of SSS and non-SSS students in year 2011 and 2012, with non-SSS having a higher retention rate (Figure 8.2 and 8.3).

Research Question and Hypothesis 3: Is there a statistically significant difference between the graduation rate (i.e., percentage of students receiving their college degree) of SSS and non-SSS students? H3: Student Support Services (SSS) students attending The College graduate at a higher percentage rate than non-SSS students.

MANOVA cannot be used for categorical dependent variables such as retention and graduation. In these cases, it is necessary to rely on chi-square tests instead. Table 6 summarizes the results. Again, due to the presence of multiple tests, it is more accurate to use a Bonferroni adjustment and declare significance if the p-value is less than .017. The phi column presents the effect size, with .1 indicating a small difference, .3 indicating a medium difference, and .5 indicating a large difference (Cohen 1988).

Table 6

Chi-Square Tests

	chi-square	df	p	phi
Retention 2010	0.047	1	0.828	0.013
Retention 2011	37.364	1	< .001	0.353
Retention 2012	21.881	1	< .001	0.27
GPA 2010	5.332	1	0.021	0.133
GPA 2011	4.073	1	0.044	0.117
GPA 2012	15.159	1	<.001	0.225

Neither retention nor graduation rates were significantly different between the two student groups in 2010. In 2011, the observed differences in retention—with non-SSS students more likely to be retained—were significant ($\chi^2(1) = 37.364$, $\phi = .353$). This difference remained significant in 2012 ($\chi^2(1) = 21.881$, $\phi = .270$). In both cases, the difference can be described as medium (as opposed to small or large) according to the estimate of ϕ. After the Bonferroni adjustment, graduation rates were only different in 2012 ($\chi^2(1) = 15.159$, $\phi = .225$). This effect

size is between small and medium but somewhat closer to the latter.

To summarize the categorical data analysis, non-SSS students generally outperformed SSS students in terms of both retention and graduation rates. The retention differences were significant in 2011 and 2012, while the graduation differences were significant only in 2012. When significant, the effect size is medium.

Results from the Noel Levitz Student Satisfaction Inventory (N-LSSI)

The Noel Levitz Student Satisfaction Inventory (N-LSSI) results are reported in this section of the study. Statistical data recorded in Table 13 included the combined SSS and non-SSS sample population (*N*=300). The N-LSSI survey examined six service components of SSS and non-SSS student satisfaction: academic advising, academic instructions, admission and financial aid, campus environment, safety and security, and campus life (Table 13). This survey was used to assess the difference in satisfaction with the six service components between SSS and Non-SSS students.

Research Question and Hypothesis 4: Is there a statistically significant difference between SSS and non-SSS students' satisfaction with The College? *H4*: Student Support Services students' degree of satisfaction, perception of, and experiences with The College, are more favorable than those of non-SSS students.

There was no statistical significant difference between SSS and non-SSS satisfaction at The College. The p-values in each category were above the predetermined significance value p≤.05.

Scoring on the N-LSSI survey ranged from 5 to 7 (high), 1 to 3 (low), with 4 being a neutral response. A score of 7 indicated that SSS or non-SSS participants were *very satisfied* with the service component being examined by the question posed, while a score of 1 indicated that the participants were *very dissatisfied* with the service component. Participants who responded to the survey with 5 or 6 were considered to be *satisfied* with the service component, while participants who responded with 2 to 3 were *dissatisfied* with the service component.

Table 13 shows the overall SSS and non-SSS average N-LSSI response to each of the service component questions, and Table 7 shows the means, standard deviation, and p-value for

survey questions 6, 14, 19, 33, and 55. These questions examined participant's satisfaction with academic advising at The College. The groups' responses to the five satisfaction questions indicated they felt academic advisers at The College were approachable and cared about students' individual success. Both SSS and non-SSS groups also indicated they felt their academic advisers were knowledgeable about the academic requirements for graduation, and that advisers made the requirements clear at the beginning of the college semester. In contrast, the two groups indicated that their academic adviser did not help them with setting their academic goals at the beginning of the school year. As shown in Table 13, the overall satisfaction score for the two groups was SSS 5.76 and non-SSS 5.68, which indicated that participants were satisfied with the academic advising component.

Table 7

2014 N-LSSI Results of Academic Advising for SSS and Non-SSS Students

Academic Advising Survey Questions	SSS/Non-SSS *Mean*	SSS/Non-SSS *SD*	p-value
6. My academic adviser is approachable.	4.68/4.51	1.77/1.74	0.17
14. My academic adviser is concerned about my success as an individual.	4.52/4.40	1.69/1.77	0.12
19. My academic adviser helps me set goals to work toward.	4.32/4.24	1.72/1.87	0.08
33. My academic adviser is knowledgeable about requirements in my major.	4.53/4.56	1.70/1.78	-0.03
55. Major requirements are clear and reasonable.	4.42/4.34	1.70/1.69	0.08

*Statistically Significant Difference $p \leq .05$.

According to the participants in both groups, the academic instructions they received at The College was satisfactory. In questions 3, 8, 16, 25, 39, 41, 47, 53, 58, 61, 65, 68, 69, and 70 (Table 8), SSS and non-SSS students indicated they felt the faculty cared about them as individuals and provided them with valuable course contents to better their academic progress. They felt the faculty provided them with excellent and timely feedback during class sessions. Most felt the quality of instructions was excellent and that their teachers were very knowledgeable of their course contents. Some of the participants were critical of their teachers' ability to remain unbiased of students' performance in the classroom. These students felt that many of their teachers showed favoritism to select students in their class. In addition, these students felt the variety of courses provided by The College was satisfactory but could be improved. The overall satisfaction score for the two groups shown in Table 13 was SSS 5.69 and non-SSS students 5.64, which indicated that the participants were satisfied with the academic instructions component.

Table 8

2014 N-LSSI Results of Academic Instructions for SSS and Non-SSS Students

Academic Instructions Survey Questions	SSS/Non-SSS *Mean*	SSS/Non-SSS *SD*	p-value
3. Faculty care about me as an individual.	4.22/4.07	1.67/1.68	0.15
8. The content of the courses within my major is valuable.	4.61/4.41	1.58/1.67	0.20
16. The instruction in my major field is excellent.	4.69/4.43	1.70/1.80	0.26
25. Faculty are fair and unbiased in their treatment of individual students.	4.17/4.19	1.70/1.59	-0.02
39. I am able to experience intellectual growth here.	4.24/4.13	1.80/1.66	0.11
41.There is a commitment to academic excellence on this campus.	4.42/4.28	1.70/1.60	0.14
47. Faculty provide timely feedback about student progress in course.	4.35/4.11	1.72/1.72	0.24
53. Faculty take into consideration student differences as they teach a course.	4.29/4.08	1.63/1.80	0.21
58. The quality of instructions I receive in most of my classes is excellent.	4.43/4.28	1.65/1.69	0.15
61. Adjunct faculty are competent as classroom instructors.	4.27/4.26	1.70/1.77	0.01
65. Faculty are usually available after class	4.47/4.23	1.58/1.72	0.24

Table 8 (continued)

Academic Instructions Survey Questions	SSS/Non-SSS Mean	SSS/Non-SSS SD	p-value
and during office hours.			
68. Nearly all of the faculty are knowledgeable in their field.	4.49/4.35	1.66/1.74	0.14
69. There is a good variety of courses provided on this campus.	4.22/4.10	1.76/1.79	0.12
70. Graduate teaching assistants are competent as classroom instructors.	4.45/4.21	1.61/1.71	0.24

*Statistically Significant Difference $p \leq .05$.

The admission and financial aid component was addressed by the survey participants'

responses to questions 4, 5, 12, 17, 43, and 48 (Table 9). They indicated that the staff at The

College was knowledgeable and the financial aid counselors were helpful. The admission

counselors were also described as helpful and responsive to the needs of the students. The

participants, conversely, indicated they were not satisfied with the time delay in which financial

aid awards were announced to students. They felt announcements were untimely and did not

leave students with enough time to plan their academic schedules. The participants also indicated

they were not satisfied with the amount of financial aid made available to students at The

College. In addition, they felt admissions counselors did not accurately represent the college

campus in their recruitment practices. As shown in Table 13, the overall admissions and

financial aid satisfaction score for the two groups was SSS 5.71 and non-SSS 5.64, which

indicated that the students were satisfied with this particular service component.

Table 9

2014 N-LSSI Results of Admission and Financial Aid for SSS and Non-SSS Students

Admissions and Financial Aid Survey Questions	SSS/Non-SSS *Mean*	SSS/Non-SSS *SD*	p-value
4. Admissions staff are knowledgeable.	4.43/4.33	1.57/1.85	0.10
5. Financial aid counselors are helpful.	4.72/4.68	1.73/1.80	0.04
12. Financial aid awards are announced to students in time to be helpful in college planning.	4.24/4.16	1.87/1.99	0.08
17. Adequate financial aid is available for most students.	4.37/4.22	1.64/1.85	0.15
43. Admissions counselors respond to prospective students' unique needs and requests.	4.20/4.15	1.76/1.76	0.05
48. Admissions counselors accurately portray the campus in their recruiting practice.	4.28/4.20	1.75/1.80	0.08

*Statistically Significant Difference $p \leq .05$.

Students' satisfaction with the environment of the campus was gauged by examining participants' responses to questions 1, 2, 3, 7, 10, 29, 37, 41, 45, 51, 57, 59, 60, 62, 66, 67, and 71 of the survey (Table 10). The participants indicated that they felt a sense of belonging when on the campus grounds. This feeling resulted from the helpfulness of the staff and faculty to students on campus. Also, the feeling resulted from an open display of campus pride (e.g., banners, t-shirts and uniforms) by both students and faculty. There was also a sense of racial harmony on campus, according to the participants, that made everyone feel welcomed.

Participants expressed their dissatisfaction with the feeling of safety and the way security

information was disseminated on campus. They also indicated that they were dissatisfied with

the lack of channels (i.e., line of communication) to file complainants on campus. The overall

satisfaction score for the two groups was SSS 5.65 and non-SSS students 5.58, which indicated

that the students were satisfied with the campus environment.

Table 10

2014 N-LSSI Results of Campus Environment for SSS and Non-SSS Students

Campus Environment Survey Questions	SSS/Non-SSS *Mean*	SSS/Non-SSS *SD*	p-value
1. Most students feel a sense of belonging here.	4.24/3.99	1.61/1.75	0.25
2. The campus staff are caring and helpful.	4.35/4.20	1.59/1.70	0.15
3. Faculty care about me as an individual.	4.22/4.07	1.67/1.68	0.15
7. The campus is safe and secure for all students.	4.22/3.92	1.71/1.85	0.30
10. Administrators are approachable to students.	4.52/4.31	1.61/1.65	0.21
29. It is an enjoyable experience to be a student on this campus.	4.27/3.95	1.84/1.80	0.32
37. I feel a sense of pride about my campus.	4.33/4.25	1.75/1.82	0.08
41. There is a commitment to academic excellence on this campus.	4.42/4.28	1.70/1.60	0.14
45. Students are made to feel welcome on this campus.	4.27/4.01	1.79/1.79	0.26
51. This institution has a good	4.44/4.00	1.73/1.74	0.44

reputation within the
community.

57. I seldom get the "run-around" when seeking information on this campus.	4.06/3.93	1.85/1.78	0.13
59. This institution shows for students as individuals	4.31/4.16	1.73/1.74	0.15
60. I generally know what's happening on campus.	4.35/4.14	1.77/1.76	0.21
62. There is a strong commitment to racial harmony on this campus.	4.62/4.45	1.61/1.65	0.17
66. Tuition paid is a worthwhile investment.	4.35/3.91	1.76/1.77	0.44
67. Freedom of expression is protected on campus.	4.31/4.14	1.72/1.73	0.17
71. Channels for expressing student complaints are readily available.	4.17/4.04	1.75/1.78	0.13

*Statistically Significant Difference p≤.05.

As Table 11 shows, safety and security at The College were gauged by examining participants' responses to questions 7, 21, 28, and 36 of the survey. Participants were primarily concerned about the lack of parking available to students on campus, the lack of lighting in the parking lots, and the response time of campus security when responding to emergencies on campus. Most of the survey participants indicated that they were somewhat concerned about campus safety but that it was largely satisfactory. The overall satisfaction score for the two groups shown in Table 13 was SSS 5.61 and non-SSS students 5.65, which indicated that the students were satisfied with the safety and security at The College.

Table 11

2014 N-LSSI Results of Safety and Security SSS and Non-SSS Students

Safety and Security Survey Questions	SSS/Non-SSS *Mean*	SSS/Non-SSS *SD*	p-value
7. The campus is safe and secure for all students.	4.22/3.92	1.71/1.85	0.30
21. The amount of student parking space on campus is adequate.	3.81/3.76	1.94/1.88	0.05
28. Parking lots are well-lighted and secure.	4.17/3.96	1.80/1.85	0.21
36. Security staff respond quickly in emergencies.	4.26/4.35	1.87/1.77	-0.09

*Statistically Significant Difference p≤.05.

As shown in Table 13, campus life was measured by examining the participants' responses to questions 9, 23, 24, 30, 31, 38, 40, 42, 46, 52, 56, 63, 64, 67, and 73. Participants indicated that The College offered several different intramural activities. They also felt that the staff and faculty were genuinely concerned about their quality of life on campus. This was evident by the upkeep of the residence hall, cafeteria, and leisure areas. In addition, the dissemination of a student handbook or guide to on campus facilities and a new student orientation process made students feel comfortable on campus grounds. Some participants indicated that the regulations that govern the living quarters on campus were somewhat unreasonable. The overall satisfaction score for the two groups was SSS 5.64 and non-SSS students 5.62, which indicated that the students were satisfied with campus life at The College.

Table 12

2014 N-LSSI Results of SSS and Non-SSS Students (Campus Life)

Campus Life Survey Questions	SSS/Non-SSS *Mean*	SSS/Non-SSS *SD*	p-value
9. A variety of intramural activities are offered.	4.27/4.06	1.75/1.70	0.21
23. Living conditions in the residence halls are comfortable (adequate space, lighting, heat, air conditioning, telephones, etc.).	3.77/3.58	1.96/1.82	0.19
24. The intercollegiate athletic programs contribute to a strong sense of school spirit.	4.24/4.35	1.76/1.77	-0.11
30. Resident hall staff are concerned about me as an individual.	4.33/3.91	1.77/1.76	0.42*
31. Males and females have equal opportunities to participate in intercollegiate athletics.	4.67/4.34	1.59/1.74	0.33
38. There is an adequate selection of food available in the cafeteria.	4.04/3.91	1.88/1.88	0.13
40. Residence hall regulations are reasonable.	4.10/4.02	1.84/1.83	0.08
42. There are a sufficient number of weekend activities for students.	4.09/3.84	1.87/1.86	0.25
46. I can easily get involved in campus organizations.	4.45/4.29	1.71/1.72	0.16
52. The student center is a comfortable place for students to spend their leisure time.	4.74/4.21	1.60/1.83	0.53

Table 12 (continued)

Campus Life Survey Questions	SSS/Non-SSS *Mean*	SSS/Non-SSS *SD*	p-value
56. The student handbook provides helpful information about campus life.	4.37/4.26	1.76/1.67	0.11
63. Student disciplinary procedures are fair.	4.28/4.15	1.83/1.76	0.13
64. New student orientation services help students adjust to college.	4.37/4.31	1.72/1.73	0.06
67. Freedom of expression is protected on campus.	4.31/4.14	1.72/1.73	0.17
73. Student activities fees are put to good use.	4.14/3.88	1.94/2.07	0.26

*Statistically Significant Difference p$\leq$.05.

Table 13

2014 N-LSSI Overall Results for SSS and Non-SSS Students

N-LSSI Components	*Mean*	*SD*	p-value	Overall
1. Academic Advising			**-1.06**	
SSS/Non-SSS Participants	4.46	1.48		5.76/5.68
National 4-Year Private	5.52	1.28		
2. Academic Instructions			**-1.20**	
SSS/Non-SSS Participants	4.31	1.38		5.69/5.64
National 4-Year Private	5.51	1.06		
3. Admission/Financial Aid			**-0.79**	
SSS/Non-SSS Participants	4.34	1.42		5.71/5.64
National 4-Year Private	5.13	1.25		
4. Campus Environment			**-1.13**	
SSS/Non-SSS Participants	4.22	1.28		5.65/5.58
National 4-Year Private	5.35	1.11		
5. Safety/Security			**-0.98**	
SSS/Non-SSS Participants	4.06	1.52		5.61/5.65
National 4-Year Private	5.04	1.28		
6. Campus Life			**-0.83**	
SSS/Non-SSS Participants	4.18	1.45		5.64/5.62
National 4-Year Private	5.01	1.16		

*Statistically Significant Difference $p \leq .05$.

MAXQDA SSS and Non-SSS Students' Focus Group Interviews

Two focus group interviews were conducted with 16 participants from the 300 student sample population: eight (8) SSS students (Group A) and eight (8) non-SSS students (Group B). Participants in these groups were identified by letter and number designation (e.g., A1, B2, etc.) for confidentiality purposes. The makeup of the two groups was equal in size to ensure that individuals at The College with firsthand experience were interviewed. The participants in both groups were given the *Focus Group Interview Questionnaire Form* (Appendix B), which contained five (5) questions.

Research Question and Hypothesis 5: What are SSS students' experiences with the SSS program? *H5*: Student Support Services students have a more favorable experience with The College than non-SSS students do.

MAXQDA was used to systematically compare and analyze the qualitative text provided by the groups during the interview sessions. For group comparison purposes, the data were transcribed in a Word document and imported into the MAXQDA software program. Participants' responses to the Focus Group Interview Questionnaire were color-coded to identify similar answers. In addition, the codes (Appendix K) allowed for the participants' comments to be grouped together based on similarities and relationship (Rettie, 2008). The results were categorized into SSS and non-SSS responses for quantitative analysis to help answer the five interview questions:

Interview Question 1. What are your thoughts about the quality of the Student Support Services currently being offered at The College? Two (25%) respondents indicated that the services they received were satisfactory or good. However, the majority (6) or 75% of SSS participants expressed their dissatisfaction with the quality of Student Support Services at The

College. The respondents who indicated that the services were insufficient or poor mentioned that they felt there was not enough support for the students in the program. One SSS student (A2) stated, "I think we need more people who understand and care. The services could be better." Another SSS student (A4) stated, "There needs to be a more profound level of support for each student attending the school." SSS students identified as A5, A6, A7, and A8 each gave similar responses.

The majority (5 or 65%) of non-SSS participants expressed dissatisfaction with support services offered by the college. Three or (37.5%) gave a neutral response to the question, indicating that they felt the program was "not as good as it could be." One non-SSS student (B1) stated, "They have student support services like TRIO that do the best they can, but we students need financial support. Also like help with books and supplies. These items are very important to the overall success of students." Another non-SSS student B2 said, "I think not enough support is offered." Another non-SSS participant B4 described the quality of SSS at The College as "not good" and in "need [of] better services." Another non-SSS participant B6 commented that "Student services spend more time arguing than helping students."

Overall, the SSS and non-SSS participants' responses suggested that both groups were generally dissatisfied with the quality of support services they received at The College.

Interview Question 2. Which Student Support Services currently being offered at The College do you believe are **<u>most</u>** effective with helping you achieve your goal of attaining a four-year degree? Why? Six or 75% of SSS participants overwhelmingly stated that tutoring services were most effective in helping them to achieve their academic goal. Two or 25% of participants indicated that academic advising was most helpful to them in pursuit of their academic goals, while one chose career services as most helpful. Counseling, study hall, and the computer lab

were all mentioned as helpful services by some of the participants. One SSS participant (A1) stated, "Academic advising is the most effective services with me [attaining] a four year degree," while another SSS student (A4) credited "the services provided by the music department, the career center, the care center, and various individuals who have made a personal connection with the student body." The six participants who chose tutoring as their most effective service did not indicate why they considered the service most effective at helping them achieve their academic goal.

Four or 50% of non-SSS participants indicated that the most effective services they received were counseling and tutoring. Three (37.5%) of these participants indicated that the Registrar's Office was the most effective service in helping them reach their academic goal. One indicated that the Focused Academics Motivating Excellence Program, FAME, an academic support service program designed to help students increase and enhance their skills in reading, mathematics, and English (The College, 2014), was most effective in helping to reach the academic goal. Non-SSS participant B1 said, "FAME offer[s] tutorial services." Non-SSS participant B2 said, "[The] Registrar's Office is the most willing to help students," and another non-SSS participant, B5, said that tutoring and study hall services were most effective in helping reach the academic goal. Participant B7 said counseling, advising, and the Registrar's Office were most effective in helping reach the academic goal.

The most effective services, as indicated by the majority of SSS and non-SSS students were counseling and tutoring. Both groups indicated that these services were instrumental in helping them achieve their academic goal of attaining their 4-year degree.

Interview Question 3. Which Student Support Services currently being offered at The College do you believe are **least** effective with helping you achieving your goal of attaining a

four-year degree? Why? SSS students gave responses ranging from counseling services to workshops and financial aid being least effective at helping them achieve their academic goal. Two participants mentioned counseling, two said workshops were least effective, and four (50%) mentioned a service other than counseling or workshops. SSS participant A1 stated, "The counseling center [was] the least [effective] service to attain my degree, because I never use the services that are offered." SSS participant A2 stated, "Labs—they need work [and] better conditions—too hot or too cold. Workshops—no one wants to attend—not important." SSS participant A7 indicated that admissions and student services were least effective in helping reach the academic goal, while SSS participant A8 indicated field trips and supplemental instructions were least effective.

Three (37%) non-SSS students revealed that counseling services were least effective in helping them to reach their academic goal, while two indicated that student life services were least effective, and two mentioned financial aid and admissions services. One student said student labs and trips were least effective. Non-SSS participant B2 said his/her choice of a least effective service was counseling and tutoring because "students criticized one another too much during the sessions." Non-SSS participant B4 chose student life because it was too tedious, and there was too much bickering among students. Non-SSS participant B8 said supplemental instructions offered by The College were the least effective.

SSS and non-SSS students unanimously indicated that counseling services were the least effective in helping them achieve their academic goal.

Interview Question 4. If you could make three changes to the current Student Support Services program at The College, what would they be? Why? SSS respondents were mixed about the changes they felt were needed to the SSS program. Three (37.5%) indicated that changes in

communication were needed, three (37.5%) mentioned changes in professional behavior of the staff, and two (25%) said computer or lab upgrades were needed. Additional suggestions included changes to the facilities, services rendered, and financial aid. SSS participant A4 stated, "I would implement more internship for students in majors in the fine arts and sciences departments." SSS participant A5 suggested that more food be available and more support services be implemented, while SSS participant A6 suggested better facilities and more college career counseling plans. None of the SSS students elected to elaborate on their responses to the question. I asked follow-up questions in an attempt to probe their answers but received no additional information.

Five (62.5%) non-SSS students indicated they would change financial aid, staffing, and communications services. One non-SSS participant stated that she would change health services, and another non-SSS student said he would change housing support as well as sports and campus life. One respondent did not answer the question. Non-SSS participant B1 stated, "More funding, more funding, and more funding." Non-SSS participant B2 said that some people needed to be fired and new ones hired, and participant B5 said needed to change student forums, involvement, and health services. Non-SSS participant B8 would change communication, student activities, and community involvement.

Both SSS and non-SSS participants collectively agreed that changes were needed in staffing and financial aid opportunities.

Interview Question 5. Do you believe the Student Support Services program offered at The College is better today than a year ago? If so, how? Six (75%) SSS participants stated that they felt the SSS program offered at The College was the same as a year ago. Two (25%) SSS respondents said they felt the SSS program was better today than it was a year ago; SSS

participant A4 said, "I believe that the school a year ago is no different than the school is now, or even three years ago. And ironically, alumni from forty and fifty years ago see more in our school than the current students." SSS participant A7 stated, "No—not really. I feel like they (administration) do not care for students." SSS participant A8 said, "Yes. Helps after class and computer time, I can use it during the weekend when campus is close[d]." The responses suggested that SSS students did not feel that the services offered at The College were better or worse than a year ago.

Six (75%) non-SSS respondents said that support services at The College was not better today than a year ago. One non-SSS student said support services offered better programs today than a year ago, and one student did not answer the question. Non-SSS participant B2 said that there have been no changes in SSS since a year ago, and non-SSS participant B7 said, "Yes. They try to do more for students. We have a [new] police station and other activities [on campus].

The majority of SSS and non-SSS respondents indicated that the SSS program and support services were not better today than a year ago. On the basis of the interview data, Hypothesis *H5*, "Student Support Services students have a more favorable experience with The College than non-SSS students do," was rejected. The alternative hypothesis, "Student Support Services students do not have a more favorable experience with The College than non-SSS students" was accepted.

Summary

In this chapter, I discussed how the quantitative data were analyzed with descriptive and inferential statistics to address four quantitative research questions and how interview data were analyzed with qualitative methods, specifically coding and content analysis, to answer one

qualitative question. Specifically, I used Multivariate Analysis of Variance (MANOVA), with underlying assumptions that matched the statistical requirements of this study to analyze archival and survey data. MAXQDA software program assisted with analysis of participants' responses from two focus group interviews, while qualitative data collection, analysis (content), and interpretation procedures were conducted consistent with the criteria and guidelines used to establish empirical warrant and transparency. The results of the analysis were presented in tables and graphs throughout the chapter.

Overall, results showed that the two groups' achievement mean scores were comparable in 2011, but SSS students outperformed non-SSS students in math while non-SSS students scored higher in both reading and writing in the three years examined. Retention and graduation results for both groups showed that SSS students had lower retention and graduation rates than non-SSS students.

Specifically, and relative to Question 1, the results showed that there were no significant group differences in academic achievement (GPAs), indicating that it was not possible to reject the null hypothesis. However, there were significant differences in reading and writing scores for 2010 and 2012 as well as in 2012 math scores. For Question 2, the results revealed a significant difference in retention of SSS and non-SSS students. Non-SSS students were retained at a higher rate that SSS students. For Question 3, a chi-square test was used to examine differences in the groups' graduation rates, which were not significantly different between the two student groups in 2010 and 2011. In 2012, however, significant differences in graduation rates were observed between the two groups. Non-SSS students significantly outperformed SSS students, but the effect size was medium.

Question 4 addressed students' satisfaction with the College. Results from the *Noel*

Levitz Student Satisfaction Inventory (N-LSSI) showed that SSS and non-SSS students at The College were equally satisfied with academic advising, academic instructions, admission and financial aid, campus environment, safety and security, and campus-life service components. SSS students had a slightly more favorable experience with academic advising, academic instructions, admission and financial aid, and campus environment, while non-SSS students' experiences were more favorable with regard to safety and security and campus life.

Finally, Question 5 asked about students' experiences with The College's SSS program. Results from the focus group interviews showed the majority, 75%, of participants indicated they were dissatisfied with the quality of SSS services they received. Responses to Interview Question 2 revealed that tutoring services were the most effective in helping students achieve their goal of attaining a degree, while responses to Interview Question 3 revealed that participants identified counseling services, workshops, and financial aid services as least effective in helping them achieve their academic goals. Responses to Interview Question 4 showed that students felt changes were needed to the communication structure of the SSS program, and responses to Question 5 revealed participants did not believe the SSS program at The College had improved during the past year.

CHAPTER 5: SUMMARY AND DISCUSSION

Introduction

The purpose of this study was to determine and examine the impact of student support services (SSS) on academic success at a historically black college. The study was grounded in the theoretical framework of Astin's Input-Environment-Outcome Model (IEO), Scholssberg's theory of marginality, holistic theory, facilitation theory, and the theory of sensory simulation. I collected and analyzed data from 150 Student Support Services (SSS) and 150 non-SSS students to determine the impact of SSS at The College. The research questions were the following:

1. Is there a statistically significant difference between academic achievement (GPA, ACCUPLACER test scores) of SSS students and non-SSS Students?

2. Is there a statistically significant difference between the retention rate (i.e., the percentage of students who did not transfer and withdraw after two semesters in the study period) of SSS and non-SSS students?

3. Is there a statistically significant difference between the graduation rate (i.e., percentage of students receiving their college degree) of SSS and non-SSS students?

4. Is there a statistically significant difference between SSS and non-SSS students' satisfaction with The College?

5. What are SSS students' experiences with the SSS program?

This chapter presents a summary of the study, presents a discussion of the relationship between the findings and research literature, and concludes with implications for future research, recommendations and conclusions.

Summary of the Study

Chapter 1 introduced the study and explained the problem, purpose, theoretical framework, research questions, hypotheses, significance, and assumptions. Importantly, it presented the theoretical framework that framed the study and five research questions that highlighted the independent (SSS and non-SSS students) and dependent variables (academic achievement, retention rate, graduation rate, student satisfaction and experiences) of interest in the study.

Chapter 2 examined the history and background of TRIO services. It also reviewed and discussed extant empirical literature on student recruitment and retention, student involvement in the learning process, factors that contribute to student success in college, and the impact of SSS programs on student achievement in college. It also explored how academic barriers such as college access, student involvement, and the relationship between student and teacher at the college level provide a degree of understanding of the factors that inhibit the academic success of African-American student in college. In addition, a conceptual framework based on Astin's I-E-O Model (1993) presented a roadmap depicting the correlation between the academic barriers and student achievement. The theoretical framework divided each barrier into three categories: *environment* (college access), *input* (student involvement), and *outcome* (student and teacher relationship). Environmental factors determined student access to college funding, facilities, and faculty, while input variables determined the extent of student involvement, and outcome variables such as GPA, retention rate, and graduation rate were indicators of student success.

Chapter 3 discussed the design and methodology used to conduct the study, which was framed and guided by a causal comparative mixed method design. The chapter further described—from both quantitative and qualitative perspectives—the population and participants,

data source and instrumentation, data collection procedure, treatment and analysis of the data, and ended with a discussion of ethical considerations and a discussion of limitations and delimitations. Of importance was the discussion of Multivariate Analysis of Variance (MANOVA) with the SPSS software program to analyze the academic achievement data and student satisfaction data, and the discussion of coding and content analysis with the MAXQDA software program to analyze focus group data.

Finally, Chapter 4 discussed the results as well as how the quantitative data were analyzed with descriptive and inferential statistics to address four quantitative research questions, and how interview data were analyzed with qualitative methods, specifically coding and content analysis, to answer one qualitative question. Specifically, Multivariate Analysis of Variance (MANOVA), with underlying assumptions that matched the statistical requirements of this study, was used to analyze archival and survey data. MAXQDA software program assisted with analysis of participants' responses from two focus group interviews, while qualitative data collection, analysis (content), and interpretation procedures were conducted consistent with the criteria and guidelines used to establish empirical warrant and transparency.

Summary of Findings

The conceptual framework of this study encompassed a partial adoption from Astin's I-E-O model. The model showed the interrelationship between college environments (process), student input (involvement), and student-teacher relationship and their impact on four outcome variables—GPA, test scores, retention, and graduation rate. By measuring student outcome variables such as academic achievement, attitudes, and graduation and retention rates, this study attempted to determine the effectiveness of the SSS Program and, in so doing, highlighted the importance of college environment, student input, and student-teacher relationship at The

College. The findings summarized below could help The College identify and acquire specific SSS resources, take corrective measures to reduce student dropout rates, and increase enrollment.

Research Question and Hypothesis 1: Is there a statistically significant difference between academic achievement (GPA, Accuplacer test scores) of SSS students and non-SSS Students? *H1:* Student Support Services (SSS) students attending The College statistically achieved higher academic scores (GPA, test scores) than non-SSS students.

There was no significant group difference in GPA. However, significant differences were seen in math, writing scores, and reading scores. SSS participants significantly outperformed non-SSS participants in math every year. SSS participants significantly underperformed non-SSS participants in writing and reading during 2010 and 2011. Finally, non-SSS students outperformed SSS students in the first two years, but by year 3, the SSS students had caught up to non-SSS students and were statistically their equal. In sum, it was not possible to reject the null hypothesis that the group GPAs are the same for any of the three years considered.

Research Question and Hypotheses 2: Is there a statistically significant difference between the retention rate (i.e., the percentage of students who did not transfer and withdraw during the study period) of SSS students and non-SSS Students? *H2:* There is a statistically significant difference in the retention of SSS and non-SSS students.

There was no statistically significant difference in retention between the two groups in 2010. However, in 2011, there were significant differences in the group's retention with non-SSS students more likely to be retained. This difference remained significant in 2012. In any case, the difference was medium (as opposed to small or large) according to the estimate of ϕ.

Research Question and Hypotheses 3: Is there a statistically significant difference between the graduation rate (i.e., percentage of students receiving their college degree) of SSS

and non-SSS students? *H3*: Student Support Services (SSS) students attending The College graduate at a higher percentage rate than non-SSS students.

The graduation differences were only significant in 2012. When significant, the effect size was medium. Non-SSS students generally outperformed SSS students categorically in terms of graduation rates.

Research Question and Hypotheses 4: Is there a statistically significant difference between SSS and non-SSS students' satisfaction with The College? *H4*: Student Support Services students' degree of satisfaction, perception of, and experiences with The College are more favorable than those of non-SSS students.

There was no statistically significant difference between SSS and non-SSS satisfaction at The College. The p-values in each category were above the predetermined significance value $p \leq .05$. The overall academic advising satisfaction score for the two groups indicated that participants were satisfied with this component. Likewise, the academic instruction, academic/financial aid, campus environment, safety/security, and campus life scores indicated that participants in both groups were satisfied with these services.

Research Question and Hypotheses 5: What are SSS students' experiences with the SSS program? *H5*: Student Support Services students have a more favorable experience with The College than non-SSS students do.

Of the participants who responded to *Interview Question 1*, "What are your thoughts about the quality of the Student Support Services currently being offered at The College," the majority indicated that they were dissatisfied with the quality of SSS services that they received. As for *Interview Question 2*, "Which Student Support Services currently being offered at The College do you believe are **most** effective with helping you achieve your goal of attaining a four-year

degree," participants indicated that tutoring services at The College were the most effective in helping students achieve their goal of attaining a degree.

When answering *Interview Question 3*, "Which Student Support Services currently being offered at The College do you believe are **least** effective with helping you achieve your goal of attaining a four-year degree," participants indicated that counseling services, workshops, and financial aid services were least effective in helping them achieve their academic goal. *Interview Question 4*, "If you could make three changes to the current Student Support Services program at The College, what would they be?" showed that participants were dissatisfied with the communication structure of the SSS program. Finally, *Interview Question 5* revealed participants did not believe that the SSS program at The College improved during the past year, which indicated their dissatisfaction with the current delivery of SSS.

Accuplacer (Math, Reading, Writing) and GPA Observations

Accuplacer Test Scores: The data showed that there was a statistically significant difference in the math, reading, and writing scores for SSS and non-SSS students. A closer observation of the data revealed that SSS students outperformed their non-SSS colleagues in each of the 3 years sampled. It appeared that SSS student consistently scored in the mid to low 80th percentile on their exams, while non-SSS student scored in the low 80th to high 70th percentile. The reason for the difference is largely unknown, but it is possible that the tutoring services in which many of the SSS students participated during the sampled years would have had a positive impact on these raw scores.

In addition, it appeared that many of the SSS students opted to study in pairs and groups while preparing for exams. The non-SSS students did not indicate they studied in pairs and groups. These identified differences (i.e., tutoring and group study) may be responsible for the 5

to 6 point difference between the two groups. Administrators at The College may want to examine this difference more closely to determine what impact, if any, tutoring and study groups have on students' individual Accupacer test scores. Past studies have shown that tutoring produces positive results academically (Elbaum et al., 2000; Rheinheimer & McKenzie, 2010).

The results showed that there was no significant difference in GPAs between SSS and non-SSS students. With the exception of academic year 2012, the SSS and non-SSS students achieved, on average, nearly the same GPA scores (Figure 3). Although SSS students scored slightly better than their colleagues did in 2010 and 2011, the difference was barely noticeable. The groups' average scores ranged between 75% and 80% on each exam. In year 2012, however, it appeared that SSS students, on average, scored higher on each exam than their non-SSS colleagues.

Graduation and Retention Observations

Wilson (2006) noted a direct correlation between students' institutional experiences and a school's retention and graduation rate. Data in this study showed that non-SSS students in 2010, 2011, and 2012 withdrew, transferred, or dropped out of The College at a greater rate than the SSS colleagues ($\chi^2(1) = 37.364$, $\phi = .353$) (Table 6). Students in both groups who chose to leave The College appeared to have done so for personal reasons (e.g., problems at home) and not academic or instructional reasons. The support of family members is critical to the academic success of students in college (Meeus, 1996; Thayer 2000). Non-SSS students generally outperformed SSS students relative to retention and graduation rates. The retention differences were significant in 2011 and 2012, while the graduation differences were significant only in 2012.

N-LSSI and Focus Group Observations

Academic Advising: The N-LSSI results and Focus Group interviews were instrumental in establishing an understanding of the SSS and non-SSS students' satisfaction and experience with academic advising, academic instructions, admission and financial aid, campus environment, safety and security, and campus life. There was an overwhelming consensus between the two groups that the services they received were satisfactory. Although the groups felt the services were beneficial to their academic success at The College, there were a number of concerns expressed by the students about needed improvements to each service component. Some of the concerns, beginning with academic advising, reflected the need for sustained strengthening of the relationship between counselors and students. It appeared to me that the students expressed a fundamental breakdown in communications between themselves and their counselors, which can and often does lead to an erosion of trust and respect in collegiate environments. If an academic adviser fails to recognize a breakdown in communication between him/her and students, then there is an increased probability that students will suffer academically. It is worth noting that non-SSS students expressed greater concerns about a breakdown in communication with their advisers than SSS students.

Academic Instruction: The combined results of the N-LSSI and interviews disclosed that both SSS and non-SSS students had concerns about academic instruction at The College. However, students felt that teacher/student relationships needed to improve in and out the classroom. Both groups indicated that many teachers at The College spend too much time focusing on making sure instruction is understood by specific (i.e., their favorite) students in the class rather than by all students. In addition, students expressed a need for greater variety of course options provided by The College.

Financial Aid and Admission: Financial aid and admissions services at The College received a satisfactory score on the N-LSSI by SSS and non-SSS students. The admission and enrollment numbers at The College held steady during the three sampled years (2010 to 2012), with a slight increase in 2012. This is expected considering that students attending private colleges tend to receive more money than students attending public institutions (Kozol, 1991; Carey, Cahalan, Cunningham, & Agufa, 2004; Striplin, 1999). Perhaps unexpected were the complaints expressed by both SSS and non-SSS students about time delays in receiving financial aid payments.

Campus Environment: An essential component of academic success for a college is the learning environment. For this reason, it is important that administrators at The College continue to promote a positive learning environment as suggested by many of the SSS and non-SSS students in the N-LSSI survey. If students do not feel a sense of belonging to the college, they are more likely to perform poorly academically (Evans et al., 1998). This was not evident in the results of the N-LSSI survey. However, there were some concerns expressed by survey participants about the campus environment. Students frequently mentioned that important information (e.g., security concerns) is not readily available nor communicated in a timely manner. This lack of communication created a feeling of vulnerability for some students. Additionally, some students felt that the lack of important information hindered their ability to focus on academics because of the anxiety and stress of having limited or untimely information. These same students did mention, however, that when they receive timely information, the details are typically clear and thorough enough for them to make good use of it.

Safety and Security: Safety and security at The College received high marks from both SSS and non-SSS students surveyed. Notwithstanding some student complaints about parking

lot lighting and late response times to nonemergency calls by campus security, the security on campus provided survey participants with a real sense of safety. College administrators must not overlook these concerns if safety and security is to remain high. However, it is clear that The College takes campus security seriously and has made it a priority based on the satisfactory rating (5.65) on the N-LSSI.

The College received high marks from both SSS and non-SSS students for its campus life. Students praised the residential living arrangements, describing these conditions as comfortable and well organized. They expressed approval of the student center and cafeteria venues, referring to them as spacious and welcoming. Students feel more accepted by their peers on a welcoming campus, which could potentially help them in achieving their academic goals. Walsh (2000) reported that college students who were uncertain about their academic goals tend to struggle the most.

Implications for Administrative Practice, Leadership and Policy

The Student Support Services Program was introduced at The College to reduce the achievement gap that exists between students from high and low socioeconomic backgrounds (Department of Education, 2011, October 20), many of whom are African Americans. Researchers such as Slavin and Madden (2006) have reported that to decrease or narrow the achievement gap, African American students must be afforded opportunities to acquire a quality education and develop marketable competencies and skills. This realty is consistent with a primary goal of The Higher Education Act of 1965, which was enacted to make quality education affordable for minority students. It is essential, then, for students attending The College to receive the most comprehensive package of support services available that affords them the opportunity to adjust quickly to college life and, in so doing, increase their chances for academic suc-

cess. For this reason, The College should examine whether its academic program is producing results that are aligned with planned goals and objectives (Richardson, 2011). Negligible

The findings of this study revealed that the SSS program was effective in some areas but only marginally or negligibly impacted the achievement gap between SSS students and non-SSS students. This lack of significance was evident in GPA scores, which showed no significant differences during the three years for which data were examined. However, there was a significant difference between the two groups relative to math, reading, and writing scores, with non-SSS students outperforming their counterparts in 2010 and 2011. In 2012, SSS students marginally outperformed non-SSS students in both reading and writing. Additionally, SSS students' math scores were clearly superior to those of non-SSS students.

There are two reasons why these results warrant a thorough investigation by administrators at The College. First, it is important to determine if students entering The College are being appropriately and accurately screened and evaluated by admission personnel before they enter the SSS program. It is also essential that students referred to the program receive appropriate scrutiny from college counselors prior to students being placed in the SSS program. Counselors have diagnostic competencies, skills, and tools that are designed to provide valid and reliable information that could tell college officials what services are most consistent with students' needs. Second, college administrators should carefully examine the level of effectiveness and efficiency with which the services that target math, reading, and writing deficiencies are delivered to students. This is critically important because program effectiveness and efficiency are variables that invariably affect delivery of instruction, student achievement, and overall program quality.

The implications of an effective and efficient SSS program are integrally linked to The College's ability to grow, develop, and continually serve disadvantaged students. For example,

failure to properly screen, evaluate, and refer students could waste time, money, and other resources that could otherwise benefit needy students. Researchers such as Cheng and Tam (1997) have proposed that administrators exercise unwavering foresight and deep wisdom when allocating resources to improve HBCUs and the services they offer students. Naturally, and because HBCUs are the recipients of public funding, administrators at these institutions must adhere to federal guidelines and program standards. The fact that SSS students at The College are underperforming non-SSS students may suggest that program changes are urgently needed.

Two areas of the SSS program administrators at The College should closely scrutinize are the rates of retention and graduation. The goal of SSS is to improve the overall chances of students graduating from college (Department of Education, 2011, September 12), and retention plays a big role in achieving this goal. Changes in admissions standards prompted some institutions to rely on student support services to ensure increased student enrollment and retention improved student achievement (Department of Education, 2011). If it is to compete with other HBCUs of similar size, The College must explore new ways to improve its graduation and retention rates. The results of this study show that despite minor increases in retention over the three-year period examined, SSS students consistently posted lower retention and graduation rates than their non-SSS counterparts.

Failure to adequately assess and understand how low retention and graduation rates negatively affect dropout rates could result in unexpected increases in student transfer rates, dropout rates, and withdrawals rates. Although it is well known that burdensome financial obligations are among the major reasons HBCU students leave college prematurely (Muraskin, 1997), there could be other underlying causes for the low percentages of SSS students who successfully begin and finish the SSS program. For example, although SSS students enroll in the

program's services, many may not necessarily feel a commitment to or connection with The

College, as focus group data in this study suggest. This possibility was observed by

Moldenhauer (2002) who found that emotional connection to the college campus was a major

predictor of college success among students. Similarly, Wilson (2006) observed a positive

correlation between students' institutional experiences and a school's retention and graduation

rate. Administrators who manage the SSS program must strive to make a connection between

the way students think and feel about The College and their willingness to persist and complete

their education. A failure to make this connection, or formulate and implement policies to

address it, could result in continual low retention and graduation rates, and, consequently,

substantial decreases in SSS funding to the school.

Recommendations and Conclusions

The responses to the academic advising component of the N-LSSI highlighted the need

for improved lines of communications between students and their advisors. Academic advisors

must be able to identify when there is a breech in the communications between them and their

counselees. For this reason, recommendations include the development of an educational plan

that promotes an on-going relationship between students and their advisors to achieve increased

communication for setting goals or benchmarks throughout the academic year. Trust and respect

for the relationship will develop over time as benchmarks are reached and achievements are

realized. Advisors at The College must ensure that they fully understand their role in the

relationship and that they are ultimately responsible for making the decisions that will affect

students' academic future.

Concerning the academic instructions component, even though SSS and non-SSS

students who completed the survey agreed that academic instruction at The College was

satisfactory, these students also expressed concern about the limited course selection. Some even felt that the overall quality of the education they received at the school was not as good as they had expected it to be when they enrolled. This concern is something to which academic advisors at The College must pay close attention or it could potentially have a negative impact on recruitment and retention, an issue with which colleges and universities routinely grapple each year (Dale, 2008; Foley & Pang, 2006; Lau, 2003).

Students expressed financial aid concerns during the focus group discussion. Moreover, although the complaints were made by a handful of students and appeared to be communicated out of frustration with a particular incident rather than error in the financial aid process, administrators must monitor complaints to ensure that a problem does not negatively affect student retention because of financial aid issues. As Smith (1990) and Stolar (1991) observed, the lack of finances is one of the primary reasons students drop out of college.

Many students responding to the interview questionnaire saw the timely flow of information on campus as being essential to their academic success. Well-timed dissemination of information is something that administrators should value because without such opportune communication, the rapport between students and faculty could be damaged, which, in turn, could lead to a lack of trust between college staff and students resulting in a toxic campus environment. The timely flow of information could be the difference in a student deciding to drop out, withdraw, or transfer from the institution. Therefore, administrators at The College must maintain a watchful eye to ensure that retention, which did not appear to be an issue in this study, does not become one.

There was a difference in 2012 between SSS and non-SSS students relative to the analyzed Accuplacer and GPA data of about 7 to 8 points. The difference appeared consistent,

although it was not significant. The reason for the difference in 2012 may be due to an increased

awareness by students of the importance of these scores to attaining a degree. Since there were

no significant differences in Accuplacer and GPA scores for 2010 and 2011, administrators at

The College may wish to examine the data set for those years to determine why both groups are

similar in performance.

Although past research has shown that financial difficulties are major contributors to

students leaving college prematurely (Department of Education, 2011, September 12; Striplin,

1999), financial difficulties did not appear to be a factor in this study. In fact, the data showed

that enrollment and retention at The College increased steadily over the period sampled.

Although there is no single identifiable reason for the increase, it is possible that enrollment and

retention were not adversely affected because over 90% of students at The College receive some

form of federal tuition assistance, which essentially reduces the burdens associated with

financing their education. However, students receiving government assistance are generally

twice as likely to withdraw from college prematurely as those who do not receive it (Pascarella et

al., 2005; Roberts et al., 2010; Department of Education, 2011, September 12; Turner, 2012). In

addition, students' lack of maturity and view of college was rather tainted as illustrated by their

suggestion that financial assistance and food were some of their immediate needs. So

administrators at The College must constantly monitor to ensure enrollment and retention

numbers are not impacted severely by cuts in government spending. They must also ensure that

students are knowledgeable about the process of financial aid and the requirements to maintain

financial assistance. After all, the goal of SSS is to improve the student's overall chances of

graduating from college (Department of Education, 2011, September 12), a difficult task for

students to achieve without adequate funding.

In conclusion, the conceptual framework framing and guiding this study is based on Astin's I-E-O Model (1993; 2012), which highlights relationships between three key academic variables—*environment* (college access), *input* (student involvement and student and teacher relationship), and *outcome* (student achievement). Environmental factors determine student access to college funding, facilities, and faculty; input variables determine or influence the extent of student involvement; and outcome variables such as GPA, retention rate, and graduation rate are measures of student success. While the model and variables provide a framework for understanding what is needed to increase retention and graduation rates, students' responses during the focus group interviews emphasized the need for The College to ensure that each variable in the model is address in ways that ensure the SSS Program's effective and efficient implementation.

In addition, future studies of the SSS program, program evaluation at The College should be conducted to determine its overall strengths and weaknesses, as well as to identify potential threats before they negatively influence funding. In addition, the SSS program should include a larger sample of the participants such as administrators and faculty because a 360-degree study could produce more credible and reliable findings. Results produced by a 360 degree empirical design could have positive implications for policy formulation and implementation, better use of SSS resources, and the practical application of Astin's IEO model—especially policies and practices associated with The College's environment, student input and student/teacher relationship.

The successful implementation of SSS at The College will depend on the ability of school administrators to develop and institutionalize programs that help students achieve academic success (Evans et al., 2009; Kuh et al., 2010; Mahoney, 1998). Successful implementation also de-

pends on faculty and staffs who are fully committed to the vision and a goal articulated by the leaders at The College, and to what is best for sustained student learning, growth, and holistic development.

Appendix A

Noel-Levitz Student Satisfaction Inventory

123

Noel-Levitz Student Satisfactory Inventory

Importance to me . . .

1 - not important at all
2 - not very important
3 - somewhat unimportant
4 - neutral
5 - somewhat important
6 - important
7 - very important

does not apply

. . . My level of satisfaction

not available/not used

very satisfied - 7
satisfied - 6
somewhat satisfied - 5
neutral - 4
somewhat dissatisfied - 3
not very satisfied - 2
not satisfied at all - 1

21. The amount of student parking space on campus is adequate.
22. Counseling staff care about students as individuals.
23. Living conditions in the residence halls are comfortable (adequate space, lighting, heat, air conditioning, telephones, etc.).
24. The intercollegiate athletic programs contribute to a strong sense of school spirit.

25. Faculty are fair and unbiased in their treatment of individual students.
26. Computer labs are adequate and accessible.
27. The personnel involved in registration are helpful.
28. Parking lots are well-lighted and secure.

29. It is an enjoyable experience to be a student on this campus.
30. Residence hall staff are concerned about me as an individual.
31. Males and females have equal opportunities to participate in intercollegiate athletics.
32. Tutoring services are readily available.

33. My academic advisor is knowledgeable about requirements in my major.
34. I am able to register for classes I need with few conflicts.
35. The assessment and course placement procedures are reasonable.
36. Security staff respond quickly in emergencies.

37. I feel a sense of pride about my campus.
38. There is an adequate selection of food available in the cafeteria.
39. I am able to experience intellectual growth here.
40. Residence hall regulations are reasonable.

41. There is a commitment to academic excellence on this campus.
42. There are a sufficient number of weekend activities for students.
43. Admissions counselors respond to prospective students' unique needs and requests.
44. Academic support services adequately meet the needs of students.

45. Students are made to feel welcome on this campus.
46. I can easily get involved in campus organizations.
47. Faculty provide timely feedback about student progress in a course.
48. Admissions counselors accurately portray the campus in their recruiting practices.

49. There are adequate services to help me decide upon a career.
50. Class change (drop/add) policies are reasonable.
51. This institution has a good reputation within the community.
52. The student center is a comfortable place for students to spend their leisure time.

53. Faculty take into consideration student differences as they teach a course.
54. Bookstore staff are helpful.
55. Major requirements are clear and reasonable.
56. The student handbook provides helpful information about campus life.

57. I seldom get the "run-around" when seeking information on this campus.
58. The quality of instruction I receive in most of my classes is excellent.
59. This institution shows concern for students as individuals.
60. I generally know what's happening on campus.

61. Adjunct faculty are competent as classroom instructors.
62. There is a strong commitment to racial harmony on this campus.
63. Student disciplinary procedures are fair.
64. New student orientation services help students adjust to college.

65. Faculty are usually available after class and during office hours.
66. Tuition paid is a worthwhile investment.
67. Freedom of expression is protected on campus.
68. Nearly all of the faculty are knowledgeable in their field.

69. There is a good variety of courses provided on this campus.
70. Graduate teaching assistants are competent as classroom instructors.
71. Channels for expressing student complaints are readily available.
72. On the whole, the campus is well-maintained.
73. Student activities fees are put to good use.

Your institution may choose to provide you with additional questions on a separate sheet. The section below numbered 74 - 83 is provided as a response area for those additional questions. Continue on to item 84 when you have completed this section.

Importance to me . . .

1 - not important at all
2 - not very important
3 - somewhat unimportant
4 - neutral
5 - somewhat important
6 - important
7 - very important

does not apply

. . . My level of satisfaction

not available/not used

very satisfied - 7
satisfied - 6
somewhat satisfied - 5
neutral - 4
somewhat dissatisfied - 3
not very satisfied - 2
not satisfied at all - 1

74. (If items 74-83 not available, skip to item 84.)   74.
75.   75.
76.   76.
77.   77.
78.   78.

79.   79.
80.   80.
81.   81.
82.   82.
83.   83.

How satisfied are you that this campus demonstrates a commitment to meeting the needs of:

84. Part-time students?   84.
85. Evening students?   85.
86. Older, returning learners?   86.
87. Under-represented populations?   87.
88. Commuters?   88.
89. Students with disabilities?   89.

How important were each of the following factors in your decision to enroll here?

90. Cost
91. Financial aid
92. Academic reputation
93. Size of institution
94. Opportunity to play sports
95. Recommendations from family/friends
96. Geographic setting
97. Campus appearance
98. Personalized attention prior to enrollment

Choose the one response that best applies to you and darken the corresponding oval for each of the questions below.

99. So far, how has your college experience met your expectations?
   ① Much worse than I expected
   ② Quite a bit worse than I expected
   ③ Worse than I expected
   ④ About what I expected
   ⑤ Better than I expected
   ⑥ Quite a bit better than I expected
   ⑦ Much better than I expected

100. Rate your overall satisfaction with your experience here thus far.
   ① Not satisfied at all
   ② Not very satisfied
   ③ Somewhat dissatisfied
   ④ Neutral
   ⑤ Somewhat satisfied
   ⑥ Satisfied
   ⑦ Very satisfied

101. All in all, if you had it to do over again, would you enroll here?
   ① Definitely not
   ② Probably not
   ③ Maybe not
   ④ I don't know
   ⑤ Maybe yes
   ⑥ Probably yes
   ⑦ Definitely yes

CONTINUE TO THE NEXT PAGE

Choose the <u>one</u> response that best describes you and darken the corresponding oval for each of the items below.

102. Gender:
1. Female
2. Male

103. Age:
1. 18 and under
2. 19 to 24
3. 25 to 34
4. 35 to 44
5. 45 and over

104. Ethnicity/Race:
1. African-American
2. American Indian or Alaskan Native
3. Asian or Pacific Islander
4. Caucasian/White
5. Hispanic
6. Other
7. Prefer not to respond

105. Current Enrollment Status:
1. Day
2. Evening
3. Weekend

106. Current Class Load:
1. Full-time
2. Part-time

107. Class Level:
1. Freshman
2. Sophomore
3. Junior
4. Senior
5. Special Student
6. Graduate/Professional
7. Other

108. Current GPA:
1. No credits earned
2. 1.99 or below
3. 2.0 - 2.49
4. 2.5 - 2.99
5. 3.0 - 3.49
6. 3.5 or above

109. Educational Goal:
1. Associate degree
2. Bachelor's degree
3. Master's degree
4. Doctorate or professional degree
5. Certification (initial or renewal)
6. Self-improvement/pleasure
7. Job-related training
8. Other

110. Employment:
1. Full-time off campus
2. Part-time off campus
3. Full-time on campus
4. Part-time on campus
5. Not employed

111. Current Residence:
1. Residence hall
2. Fraternity / Sorority
3. Own house
4. Rent room or apartment off campus
5. Parent's home
6. Other

112. Residence Classification:
1. In-state
2. Out-of-state
3. International (not U.S. citizen)

113. Disabilities:
Physical disability or a diagnosed learning disability?
1. Yes
2. No

114. When I entered this institution, it was my:
1. 1st choice
2. 2nd choice
3. 3rd choice or lower

Your numeric identifier is requested for research purposes and <u>will not</u> appear on any report.

Your response is voluntary.

Student ID/SSN if requested by your institution:
Write the requested number in the spaces of the box provided. Completely darken the corresponding oval.

115. Major:
Fill in major code from list provided by your institution.

116. Item requested by your institution:
1
2
3
4
5
6

Thank you for taking the time to complete this inventory.
Please do not fold.

PLEASE DO NOT MARK IN THIS AREA

SERIAL #

Appendix B

Focus Group Interview Questionnaire

Participant Interview Questionnaire

1. What are your thoughts about the quality of the Student Support Services currently being offered at The College?

2. Which Student Support Services currently being offered at The College do you believe are **most** effective with helping you achieve your goal of attaining a four-year degree? Why?

3. Which Student Support Services currently being offered at The College do you believe are **least** effective with helping you achieving your goal of attaining a four-year degree? Why?

4. If you could make three changes to the current Student Support Services program at The College, what would they be? Why?

5. Do you believe the Student Support Services program offered at The College is better today than a year ago? If so, how?

Appendix C

President's Permission Letter for Entry to Site

COLLEGE OF EDUCATION AND HUMAN SERVICES

UNF | UNIVERSITY *of* NORTH FLORIDA.

August 5, 2013
Mr. Nathaniel Glover
President
Edward Waters College
1879 North Kings Road
Jacksonville, Florida 32254

RE: Permission to Conduct Research Study

President Glover,

I am a doctoral candidate at the University of North Florida in the college of Education and Human Services. As a partial requirement for my doctoral degree, I am conducting a study to evaluate the impact of Student Support Services on retention and graduation rates. The purpose of this letter is to request your permission to visit your college and interview students at their convenience and with their consent. At no time will the interview sessions interfere with their instructional program. I would appreciate your assistance.

Data from this study may be published. However, pseudonyms will be used to protect the participants' identity and that of your institution. Participants' names and that of Edward Waters College will be kept strictly confidential and I will not release information to anyone in a manner that could identify the participants or the school. The Students' participation in the study is voluntary and they are free to withdraw from the study at any time. Once the study has been completed, I will be happy to provide you a copy and summary of the results. In the meantime, if you have questions, you may call me or send an email message at

Thank you for your cooperation and I appreciate your assistance.

Sincerely,

Andrea Marie Cummings
Doctoral Candidate

Appendix D

President's Approval Letter for Entry to Site

Edward Waters College

Office of Academic Affairs

August 23, 2013

Dr. Anna Hammond
Executive Vice President
Edward Waters College
1658 North Kings Road
Jacksonville, Florida 32254

RE: Permission to Conduct Research Study

Dear Dr. Hammond:

My name is Andrea Marie Cummings. I am a doctoral candidate at the University of North Florida in the College of Education and Human Services. As a partial requirement for my doctoral degree, I am conducting a study to evaluate the impact of Student Support Services on retention and graduation rates. The purpose of this letter is to request your permission to access your compound and interview students at their convenience. At no time will the interview sessions interfere with their instructional program. I would appreciate your assistance.

Data from this study may be published. However, pseudonyms will be used to protect the participants' identity and that of the institution. Participants' names and that of the school will be kept strictly confidential and I will not release information to anyone in a manner that could identify the participants or the school. The students' participation in the study is voluntary and they are free to withdraw from the study at any time. Once the study is complete, I will be happy to provide you with a summary of the results. In the meantime, if you have questions, you may call or send an email at

Thank you for your cooperation and I appreciate your assistance. If you agree, kindly sign below. Alternatively, kindly submit a signed letter of permission on your institution's letterhead acknowledging your consent and permission for me to conduct this study at Edward Waters College.

Sincerely,

Signature Deleted

Andrea M. Cummings
Doctoral Candidate

Enclosures

cc: Dr. Warren Hodge, Research Advisor, UNF

Approved by:

Signature Deleted

MARVIN GRANT		8/28/13
Print your name and title here	Signature	Date

UNCF
A mind is a terrible thing to waste®

1658 Kings Road, Jacksonville, Florida 32209 ● phone 904-470-8079 ● www.ewc.edu

Member Institution   **Equal Opportunity Institution**

Appendix E

Participant's Invitation Letter

COLLEGE OF EDUCATION AND HUMAN SERVICES

UNF UNIVERSITY *of* NORTH FLORIDA.

Participant Invitation Letter

September 17, 2013

Dear Participant:

I am a doctoral candidate at the University of North Florida in the college of Education and Human Services. As a partial requirement for my doctoral degree, I am conducting a study to evaluate the impact of Student Support Services on retention and graduation rates.

The purpose of this letter is to request your permission for an open-ended interview or completion of a survey. I would like to learn about your beliefs and views regarding the Student Support Services Program, the services EWC offers and your participation in the program. The interview and survey will take approximately 20 to 40 minutes and will be conducted at your convenience. At no time will the interview sessions interfere with your class schedule. During the interview, I will ask you to respond to five questions and I request your permission to record your responses. You will have an opportunity to clarify or elaborate on any of your responses. Following the interview, I will request that you complete the survey questionnaire.

Pseudonyms will be used to protect your identity and that of the institution. Your name and the name of your college will be kept strictly confidential and I will not release any information you give me to anyone in a manner that could identify you or your school. There are no foreseeable risks and no compensation involved for your participation. Your participation is voluntary and you are free to withdraw from the study at any time. If you withdraw from the study, the information you provide up to that point will be destroyed. Once the study is complete, I will be glad to provide you with an executive summary of the findings. If you have any questions, you may call me at   or send a message via my email address to

I appreciate your assistance and thank you for considering this request and for participating in the study.

Sincerely,

Andrea Marie Cummings
Doctoral Candidate

Appendix F

Informed Consent Form

COLLEGE OF EDUCATION AND HUMAN SERVICES

UNF UNIVERSITY *of* NORTH FLORIDA.

Informed Consent Form

Dear Participant,

I am a doctoral candidate at the University of North Florida in the college of Education and Human Services. I am conducting a study to evaluate the impact of the Student Support Services Program on retention and graduation rates. The study is significant because the findings may provide valuable information that can be used to help improve the implementation of the program and increase participation opportunities for students who need the program's services.

I would like you to participate in an open-ended interview and complete a questionnaire to learn about your beliefs and views regarding the Student Support Services Program, the services that it offers and your level of participation in the services. The interview and questionnaire will take approximately 20 to 30 minutes to complete and will be conducted at your convenience. With your permission, I will tape record the interviews using multiple audio recorders and you may decline to answer questions with which you are uncomfortable. I will make transcripts of the recordings and then code the transcripts with pseudonyms. Following the transcription, I will provide you with a copy to review. After reviewing the transcript, you may withdraw your response to any question or make changes or clarifications as you see fit before you return the transcript to me. I will accept your changes or clarifications to the document. Following the interview, I will request that you complete a questionnaire.

Data from this study may be published. However, pseudonyms will be used to protect your identity and that of your institution. Your responses will be kept strictly confidential, and only my dissertation chair and I will have access to the data. All data collected will be encrypted and stored on the University of North Florida's secure server. Recordings will be destroyed immediately following the completion of my dissertation.

Although there are no direct benefits to or compensation for taking part in this study, others may benefit from the findings of this study. Additionally, there are no foreseeable risks for taking part in this study. Your participation is voluntary and you are free to withdraw from the study at any time. If you withdraw from the study, the information you provide up to that point will be destroyed. Once the study is complete, I will be glad to provide you with an executive summary of the findings.

If you have any questions, please direct them to my dissertation chair or me.

If you have any questions about your rights as a participant, you may contact the University of North Florida's Institutional Review Board Chairperson by calling   or emailing irb@unf.edu.

Thank you for your professional courtesy.

Sincerely,

Andrea Marie Cummings   Dr. Warren Hodge (Dissertation Chair)
                                         1 University of North Florida Drive
                                         Jacksonville, FL 32224
Tel.
Email: Email:

I am at least 18 years old. _____ (initials)

I have received a satisfactory explanation of the study that I am agreeing to participate in.

_____ (initials)

I have had the opportunity to ask any questions that I may have had regarding this study.

_____ (initials)

I agree to participate in Evaluating the Impact of Student Support Services on Graduation and

Retention Rates: A Mixed Method Study being conducted by Andrea Marie Cummings and the

University of North Florida. A copy of this form was given to me to keep for my records.

                    _____
                         Printed Name of Participant

_____
Date

                    _____
                         Signed Name of Participant

I have fully explained the nature and risks of the study. I have answered all the participant's
questions to the best of my ability. To the best of knowledge, the participant signing this consent
form has agreed freely to participate in this study.

                    _____
                    Printed Name of Individual Obtaining Consent

_____
Date

                    _____
                    Signed Name of Individual Obtaining Consent

Appendix G

SSS and Non-SSS Invitation Flyer

Forward

Students,

I am Andrea Cummings a doctoral student at the University of North Florida engaged in a study for the purposes of satisfying a requirement for a Doctor of Education degree. The purpose of this case study is to determine the impact of Student Support Services SSS on graduation and retention rates at The College.

Progress

Attention All College Students

Join Our Research Study Today!

Student Support Services

Non-Student Support Services

Contact Information:
Andrea Cummings

Mailing Address: **4595 Pebble Brook Dr.**

Email:
n00177961@unf.edu

Get Involved! Share your experience, thoughts, and ideas. Students, help make the SSS program at The College the best in the nation.

Andrea M. Cummings
UNF Graduate Student

Appendix H

Instrument Evaluation Checklist

COLLEGE OF EDUCATION AND HUMAN SERVICES

UNF UNIVERSITY *of* NORTH FLORIDA.

Instrument Evaluation Checklist

Dear Participant:

After completing the questionnaire, please answer the 12 questions below. Should you have any

questions about the study, please feel free to contact my advisor Dr. Warren Hodge or me, at my

phone number or my e-mail address.

Thanks for your assistance.

Cordially,

Andrea Cummings

Questions: YES NO

1. Are there any typographical errors?
2. Are there any misspelled words?
3. Do the item numbers make sense?
4. Is the type size big enough to be easily read?
5. Is the survey too long?
6. Is the style of the items too monotonous?
7. Are there easy questions in with the difficult questions?
8. Does the survey format flow well?
9. Are the items appropriate for the respondents?
10. Are the items sensitive to possible cultural barrier?
11. Is the survey in the best language for the respondent?
12. Is the vocabulary appropriate for the respondents?

Source: Litwin, M. S. (1995). *How to measure survey reliability and validity.* Thousand Oaks, CA: Sage

How long did it take to complete the questionnaire? _____

Thank you for completing the survey. Your participation is greatly appreciated.

Appendix I

Student Testimonials and Additional TRIO Services

The following are Internet testimonials that speak to the power and influence of Upward Bound to bridge the gap between high school and college attainment:

This first testimonial was posted by a sophomore in college having used Upward Bound services:

I stayed with Upward Bound because of its profound effect on me, "sophomore psychology major and Upward Bound graduate…." I was the very first person in my family to come to college, so I really appreciate the help of Upward Bound in getting here. (Jardine, 2002, para. 12)

These testimonials were posted by juniors in the program:

I started the Upward Bound program in the fall of 2008 as a junior. This program was very helpful in preparing me for the SATs and College Application Process. My SAT scores have improved through the program's classes and tutoring services. I am also receiving acceptance letters from colleges and look forward to attending college in the fall. (University of Massachusetts Boston, 2011, para. 1)

Spending four years at the upward bound program has helped prepare me for college. As a high school student, I got a feel of the "college experience" by participating in the program's 6-week residential program …. Through the program's MCAS prep and SAT courses, along with the tutoring services, I gained the skills needed to be accepted to college. Not only that, but I was able to make some really good friends who I will miss. (University of Massachusetts Boston, 2011, para. 3)

This testimonial was posted by a doctoral student who attended the Upward Bound in high school and later earned his bachelor's degree:

The program took away the fear of going to college for me….Being in high school and looking at college, it was a scary thought. You question your abilities as a student, and 'college' is a big word teachers really stress. (Kinney, 2006, para. 7)

These testimonials are a small sampling of literally thousands of Internet posts by students who have, as a direct result of Upward Bound services, moved on to four-year colleges and universities.

In addition to services provided by Upward Bound, low-income, first-generation students receive access to Upward Bound Math-Science, a program in the Upward Bound series that targets students who struggle specifically with math and science, two areas that our nation's leaders have identified as essential to the creation of a world-class educational system (Department of Education, 2006). In a report on education funding in America, Congressman Tom Cole, U.S. Representative, Oklahoma, was quoted as saying:

The debt we owe to future generations is to make sure they have more opportunity than each generation before them. This includes ensuring they have the highest quality teachers, classroom tools and resources, installing the best curriculum and focusing on core areas such as math and science. . . . Our obligation does not end after high school. (The American Chronicle, 2006, para. 2)

Upward-Bound Math-Science was established as a means of fulfilling that obligation. This program matches students with qualified instructors who provide them with the guidance they need to be successful in these areas (Department of Education, 2010, August 16, *Upward Bound Math-Science*). Hirsh (1987) recognizes that students who receive the right curriculum in school tend to become highly literate adults.

Third in the Upward Bound series is Veterans Upward Bound, a program aimed at assisting military veterans achieve their post-secondary educational goals. This program, although not as course specific as Upward Bound Math-Science, offers veterans counseling, mentoring, and tutoring services in a number of subject areas (Department of Education, 2010, August 16, *Veterans*).

To be eligible for participation in Upward Bound, Upward Bound Math-Science, and Veterans Upward Bound, applicants must (a) complete the 8th grade, (b) be 13 to 19 years of age, (c) demonstrate a need for the services, (d) come from a low-income household, (e) be the first to attend college in their family, and (d) be a high risk for academic failure (Department of Education, 2010, August 16, *Veterans*).

Talent Search, a component of TRIO introduced by Congress in 1968 under the provisions of the Higher Education Act, was designed to support children in grades 6 through 12 who were struggling academically. The program provided career and financial counseling services to encourage students to stay in school and work toward the goal of earning a college degree. An emphasis was placed on contacting students at risk for dropout and persuading them to stay in school (Department of Education, 2007a). To qualify for Talent Search services, participants had to be from household making less than $24,000 a year. More than 470 Talent Search programs were currently in operation across the country, serving the academic needs of approximately 400,000 disadvantaged children (Department of Education, 2007b).

Upward Bound and Talent Search have been popular with policymakers and educators over the years. In an effort to build on the success of these programs, Congress added Student Support Services to the arsenal of federal assistance programs, essentially forming what was known today as TRIO services. SSS offers tutoring in reading, writing, mathematics, and a

number of other academic services provide college students with the skills that they need to attend college. Chako and Huba (1991) and Grant (1986) have noted that these skills, most notably reading, are pertinent to academic success. In addition, SSS provided financial planning and counseling services to students who wanted to attend graduate school (Department of Education, 2010, June 24). These programs are federally funded, educational opportunities, mandated by Congress to provide support services to students from diverse multicultural backgrounds. Students from more than 1,200 colleges and universities across the country compete for these funds (TCU, 2007). In fact, the federal government spends billions of dollars on programs designed to improve how students learn in the classroom. Educate America Act of 1994: Goals, 2000; The No Child Left Behind Act; and Race to the Top, (standards-based approaches to education reform), are examples of such programs (Department of Education, 2008). Standards-driven improvements were generally the most effective educational reforms (National Academy of Education, 2009). Slavin (2011) has observed that "an important requirement for reform was the development of a substantial set of replicable programs" (p.144).

The National TRIO Clearing House (2003) estimated that two-thirds of the participants enrolled in TRIO programs were from first-generation, low-income families. These primarily freshmen students (Department of Education, 2011, October 4) tended to be members of a minority group, older in age, with a child, and less accomplished academically (Department of Education, 1997). Students who matched this type of profile tended to experience persistent poverty at an early age. They were also more likely to be caught up in a cycle of low expectations, resulting in lack of self-confidence and low self-esteem (McLoyd, 1998).

Educational Opportunity Centers (EOC) are federally funded academic centers where low-income students can receive assistance selecting college courses, submitting college

admission forms, preparing for entry level examinations, general education development, counseling, tutoring, and career workshops (Council for Opportunity in Education, 2007). The role of the staff, in this instance, was to support students. Scholars have noted that the most efficient and effective way to show support was to demonstrate a high level of intellectual and academic demand of students, show holistic concern for their future, and exhibit a strong sense of efficacy and legitimacy (Chaney et al., 1997; Payne, 2011).

In addition to their exposure to properly trained staff, some participants are provided mentoring services to acclimate them to college life. The requirements for attending an EOC was as follows: (a) participants must be at least 19 years old, (b) be a citizen of the United States, and (c) cannot be enrolled in support services provided by Talent Search at the time they apply for EOC (Council for Opportunity in Education, 2007).

Ronald E. McNair Post-Baccalaureate Achievement, similar to EOCs, is a federally funded program that prepares low-income students for careers as college instructors. Participants of this program must be enrolled or eligible to enroll in a doctoral degree program. Some of the services that they are qualified to receive include internships, seminars, tutoring, counseling, financial aid assistance, mentoring, and cultural studies (Council for Opportunity in Education, 2007).

Training Program for Federal TRIO Programs Staff is a program that provides federal funding to colleges and universities to train their TRIO staff properly. The funding is primarily used to schedule conferences, workshops, and seminars (Department of Education, 2010, June 24).

Student Support Services Component of TRIO

The TRIO program offers support services in a number of areas such as academic advising, career counseling, financial aid counseling, tutoring, note taking, resume and essay writing, time and stress management, cultural enrichment activities, supplemental instruction and career development (Department of Education, 2007a). Academic advising is designed to offer students a service that allows them to prepare their class schedules to meet their academic needs with the assistance of a support specialist (i.e., a training instructor). One of the main goals of academic assistance is to teach students how to modify their academic tasks to accommodate their needs.

As Simpson, Stahl, and Francis (2004) note, "It is important that academic assistance professionals understand the academic tasks required of their students" (p. 6). For this reason, support specialists, as leaders of the SSS program, receive specialized training to better cope with and aid students in planning their academic goals. It has been said often in education circles that "the role of a school leader is of the most complex and challenging leadership roles in any industry in the country" (Boasberg, 2011). Many educators have come to recognize over the years that, along with the complexities of being a leader, one of the greatest challenges facing school districts today is meeting the academic needs of all students (Boasberg, 2011).

Data collected on the number of academic contact hours SSS students spend with support specialists in the areas of English, math, reading, and writing tutoring ranges between 11% and 14% (Carey et al., 2004), numbers that must see improvements if SSS students are to truly benefit from these services. A closer examination of these same tutoring services from a group and individual perspective shows that group services hover around 11% to 12% usage versus 12% to 14% for individual usage (Carey et al., 2004). When possible, support specialists seek to

team students up with their peers who are proficient in these areas. The idea is to have former students who have taken classes in these areas and who are familiar with the standards of the curriculum tutor struggling SSS students (Quirk, 2005). The overall effect of SSS depends largely on the degree of exposure a student has to the services as well as how each service is delivered (Muraskin, 1997). In many instances, tutoring services are considered as beneficial to the student or teacher doing the tutoring as they are to the individual being tutored.

Similarly, career counseling is offered to those students who are in need of hands-on guidance from trained professional counselors to help with examining and planning their career options. These counseling services typically include interview and resume writing exercises as well as computer literacy instructions, all of which are designed to strengthen a student's vocational skills. As recognized by Louis Gerstner, former CEO of fortune 500 companies American Express and IBM, students must possess adequate training computer skills to operate efficiently in the business world (Zakaria, 2010). Perhaps most important is their ability to read and write well enough to interact in a business environment. SSS workshops focus specifically on these competencies by offering services that enhance participant's note taking, essay, and resume writing skills. By concentrating on these critical areas, SSS participants increase their chances of finding prosperity through employment immediately after college (Darby, 2009). Some additional SSS workshops that complement these services include those designed to improve test taking and anxiety, time management, and stress management skills. SSS is made available to all participants regardless of their grade level (i.e., freshman, sophomore, junior, senior) in the program. Services available to SSS participants vary from institution to institution depending on the identified needs of each student (Department of Education, 2010, June 24).

In addition to advising and career counseling services, SSS specialists offer financial aid counseling to SSS students who are in desperate need of financial assistance. The assistance provided to students ranges from financial aid application preparedness to support with soliciting the government for an appropriate aid package (Carey et al., 2004). By securing additional funding for students, support specialists were better able to keep SSS students focused on their schoolwork rather than distracted by money woes. Muraskin (1997) has noted that financial worries were one of the leading contributors to college dropout rates and reductions in school retention.

Support specialists, often handpicked by college or university administrators, typically oversee the implementation of SSS. These individuals are tasked with providing guidance to TRIO students throughout their college careers, helping them manage their class schedules and assisting them in choosing a degree major (Carey et al., 2004; The College, 2005). In addition, these specialists are required to know and understand the needs of their students and provide them with access to the tools that they need to succeed in college. This arrangement allows students to explore their academic interests under the observant eye of a trained instructor. They learn how to access and take advantage of a number of TRIO services. Scholarship opportunities are also made available to participants as a part of the financial aid instructions. These and other TRIO services are deemed invaluable to those students who depend on tuition assistance for support while in college (Carey et al., 2004; The College, 2005). Availability of TRIO services differs depending on the college or university requirements.

The issue of attendance is always a primary concern for college and university administrators. Studies have clearly shown that tardiness and attendance issues directly influence a student's performance (Lane, Wehby, Robertson, & Rogers, 2007). But attendance

becomes more of an issue for those who routinely interact with SSS students because of the sensitivity of these students' needs. Administrators and support specialists dealing with these students have recognized that they are of higher risk of dropping out of school or skipping classes than traditional students are (Gansemer-Topf & John, 2003). Childcare issues, employment needs, and family problems are generally the reasons given by students for leaving school prematurely (The College, 2005). This is problematic for support specialists and counselors because students enter into a nonbinding agreement to use SSS; therefore, they cannot be required to continue the services even if it is in their best interest to remain enrolled (Department of Education, 2011, October 4). SSS contact hours are usually mutually agreed upon between support specialists and students before the student uses the services. Contact hours, typically established by way of a support plan, are the time students spend using SSS resources such as computer, writing labs, and tutoring services (Hendriksen, Yang, Love, & Hall, 2005). Although no set hours are mandated by the federal government for participation in the services, most college and universities elect to set minimum requirements to meet the needs of their students.

SSS students are required to take part in cultural enrichment activities while enrolled in the TRIO program. These services include field trips, on-campus seminars, student social gathering, luncheons, college visits, and holiday gatherings. The events are generally free of charge or require a small fee to attend. Student who attend these events are encouraged to interact with other TRIO students as well as events staff. The experience offers an opportunity for SSS students to socialize with each other while exchanging ideas and contact information. Although students are encouraged to have fun and enjoy themselves at these and other SSS

events, the program does have a serious side, which involves the testing and assessment of participants' academic progress.

SSS students attending the HBCU highlighted in this study were required to maintain a grade point average (GPA) of 2.0 (i.e., letter grade "C") to earn a degree from The College. For this reason, SSS students were consistently monitored for deficiencies in their academic progress while using support services. In addition to GPA scores, SSS students were monitored by contact hours and attendance records. These components were assessed by support specialists to determine students' academic status (The College, 2005). Typically, students were found to be either in good academic standing with the program or in need of additional services because of newly identified deficiencies. Deficiencies may have shown up as problems with reading, writing, or math (Woolfolk, 2001). In the event that deficiencies were discovered, an option to increase the number of SSS contact hours that a student uses each month is discussed with the counselor and support specialist. Any increase in student contact hours was strictly voluntary and was subject to immediate decrease at the student's request.

A variety of workshops is offered to SSS students to enhance their understanding of financial, career, and academic issues. In some cases, students are required to attend sessions if they were receiving federal aid (Carey et al., 2004; The College, 2005). The workshops are generally selected by the students according to their interest; however, academic counselors and support specialists are empowered to make recommendations based on students' overall academic assessment. Stone (1998) has observed that helping students better understand their options for which the academic counselor and support specialist is responsible can have a positive impact on their desire to achieve academically.

Admission into the Student Support Services Program

Student Support Services admit students based on their predetermined academic needs (Department of Education, 2004). Typically, students are required to submit an application for services through an academic counselor and support specialist. The specialist is responsible for determining availability of services and the student's enrollment status. Schloman and Gedeon (2007) have argued that specialists, while assisting student with accessing available support services, play a pivotal role in helping them make the transition from high school to college. In addition, specialists are responsible for verifying whether a student is eligible for financial aid assistance. If the student is found to be eligible for this aid, the support specialist is responsible for helping the student secure assistance. A letter of acceptance is drafted welcoming the student into the program. Once the student acknowledges his or her intent to accept program services, he or she may elect to discontinue the services at any time. Some colleges and universities require additional steps in order to terminate enrollment.

Needs Assessment of Student Support Services Participants

Students entering SSS undergo a needs assessment to determine the type of services required to improve their academic performance. A student's GPA is only one of many factors taken into consideration by academic counselors and support specialists as they attempt to structure an action plan tailored to address the student's needs. Standard Achievement Test (SAT) scores and high school transcripts are other forms of assessment data used by academic counselor and support specialists. Students are expected to meet the college minimum GPA requirement before being awarded a degree. Academic counselors and support specialists are responsible for designing services that help students improve upon their identified academic

weaknesses. The typical GPA requirement for college graduation is 2.0; however, some institutions have higher standards.

Tracking the Progress of Student Support Services Participants

SSS students are typically assigned a curriculum upon entry into the program. The curriculum is usually customized to align with the action plan developed by a student and the support specialist and counselor. Special consideration is given to the student's class schedule and availability to attend specialized training (e.g., tutoring services). College transcripts are also taken into consideration as adjustments are made to students' action plan. This provides students with the best opportunity to succeed in the program, while reducing the temptation for them to withdraw from the services. Academic counselors and support specialists are responsible for recording changes in these and other performance indicators to successfully track a student's progress and adjust the services as needed.

Appendix J

Program Evaluation Standards

Program Evaluation Standards

Program evaluation standards "help ensure useful, feasible, ethical, and sound evaluation and educational programs, projects, and material" (Sanders, 1994, p. xiv).

Stakeholder Identification: The stakeholders, or "those who should be involved in or may be affected by a program evaluation" (Sanders, 1994, p.25). in this study include college administrators, students, parents, and SSS instructors. School administrators were contacted for their input and an explanation of the support services, facilities, archived files, student participation, staff involvement, and data collection, and security was discussed. The students participating in this study were presented with a consent form before being allowed to contribute data. Security procedures for safeguarding their identities were also shared with each participant. For those participants who requested parent notification of the study, a letter outlining the student's level of participation was made available. SSS instructors who participated in the study were informed that their identities remained anonymous. They were also informed of the services examined and the methods used to safeguard the data collected.

Credibility of the Evaluator: The author of this study has worked in the field of education for more than 15 years and has been directly involved in administering SSS to students. The exposure to SSS has helped increase the knowledge of the author in SSS over the years. A rapport between the author and the school's staff has been established over the past 3 years, much of which involved working directly with the students and faculty of The College. This author maintained open communication with the stakeholders and provided them with periodic progress updates, while remaining impartial to the findings of the data collected during the evaluation (Sanders, 1994). The integrity of this study was a high priority.

Information Scope and Selection: Information sought in this study was used to answer the research questions and hypotheses in Chapter 2. The most relevant information was requested (e.g., student attendance records, GPA and test scores, graduation numbers, SSS records); however, all of the information was examined thoroughly to determine what should be included in this study and what should be culled (Sanders, 1994). Careful consideration of the stakeholders' input helped to guide this author's decision about the importance of information discarded or included in the final report of the findings. Data collection methods as well as the plan for evaluating the data was shared with all of the stakeholders prior to the inclusion of their input (Sanders, 1994). All information collected was done based on the identified constraints listed in the limitations and delimitations section of this chapter.

Values Identification: The details of this evaluation were discussed with administrators and other stakeholders to determine the method of collecting and evaluating data to be used in this study. Input from the stakeholders was considered along with appropriate laws and regulations (Sanders, 1994) that govern research participants' involvement before a final report was written.

Report Clarity: Careful consideration was given to the input that the stakeholders provided in this study. They were given an opportunity to review for clarity, fairness, and understandability (Sanders, 1994) of the information collected during the data collection period before it was included in the final report. In addition, a conscientious effort was made by the author to explain all acronyms, technical terms, and wording that may not have been familiar to the stakeholders (Sanders, 1994).

Report Timeliness and Dissemination: The author of this study informed the stakeholders when the study was about to be concluded and revealed the findings of the evaluation (Sanders,

1994). The appropriate degree of information disclosure to stakeholders, prior to the final report, was determined by their need to know the information. For example, students participating in the interviews were allowed to review revised drafts of their statements before they were included in the completed report. However, parents who requested to review these statements were allowed to do so only on the approval of the student participants. The finished report was made available by the author to the stakeholders upon request.

Evaluation Impact: At the conclusion of this study, the author met with the stakeholders to interpret the findings. The meeting allowed the author to discuss how the data from the study may be beneficial to them and how they may make constructive uses of the information (Sanders, 1994). However, the author refrained from making decisions about how the stakeholders should use the findings of the report.

Appendix K

MAXQDA CODES

MAXQDA Codes

Academic Counseling	Non-Student Support Services
Academic Information	Peer Counseling
Admission Services	Peer Tutoring
Campus Housing	Postsecondary Course Selection
Campus Life	Professional Counseling
Campus Security	Professional Tutoring
Career Counseling	Reading Advice/Prep
Computer Labs	Services for Disabled
Cultural Events	Scholarship Assistance
Financial Aid	Science Advice/Prep
Graduate Prep	Study Skills/Assistance
Instructional Course Prep	Student Support Services
Labs	Tutoring Services
Mathematics Advice/Prep	Workshops
Personal Counseling	

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