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2008

**Selected Predictors of Academic Perseverance of Sophomore
First-Generation University Male Students**

Valeria Garcia

SELECTED PREDICTORS OF ACADEMIC PERSEVERANCE OF SOPHOMORE
FIRST-GENERATION UNIVERSITY MALE STUDENTS

DISSERTATION

Presented in Partial Fulfillment of the Requirements for the
Degree of Doctor of Philosophy in
Leadership and Education in the
Adrian Dominican School of Education of
Barry University

By

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Area of Specialization: Higher Education Administration

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ABSTRACT

SELECTED PREDICTORS OF ACADEMIC PERSEVERANCE OF SOPHOMORE FIRST-GENERATION UNIVERSITY MALE STUDENTS

Valeria Garcia

Barry University, 2008

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The intent of this quantitative study was to determine the multiple correlation between five predictors (i.e., high-school GPA, freshman GPA, SAT math scores, SAT critical reading scores, and academic self-efficacy) and the outcome of academic perseverance of sophomore first-generation university male students enrolled in a public state university in a metropolitan area in the southeastern region of the United States.

One of the major shifts being carefully observed within higher education is the gender gap (King, 2006). College enrollment has, until the 1970s, rarely mirrored the nearly equal population split between men and women. Prior to that time, men dominated America's college campuses; however, since then, the rate of college-going women has steadily increased to the point where women surpass men (King; Mortenson, 2008). According to the U.S. Census Bureau (2007), from 1970 to 2005 women comprise the majority of young adults in college. Between the years of 2005 and 2016, women will make up 60% of the increase in college enrollment, an increase of 22% compared to only 10% for men (Hussar & Bailey). At its current state, access to and success in higher education is riddled with barriers for students. In addition to the growing gender gap in higher education, historically underrepresented students in college have included first-generation students (Engle, 2007; Spellings, 2006).

Despite the large number of studies on first-generation students (Lohfink & Paulsen, 2005; Simmons, et.al, 2005; Pascarella, et.al, 2004; Billson & Terry, 1982; Choy, 2002; Hicks, 2002; Bui, 2002; Engle, 2007), the influence of academic perseverance, academic self-efficacy, gender, and high-school factors (GPA and SAT scores) combined have received minimal attention among academics and policy-makers with regards to the general male population. Research has demonstrated that perseverance is influenced by self-efficacy and academic achievement (Finney & Schraw, 2003; Pajares, 1995), as well as test scores and high-school GPA (Camara & Echtermacht, 2000). This study's findings served as supportive research to the relationship of academic perseverance with various predictive factors.

Method

This research study was conducted as a predictive research study to explore the possible relationships between the predictor variables of academic self-efficacy, high-school GPA, freshman GPA, SAT critical reading scores, and SAT math scores, with the dependent variable of academic perseverance of sophomore first-generation university male students. The convenience non-random sample defined for this study consisted of the following characteristics: first-generation, enrolled in their sophomore level at the specified institution, and of the male gender. Each of the 485 students of the sample population was contacted by a third-party survey administrator via email during the summer and fall 2008 semesters. Students who matched the population criteria were sent an email with the study cover letter (Appendix A) and the link to the survey housed on SurveyMonkey™ (Appendix B). Participation consisted of acceptance via email to complete the voluntary and anonymous survey which consisted of four sections: (1) self-reporting fields (i.e., generation status, high-school GPA, freshman GPA, SAT math scores, and SAT critical

reading scores); (2) the Academic Perseverance Questionnaire (Appendix C); (3) the College Academic Self-Efficacy Scale (Appendix D); and (4) a series of three optional, open-ended questions which required a narrative response. Following the rule of thumb of sample sizes for multiple regression, a minimum of 10 participants per variable identified in the study (10 x 5 variables), thus a sample size of a minimum of 50 participants was appropriate for this study and was achieved. To assure anonymity, the researcher did not have access to any identifying information of the participants.

Major Findings

Data analysis presented a statistically significant regression equation. Specifically, a significant relationship was found between academic perseverance and academic self-efficacy, at an alpha level of .05. However, none of the other predictor variables (i.e., high-school GPA, freshman GPA, SAT critical reading scores, SAT math scores) had a significant relationship with academic perseverance at an alpha level of .05.

Additionally, while not core to this study, the results from the qualitative portion provided insights to the factors that have contributed to the academic perseverance of participants on both a personal and institutional level. The optional, open-ended questions answered by approximately half of the sample population were significant to this study in terms of the implications for the institution, policy considerations, and ultimately future research.

Based on the results, the null hypothesis set forth for this study was rejected and the alternate hypothesis was accepted. The regression model, which consisted of the five selected predictor variables, was statistically significant to predict academic perseverance as measured as a score on the Academic Perseverance Questionnaire.

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DEDICATION

This dissertation is dedicated to my loving parents, *Dario and Marisol*, whose support is limitless and whose words of encouragement and push for tenacity are embedded in my heart and mind. You prepared me early on with all that has helped me be successful: sound thinking, strong morals, family values, and confidence in self. To my big sister, *Gabriela* and brother-in-law, *Richard*, who have always been role models for me and sources of unwavering support. Thank you for always being there, for listening, and for offering advice when I needed it. To my beautiful nieces, *Olivia and Juliana*, you both have such special places in my heart always and this dedication is the hope that you too will follow your dreams at all stages of your lives. Without you all as my family, my lifelong “cheerleaders”, none of this would have been possible. I love each of you dearly.

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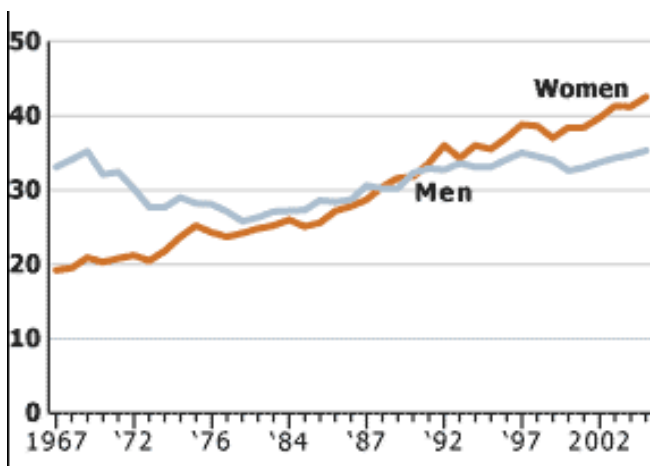
CHAPTER I
THE PROBLEM

Introduction

With 90% of the most rapidly growing jobs in the new economy requiring some form of postsecondary education, the importance of higher education is more critical than ever before (Spellings, 2006; U.S. Department of Labor, 2007). Institutions of higher education in the United States are expected to continue to be the “major route for new generations of Americans to achieve social mobility” (Spellings, p.1), however, the fact remains that the United States, once a leader in educational attainment, now ranks 12th among major nations in this measure (Spellings). Properly educating and preparing the nation’s youth with the skills required is a daunting task to achieve, particularly with the many barriers present in the current structure of higher education such as lack of preparation, information about how to access college, and lack of financial support to pursue postsecondary education. The make-up of postsecondary education has been on a path of change for many decades, one which demands academics, policy-makers, and advocates to thinking innovatively and ardently seek out approaches to address this changing path.

The impacts set upon the higher education realm have been gradual yet seemingly unexpected. There has been a dramatic shift to a more heterogeneous student body than ever before (Spellings, 2006; Van Valey, 2001). One of the major shifts being carefully observed is the gender gap which, in higher education, is widening among certain student populations (King, 2006; Mortenson, 2008). This imbalance between genders is an educational and societal dilemma that requires attention through policy change, implementation of resources, continued research, and educational reform. According to the U.S. Census Bureau (2007), from 1970 to

2005 the gender composition has shifted with women comprising the majority of young adults enrolled in college. In 2005, 43% of women ages 18 through 24 were enrolled in college compared to 35% of men (Mathers & Adams, 2007). Over the course of one decade, 1995 through 2005, the number of males increased 18%, while the number of females enrolled in college increased 27% (Snyder, Dillow, & Hoffman, 2008). Figure 1 depicts the percentage of 18- through 24-year-old men and women enrolled in college between the years 1967-2005.



Source: U.S. Census Bureau, 2007

Figure 1
Percentage of 18-to-24-Year-Old Men and Women Enrolled in College, 1967-2005

According to recent reports conducted by the National Center for Education Statistics (NCES), a branch of the U.S. Department of Education, women and major minority groups have and will continue to comprise the fastest growth in college enrollment (Hussar & Bailey, 2007; Peter & Horn, 2005; Snyder, Dillow, & Hoffman, 2008). The trend of an expanding gender gap is eminent. In comparison to research conducted prior to the 1980s in which men surpassed women in bachelor-degree completion (Van Valey, 2001), the current research reflects a decrease in male college enrollment with more women than men enrolling in postsecondary

institutions and persisting on to graduation (Baum & Ha, 2007; Choy, 2002; Mathers & Adams, 2007; Stoner & DeRidder, 1982; Snyder, et al.). Between the years of 2005 and 2016, college enrollment is projected to rise to 20.4 million, approximately a 17% increase (Hussar & Bailey). Of this projected increase, 60% will be women (Hussar & Bailey), with 57% of the undergraduate student population comprised of women by the year 2013 and 60% by 2016 (Hussar & Bailey; Peter & Horn). While enrollment of women is projected to increase 22% by 2016, enrollment of men will rise a mere 10% (Hussar & Bailey).

At its current state, access to and success in higher education is riddled with barriers for students. In addition to the growing gender gap in higher education, historically underrepresented students at the postsecondary level have included first-generation students, a population found to have been disproportionately overrepresented in more disadvantaged groups relative to participation and attendance in higher education (Engle, 2007; Spellings, 2006). In addition to the demographic characteristics prevalently noted of first-generation students, this student population is also attributed with lacking proper guidance in an array of areas directly connected with the process of postsecondary planning, academic persistence, and academic success.

First-generation students, defined as students from families where neither parent/guardian has a college degree (Billson & Terry, 1982; Engle, 2007; Hicks, 2002; Pascarella, Pierson, Wolniak, & Terenzini, 2004), have been reported as having a distinct disadvantage regarding postsecondary access and success (Choy, 2002; Engle; Lohfink & Paulsen, 2005; Simmons, Musoba, & Chung, 2005). Such factors, which further perpetuate the existing barriers to college success for first-generation students, include college financing and/or awareness of financial resources, postsecondary institution type, and curricular decision-making (Choy; Nunez & Cucarro-Alamin, 1998). Parents who have had postsecondary education experience and have

earned a college degree tend to be better equipped to prepare their child for entrance into, and navigation of, postsecondary education (Choy). This population of students is notably less likely to transition and complete postsecondary education (Swail, Cabrera, & Lee, 2004) and differ greatly from their peers in the manners that reduce their likelihood to attend and succeed in postsecondary education (Engle).

Purpose of the Study

The purpose of this study was to determine the multiple correlation between five predictors (i.e., high-school GPA, freshman GPA, SAT math scores, SAT critical reading scores, and academic self-efficacy) and the outcome, academic perseverance of sophomore first-generation university male students using standardized instruments validated in previous research.

The perseverance, enrollment rate, and completion trends of male first-generation students are not promising. Additionally, utilizing a single prediction system is not practical and often is inappropriate for the diverse student population in existence today. Therefore, analysis of various factors for the population of first-generation students is important for institutions of higher education to consider and address as educational and non-academic gaps contribute to political impacts, policy reform and initiatives, and economic impacts. Given the above-mentioned gaps in the literature, the current research was warranted. This study's findings served to support the relationship of academic perseverance to generation status, gender, academic self-efficacy, high-school GPA, freshman GPA, and SAT scores (i.e., math and critical reading).

Background and Significance

This quantitative study used the statistical technique of regression analysis to generate information about academic self-efficacy, SAT test scores (i.e., math and critical reading), GPA (i.e., high-school GPA and freshman GPA), and the predictive value that these variables have on

sophomore first-generation male students' academic perseverance. The literature review revealed that underrepresented student populations at the postsecondary level are disproportionately overrepresented relative to participation and attendance in higher education (Engle, 2007; Spellings, 2006). Research addressing general inequities in educational opportunities, levels of postsecondary knowledge, postsecondary experiences, and outcomes for first-generation students (a largely underrepresented group) has been extensively conducted (Baum & Ma, 2007; Billson & Terry, 1982; Hicks, 2002; Pascarella, Pierson, Wolniak, & Terenzini, 2004). The characteristics that typically define first-generation students act as inherent barriers to the already perplexing process of the higher education system. Demographically, first-generation students are more likely to be female, older in age, those of color, have dependent children, and come from low-income families; all of which are independently associated with lower rates of college attendance and degree attainment (Engle; Nunez & Cuccaro-Alamin, 1998; Swail, Cabrera, & Lee, 2004).

Students whose parents have no previous college experience are much less likely to seek postsecondary education than their peers (Pascarella, Pierson, Wolniak, & Terenzini, 2004). Data from studies done on first-generation students reflect less than half of first-generation students enrolled in postsecondary institutions, compared to 85% of students whose parents had college degrees (Engle, 2007). A recent report from NCES provided a look at the experiences of students who began postsecondary education for the first time in 2003-04 (Berkner, He, Mason, & Wheelless, 2007). This longitudinal study followed and surveyed first time college students, approximately four million of them, with respect to persistence and completion of postsecondary education. This study found that by 2006, approximately 43% of the students who were first-generation had not attained a degree and were no longer enrolled (Berkner, et al.).

Additional contributing factors to delayed postsecondary education enrollment and/or degree completion for first-generation students include socio-economic status and other responsibilities such as the need to maintain full-or-part-time employment, raising a family, or needing to care for older family members (Dennis, Phinney, & Chuateco, 2005; Van Valey, 2001). Low-income students are frequently addressed in the literature in terms of access and persistence through the postsecondary pipeline. Access and achievement gaps are notably seen for low-income students who historically continue to face the hardest financial and academic barriers to access and success in the postsecondary system. Students from low-income families are far less likely to attend college than their peers from high-income families. In terms of completion rates, only 36% of low-income students complete an undergraduate degree within eight and a half years, compared to 81% of their peers from high-income backgrounds (Spellings, 2007).

When addressing the undergraduate student population, specifically first-generation students, factors such as gender and academic perseverance are significant variables to consider (King, 2006). The change in composition and make-up of today's student body lends itself to further discussion of the complex and disjointed structure of higher education systems which exist. Underrepresented student groups are facing academic and non-academic barriers that are exacerbating gaps in areas of gender, ethnicity, and socio-economic levels.

By 2016, ethnic minorities will constitute a large proportion of the nation's population and workforce (U.S. Department of Labor, 2007); reaching 39% by 2020 (KewalRamani, Gibertson, Fox, & Provasnik, 2007). Over time minorities have increased in participation and completion of postsecondary education, however, despite the gains made, progress has been inconsistent and differences continue to persist among ethnic groups (KewalRamani, et al.). Among white students, females have taken the lead since the mid-1990s with males dropping to 46% in the

2003-04 academic year (King, 2006). Hispanic males suffer a similar decrease by reaching 43% in the same academic year (King). In the case of African-American students, this ethnic group comprises the largest gender gap (KewalRamani, et al.); however, in the 2003-04 academic year males had a slight increase in enrollment from 37% to 40% (King). Finally, Asian-American men now are on par with their female peers in the higher education realm (King).

The disproportion between genders in higher education is on a continuous growth trend. In the area of enrollment, research conducted over the past several decades supports the enrollment trend of female representation in postsecondary education (Choy, 2002). Projected to rise approximately 17%, college enrollment will be at an all time high between the years of 2005 and 2016 with 60% of the increase being comprised of women (Hussar & Bailey, 2007). By 2016, the undergraduate population will be composed of 60% women, an increase of 22% in enrollment compared to a 10% increase for men (Hussar & Bailey; Peter & Horn, 2005). In a study conducted by the American Council on Education (ACE) (2006), women enrolled at the undergraduate level in 2003-04 have maintained an approximate 60% majority among all undergraduate students. The gender gap in undergraduate enrollment, for instance, has expanded between men and women and for all races between the mid-1970s and early twenty-first century; percent differences between female and male enrollments between 1976 and 2004 range from approximately a 14% increase among all ethnic groups and varying within ethnic groups (KewalRamani, Gibertson, Fox, & Provasnik, 2007). Furthermore, the proportion of men, ages 18 to 24, enrolled in 2004 fell to approximately 35% when compared to 41% for women (KewalRamani, et al.).

Data on degree completion rates further supports that the gender gap is widening. Progressively throughout the years, more women have gone on to pursue degrees in higher

education, notably surpassing men in the rate of completion (Peter & Horn, 2005; Stoner & DeRidder, 1982). For the 2003-04 academic year, women surpassed men in all degrees and all ethnic categories (KewalRamani, Gibertson, Fox, & Provasnik, 2007). Data as recent as 2007 unveil the continued trend of women advancing to degree completion; 33% of women ages 25 to 29 had an undergraduate degree or higher compared with 26% of men in 2007 (U.S. Census Bureau, 2007). While men of all ages reflect having more degrees than women by a 2% difference, their rate of degree attainment has remained stagnant (Choy, 2002; Peter & Horn). This stagnancy is a red flag for researchers who look at the larger picture of the educational process to include enrollment, academic perseverance, and degree attainment.

The tribulations encountered by both first-generation students and male students are further perpetuated by the role perseverance and/or persistence has played in their lives. Defined as persisting in a state of opposition or discouragement (Mirriam-Webster Online Dictionary) or the ability to endure despite deterrents (Roger, Townsend, & Lindner, 2004), the terms perseverance and persistence are synonymous. Identified by Pascarella and Terenzini (1980) as one of the most influential factors in the success of a person, perseverance is an important variable to explore when discussing the educational path and goal attainment of first-generation students. The role that persistence plays in the educational path of any student is paramount. Since certain amount of perseverance is needed to achieve an academic degree, it is integral to study these factors as it relates to the academic process of first-generation students (Rogers, et al.). Much research has been done addressing perseverance and persistence in the academic setting finding that a level of perseverance is required to obtain an academic degree (Rogers, et al.). In a more specific context, perseverance has been found to be positively correlated with future job success where employers look to degree completion as indicators of motivation and perseverance (Arkes,

1999), further compounding the importance of monitoring perseverance during the early college years (i.e., pre-workforce).

Prior persistence studies have revealed the importance of a range of variables as they relate to the persistence for college-going students. Variable groupings such as background characteristics, pre-college achievement variables, academic, social and financial reasoning for the selection of an educational institution, institutional characteristics, and in-college experience variables have been explored in the research of persistence within the population of college-going students (Lohfink & Paulsen, 2005). Patterns of postsecondary participation and completion run parallel with the variables identified to be factors for persistence, noting test scores and family background, yet also highlighting the increasing pattern of male students demonstrating relatively lower participation levels in higher education (Baum & Ma, 2007).

While persistence is noted to be largely dependent on the student's experiences following college entry, another part of the persistence factor is access to educational opportunities (Tinto, 2002). Access into higher education, in turn, is readily connected with academic preparation at the secondary level, e.g., rigorous coursework, test preparation, and grade-point-average; all of which influence college selection and degree completion (Tinto). According to the research, expectation, advice, support, involvement, and learning are the conditions cited as being supportive of persistence in higher education (Tinto). Institutions which foster environments of high expectations send a message that student success is the norm for that institution.

According to research, many students with varying characteristics are at risk of not persisting through the educational process (Engle, 2007; Pascarella, Pierson, Wolniak, & Terenzini, 2004). With first-generation students and males being at risk for not persisting, further research and attention must continue to be focused on these subgroups, especially to examine not only

behaviors and characteristics of perseverance of first-generation male students (Astin, 1975; Engle; Lohfink & Paulsen, 2005; Pascarella & Terenzini, 1980), but also to address quantifiable levels of perseverance for these students and how specific levels equate to postsecondary educational goal attainment (Rogers, Townsend, & Lindner, 2004).

Moreover, while it is readily reported that first-generation students and ethnic minority groups are at risk for early departure from college and/or intermittent attendance at the postsecondary level, little research directly explores the freshman-to-sophomore year persistence of first-generation male students at four-year institutions and the predictors and factors affecting that persistence (Duggan, 2001; Lohfink & Paulsen, 2005). The gender gap now refers to women outpacing men in education, and while the shift has been a gradual one over the last few decades, the decrease of males entering and completing postsecondary degrees requires critical attention (Manzo, 2004). In this study, a limited number of variables were utilized to address persistence and perseverance of a specific subgroup of first-generation students.

Hand-in-hand with addressing the concept of perseverance is exploring the factors that may or may not contribute to academic success and persistence. Previous studies have documented self-efficacy, a psychosocial factor, as an important predictor of academic performance of college students (Bandura, 1997). Moreover, as a characteristic of perseverance, self-efficacy often differentiates students in their levels of academic success (Rogers, Townsend, & Lindner, 2004). Students who demonstrated intellectual inquiry, flexibility, and strategic thinking and who reached higher-order thinking were students whose sense of efficacy was raised, in turn setting higher aspirations for themselves (Bandura).

Theoretical Framework

The theoretical framework on which this study was based was Bandura's (1986) Social Cognitive Theory. This theory suggests that human achievement is dependent on the interaction between one's behaviors, personal thoughts and beliefs, and environmental conditions (Bandura). Social Cognitive Theory is rooted in a view of humans in which people acting as agents proactively engage in their own development and possess self-beliefs that allow them to have control over their actions, thoughts, and feelings. Thus, a person's self-beliefs are critical to exercising control and personal agency. In essence, the actual person facilitates as both the product and producer of their environment and of their social context. Social Cognitive Theory speaks to self-efficacy being the most predictive power for performance when measured at a level specific to the probable performance (Bandura).

Self-efficacy beliefs provide the foundation for human motivation, well-being, and personal accomplishment (Bandura, 1997) because unless people believe that their actions can produce the outcomes they desire, they have little incentive to act or to persevere in the face of difficulties. In order to account for external/environmental influence, Bandura (1986) introduced the concept of collective agency as the expanded form of personal agency. Use of the expanded concept of collective agency provides applicability of the social cognitive theoretical framework to the inner workings of human beings. According to Bandura, how people behave can often be better predicted by the beliefs that they hold about their capabilities than by what they are actually capable of accomplishing. Using Social Cognitive Theory as the theoretical framework of this study was supportive of the research question that will be explored.

Research Question

The following research question guided this study:

What is the multiple correlation between five selected predictors (i.e., high-school GPA, freshman GPA, SAT math scores, SAT critical reading scores, and academic self-efficacy) and the outcome, academic perseverance of sophomore first-generation university male students?

Research Hypothesis

The following research hypotheses were addressed in this study:

Null Hypothesis (H₀): There is no multiple correlation between five selected predictors (i.e., high-school GPA, freshman GPA, SAT math scores, SAT critical reading scores, and academic self-efficacy) and the outcome of academic perseverance of sophomore first-generation university male students.

Alternative Hypothesis (H_a): There is a multiple correlation between five selected predictors (i.e., high-school GPA, freshman GPA, SAT math scores, SAT critical reading scores, and academic self-efficacy) and the outcome of academic perseverance of sophomore first-generation university male students.

Definition of Terms

This study required a common understanding of the terminology and definitions that were used for the purpose of this study.

Academic Perseverance. Academic perseverance in this study was operationally defined as a score on the Academic Perseverance Questionnaire developed by Van Blerkom (1996). This term is defined as continuous enrollment at the same four-year institution inclusive of the summer semester, i.e., without interruption between freshman and sophomore year.

Academic Self-Efficacy. Academic self-efficacy in this study was operationally defined as a score on the College Academic Self-Efficacy Scale (CASES) created by Owen and Froman (1988). This term is defined as student's beliefs about his or her ability to successfully complete academic tasks.

Freshman Grade Point Average (GPA). Freshman GPA referred to a calculation comprised of dividing the total number of quality points (i.e., course credit hours multiplied by the grade quality value) earned at the institution by the total number of non-excluded course credit hours attempted at the institution; this is the standard calculation used for the university participating in this study.

High-School Grade Point Average (GPA). High-school GPA referred to the student's average grade based on the formula applied by colleges/universities to ascertain a high-school student's GPA.

SAT Math Scores. SAT math scores were the scores that a student received from taking the SAT college admissions test. This section of the SAT asked questions in four main areas: (1) algebra and functions; (2) geometry and measurement; (3) number and operations; and (4) data analysis, statistics and probability (College Board Website, 2007). The SAT test is designed to assess student's thinking and analytical skills needed for academic success and how well a student analyzes and solves problems (College Board Website).

SAT Critical Reading Test Scores. SAT critical reading scores were the scores from one portion of the SAT college admissions test. This section of the SAT asked questions in three main areas: (1) understanding and analyzing what is read; (2) recognition of relationships between parts of a sentence; and (3) understanding word meaning in context (College Board Website, 2007). The SAT test is designed to assess the thinking and analytical skills needed for

academic success and how well a student analyzes and solves problems (College Board Website).

First-Generation Students. First-generation students referred to college students from families where neither parent/guardian has a college degree (Billson & Terry, 1982; Hicks, 2002; Lohfink & Paulsen, 2005; Pascarella, et al., 2004).

Assumptions

There were several underlying assumptions in this study. The first assumption pertained to instrument selection. It was assumed that the Schwarzer College Academic Self-Efficacy Scale (CASES) (Owen & Froman, 1988) and the Academic Perseverance Questionnaire (Van Blerkom, 1996) were reliable and valid measures of academic self-efficacy and perseverance respectfully for this study. Secondly, it was assumed that the participants would respond truthfully to the selected instruments, to the self-reporting questions, and, if they opted to, to the qualitative/narrative questions posed to selected respondents. A third assumption was that students did not adjust their behavior as a result of being aware that they were involved in a study. A final assumption was that the criteria for the statistical technique chosen (i.e., multiple regression) for the data analysis was satisfied.

Limitations of the Study

The limitations of the current study included the following:

1. The study was limited to one institution, thus the results of the study were not generalizable to populations in other institutions of higher education.
2. The information the researcher obtained was dependent on participants' self-reported responses and was subject to human error and bias.

3. The study was limited to the target population and utilized nonrandom sampling, thus the results of the study were not generalizable to other populations.

Despite these initial limitations, this study was important because predicting the academic perseverance of first-generation males was an area that required more attention in the literature. This study provided a new framework for future studies looking at first-generation males in more of a general context, versus research conducted specific to ethnic groups.

Settings

The study took place at one public state university in a metropolitan area (i.e., a large city) in the Southeastern United States. The total number of students served at the undergraduate level is approximately 30,000. The university that participated in this study was identified as having a diverse study body, ranked in the top tier among all schools for diversity and served approximately 60% white students, approximately 10% African-American students, and approximately 10% Hispanic/Latino students. Furthermore, for the 2007-2008 academic year the institution's gender proportions by degree level reflected a higher proportion of females than males; approximately 60% women and 40% men in undergraduate enrollment, 65% women and 35% men in graduate enrollment, and 55% women and 45% men in doctoral program enrollment.

Summary

The purpose of this chapter was to introduce the problem addressed in this study and identify the constructs that were investigated. Despite the large number of studies on first-generation students (Billson & Terry, 1982; Bui, 2002; Choy, 2002; Engle, 2007; Hicks, 2002; Lohfink & Paulsen, 2005; Pascarella, Pierson, Wolniak, & Terenzini, 2004; Simmons, Musoba, & Chung, 2005), the influence of academic perseverance, academic self-efficacy, gender, and

high-school factors (i.e., GPA and SAT scores) combined have received minimal attention among academics and policy-makers with regards to entire populations of males. Research suggests that perseverance is influenced by self-efficacy and academic achievement (Finney & Schraw, 2003; Pajares, 1995), as well as test scores and high-school GPA (Camara & Echtermacht, 2000). By examining the relationship between strong variables, such as perseverance/persistence, provided a clearer and more holistic picture of college success. The next section expands on these predictors by reviewing relevant literature. The review of the literature provided the conceptual framework for this study.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

The purpose of this chapter was to provide a review and discussion of the literature pertaining to this study. At a time when earning a postsecondary degree is seemingly a prerequisite to earning a living and being competitive in the ever-changing job market, it is imperative that the government and educational system in the United States address the conversations and connections that are made with high school students (Planty, et al., 2007; Williams & Swail, 2005). Educational attainment, particularly postsecondary education, has become the route to occupational attainment and, in turn, economic self-sufficiency in today's ever-evolving society (DiMaggio & Mohr, 1985). The U.S. Department of Labor (2007) identifies the twenty fastest growing occupations between 2006 and 2016, the majority of which require some form of postsecondary education. Data on wages earned with varying levels of education continue to demonstrate the need for education beyond high school; someone who obtained a bachelor's degree earned 62% more than someone with only a high school diploma, twice as much with a master's degree, and three times as much with a professional degree (i.e., Ph.D., MD) (Baum & Ma, 2007).

As the global society engulfs the current generation and quickly gains momentum, the impact on future generations will be monumental. Given the realities and demands of today's high-skill global society, students face expectations of work in conjunction with the needs of a global market. Students must be educated at higher than or at comparable levels to the rest of the world and have an increased sense of awareness of the expectations required of them (Spellings, 2006). The challenges that come alongside realizing economic self-sufficiency will continue to be

imposed on students in the secondary and postsecondary levels of educational systems. As such, earning a college degree has a “perceived positive, lifelong economic impact” (Hahs-Vaughn, 2004, p.483) for all students, especially for underrepresented or disadvantaged students. Benefits of a postsecondary education are present for both the individual and society. However, along with these benefits must come an understanding of the current patterns of postsecondary participation and completion, as well as the gaps that exist between and among student populations (i.e., access, gender, socioeconomic, ethnicity-based) (Adelman, 2006; Baum & Ha, 2007; Bui, 2002; Spellings).

Enrollment and degree completion rates in higher education institutions have increased steadily since the 1980s (Gerald & Hussar, 2003; Peter & Horn, 2005), with total enrollment in degree-granting institutions increasing by 22% over a fourteen-year period from 1991 through 2005 (Hussar & Bailey, 2007). However, a closer look at the gaps among diverse populations requires continued consideration. Those from low-income backgrounds, first-generation students, and ethnic minorities (i.e., predominantly blacks and Hispanics), continue to lag behind those from more affluent and differing ethnic backgrounds (Baum & Ha, 2007). To address the deficiencies facing students in the United States’ educational system, policies have been addressed, programs and services are in place, and attention has been focused on all sections of the education pipeline with the anxious hope of addressing critical areas of need (Strage, Baba, Millner, Scharberg, Walker, et al., 2002); however, the education divide continues to persist among various populations. Research of the gaps and ever-present barriers, both academic and non-academic, which exist in education is a move toward improvement of the education system, yet much still remains in need of research and support. Identifying problem areas, continuing research, and funding are the key driving forces to educational reform (Spellings, 2007).

This study investigates areas of research that address the multifaceted nature of first-generation students specific to males enrolled in a public four-year university. Studying first-generation students, academic self-efficacy, and perseverance enhances the current research on first-generation students as it relates to the impact of generation status, gender, and predictive variables on levels of academic self-efficacy and perseverance. Background variables such as ethnicity, gender, personal motivation, and support systems (e.g., family, peer, and institution) all contribute to college student outcomes (Dennis, Phinney, & Chuateco, 2005). The model depicted in Figure 2 provides a framework that guides the importance of this study and continued research on first-generation students and the role of key factors in the outcomes of their postsecondary educational experiences.

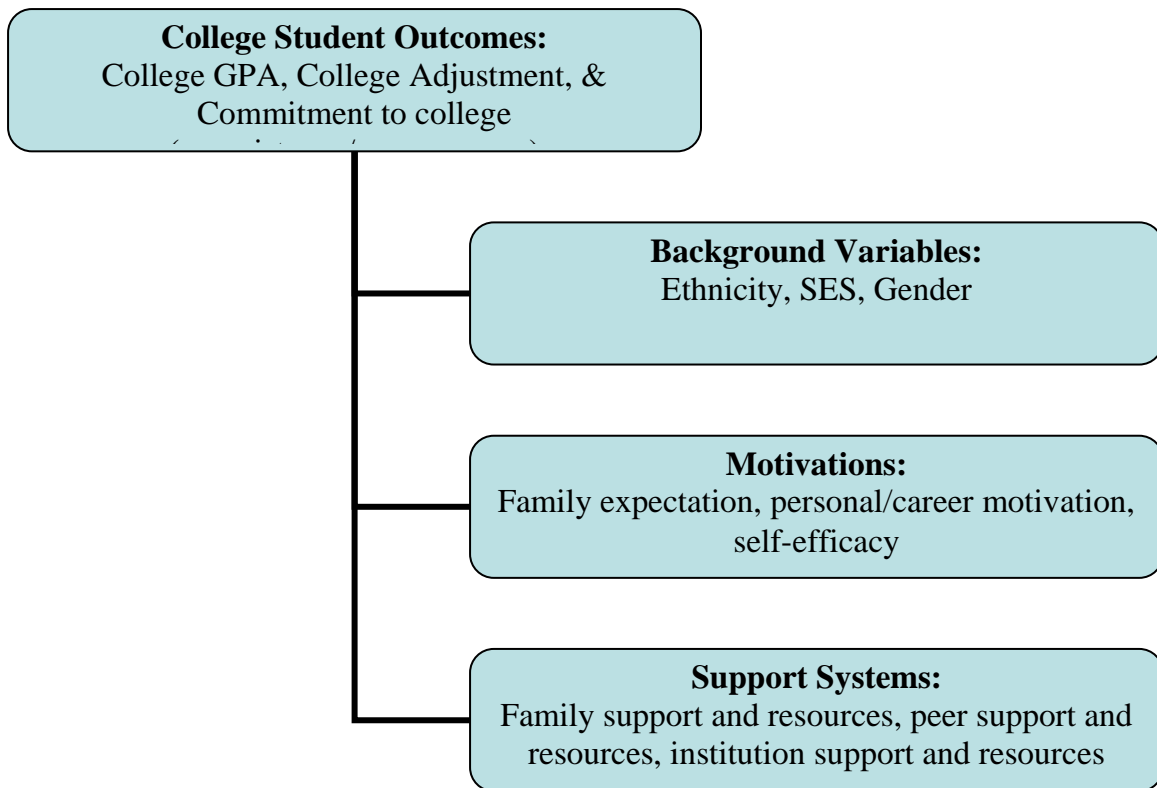


Figure 2 Model of the Effect of Motivations, Support, and Background Variables on College Outcomes

First-Generation Students

Accessibility of postsecondary education has dramatically increased throughout the past decade, opening the door to the opportunities of higher education to students who may not have been able to obtain a college degree (Astin & Oseguera, 2004; Hicks, 2002). Underrepresented students who have struggled with barriers to college access continue to face such obstacles; yet the increase in overall college enrollment since the early twentieth-century reflects that indeed students of all categorical groups are entering the higher education system in droves (Hussar & Bailey, 2007). Contributing to the diverse demographic composition of the American postsecondary population is the increased number of first-generation students pursuing postsecondary education (Pascarella, Pierson, Wolniak, & Terenzini, 2004). Historically, underrepresented students at the postsecondary level have included first-generation students who have been found to be disproportionately overrepresented in more disadvantaged groups relative to participation and attendance in higher education (Dennis, Phinney, & Chuateco, 2005; Engle, 2007).

First-generation students, defined as college students from families where neither parent/guardian has a college degree (Billson & Terry, 1982; Bui, 2002; Engle, 2007; Hicks, 2002; Jenkins, 2007; Pascarella, Pierson, Wolniak, & Terenzini, 2004), have been reported as having a distinct disadvantage regarding postsecondary access and success (Choy, 2002; Engle; Lohfink & Paulsen, 2005; Simmons, Musoba, & Chung, 2005; Wharburton, Burgarin, & Nunez, 2001). In terms of postsecondary preparation, parents who have had postsecondary educational experience and have earned a college degree tend to be better equipped to prepare their child for entrance into, and navigation of, postsecondary education (Choy). Furthermore, first-generation students are noted to lack proper guidance in an array of related topics involved in the process of

postsecondary planning and with a strong relationship to persistence and academic success. These factors, which further perpetuate the existing barriers of college success for first-generation students, include college financing and/or awareness of financial resources and curricular decision-making (Choy).

Demographically, first-generation students are more likely to be female, older in age, those of color, have dependent children, geographically restricted, and come from low-income backgrounds (Choy, 2001; Nunez & Cucarro-Alamin, 1998; Tym, McMillon, Barone, & Webster, 2004); all of which are independently associated with lower rates of college attendance and degree attainment (Engle, 2007; Swail, Cabrera, & Lee, 2004). Academically, first-generation students are less likely to transition and complete postsecondary education (Astin & Oseguera, 2004; Swail, et al.) and differ greatly from their peers in manners that reduce their likelihood to attend and succeed in postsecondary education (Engle; Hahs-Vaughn, 2004).

According to the ever growing body of research on this student population, when compared to their peers first-generation students demonstrate a disadvantage in terms of postsecondary awareness, college selection, navigation of the system, academic or degree expectations, educational plans, family income, and academic preparation at the secondary level (Dennis, Phinney, & Chuateco, 2005; Pascarella, Pierson, Wolniak, & Terenzini, 2004; Tym, McMillon, Barone, & Webster, 2004; Vargas, 2004). One example of differences between first-generation students and their peers lies in the concept of cultural capital. The concept of cultural capital has been linked to first-generation students in the research as a framework in understanding the factors which influence their persistence, as well as insight into behavioral and decision-making differences between first-generation students and their counterparts (Astin & Oseguera, 2004; Lohfink & Paulsen, 2005; Pascarella, et al.).

The concept of cultural capital, in general, describes the familiarity that one has with the dominant culture of any given society (Lohfink & Paulsen, 2005; Simmons, Musoba, & Chung, 2005). A common source for the cultural capital that one has stems from one's parents, thus lower educational aspirations demonstrated by first-generation students are thought to stem partially from the cultural capital of their parents (Simmons, et al.). Today's dominant society has embraced the notion of global awareness and education and the importance of higher education. In this sense, first-generation students would appear to be at a disadvantage as their parents would not have had the same exposure to role and importance higher education has on the economy of this nation (Pascarella, Pierson, Wolniak, & Terenzini, 2004). The cultural capital that is passed along from a parent who has had experience with higher education and understands the importance of a college degree is integral to a student's educational decision-making (i.e., what college to attend, importance of degree completion and attainment, career path) (Pascarella, et al.; Simmons, et al.). Moreover, the cultural capital inherited from an educated parent to their child is only one phase of the cycle. After the student enters postsecondary education, the experiences from being in college further enhance the degree of cultural capital by adding to that foundation; thus it is evident that another barrier to degree completion is naturally created if/when the first-generation student does not have this sense of cultural capital before entering postsecondary education.

SAT Test Scores

Research on the levels of achievement on standardized test scores provides further insight to the academic achievement of first-generation students (Hottinger & Rose, n.d.). Prior academic preparation and performance (i.e., high school grades, level of high school courses taken, and scores on standardized achievement tests) are important influences in the persistence

of college students (Geiser & Santelices, 2007; Simmons, Musoba, & Chung, 2005). The SAT test, as a means of predicting success in college, has been demonstrated to be a strong predictor of college success (Camara & Echternacht, 2000). Data from numerous validity studies conducted have consistently found that SAT scores, alongside with high school grades, are significant in predicting the future academic success of a student (Camara & Echternacht; Simmons, et al.). The level of ability indicated through SAT scores, and the levels of past performance measured by high school grades, are structures readily used in higher education.

As the characteristics descriptive of first-generation students have indicated, the level of college readiness is typically not on par with that of their peers; first-generation students have a propensity of having lower scores on college entrance exams compared to their peers (Hahs-Vaughn, 2004). In a 2000 National Center for Education Statistics (NCES) study, first-generation students were found to have an average SAT score of 858, compared to an average score of 1011 points for students whose parent(s) had a college degree (Wharburton, Burgarin, & Nunez, 2001). Consistent with previous years' data, men outscored women by three points on the average in critical reading and 34 points on the average in math. However, women had higher mean scores on the writing test, a recently added section in 2005 (Jaschik, 2006). Another area for insight is the declining number of students from particular populations who are taking the SAT (Jaschik). Data from the College Board suggests that the decline in test-takers is specific to first-generation student populations; from 2005 to 2006 of the students who took the SAT the percentage of first-generation students declined, while the percentage of those whose parents have a bachelors degree or higher increased (College Board Website, 2007; Jaschik). Scores on standardized tests are strong indicators of future academic success, particularly tied to college preparedness and the need for remediation upon entry into postsecondary education.

Grade Point Average (GPA)

The diverse nature of the most recent and current populations of college students has also allowed for a greater array of research on first-generation students in particular. Addressing common predictive variables, such as GPA, on the changing student body is helpful in addressing the role of consistency of variables used in research and the connection between these variables and the academic outcomes derived. Numerous validity studies have provided data reflecting high school grades, along with SAT test scores, as being significant in predicting the future academic success of a student (Camara & Echternacht, 2000; Griffiths, 2006; Richardson & Sullivan, 1994), particularly during the first-year (Pascarella & Terenzini, 1980).

High-school GPA has been noted to be lower for first-generation students compared to that of their peers (Hahs-Vaughn, 2004). Connected with GPA and college-readiness, a preponderance of research suggests that on the average, first-generation students tend to lack skill-sets supporting academic success in college with a large proportion of this population requiring remediation throughout their college years (Hottinger & Rose, n.d.). Paralleling the subject areas of deficiency throughout education in the United States, common areas where remedial coursework is needed are in the science, math, and reading subjects (Spellings, 2006). Additionally, freshman GPA has been noted to be significantly connected to first-generation status (Brown & Burkhardt, 1999). Also, freshman GPA can generally be used as a predictive measure for research because predictor and criterion data are readily available and as first-year GPAs, they are highly correlated with cumulative GPAs from high school (Camara & Echternacht, 2000).

Institution Type

Another body of literature surrounding first-generation students is the type of postsecondary institution selected (Bui, 2002; Hahs-Vaughn, 2004; Hottinger & Rose, n.d.; Nunez & Cucarro-Alamin, 1998). In general, institutional selection and how a student fits into the social aspect of the institution are both important in the college decision-making process and in persevering through college (Griffiths, 2006). The institutional fit, moreover, is a long-term experience which begins at the point of initial contact with the institution and carries on through acceptance, enrollment, and persistence through the first-year (Griffiths).

Compared with non-first-generation students, first-generation students were more likely to attend public two-year institutions (Nunez & Cucarro-Alamin, 1998). According to data from the National Center for Education Statistics (NCES), this population of student tends to commence at two-year institutions; primarily for reasons influenced by academic preparation, affordability, and flexibility of course offerings (Bui, 2002). Ongoing research, however, indicates that first-generation students more readily have a better opportunity to complete a bachelor's degree if they commence at a four-year college or university (Bui; Simmons, Musoba, & Chung, 2005). A 2007 NCES report provided a look at the experiences of students who began postsecondary education for the first time in 2003-04 (Berkner, He, Mason, & Wheelless, 2007). This longitudinal study followed and surveyed first time college students, approximately four million of them, with respect to persistence and completion of postsecondary education. This study found that by 2006, almost 49% of first-generation students who commenced at a two-year institution had not earned a degree and were no longer enrolled compared to 33% who commenced at a four-year institution, thus reflecting a higher retention rate at the four-year institution (Berkner, et al.).

Moreover, first-generation students have been found to attend public post-secondary institution versus private ones, supporting the research gathered on this population of students in which cost, availability of financial assistance/support, and personal income are important factors in determining which institution to attend (Hottinger & Rose, n.d.). Studies conducted by the NCES reflect that first-generation students had a greater concern of how their education was going to be financed, and generally the financial package offered or available was the most influential factor in selecting which institution they would attend. While research on first-generation students is abundant, little research specific to background characteristics of first-generation students at four-year institutions has been conducted (Bui, 2002).

Additionally, parents' education has been shown to influence the selection of more prestigious institutions (Hahs-Vaughn, 2004; Simmons, Musoba, & Chung, 2005). A study conducted by Pascarella, Pierson, Wolniak, and Terenzini (2004) found that first-generation students were less likely to attend more prestigious or more selective institutions. The college-selection process often pursued by first-generation students who generally have little to no guidance has a potentially damaging impact of limiting the benefits of attending college, such as continuing towards advance degrees and a wider array of career choices (Hahs-Vaughn).

Role of Family

In addition to lack of college awareness before and during their college experience, first-generation students face the challenge of coming to terms with the possible conflict between home and the essence of community found in postsecondary institutions (Hsiao, 1992; Phinney & Haas, 2003; Thayer, 2000). Critical skills, such as study habits (i.e., finding a location for quality studying and time management), can be jeopardized if a balance between family and school responsibilities are not understood or achieved (Dennis, Phinney, & Chuateco, 2005;

Hsiao). Since first-generation students do not typically have familial experiences with higher education, in turn providing academic support, this role of the family is a strong factor in persistence as well as a predictor for postsecondary outcomes (Hahs-Vaughn, 2004; McCarron & Inkelas, 2006).

In terms of ethnic minorities, the cultural backgrounds of ethnic first-generation students typically emphasize familial interdependence and an expectation of familial obligations in which the responsibilities to the family will be fulfilled. Thus, when college responsibilities are added to the students' compiled list of responsibilities, conflict may arise (Dennis, Phinney, & Chuateco, 2005). First-generation students can be easily intimidated by the collegial experience and are often unaware of what resources are available, how flexible the higher education system really can be and, ultimately, how to navigate the educational system (Hsiao, 1992). Furthermore, policies and procedures across higher education systems tend to be fragmented and confusing to navigate, in turn perpetuating the complexity of college admissions processes for first-generation students and their families (Hahs-Vaughn, 2004). However, it should not be disregarded that while families of first-generation students may not have the experiences of college or the college process, families can instill positive expectations for success, encouragement, and support.

Gender

Since the 1980's women have been more likely than men to enroll in postsecondary education (Baum & Ha, 2007). Progressively throughout the years, more women have gone on to pursue degrees in higher education, notably surpassing men in the rate of completion (Peter & Horn, 2005; Stoner & DeRidder, 1982). The enrollment trends for undergraduate education have demonstrated an increase for both genders with a greater increase for women; female enrollment

increased by 41% compared to 20% for men (Peter & Horn). Research on future college enrollment supports an enlarged female representation in postsecondary education (Choy, 2002), supporting the trend that women and major minority groups will comprise the fastest growth in college enrollment (Hussar & Bailey, 2007; Peter & Horn). Between the years of 2005 and 2016, college enrollment is projected to rise to 20.4 million, approximately a 17% increase (Hussar & Bailey). Between the years of 2005 and 2016, a projected increase of over 20 million will enroll in college and 60% of them will be women (Hussar & Bailey). While enrollment of women is projected to increase 22% by 2016, enrollment of men will by rise a mere 10% (Hussar & Bailey).

In terms of degree completion, women are more likely to graduate than men (Camara & Echternacht, 2000), demonstrating a steady yearly increase of bachelor degree completion between 1971 and 2006 and surpassing that of men (Baum & Ha, 2007; Peter & Horn, 2005). Projected enrollment data shows that between 2005 and 2016, enrollment for women will increase 22%, compared to an increase of 10% for men (Hussar & Bailey, 2007). Additionally, between 2005 and 2016 there will be continued increases seen in degrees awarded to women at all levels (i.e., associate's, bachelor's, master's, first-professional, and doctoral degrees), a projected increase of 14% for women compared to a 2% increase for men (Hussar & Bailey). At the different degree levels, women lead in the percentage increase for all educational levels (Hussar & Bailey).

Ethnicity

It is important to note the abundance of research within the category of first-generation students which focus on ethnic groups, particularly since ethnic minority students are more likely than other students to be first in their family to attend college (Dennis, Phinney, & Chuateco,

2005; Hicks, 2002). The ethnic diversity depicted in the United States is important to address particularly because of the dominant role ethnic groups now play in educational policy decision-making and, ultimately, the direction of higher education. Also, the educational progress and challenges faced by ethnic minorities are important to monitor as they parallel those experienced by other minority groups, such as men and first-generation students.

By 2005, minorities comprised one-third of the U.S. population with Hispanics leading as the largest group at 14%, followed by African-Americans at 12%, Asians/Pacific Islanders at 4%, and American Indians/Alaska Natives at 1% (KewalRamani, Gibertson, Fox, & Provasnik, 2007). In conjunction with the population increase within these groups, minority ethnic groups, in particular, have experienced an increased level of high-school completion and access to postsecondary education (Hicks, 2002; KewalRamani, et al.). Looking at projected data, there will be continued increases among all ethnic groups between 2005 and 2016 with the largest increase occurring among Hispanics at 45% (Hussar & Bailey, 2007). African-American, Asian or Pacific Islanders, and American Indian or Alaska Native all reflect increases of 29%, 32%, and 34% respectively; white students will increase by 8% (Hussar & Bailey).

While ethnic groups have experienced vast improvements in the secondary to postsecondary transition and enrollment in higher education (KewalRamani, Gibertson, Fox, & Provasnik, 2007), Hispanic and African-American populations continue to lag behind their Asian and white counterparts (Spellings, 2006). Between 1971 and 2006 educational attainment has increased significantly for all ethnic groups except for Hispanic males (Baum & Ha, 2007). Whereas bachelor degree completion rates have steadily increased for white, African-American, and Hispanic women from 1971 through 2006 (Baum & Ha), the same has not been the case for male students in those ethnic groups. Women in all ethnic/racial categories earned 55% or more of all

bachelor degrees granted in the 2000-01 academic year (Peter & Horn, 2005). In the 2004 academic year, the gender gap was the largest within the African-American undergraduate population in the United States (KewalRamani, et al.). African-American males ages 25-29 who completed a bachelor's degree increased from 7% in 1971 to 18% in 2000, yet declined to 15% in 2006 (Baum & Ha). The proportion of Hispanic males within the same age range who completed a bachelor's degree has wavered under 10% over the past several decades. From 1971 to 1996 there was an increase from 8% to 10%, followed by 7% in 2006 (Baum & Ha) and 9.5% in 2007 (Mooney & Rivas-Drake, 2008). Finally, white males in the same age range who completed a bachelor's degree increased from 22% in 1971 to 30% in 1976; however, there has not been a significant increase since then (Baum & Ha).

The obstacles present for minority first-generation students are abundant; research notes that these students are more likely to face obstacles and stressors in reaching postsecondary education access and persistence (Hicks, 2002; Phinney & Haas, 2003; Tym, McMillion, Barone, & Webster, 2004). In 2005, white and Asian children at the secondary level were more likely to have parents who had attended college and beyond, compared to African-American, Hispanic, and American Indian/Alaska native students (KewalRamani, Gibertson, Fox, & Provasnik, 2007). Specifically, African-American and Hispanic students are less aware of the financial aid/assistance process, often leading to an overestimation of the cost of education and underestimating the available financial assistance (Tym, et al.). In addition to the financial stress stemming from a predominance of minority students coming from low-income households, minority status is, in itself, a source of stress for students (Phinney & Haas). The balance between academic responsibilities and commitment to family obligations has been noted to be particularly difficult to manage for ethnic first-generation students (Phinney & Haas).

Support Services

With the college lifestyle, rigorous curriculum, and overall demands placed on college students, first generation students in particular need more than the basic first-year services which most institutions offer (i.e., orientation and advising sessions) (Kuh, 2007). These general and often temporal services are helpful, yet they do not fully prepare first-generation students to make the most of their postsecondary experience and take advantage of the numerous services available to students (Kuh). A comprehensive array of academic and nonacademic (e.g., social) support services are vital for first-generation students.

As the concern for retention and perseverance of students continues to grow, institutions are becoming more responsive and innovative to the needs of the more vulnerable students. Alternative approaches to help students succeed include first-year seminars, supplemental instruction (mode and style), more frequent advising, mentoring, learning communities, parent/family orientation, and early-warning systems (Hahs-Vaughn, 2004; Kuh, 2007). Even the modes of which educational opportunities are advertised and presented to students and families can make a significant difference in access and success (Vargas, 2004). Early alert systems have been set in place in order to support student success by addressing needs of students struggling in college early on in their educational careers (Kuh). Additionally, federally funded programs can also help address educational gaps by providing the academic and nonacademic experiences to support academic success (Hahs-Vaughn). A seamless and aligned system needs to be developed and implemented to allow postsecondary institutions the ability to send students signals of success throughout their educational experiences regardless of the institution they attend (Conley, 2007).

Self-Efficacy

Non-academic barriers include decreased self-esteem, limited or decreased income or financial support, dependent children, decreased expectation of degree completion, lack of encouragement or motivation, and decreased self-efficacy (Hahs-Vaughn, 2004). Originally focused on explaining behavior changes during psychotherapy (Bandura, 1977), research on self-efficacy has been connected with a range of behaviors (i.e., academic performance and health practices) surpassing solely that of anxiety and phobia (Owen & Froman, 1988). Self-efficacy is defined as the levels of confidence or judgment of one's ability to perform that people demonstrate in order to attain specific performance outcomes which typically are domain specific (Bandura; Rogers, Townsend, & Lindner, 2004). Bandura (1997) states that "People who have low sense of self-efficacy in a given domain shy away from difficult tasks, which they perceive as possible threats. They have low aspirations and weak commitment to the goals they choose to pursue" (p.144).

Self-efficacy is not an omnibus trait (Bandura, 1997). It refers to judgment of capability in varying number of activities; therefore, self-efficacy is regarded as a domain specific (Bandura) or a context-dependent construct (Bong, 1998; Zimmerman, 1995). Yet, generalizability of efficacy is an important point to note. The formation of self-efficacy beliefs are said to be influenced by the effects of specific events, thus it is reasonable to expect perceptions of efficacy to be generalized across tasks depending on the beliefs toward those tasks (Bandura, 1977; Bong, 1996, 1998). Judgment is influenced greatly by how success is defined in a specific task or performance (Bong), thus confidence in one's own ability to perform specific behaviors results in efficacy expectations as well as personal and contextual factors, all of which

influence motivation, persistence, and accomplishment (Bandura, 1984; Bong; Owen & Froman, 1988; Tipton & Worthington, 1984).

Self-efficacy expectations determine both the effort expended into the activities a person selects to engage in and how much perseverance a person demonstrates in the midst of challenges that they may encounter (Tipton & Worthington, 1984). According to Bandura (1977), self-efficacy expectations are beliefs that a specific behavior will be carried out that will produce the desired outcome. The expectations which stem from efficacy measures are said to induce behaviors of effort and persistence in the face of difficulty and setbacks. This statement assisted to spearhead enormous amounts of research interest and effort, thus leading self-efficacy to be examined in a variety of domains (Lane & Lane, 2001). According to Pajares (1996), efficacy beliefs help determine the following: how much effort people apply in a specified activity; how long a person will persevere and demonstrate resiliency when confronted with barriers; the level of accomplishments; and individual thought patterns and emotional reactions. Self-efficacy is argued to constitute the essential factors of human agency (Bandura, 1984).

Academic Self-Efficacy

With the intent to explore the academic beliefs and expectations of students in higher education, the domain of academic self-efficacy is addressed. Prior research has revealed a strong relationship between students' self-efficacy and academic performance (Bong, 1996; Schunk & Pajares, 2002). Academic self-efficacy refers to the beliefs a student possesses about his or her ability to successfully complete academic tasks (Schunk & Pajares). This construct of self-efficacy can be subject specific and/or encompass more global measures of academic self-efficacy, verbal, and quantitative measures (Bong; Choi, 2005). The measurement and assessment of task-specific self-efficacy can also be transformed into a more global focus (Choi)

such as academic self-efficacy which is a global, domain-specific form of self-efficacy (Lent, Brown, & Gore, 1997). As supported by the Social Cognitive Theory, self-efficacy is generalizable to different tasks which follow the experience of mastering those specific tasks (Bandura, 1997).

The multi-faceted nature of self-efficacy lends itself to having impacts on multiple areas of a student's life, both academic and non-academic related. The influences of self-efficacy in academic settings range from persistence, curricular choices, extracurricular choices, and effort (Schunk & Pajares, 2002). Strongly related to academic performance and academic adjustment, academic self-efficacy has been studied alongside other performance-related variables, such as grade point average (Schunk & Pajares). Low academic self-efficacy can negatively affect academic expectations and academic performance (Bandura, 1995), both of which are further aggravated by characteristics and barriers faced by first-generation students. The gender gap also exacerbates the need for research to focus on males of all ethnic backgrounds, specifically looking at variables correlated with perseverance through higher education and academic success.

First-Generation Students

Research on first-generation students has identified this population as differing greatly from the ideal college student who is armed with a history of good grades, a record of academic accomplishment, and high levels of self-efficacy (Hicks, 2002). On the contrary, first-generation students are apt to have self-doubts about their academic and motivational abilities, thinking they are not "college material" (Hicks; Striplin, 1999). These perceptions, or self-efficacy levels, are in turn critical factors of success at the postsecondary level (Striplin). In particular, self-efficacy has been related positively to high levels of achievement and learning, as well as high levels of

effort and persistence (Linnenbrink & Pintrich, 2002; Quinn & Hemmings, 1999). In order to result in academic achievement, research encourages educational institutions to develop positive self-efficacy beliefs in first-generation students. Analysis of high-achieving schools composed of large numbers of at-risk students have been found to set high academic standards with a foundational belief in the capability of students to fulfill those high standards (Alfassi, 2003).

Gender & Ethnicity

Self-efficacy and gender differences are cited in the literature as being confounded by various factors. Previous achievement between males and females can impact self-efficacy levels, as well as a difference in responses to self-efficacy instruments and how gender differences are assessed and reported (Schunk & Pajares, 2002). Studies conducted on gender differences and self-efficacy (Bong, 1998; Gainor & Lent, 1998; Lundeberg, Fox, & Puncochar, 1994) have found that males demonstrate comparable strengths of efficacy across various academic domains (e.g., verbal, math, and history) versus females who demonstrate a clearer distinction between academic domains. These studies have also revealed that males tend to feel more confident and have higher academic self-efficacy in math-related subjects than females (Bong; Lundeberg, et al.; Schunk & Pajares). This finding correlates with the gender gap in the math and science subjects evident in the latter part of the twentieth century where girls lagged behind boys in these academic areas in high school (Bae, Choy, Geddes, Sable, & Snyder, 2000) and on into postsecondary education and the workforce where women, while they are the majority overall in college enrollment and degree completion, are still behind in specific science and math fields (Halpern, et al., 2007).

With regards to self-esteem or self-concept, research indicates varying beliefs among ethnic groups and males of different races. Much less research has been done on ethnic groups and

self-efficacy. More often research has been geared to views of socio-economic status and ethnicity (Schunk & Pajares, 2002); however, some research does indicate that minority students tend to have lower efficacy levels, or perceptions of aptitude, than their counterparts (Schunk & Pajares). In a study by Luzzo and McWhiter (2001), minority students perceived greater educational barriers than their white counterparts, suggesting a decreased level of efficacy among ethnic groups due to the increased amount of barriers to be overcome. African-American males face greater stress and are comparatively less successful than whites or females, resulting in lower self-esteem and self-perception (McJamerson, 1990; Tashakkori & Thompson, 1990). Furthermore, white males rate themselves more highly than their female counterparts on self-esteem scales (Rosenberg & Simmons, 1971; Tashakkori & Thompson). In a study conducted by Tashakkori and Thompson of black and white adolescents of both genders, females tended to show less self-efficacy than males.

The efficacy levels found in college students has an impact on perseverance through their college career and the career decisions that they make for their future (Lindley, 2006; Luzzo & McWhirter, 2001; Schunk & Pajares, 2002). Models of career goals have been used for students of various ethnic groups (i.e., African Americans, Hispanics, and white) and of low socio-economic status (Lent, Brown, & Larkin, 1986). Research using self-efficacy as a construct in correlation with ethnicity allows for an examination of the differences between ethnic groups with regards to efficacy levels, impact of variables on those levels, and the impacts of the predictive ability of self-efficacy on career development and goals (Lindley, 2006).

Perseverance

Perseverance or persistence (the term “persistence” is used synonymously with “perseverance” for purposes of this study) towards graduation and obtaining a college degree has

been studied for decades. According to Tinto (1993), persistence through the first year in college is affected by three key factors: demographic characteristics; high-school profile (i.e., high-school GPA and scores on standardized test); and the college decision process. In addition to these key factors, research has noted self-efficacy as being a good predictor of perseverance within a domain affecting perseverance and academic achievement both directly and indirectly (Finney & Schraw, 2003; Pajares, 1995). Self-efficacy, the judgment of one's ability to perform a task within a specific domain, is a characteristic of perseverance that has been demonstrated in the research to differentiate between successful and unsuccessful students (Rogers, Townsend, & Lindner, 2004). High levels of self-efficacy were noted to substantially be related to, and be predictors of, student persistence (Dubi, Parish-Plass, & Cohen, 2003; Quinn & Hemmings, 1999; Rogers, et al.).

Studies have supported the relationship between student's socioeconomic status and personal characteristics with perseverance (Stolzenberg, 1994). Research addressing the role of gender in relation to other factors such as socioeconomic status, ethnicity, and other personal characteristics has been explored; however, the research in regards to the role of gender in the academic perseverance of a student is not extensive (Huang, Taddese, & Walter, 2000). Additionally, students who embodied characteristics descriptive of first-generation students (i.e., were enrolled part-time, paid for their own education, worked full-time, had dependents, were single parents, and had low grade point averages) have been shown to have lower levels of persistence than non first-generation students (i.e., students who were enrolled full-time, received monetary support for education, worked part-time or not at all, did not have dependents, were single, and had high grade point averages) (Choy, 2001). As supported by research on first-

generation students, academic and social norms and pressures are among some of the factors that affect student matriculation and perseverance (Choy).

As the population of undergraduate students has expanded to encompass a more diverse student body inclusive of underrepresented students such as first-generation, minorities, and non-traditional students, understanding the barriers that students face (i.e., economic, social, or cultural) to academic perseverance in postsecondary education is critical (Horn & Premo, 1995). Persistence toward degree completion is not only related to academic preparation and skills. Persistence risk factors commonly associated with a student's proclivity to leave a postsecondary institution prior to degree completion include: delayed enrollment; part-time attendance; being financially independent or family income; having dependent children; being a single parent; working full-time; having a General Educational Development (GED) diploma; age; race; level of social integration; and academic performance (Horn & Premo; Leppel, 2002). First-generation students, characterized as typically being self-supporting, have been found to resemble the subgroup population of students deemed untraditional by being older than the average college student (Simmons, Musoba, & Chung, 2005). Additional responsibilities, such as the need to maintain full-or-part-time employment, raising a family, or needing to care for older family members (Dennis, Phinney, & Chuateco, 2005; Horn & Premo; Van Valey, 2001), may compound the responsibilities of being a student, thus possibly threatening the ability for first-generation students to persevere through postsecondary education.

Although access is commonly researched in relation to participation in higher education, academic perseverance of college students is a widely researched topic of great importance to higher education researchers, administrators, and the community (Baum & Ha, 2007). While validity studies have found test scores and high school grades to be significant in predicting the

future academic success of a student (Camara & Echternacht, 2000), the narrowness of solely looking at one or two predictor variables is not indicative of college success. Examining the relationship between certain variables, such as perseverance/persistence, provides a clearer and more holistic picture of college success.

Summary

The review of the literature provided the appropriate and necessary contextual background for the scope of this study. Supported by seminal research on academic self-efficacy, understanding the various personal and contextual factors that influence students' academic self-efficacy will continue to wield strategies and support (i.e., financial, institutional, societal, and governmental) and have important practical implications on the academic success of students (Bong, 1998; Pajares, 1996), particularly underrepresented populations such as male first-generation students. Persistence has been correlated with demographic characteristics such as ethnicity, income, age, and gender (Baum & Ha, 2007). Socio-economic status and income level of the student and/or parent play a crucial role in explaining persistence among college students, particularly first-generation students (Simmons, Musoba, & Chung, 2005). Addressing the population of male first-generation students in terms of perseverance and academic self-efficacy in this study was supported by prior research done on the predictive utility of self-efficacy alongside persistence and achievement (Schunk & Pajares, 2002).

Performance in academic settings has been researched addressing the relationship of perseverance with factors such as intrinsic motivation, self-concept, situational adaptation, attendance patterns, class/subject performance, and self-efficacy beliefs of students (Van Blerkom, 1996). Few researchers have systematically examined the role that barriers, both existent through inherent structures of the educational system and perceived barriers related to

efficacy and confidence, play in the academic success and in the future career decision-making process (Luzzo & McWhirter, 2001). Along with recognition of the importance of high academic self-efficacy, comes the necessity for interventions to facilitate and encourage the development of or increased levels of self-efficacy to promote success in higher education.

The literature review presented in this paper clearly presented the justification for research in this study. Review of the literature continuously suggests that policy makers and researchers must concern themselves with the educational achievement of male first-generation students and gear policy initiatives to attend to the needs of this student population for achievement in higher education and for future success in the workforce for both the individual student and for the economic stability of the country.

CHAPTER III

METHODOLOGY AND PROCEDURES

Introduction

The following chapter addresses the method and procedures that were used in answering the research question guiding this study. Based on general research of students at the postsecondary level, there is a need for college students to be self-directed and take greater responsibility for their learning. Students possessing a high degree of academic self-efficacy have been noted to be more successful at accomplishing these tasks and, as a result, have performed better academically (Bandura, 1997). While several studies indicate the need for measurement and analysis of academic self-efficacy, few studies exist that specifically address the level of significance academic self-efficacy has on the freshman-to-sophomore year perseverance of first-generation male students (Ayiku, 2005; Elias, 2000; Trevathan, 2002). When attempting to understand and measure college outcomes and academic perseverance, a single variable alone is not sufficient (Dennis, Phinney, & Chuateco, 2005). Studying self-efficacy measures alongside grade point average, standardized test scores (i.e., SAT critical reading and SAT math scores), gender, and academic perseverance provided for a stronger research study.

Research Design

This study followed a predictive research design to address the significance of pre-identified predictors on academic perseverance and academic self-efficacy levels of sophomore first-generation university male students. Through the use of multiple regression, this study sought to determine whether high-school GPA, freshman GPA, SAT math scores, SAT critical reading scores, and academic self-efficacy predict a score on the

Academic Perseverance Questionnaire. In social and natural sciences, multiple regression techniques are widely used to allow the researcher to investigate the predictor of a given dependent variable (Berk, 2003). The participants consisted of a nonrandom convenience sample from a target population derived from the selected university.

Sample and Participants

The sample was derived from the target population defined for this study as first-generation male students enrolled in their sophomore year in 2007-2008. This study utilized a nonrandom convenience sample in which all students meeting the specified criteria (i.e., first-generation male sophomore students) were contacted by a third-party individual to voluntarily participate in the study. The use of multiple regression analysis calls for a minimum of 10 participants per variable identified in the study (10 x 5 variables), thus a sample size of a minimum of 50 participants was appropriate for this study and was achieved. To assure anonymity, the researcher did not have access to any identifying information of the participants.

Data Source

The study took place at a public state university in a metropolitan area in the southeastern region of the United States. The state university that participated in this study was a four-year degree-granting research institution in a metropolitan area serving approximately 30,000 students at the undergraduate level. The university in this study was identified as having a diverse study body ranking in the top tier among all schools for diversity, while serving approximately 60% white students. For the 2007-08 academic year, the institution's gender proportions by degree level reflected a higher proportion of females than males; approximately 60% women and 40% male in undergraduate enrollment, 65% women and 35% men in graduate enrollment, and 55% women and 45% male in doctoral program enrollment.

Data-Collection Procedures

A minimum of 50 first-generation male students enrolled in their sophomore year at a four-year degree granting state university in the southeastern region of the United States were invited to voluntarily participate in the study. In an effort to maintain anonymity for the participant, the sample group was contacted via email by a third-party person, referred to in this study as the survey administrator. Thus, the researcher did not have access to the participants' email address or any other identifiable information. The email included an introductory cover-letter (Appendix A) that detailed the purpose of the study and provided the participant with assurance of anonymity, as well as the opportunity to decide whether they wanted to participate in the study. The email messages also included a website link which the participant used to access and complete the survey once they consented to participate.

The electronic survey (Appendix B) included a compilation of two self-report measures: the Academic Perseverance Scale (Van Blerkom, 1996) and the College Academic Self-Efficacy Scale (CASES) (Owen & Froman, 1988). The introductory cover-letter was embedded at the onset of the survey in order to restate the purpose of the study and anonymity of the participant's responses to the survey instruments. The instruments and survey questions were entered into a web-based survey template through means of a reputable online survey platform, SurveyMonkey™, and were accessible once the participant proceeded to the survey link. The instruments that were utilized in this study were approved to be used with this survey platform for data collection purposes (Appendix E & Appendix F).

Continued follow-up communication was sent at reasonable time intervals over the course of the summer and early fall 2008 semesters until at least the minimum required number of participants needed for a regression analysis (i.e., $50 = 10 \text{ participants} \times 5 \text{ predictor variables}$)

had been achieved. Since the survey was anonymous in nature and there was no way for the survey administrator or the researcher to identify or track who had already responded, the entire population received the follow-up communications.

The survey consisted of four sections: (1) self-reporting fields (i.e., generation status, high-school GPA, freshman GPA, SAT math scores, and SAT critical reading scores); (2) the Academic Perseverance Questionnaire which consisted of 21 Likert-type items; (3) the College Academic Self-Efficacy Scale which consisted of 33 Likert-type items; and (4) a series of open-ended questions which consisted of three optional items requiring narrative responses. The optional open-ended questions were: (1) What factors in your personal life have contributed to your academic perseverance? (2) What institutional factors can be attributed to your academic perseverance? and (3) At the institutional level, what feedback would you provide to enhance academic perseverance? Given the numerous responses received by participants to the optional open-ended question, the researcher examined the frequency of responses and identified common themes. These emergent themes are discussed in Chapter 4.

Upon completion, participants submitted their responses by selecting “done” at the end of the survey. Each survey submission, free of any identifiable information, was automatically routed to the researcher who had sole access to this information. Participants were treated in accord with the ethical guidelines developed by the American Psychological Association and the appropriate Institutional Review Boards.

Research Questions and Hypotheses

The following research question guided this study:

What is the multiple correlation between five selected predictors (i.e., high-school GPA, freshman GPA, SAT math scores, SAT critical reading scores, and academic self-efficacy) and the outcome of academic perseverance of sophomore first-generation university male students?

The following research hypotheses were addressed in this study:

Null Hypothesis (H₀): There is no multiple correlation between five selected predictors (i.e., high-school GPA, freshman GPA, SAT math scores, SAT critical reading scores, and academic self-efficacy) and the outcome of academic perseverance of sophomore first-generation university male students.

Alternate Hypothesis (H_a): There is a multiple correlation between five selected predictors (i.e., high-school GPA, freshman GPA, SAT math scores, SAT critical reading scores, and academic self-efficacy) and the outcome of academic perseverance of sophomore first-generation university male students.

Variables of the Study

The dependent variable in this study was academic perseverance defined as continuous enrollment from freshman-to-sophomore years at the same four-year institution without interruption. There were five independent variables in this study: high-school GPA; freshman GPA; SAT math scores; SAT critical reading scores; and academic self-efficacy scores.

Instruments and Data-Collection Measures

According to Bandura (1997), self-efficacy beliefs are multifaceted, and the measures should be domain specific; thus self-efficacy scales should be specific and arranged hierarchically (Bandura, 1984). Many scales to measure self-efficacy have been developed throughout the years (e.g., College Self-Efficacy Inventory, Generalized Self-Efficacy Scale, and General Perceived Self-Efficacy Scale), each building upon/adapting from prior research in order to continue contributing to the body of research on self-efficacy. The instruments vary in reporting style/format, item number range, construct focus, and target audience (i.e., age groups), to name just a few (Owen & Froman, 1988). Self-efficacy can be measured in generalized and specific means; context-specific self-efficacy can evolve to a more global form of efficacy and researched in that context. It is noted, however, that self-efficacy should seek to measure specific skills as well as be measured with respect to those specific tasks being assessed (Finney & Schraw, 2003), in turn, aligning with the concept that efficacy should be domain specific (Bandura).

For the purpose of this study, academic self-efficacy levels were measured by the College Academic Self-Efficacy Scale (CASES) created by Owen and Froman (1988). The CASES was selected for this study because it provides a means of investigating academic self-efficacy through a more holistic approach that speaks to more than just individual academic constructs. Utilizing the CASES instrument drew attention to specific findings which could influence or suggest methods to increase academic self-efficacy in first-year college students (Owen & Froman).

Furthermore, given that persistence has been correlated with demographic characteristics such as ethnicity, income, age, and gender (Baum & Ha, 2007), this variable was explored in this

study. Socio-economic status and family income level play a crucial role in explaining persistence among college students, particularly first-generation students (Simmons, Musoba, & Chung, 2005). For purpose of this study, perseverance/persistence was measured by the Academic Perseverance Questionnaire created by Van Blerkom (1996).

The College Academic Self-Efficacy Scale (CASES)

The CASES (Appendix D) is a self-report measure which was adapted from the Self-Efficacy for Broad Academic Milestones Scale (Cronbach coefficient alpha=.88) developed by Lent, Brown, and Gore (1997) and the Self-Efficacy Academic Milestones Scale (Cronbach coefficient alpha=.89) by Lent, Brown, and Larkin (1986). The CASES instrument is a tool developed to assess academic self-efficacy and measure the degree of confidence of performing typical academic behaviors of college students (Choi, 2005). The instrument was calculated to take approximately five-minutes to complete (Owen & Froman, 1988).

The CASES is built on a typical five-point Likert-type scale in which responses range from 'quite a lot' (5 points) to 'very little' (1 point). Levels of academic self-efficacy are determined based on the scores received (i.e., higher scores indicate higher academic self-efficacy) (Griffiths, 2006). The instrument is made up of 33 Likert-type items broken down into two facets. The items represent typical academic behaviors (Griffiths) and address how confident respondents are in their ability to accomplish an academic task (Ayiku, 2005). Facet one (items 1-23) addresses specific courses offered at the educational institution and facet two (items 24-33) addresses milestones students confront during their academic career (Ayiku). Following direction from Owen and Froman (1988), the CASES was scored by calculating the mean score. Calculation of the mean allowed the researcher to account for omitted questions (Ayiku; Elias, 2000). Confidence is rated using a Likert-type scale that ranged from high confidence (value

ranging from five) to low confidence (value of one). Both facets (33 items) of the CASES were utilized for this study.

Reliability for the CASES instrument was established by using test-retest methods. The researchers who created the instrument administered the scale twice to various psychology students over a period of eight-weeks. Internal consistency reliability was measured utilizing Cronbach's alpha. In the original study, the test-retest methods yielded reliability coefficients of .90 and .92. Upon the end of the eight-week stability point, which was the established time intervals between measurements (Heise, 1969), the estimated test-retest reliability coefficient for this study was determined to be .85 (Ayiku, 2005; Choi, 2005; Griffiths, 2006; Owen & Froman, 1988). Additionally, a study conducted by Choi (2004) involving undergraduate students resulted in an internal consistency coefficient of .93. Further, the CASES was found to have factorial validity, i.e., responses were analyzed in the development of the instrument and were determined that items students found relatively easy to accomplish were those in which students most likely had more experience; those items they found most difficult to accomplish were most likely the result of having less experience or success with the task (Owen & Froman, 1988).

Validity of the CASES instrument was assessed through several studies where multiple types of validity were established. Variations of concurrent validity were estimated using criteria based on Bandura's (1997) self-efficacy theory, frequency of performing a task and enjoyment of a task (Ayiku, 2005; Trevathan, 2002). This validity analysis allowed Owen and Froman (1988) to judge the instrument valid and contend that the analysis was in alignment with Bandura's self-efficacy theory.

The Academic Perseverance Questionnaire

Developed by Van Blerkom (1996), the Academic Perseverance Questionnaire (Appendix C) contains 21 five-point Likert items designed to assess students' behaviors related to perseverance in academic settings and adapted from previous works by Pintrich and DeGroot (1990). Reliability for the Academic Perseverance Questionnaire was established by using test-retest methods yielding a reliability coefficient of .81.

Methods of Analysis

The data from the survey instruments was analyzed through the use of the Statistical Package for the Social Sciences (SPSS for Windows 16.0, 2008). The statistical procedure of multiple regression was used to determine the combined relationship, R, of the independent variables on a single dependent variable (Creswell, 2002). In multiple regression, a statistical procedure for examining the combined relationship of multiple independent variables with a single dependent variable, the variation in the dependent variable is explained by the variance of each independent variable, as well as the combined effect of all the independent variable (Creswell).

The data file, backup copies of the data file, and all data have been stored for safekeeping. All paper and electronic data have been securely stored in separate files and/or flash drive(s) and will be kept in the researcher's possession for five years under lock and key. After this period of time, all data will be destroyed and permanently deleted.

Summary

This chapter served to detail the methods and procedures that were used in the implementation of this study. In alignment with the research design, sampling methods and participants, data source, data collection procedures, and data collection measure were a part of the methodology. Two preexisting instruments were used, the Academic Perseverance Questionnaire (Van Blerkom, 1996) and the College Academic Self-Efficacy Scale (CASES) (Owen & Froman, 1988), to measure academic perseverance and academic self-efficacy levels of sophomore first-generation university male students. In data analysis, multiple regression was used to determine the combined relationship, R , of the variables on the dependent variable (i.e., academic perseverance).

CHAPTER IV

RESULTS

Introduction

The purpose of this study was to determine the multiple correlation between five predictors (i.e., high-school GPA, freshman GPA, SAT math scores, SAT critical reading scores, and academic self-efficacy) and the outcome of academic perseverance of sophomore first-generation university male students using standardized instruments validated in previous research. The hypothesis, stated in the null, was as follows: There is no multiple correlation between five selected predictors (i.e., high-school GPA, freshman GPA, SAT math scores, SAT critical reading scores, and academic self-efficacy) and the outcome of academic perseverance of sophomore first-generation university male students. For the purpose of the study, academic perseverance was operationally defined as a score on the Academic Perseverance Questionnaire developed by Van Blerkom (1996).

During the summer and fall 2008 semesters, 53 sophomore university male students participated in this study to determine the multiple correlation between selected predictors and the outcome of academic perseverance. Students matching the population criteria were sent an email with the study cover letter (Appendix A) and the link to the survey housed on SurveyMonkey™. Participation by students consisted of acceptance via email to complete a voluntary and anonymous survey (Appendix B). The survey consisted of four sections: (1) self-reporting fields (i.e., generation status, high-school GPA, freshman GPA, SAT math scores, and SAT critical reading scores); (2) the Academic Perseverance Questionnaire consisting of 21 Likert-type items (Appendix C); (3) the College Academic Self-Efficacy Scale consisting of 33

Likert-type items (Appendix D); and (4) a series of open-ended questions consisting of three optional items requiring narrative responses.

This chapter reports the results found from the statistical analyses that were described in Chapter III. It will first review the population, response rate, and characteristics of the students who participated in the study. Second, the chapter will address the survey instruments, the hypothesis, and whether or not the null hypothesis was able to be rejected by the data.

Sample Characteristics

Sophomore first-generation university male students at a four-year degree granting state university in the southeastern region of the United States were the target population used for this study. A nonrandom convenience sample, in which all students meeting the specified criteria (i.e., first-generation male sophomore students), was secured from the university's registrar's office and consisted of 485 students. To assure anonymity, the researcher did not have access to any identifying information of the participants. The list of students, which included only the students' email addresses, was strictly used by the survey administrator to email the anonymous survey.

Of the 485 students identified in the convenience sample, 61 students voluntarily participated in the study; however, the responses of eight participants were omitted due to inconsistent responses on self-reported questions which did not characterize them as first-generation students, a pre-identified characteristic of this study's sample. The sample utilized for this study consisted of 53 participants, resulting in an overall response rate of 11% (53 of 485) (Table 1). The use of multiple regression analysis calls for a minimum of 10 participants per variable identified in the study (10 x 5 variables), thus a sample size of a minimum of 50 participants which was appropriate for this study was achieved.

Table 1*Participants' Response Rates*

	Frequency (N)	Percent
Surveys emailed	485	100%
Surveys received	61	13%
Surveys omitted due to un-qualifying characteristics	8	13%
Net surveys used for data analysis	53	52%
Response rate of final sample	53	11%

Response Rates

Fifty-three participants (100%) completed all of the quantitative sections of the survey, all of the respondents completed the self-reported questions, fifty-three participants (100%) completed the Academic Perseverance Questionnaire, fifty-three participants (100%) completed the College Academic Self-Efficacy Scale (CASES), and twenty-six of the participants (49%) completed one or more of the open-ended optional questions (Table 2).

Table 2*Frequency and Percentage of Responses*

	Frequency (N)	Percent
All quantitative portions of the survey	53	100%
Self-reported questions (8 questions)	53	100%
Academic Perseverance Questionnaire (21 questions)	53	100%
CASES (33 questions)	53	100%
Optional open-ended questions (3 questions)	26	49%

Descriptive statistics (i.e., N, mean, minimum, maximum) were conducted for each of the predictor variables in this study. These statistics are presented for four of the five variables in Table 3; academic self-efficacy, the fifth predictor variable, is further expounded upon later in this chapter.

Table 3
Descriptive Statistics for Self-Reported Variables

	High-School GPA	Freshman GPA	Critical Reading SAT Score	Math SAT Score
N	53	53	53	53
Mean	3.1	3.2	553	561
Minimum	1.3	.75	440	400
Maximum	4.4	4.0	800	800

In response to high-school GPA, six participants (11%) reported their high-school GPA as less than or equal to 2.0, eighteen participants (34%) reported their high-school GPA as greater than 2.0 but less than or equal to 3.0, twenty-seven participants (51%) reported their high-school GPA as greater than 3.0 but less than or equal to 4.0, and two participants (3%) reported their high-school GPA as greater than 4.0 (Table 4). The average high-school GPA reported was 3.1 with a range of 1.3 (lowest GPA) to 4.4 (highest GPA) (Table 3).

Table 4
High-School GPA Response Rate

	Frequency (N)	Percent
≤ 2.0	6	11%
> 2.0 but ≤ 3.0	18	35%
> 3.0 but ≤ 4.0	27	51%
> 4.0	2	3%

Answers to the freshman GPA question resulted in two participants (3%) who reported their freshman GPA as less than or equal to 2.0, seventeen participants (32%) reported their freshman GPA as greater than 2.0 but less than or equal to 3.0, and thirty-four (64%) reported their freshman GPA as greater than 3.0 but less than or equal to 4.0 (Table 5). The average freshman GPA reported was 3.2, with a range of .75 (lowest GPA) to 4.0 (highest GPA) (Table 3).

Table 5
Freshman GPA Response Rate

	Frequency (N)	Percent
≤ 2.0	2	3%
> 2.0 but ≤ 3.0	17	32%
> 3.0 but ≤ 4.0	34	65%

Participants of the study responded to SAT Critical Reading scores in the following manner: fifteen participants (28%) reported their score between 400-500, thirty participants (57%) reported their score between 501-600, five participants (9%) reported their score between 601-700, and three participants (6%) reported their score between 701-800 (Table 6). The average SAT Critical Reading score reported was 553 with a range of 440 (lowest score) to 800 (highest score) (Table 3).

Table 6
SAT Critical Reading Score Response Rate

	Frequency (N)	Percent
400-500	15	28%
501-600	30	57%
601-700	5	9%
701-800	3	6%

Finally, in response to SAT Math scores, thirteen participants (25%) reported their score between 400-500, thirty participants (57%) reported their score between 501-600, four participants (8%) reported their score between 601-700, and seven participants (13%) reported their score between 701-800 (Table 7). The average SAT Math score reported was 561 with a range of 400 (lowest score) to 800 (highest score) (Table 3).

Table 7
SAT Math Score Response Rate

	Frequency (N)	Percent
400-500	13	24%
501-600	29	55%
601-700	4	8%
701-800	7	13%

Data-Analysis Overview

The data were analyzed using SPSS 16.0 for Windows. The statistical procedure of multiple regression was used to determine the combined relationship, R, of the independent variables on a single dependent variable (Creswell, 2002). In multiple regression, a statistical procedure for examining the combined relationship of multiple independent variables with a single dependent variable, the variation in the dependent variable is explained by the variance of each independent variable, as well as the combined effect of all the independent variables (Creswell).

Descriptive and inferential statistics were used to analyze data for this study. Descriptive data were a part of the study to ascertain the grade point-average (i.e., high-school and first-year in college), SAT scores (i.e., math and critical reading), and parent/guardian highest level of education for each of the participants in order to establish the make-up of the sample population.

Descriptive statistics included means and standard deviations; inferential statistics included multiple regression, ANOVA, Pearson's R correlation coefficient, and unstandardized beta coefficients with significance levels set at $p < .05$. Five correlation analyses were run to determine if there were any statistically significant relationships among any of the following predictors: academic perseverance and high-school GPA; academic perseverance and freshman GPA; academic perseverance and SAT math scores; academic perseverance and SAT critical reading scores; and academic perseverance and academic self-efficacy.

Academic Perseverance Questionnaire

The Academic Perseverance Questionnaire was designed to assess students' behaviors related to perseverance in academic settings. A reliability analysis was run for the instrument which resulted in a Cronbach's α of .695, supporting the reliability of the scores on this instrument for this study. The instrument was composed of 21 questions and used a Likert-type scale with a range of 1 (This is not at all descriptive of me.), 2 (This describes my behavior on rare occasions.), 3 (This describes my behavior about half of the time.), 4 (This describes my typical behavior.), and 5 (This is extremely descriptive of me.). The instrument was scored by summing the scores of each question and dividing by the number of questions in the instrument.

Calculating the mean score instead of a total score is preferred because on a 21-item scale, a person who omits any item(s) would be penalized if the total score was calculated. When the mean is calculated, it is based on the number of items completed with no penalty for missing data. The mean was scaled on criterion unique to the scale in which the scale had a maximum and minimum score. Participants had the ability to score between a range of 21 points (not descriptive of academic behavior) and 105 points (extremely descriptive of academic behavior). Behaviors related to perseverance were rated using a Likert-type scale that ranged from highly

descriptive of behaviors (value ranging from five) to non-descriptive of behaviors (value of one). The mean score of participants in this study was 3.09 with a standard deviation of .450 (Table 8).

Table 8

Descriptive Statistics of Responses on the Academic Perseverance Questionnaire and College Academic Self-Efficacy Scale (CASES)

	N	Mean	Minimum	Maximum	Std. Deviation
Academic Perseverance Questionnaire	53	3.09	2	4	.450
College Academic Self-Efficacy Scale (CASES)	53	3.34	1	5	.732
Total	53				

Raw Data for Academic Perseverance Questionnaire

Raw data collected for this study include the Academic Perseverance score (average score calculated) of each participant who voluntarily participated in the study, along with the data associated with each predictor variable (Appendix G). Additionally, frequencies of mean scores of participants are presented in Table 9.

Table 9

Frequency of Mean Scores on the Academic Perseverance Questionnaire

Mean Score	Frequency	Percent	Valid Percent	Cumulative Percent
2	3	5.7	5.7	5.7
3	42	79.2	79.2	84.9
4	8	15.1	15.1	100.0
Total	50	100.0	100.0	
Missing	3	5.7		
Total	53	100.0		

College Academic Self-Efficacy Scale

The College Academic Self-Efficacy Scale (CASES) was designed as a self-report measure to ask students how confident they were in their ability to complete the list of behaviors associated with college success. The instrument included questions about how confident a student is in his/her ability to ask questions in large or small groups, take tests, study appropriately, run for student government, and write a high quality paper among others. Furthermore, this instrument was selected for this study because it was different from many other academic self-efficacy instruments in that it investigates feelings of academic self-efficacy as a whole, as opposed to narrowing in on individual constructs or areas of academic self-efficacy (e.g., math, English, etc.). Moreover, this instrument is believed to provide insights into specific diagnostic findings that can influence holistic change to increase overall academic self-efficacy (Owen & Froman, 1988).

A reliability analysis (Owen & Froman, 1988) was run for the instrument and reported a Cronbach's α of .961, confirming the reliability of the scores on this instrument for this study. This instrument was composed of 33 questions and used a Likert-type scale with a range of A or 5 (Quite a lot of confidence), B or 4 (A lot of confidence), C or 3 (neutral), D or 2 (A little confidence), and E or 1 (very little confidence). The instrument was scored by summing the scores of each question completed and dividing by the number of questions in the instrument.

Calculating the mean score instead of a total score is preferred because on a 33-item scale, a person who omits any item(s) would be penalized if the total score was calculated. When the mean is calculated, it is based on the number of items completed with no penalty for missing data. Furthermore, the mean was scaled on criteria unique to the scale in which the scale had a maximum and minimum score. Participants had the ability to score between a range of 33 points (the lowest amount of confidence) and 165 points (the highest amount of confidence).

Confidence was rated using a Likert-type scale that ranged from high confidence (value ranging from five) to low confidence (value of one). The mean score of participants in this particular study was 3.34 with a standard deviation of .732 (Table 8).

Raw Data for College Academic Self-Efficacy Scale (CASES)

Raw data collected for this study included data for one of five predictor variables, the CASES score (average score calculated) of each participant (Appendix G). Additionally, frequencies of average scores of participants are presented in Table 10.

Table 10

Frequency of Average Scores on the CASES

Average Score	Frequency	Percent	Valid Percent	Cumulative Percent
1	1	1.9	1.9	1.9
2	2	3.8	3.8	5.7
3	31	58.5	58.5	64.2
4	16	30.2	30.2	94.3
5	3	5.7	5.7	100.0
Total	53	100.0	100.0	

Quantitative Analysis

Data Analysis Using Regression

To address the main research question of this study, the dependent variable was statistically regressed on five predictor variables. Multiple regression analysis was used to determine if correlations existed between the dependent variable of scores on the Academic Perseverance Questionnaire and the independent variables of high-school GPA, freshman GPA, SAT critical reading scores, SAT math scores, and academic self-efficacy. Prior to regression analysis, however, univariate analyses were conducted on each of the independent variables.

Additionally, in order to determine if all the variables were correlated and to assess the extent of multicollinearity, a correlation matrix was generated using SPSS (Table 11).

Assumptions of Multiple Regression Analysis

Various assumptions underlie multiple regression analysis of which normality is of prominence for researchers to be cognizant of in order to prevent Type I or Type II errors (Osborne & Waters, 2002; Pedhazur, 1982). By design regression assumes that variables have normal distributions. Variables which are not normally distributed (e.g., variables with sizeable outliers) can distort relationships and tests of statistical significance (Osborne & Waters). To identify outliers, for example, histograms or frequency distributions can be visually examined (Osborne & Waters). If the relationships are linear and the dependent variable is normally distributed for each value of the independent variables, then the distribution of the residuals should be normal (Munro, 2001). Thus, in order to use regression to test the hypothesis of this study, the variables had to adhere to the assumption of being normally distributed. As evidenced by the histogram (Figure 3), the scores on the Academic Perseverance Questionnaire were normally distributed.

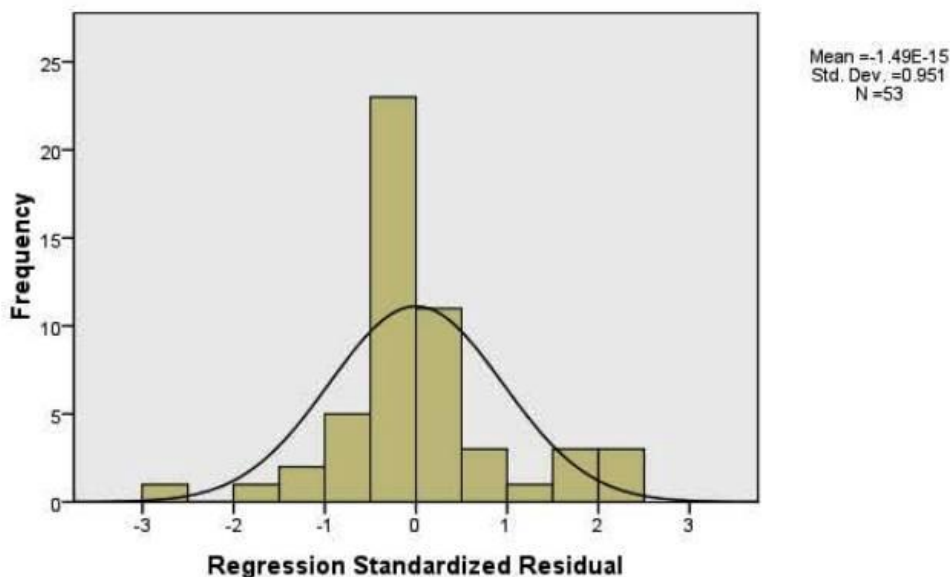


Figure 3 Distribution of Scores on the Academic Perseverance Questionnaire

Instrument Reliability

This study utilized two instruments, the 21-item Academic Perseverance Scale (Appendix C) to measure the dependent variable (i.e., academic perseverance) and the 33-item College Academic Self-Efficacy Scale (CASES) (Appendix D) as a measure of one of the five independent variables (i.e., academic self-efficacy). Each instrument has been used in previous research and has demonstrated sound psychometric properties.

Developed by Van Blerkom (1996), the Academic Perseverance Questionnaire (Appendix C) contained 21 five-point Likert-type items designed to assess students' behaviors related to perseverance in academic settings and adapted from previous works by Pintrich and DeGroot (1990). Reliability for the Academic Perseverance Questionnaire was established by using test-retest methods and yielded a reliability coefficient of .81. For purposes of this study, a reliability analysis was run for the instrument and reported a Cronbach's α of .691, supporting the reliability of the scores on this instrument for this study.

Adapted from the Self-Efficacy for Broad Academic Milestones Scale (Cronbach coefficient alpha = .88) developed by Lent, Brown, and Gore (1997) and the Self-Efficacy Academic Milestones Scale (Cronbach coefficient alpha = .89) by Lent, Brown, and Larkin (1986), the CASES instrument is a tool developed to assess academic self-efficacy and measure the degree of confidence of performing typical academic behaviors of college students (Choi, 2005). Reliability for the CASES instrument was established by using test-retest methods which yielded reliability coefficients of .90 and .92 (in the initial test) and .85 (following the 8-week stability period) (Ayiku, 2005; Choi, 2005; Griffiths, 2006; Owen & Froman, 1988). For purposes of this study, a reliability analysis (Owen & Froman) was run for the instrument and reported a Cronbach's α of .960, confirming the reliability of the scores on this instrument for

this study. Based on these reports, scores generated by using the Academic Perseverance Questionnaire and the College Academic Self-Efficacy Scale (CASES) are assumed to be reliable.

Correlation Matrix

The relationship between the dependent variable of academic perseverance and the independent variables of high-school GPA, freshman GPA, SAT math scores, SAT critical reading scores, and academic self-efficacy were examined by generating a bivariate correlation matrix using SPSS (Table 11). Utilizing a correlation matrix allowed the researcher to determine if all the variables were correlated and to assess the extent of multicollinearity (Munro, 2001; Pedhauzur, 1982). Results from analysis of the correlation matrix were used to determine if there were any statistical differences in the academic perseverance mean scores for each of the independent variables.

Table 11
Correlation Matrix

		CASES Score	High-School GPA	Freshman GPA	SAT Critical Reading Score	Quantitative SAT Score	Academic Perseverance Score
CASES Score	Pearson Correlation	1.000	.376**	.267	.224	.400**	-.391**
	Sig. (2-tailed)		.005	.053	.107	.003	.004
	N	53.000	53	53	53	53	53
High-School GPA	Pearson Correlation	.376**	1.000	.333*	.207	.328*	.039
	Sig. (2-tailed)	.005		.015	.137	.016	.780
	N	53	53.000	53	53	53	53
Freshman GPA	Pearson Correlation	.267	.333*	1.000	.237	.216	-.004
	Sig. (2-tailed)	.053	.015		.088	.120	.976
	N	53	53	53.000	53	53	53
SAT Critical Reading Score	Pearson Correlation	.224	.207	.237	1.000	.699**	-.035
	Sig. (2-tailed)	.107	.137	.088		.000	.803
	N	53	53	53	53.000	53	53
SAT Math Score	Pearson Correlation	.400**	.328*	.216	.699**	1.000	-.256
	Sig. (2-tailed)	.003	.016	.120	.000		.064
	N	53	53	53	53	53.000	53
Academic Perseverance Score (DV)	Pearson Correlation	-.391**	.039	-.004	-.035	-.256	1.000
	Sig. (2-tailed)	.004	.780	.976	.803	.069	
	N	53	53	53	53	53	53

** . Correlation is significant at the .01 level (2-tailed).

* . Correlation is significant at the .05 level (2-tailed).

Pallant's (2001) table for Pearson's r correlation coefficient (Table 12) was used to determine if relationships among the five constructs were non-existent, small, medium, or large with ranges that determined the strength of the relationship.

Table 12

Pearson's R Correlation Coefficient Table to Determine Strength of Relationships

Positive Direction	Negative Direction	Strength of Relationship
$r = .10$ to $.29$	$r = -.10$ to $-.29$	Small Relationship
$r = .30$ to $.49$	$r = -.30$ to $-.49$	Medium Relationship
$r = .50$ to 1.0	$r = -.50$ to -1.0	Large Relationship

In the first analysis, between academic self-efficacy and academic perseverance, the Pearson's r correlation was $-.391$ ($p < .05$). This would suggest a medium negative correlation between academic self-efficacy and academic perseverance, showing that the level of academic perseverance was moderately negatively related to the level of academic self-efficacy.

In the second analysis, a correlation was computed between high-school GPA and academic perseverance. No correlation ($r = .039$, $p = .780$) was found between high-school GPA and academic perseverance, suggesting that high-school GPA was not correlated to a high level of academic perseverance.

The third analysis was conducted between freshman GPA and academic perseverance. The correlation showed an r of $-.004$ ($p = .979$). This would suggest that there was no correlation between freshman GPA and academic perseverance, indicating that a high freshman GPA was not correlated to a high level of academic perseverance.

In the fourth analysis between SAT critical reading scores and academic perseverance, the Pearson's r correlation was $-.035$ ($p = .803$). This would suggest no correlation between SAT critical reading scores and academic perseverance.

The last analysis was conducted between SAT math scores and academic perseverance. The correlation showed an r of $-.256$ ($p = .064$). This would suggest that there was a small negative correlation between SAT math scores and academic perseverance, indicating that a SAT math scores had a very small inverse relationship with a high level of academic perseverance.

Analysis of the correlation matrix containing relationship data of academic perseverance with each of the five predictor variables, i.e., academic self-efficacy, high-school GPA, freshman GPA, SAT critical reading scores, and SAT math scores indicated that only one of the five predictor variables, academic self-efficacy, contributed significantly to the regression equation. The remaining four predictors were found to not have a significant relationship to the dependent variable.

Multiple Regression Results

A multiple regression analysis was conducted to evaluate how well all of the independent variables of high-school GPA, freshman GPA, SAT math scores, SAT critical reading scores, and academic self-efficacy predicted academic perseverance as measured by the score on the Academic Perseverance Questionnaire (Table 13).

Table 13
Multiple Regression Results

	Unstandardized		Standardized		Sig.
	Coefficients		Coefficients		
	B	Std. Error	Beta	t	
(Constant)	3.524	.496		7.106	.000
CASES Score*	-.251	.090	-.408	-2.800	.007
High-School GPA	.144	.085	.244	1.696	.096
Freshman GPA	.034	.112	.042	.307	.760
SAT Critical Reading Score	.001	.001	.240	1.341	.186
SAT Math Score	-.002	.001	-.350	-1.833	.073

*CASES score was the only predictor to have a significant relationship with the DV, $p < .05$

The regression equation based on the data analysis is: Predicted academic perseverance (y') = $3.524 - .266(\text{CASES score}) + .144(\text{high-school GPA}) + 0.34(\text{freshman GPA}) + .001(\text{SAT critical reading score}) - .002(\text{SAT math score})$.

Only one predictor variable, the academic self-efficacy score on the CASES instrument, contributed significantly to the regression equation. The CASES score, the only coefficient score that was significant, had an unstandardized regression coefficient of $-.251$ ($p < .05$). The four other predictor variables were found to not contribute to the regression model: high-school GPA had an unstandardized regression coefficient of $.144$ ($p = .096$); freshman GPA had an unstandardized regression coefficient of $.034$ ($p = .760$); SAT critical reading score had an unstandardized regression coefficient of $.001$ ($p = .186$); and SAT math score had an unstandardized regression coefficient of $-.002$ ($p = 0.73$). However, the combination of the selected five predictors were significantly related to academic perseverance scores, $F(5,44) = 3.135$, $p < .05$ (Table 14). Based on the R square value ($.250$), this regression model accounted for 25% of the variance in academic perseverance, while leaving 75% residual variability (Table 14).

Table 14*Multiple Regression Output: Model Summary*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.500 ^a	.250	.170	.410

a. Predictors: (Constant), SAT Math score, Freshman GPA, High-School GPA, CASES Score, and SAT Critical Reading Score

Furthermore, data from the Analysis of Variance (ANOVA) output reported the overall significance of the regression model (Table 15). For the final regression model, the F-ratio was 3.135 which was unlikely to have happened by chance ($p < .05$). The overall analysis was significant, $p = .016$. However, while there was a statistically significant result from the ANOVA, only one of five predictor variables contributed significantly to the regression equation. Additionally, even though the regression equation was significant, it is important to emphasize that it only accounted for approximately 25% of the variance.

Table 15*Multiple Regression Output: Analysis of Variance (ANOVA)*

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.633	5	.527	3.135	.016 ^a
	Residual	7.895	47	.168		
	Total	10.528	52			

a. Predictors: (Constant), SAT Math Score, Freshman GPA, High-School GPA, CASES Score, and SAT Critical Reading Score

Results of Hypothesis Tests

This study sought to test one hypothesis through statistical means of multiple regression analysis in which the dependent variable was regressed on five predictor variables. Data analysis

presented a statistically significant regression equation. Specifically, a significant relationship was found between academic perseverance and academic self-efficacy at an alpha level of .05. However, none of the other predictor variables (i.e., high-school GPA, freshman GPA, SAT critical reading scores, and SAT math scores) had a significant relationship with academic perseverance at an alpha level of .05. Based on the results, the null hypothesis set forth for this study was rejected, and the alternate hypothesis was accepted. The regression model, consisting of the five selected predictor variables, was statistically significant to predict academic perseverance as measured by a score on the Academic Perseverance Questionnaire.

Ho: There is no multiple correlation between five selected predictors (i.e., high-school GPA, freshman GPA, SAT math scores, SAT critical reading scores, and academic self-efficacy) and the outcome of academic perseverance of sophomore first-generation university male students.

Ha: There is a multiple correlation between five selected predictors (i.e., high-school GPA, freshman GPA, SAT math scores, SAT critical reading scores, and academic self-efficacy) and the outcome of academic perseverance of sophomore first-generation university male students.

Research Question

The following research question guided this study and was addressed statistically through analysis of data provided by the sample population: What is the multiple correlation between five selected predictors (i.e., high-school GPA, freshman GPA, SAT math scores, SAT critical reading scores, and academic self-efficacy) and the outcome of academic perseverance of sophomore first-generation university male students? Based on the data presented in this study, a multiple correlation exists between the predictor

variables and academic perseverance scores of first-generation sophomore university male students.

Qualitative Analysis

Response Rates

A series of optional open-ended questions were included in the survey. While the focus of this study was on quantitative analysis, the inclusion of these open-ended questions provided the opportunity to add to the results if the questions were answered by participants and if themes emerged from those responses. The optional questions appeared at the end of the electronic survey and consisted of the following: (1) What factors in your personal life have contributed to your academic perseverance?; (2) What institutional factors can be attributed to your academic perseverance?; and (3) At the institutional level, what feedback would you provide to enhance academic perseverance?

Of the students who participated in the study, 25 of the 53 participants (47%) responded to the first question, 26 of the 53 participants (49%) responded to the second question, and 19 of the 53 participants (36%) responded to the third question (Table 16).

Table 16
Response Rate of Optional Questions

	Frequency (N)	%
Question 1: What personal factors can be attributed to your academic perseverance?	25	47%
Question 2: What institutional factors can be attributed to your academic perseverance?	26	49%
Question 3: At the institutional level, what feedback would you provide to enhance academic perseverance?	19	36%
1 or more questions answered	26	49%

Frequency and content of responses were analyzed by the researcher to identify themes or common factors. The researcher analyzed each comment and through the means of color coding, categorized the factors into groups relevant to the question (e.g., role of family was highlighted with yellow, desire to be successful was highlighted in green, etc.), and each factor was tallied into the designated groups. Due to the nature of open-ended questions, multiple factors could appear in each response. Thus the count of factors could be more or less than the total number of participants who responded to each question (N = 25, 26, 19, respectively).

Emergent Themes

The first question addressed the personal factors that could be attributed to academic perseverance. Comments received by the participants reflected the following common personal factors: role of parents (commented on by 13 participants); the desire to be successful (commented on by 6 participants); role of non-familial individuals (i.e., friends, peers, and significant others) (commented on by 4 participants); role of self (commented on by 3 participants); role of siblings (commented on by 3 participants); financial security (commented on by 2 participants); and the role of religion (commented on by 1 participant) (Table 17).

The factors most commonly responded, i.e., role of parents, friends/peers/significant others, and general desire to be successful, support the research of first-generation students (Hsiao, 1992; Phinney & Haas, 2003). Research on first-generation students may support these findings in that these student populations readily depend on other factors for motivation and perseverance; often times these factors are external motivators instead of internal motivators which may become more evident with age. Moreover, while first-generation students do not typically have a history of family members with experience in higher education to provide academic support, the role of the family is often one of motivation and personal support. The role

of family is noted to be a strong factor in persistence and a predictor of postsecondary outcomes (Hahs-Vaughn, 2004; McCarrom & Inkelas, 2006).

Table 17

Qualitative Raw Comments by Respondents, Question 1 (N=25)

Optional Question #1: What factors in your personal life have contributed to your academic perseverance?

- My mom was always strict with me. She worked in the high-school and was always like that with students she worked with and her kids.
 - I want to be successful and I know that I need an education and degree to succeed in life.
 - My older siblings were role models for me. They are older, and all went on to college and to be successful.
 - I was always studious. It's hard to stay focused sometimes, but my parents and I have a good relationship and can talk about most things.
 - My parents did not finish high school or go on to college because they had to take care of the family and work. I saw them work hard all my life-even until this day. I want to make them proud.
 - Myself. Drive. Determination.
 - My parents worked very hard to give their kids what they needed and to teach us right.
 - I just knew I had to go to college to make something of myself. I didn't want to let my parents down.
 - My girlfriend has been by my side through a lot.
 - Family support. My sister went to college and helps me.
 - The personal support of my friends and family to strive to make a better life for me in the future.
 - I am still struggling in school. I have the motivation but can't seem to get it together.
 - I want to make money.
 - Family influences; peers and siblings going to college.
 - Wanting a better life, more financially stable, being educated.
 - My family expects me to finish college and they are the ones paying for it, so I feel somewhat obligated. Also, I have a hard time not finishing something I have started.
 - Parents.
 - My mother's success.
 - My liver transplant; my past surgeries; pain; more bad things than good things.
 - The belief in one's self.
 - First-generation immigrant; interested in medical field for personal reasons.
 - I usually do better when the people around me are dedicated to their work as well.
 - My family (hard working immigrants); being first generation has resulted in motivation; dedication and perseverance; my religion (Islam) teaches steadfastness and consistency.
 - Motivation of friends.
 - My mom and dad's constant "push" and my desire to be successful.
-

The second question addressed the institutional factors that could be attributed to academic perseverance. Comments received by participants reflected the following common institutional factors: role of professors (i.e., teaching quality, availability/office hours, approachable, and challenging) (commented on by 9 participants); resources/services at the institutional level (i.e., availability of courses, advising, clubs, and activities) (commented on by 8 participants); academic support (i.e., study groups, resources, and first-year support) (commented on by 7 participants); role of peer/classmates (commented on by 4 participants); financial aid/support (commented on by 2 participants); and high-school preparation (commented on by 2 participants) (Table 18).

The factors most commonly responded to, i.e., role of professors, institutional resources/services, and academic support, add credence to the research on the decision-making process of college selection for first-generation students. Research on this topic has suggested that first-generation students are more likely to attend public post-secondary institutions versus private ones (Hottinger & Rose, n.d.). This finding is supported by the research in which cost, availability of financial assistance/support, and personal income are important factors in determining which institution to attend (Hottinger & Rose, n.d.).

Table 18

Qualitative Raw Comments by Respondents, Question 2 (N=26)

Optional Question #2: What institutional factors can be attributed to your academic perseverance?

- Opportunities for support with classes and financial aid. Study groups.
- I can always find the classes I need, be it on this campus or another. There's really no excuse not to graduate or do well.
- Good professors and classmates who worked together to do well. My first year here I had a lot of support.
- Study groups available through class. Professor office hours/availability to ask questions before/after class.

- My professors have been good and have seemed to care. The first year here there was a lot of support and help to understand what to do, where to go, etc.
 - Good professors. Study options. Student services.
 - The friends that came to the same college as me. Also the new friends I made in my first year.
 - Keep up with students.
 - Don't know.
 - My counselors and my professors willing to work with me.
 - My teachers in high-school and college challenged me to do better.
 - I need help!
 - Friends going to same school.
 - Family upbringing; determination.
 - Easy to reach professors; classes have a format that makes it easier to study.
 - No major ones.
 - Grade forgiveness.
 - Scholarships.
 - Good professors.
 - I'm in an honor society, I'm in other clubs, I guess I never gave up and I have to fight to get where I need to.
 - Organization resources.
 - Easy access to administrators.
 - An institution with a lot to offer its students for educational and recreational outlets helps me to succeed because I feel more relaxed and prepared.
 - Solid high-school environment [specific high-school named], high quality high-school education, financial support, emotional backing, and academic confidence.
 - Willingness to compromise my own values to complete meaningless or demeaning tasks.
-

The third and final question requested feedback from the student regarding institutional factors that could be added to enhance academic perseverance. Comments received by participants reflected the following common recommendations (Table 19).

1. Enhanced and more personalized advising from both advisors and faculty members.
(Commented on by 5 participants)
2. Augment academic programs in order to foster a varied, challenging, and enjoyable learning environment (i.e., enhance curriculum, smaller class sizes, and faculty development).
(Commented on by 4 participants)

3. Working with and monitoring students at all levels (i.e., academic year) and academic standing (i.e., not solely students who are failing or dropping out). (Commented on by 2 participants)
4. Create a sense of community and belonging for students at the institution. (Commented on by 2 participants)
5. No changes recommended; good experiences at the institution. (Commented on by 2 people)

Some research that systematically examines the role of barriers, both existent through inherent structures of the educational system and perceived barriers related to efficacy and confidence, has contributed to best practices for fostering academic success (Luzzo & McWhirter, 2001). Along with recognition of the importance of high academic self-efficacy comes the necessity for interventions to facilitate and encourage the development of or increased levels of self-efficacy to promote success in higher education. The literature review presented in this paper should clearly present the justification for the research conducted in this study. A review of the literature continuously suggests that policy makers and researchers must concern themselves with the educational achievement of male first-generation students and gear policy initiatives to attend to the needs of this student population for better achievement in higher education and for future success in the workforce for both the individual student and for the economic stability of the country.

While this third optional open-ended question resulted in the fewest responses, 36%, the recommendations made by students are significant to this study in terms of the implications for the institution, policy considerations, and ultimately future research. Further discussion on these areas will be addressed in the following chapter.

Table 19

Qualitative Raw Comments by Respondents, Question 3 (N=19)

Optional Question #3: At the institutional level, what feedback would you provide to enhance academic perseverance?

- Not too much. I have had a good experience so far.
 - Work with students at all levels.
 - I think things are good. I guess always can be better but nothing to complain about.
 - Don't know.
 - Maybe just doing more to make students feel they are a part of the university. It's hard when you don't know a lot of people or know what to do or not do.
 - Sense of community.
 - Monitor students who don't necessarily have the high grades but are not failing either.
 - A one-on-one relationship with teachers helps so you are not scared to ask for help.
 - Guidance from counselors and/or teachers would be helpful but I know I need to ask for help.
 - Teachers paying more attention to students.
 - Support services.
 - Making grade forgiveness, and even more importantly the option to drop courses, more well-known to freshman might cut back on the incoming students who bomb the first semester.
 - Get rid of dry, boring teachers.
 - In some courses I learned more by teaching myself than listening in class.
 - Trying to do newer things and doing better at those you already do. Trying to get help in deficiency areas, including things in your life.
 - Adequate resources.
 - Better advisors. The ones at [institution name] SUCK.
 - More variety and/or meaningfulness of curriculum.
 - Smaller class size, creating a fun learning environment that fosters the desire to learn more.
-

Summary

Data analysis determined that there was a significant correlation among first-generation sophomore male students' academic perseverance and academic self-efficacy, high-school GPA, freshman GPA, SAT math scores, and SAT critical reading scores. The data also showed that while the regression model was significant, only one predictor, academic self-efficacy, contributed significantly to the model. Additionally, while not core to this study, the results from the qualitative portion provided insights to the factors that have contributed to the academic

perseverance of participants on both a personal and institutional level. The optional, open-ended questions answered by approximately half of the sample population were significant to this study in terms of the implications for the institution, policy considerations, and ultimately future research. Ultimately, based on the results, the null hypothesis was rejected. The implications of these results, limitations and generalizability of the study, and suggestions for future research will be discussed in the following chapter.

CHAPTER V

DISCUSSION

The theoretical framework on which this study was based is Bandura's (1986) Social Cognitive Theory. This theory suggests that human achievement is dependent on the interaction between one's behaviors, personal thoughts and beliefs, and environmental conditions (Bandura). According to Bandura (1997), self-efficacy beliefs provide the foundation for human motivation, well-being, and personal accomplishment because unless people believe that their actions can produce the outcomes they desire, then they have little incentive to act or to persevere in the face of difficulties. Bandura's Social Cognitive Theory links students' self-efficacy and motivation in an academic environment. The research literature suggests that self-efficacy is a strong predictor of performance in an academic setting (Pajares, 1996). According to Bandura (1986), self-efficacy plays a significant role in academic attainment. Academic self-efficacy has been consistently shown to predict grades, perseverance, and persistence in college (Bandura; Lane & Lane, 2001; Owen & Froman, 1988)

Prior persistence studies have revealed the importance of including a range of variables as they relate to the persistence or perseverance of college students (Lohfink & Paulsen, 2005; VanBlerkom, 1996). Variables such as background characteristics, pre-college achievement variables, academic, social and financial reasoning for the selection of an educational institution, institutional characteristics, and in-college experience variables have been explored in the research of persistence within the population of college students (Lohfink & Paulsen). Patterns of postsecondary participation and completion run parallel with the variables identified to be factors for persistence, noting test scores and family background, yet also highlighting the increasing

pattern of male students demonstrating relatively lower participation levels in higher education (Baum & Ma, 2007).

Based on the literature review, this study tested the null hypothesis which speculated that there was no multiple correlation between five selected predictors (i.e., high-school GPA, freshman GPA, SAT math scores, SAT critical reading scores, and academic self-efficacy) and the outcome of academic perseverance of sophomore first-generation university male students.

Ho: There is no multiple correlation between five selected predictors (i.e., high-school GPA, freshman GPA, SAT math scores, SAT critical reading scores, and academic self-efficacy) and the outcome of academic perseverance of sophomore first-generation university male students.

Based on the previous chapter and the literature discussed in Chapter II, this chapter will represent a summary of the results. It will also provide implications for current practice, recognize the limitations of this study, and make recommendations for future research.

Summary of Findings

This study set out to examine the correlation between academic perseverance, the dependent variable, and five predictor variables (i.e., high-school GPA, freshman GPA, SAT math scores, SAT critical reading scores, and academic self-efficacy) of sophomore first-generation university male students. A total of 53 responses were received from the original sample population of 485 sophomore first-generation male students for an overall response rate of 11%. The use of multiple regression analysis calls for a minimum of 10 participants per variable identified in the study (10 x 5 variables), thus a sample size of a minimum of 50 participants which was appropriate for this study was achieved.

Through the completion of an electronic survey, a mean score on the Academic Perseverance Questionnaire was calculated for each participant. The independent variables of academic self-efficacy, as measured on the College Academic Self-Efficacy Scale (CASES), high-school GPA, freshman GPA, SAT critical reading scores, and SAT math scores were analyzed to determine if these variables could predict academic perseverance. Desired statistical procedures were conducted and analyzed using the Statistical Package for the Social Sciences (SPSS) 16.0 software.

Correlation Matrix

A correlation matrix was used to determine if the predictor variables of academic self-efficacy, high-school GPA, freshman GPA, SAT critical reading scores, and SAT math scores were correlated and to assess the extent of multicollinearity (Munro, 2001; Pedhazur, 1982). A Pearson's r correlation coefficient table (Table 12) was used in analysis of the correlation matrix to determine if relationships among the five variables were non-existent, small, medium, or large with ranges that determined the strength of the relationship (Pallant, 2001).

The analyses indicated that only one of the five predictor variables, academic self-efficacy, contributed significantly to the regression equation ($r = -.391, p < .05$). The remaining four predictors were found to have a small or no relationship to the dependent variable. The correlation between high-school GPA and academic perseverance resulted in no correlation ($r = .039, p = .780$). The correlation between freshman GPA and academic perseverance resulted in no correlation ($r = -.004, p = .979$). The correlation between SAT critical reading scores and academic perseverance resulted in no correlation ($r = -.035, p = .803$). Lastly, the correlation between SAT math scores and academic perseverance resulted in a small negative correlation ($r = -.256, p = .064$).

Multiple Regression

A multiple regression analysis was performed to evaluate how well all the predictor variables of academic self-efficacy, high-school GPA, freshman GPA, SAT critical reading scores, and SAT math scores predicted academic perseverance scores (Tables 13, 14, 15). The combination of the selected five predictors were found to be significantly related to academic perseverance scores, $F(5,44) = 3.135, p < .05$. Based on the R square value (.250), this regression model accounted for 25% of the variance in academic perseverance, while leaving 75% residual variability.

It must be emphasized, however, that even though the data analysis indicated a statistically significant regression equation, only one of the five predictors contributed significantly to the regression equation. Specifically, a significant relationship was found between academic perseverance and academic self-efficacy at an alpha level of .05. However, none of the other predictor variables (i.e., high-school GPA, freshman GPA, SAT critical reading scores, and SAT math scores) had a significant relationship with academic perseverance at an alpha level of .05. Furthermore, the regression equation while statistically significant, only accounted for 25% of the variance in academic perseverance.

Qualitative Analysis Summary

While not all participants responded to the optional open-ended questions included in the survey, approximately 49% of the sample population yielded much qualitative information. The qualitative findings resulted in intriguing emergent themes and added to the overall findings of this study regarding academic perseverance of first-generation university male students. The question most readily responded to inquired as to the institutional factors which attributed to academic perseverance.

Institutional factors which attributed to participants' sense of academic perseverance included the role of professors (i.e., teaching quality, office hours/availability, and approachability) and the resources available at the institution (i.e., course availability, advising, clubs, and activities). Interestingly, financial aid was only commented on by two participants. In the research, traditionally, first-generation students are characterized as being of low socio-economic standing, with finances being of major concern for first-generation students and their families. Further, the role of high-school preparation was also seldom responded to, supporting the quantitative finding that there was no significant relationship between high-school GPA and academic perseverance in this study.

Personal factors which attributed to participants' sense of academic perseverance included the role of family, non-familial individuals (i.e., friends, peers and significant others), and the desire to be successful. These factors support the research on first-generation students in that a dependence on external motivators versus internal ones is more readily relied upon (Hsiao, 1992; Phinney & Haas, 2003). The role of family is noted to be a strong factor in persistence and a predictor of postsecondary outcomes (Hahs-Vaughn, 2004; McCarrom & Inkelas, 2006). Finally, recommendations made by participants favored a request for enhanced and more personalized advising and augmented academic programs which foster a challenging and varied learning environment.

Based on the results, the null hypothesis set forth for this study was rejected, and the alternative hypothesis was accepted. The regression model, which consisted of the five selected predictor variables, was statistically significant to predict academic perseverance as measured as a mean score calculated on the Academic Perseverance Questionnaire.

Implications

The population for this study was comprised of students who met the characteristics of being a first-generation male student enrolled in their sophomore year of a four-year university. When conducting a study with students who are no longer in the immediate transition pipeline from high-school (i.e., the population has at least one year of experience and exposure in the post-secondary education environment), the predictive nature of four of the five selected variables, i.e., high-school GPA, freshman GPA, and SAT critical reading scores, and SAT math scores, were found through data analysis to be weak predictors of academic perseverance. The significant relationship between academic self-efficacy and academic perseverance, however, is supported by the literature, emphasizing the importance of academic perseverance in relation to self-efficacy (Burnett & Proctor, 2002; Pajares, 1997).

Students with a strong sense of confidence in their academic abilities may perceive themselves as being more in control of their own learning (Skinner, 1995) and, in turn, may seem better prepared to set goals for themselves, persevere toward those goals, and monitor or check their comprehension as they go through different tasks in order to reach those goals. Moreover, given that the dependent variable of this study, academic perseverance, is a hypothetical construct (i.e., an explanatory variable which is not directly observable), it is not surprising that the only predictor found to significantly correlate with the dependent variable was academic self-efficacy, which is also a hypothetical construct (Willis, Jost, & Nilakanta, 2007).

In addition, academic perseverance is found to be largely dependent on the students' experiences following entry into college, e.g., the academic experience itself, separation from family, independence, and personal relationships developed. Another part of the perseverance factor is access to educational opportunities (Tinto, 2002) which is often impacted by academic

preparation at the secondary level, e.g., rigorous coursework, test preparation, and grade-point-average. According to the literature, expectation, advice, support, involvement, and learning are the conditions cited as being supportive of persistence in higher education (Tinto). Institutions which foster environments of high expectations send a message that student success is the norm for that institution.

Limitations

The results of this quantitative research study presented several limitations:

1. The study was accurate only to the extent that the participants responded to the electronic survey with honest and accurate responses. This study depended on the participants' self-reported responses which may have been subject to human error and bias.
2. The sample should be increased to achieve more consistent results for the predictor variables. The sample population for this study consisted of sophomore first-generation university male students at a four-year degree granting state university in the southeastern region of the United States. A total of 53 students anonymously participated in the survey with 100% of the surveys fully completed (excluding the optional open-ended questions).
3. The study did not account for length of transition time between high-school graduation and college enrollment of each participant. The amount of time between completion of high-school and when the student entered college may possibly impact the participants' responses to survey items.
4. The degree of generalizability of the study is in question. With only an 11% response rate, generalization to the larger population of first-generation male students may be limited, particularly at other higher education institutions of varying student

characteristics. Since this study utilized a nonrandom convenience sample, generalization to other student populations may not be possible.

5. The scope of the study was focused on quantitative analysis, with an optional secondary emphasis on qualitative questions posed to participants. Particularly in light of the small response rate, the study could have benefited from a mixed-methods approach which could have revealed more about the predictor variables and correlations with the dependent variable.

Despite these limitations, this study was a contribution to the research on first-generation males and academic perseverance of this student population. This study offered a different framework for future studies looking at first-generation males in more of a general context, as opposed to research conducted specific to ethnic groups.

Recommendations for Future Studies

Based on limitations detailed above, analysis of the data suggests several areas for further empirical exploration, as well as suggested improvements on similar future research.

1. Increase the sample population to include first-generation males of all academic classifications (i.e., freshman, sophomore, junior, senior, graduate level).
2. Increase the sample population to include first-generation males from various types of institutions (i.e., 2-year and 4-year private).
3. Narrow the sample population to include students who followed the traditional college-going path, i.e., entrance into college immediately following graduation from high-school.
4. Expand the focus of future studies to include additional constructs of perseverance and self-efficacy. While the College Academic Self-Efficacy Scale (CASES) was utilized in this study based on its strong reliability and validity, specifically in terms of factorial validity,

and because it was different from most academic self-efficacy instruments, future research should also investigate efficacy specific to academic disciplines (i.e., math, English, and science).

5. Examine current research to identify possible relationships between academic perseverance and other variables, e.g., personality styles, financial factors, culture of institution, and institution type.
6. Explore factors which may contribute to the change in academic perseverance and/or self-efficacy scores at different age levels.
7. This study should be altered and structured to conduct a mixed-methods analysis, as well as a qualitative study. This was a quantitative study with a minor qualitative component intended to supplement the findings. Hence, given that a full qualitative was not employed, further examination of survey responses could be conducted.

Conclusions

Perception of academic self-efficacy appears to be a stronger predictor of academic perseverance than that of GPA and SAT scores. Higher academic perseverance scores of university-level students may be more associated with experiences in the higher education environment, as opposed to factors related to the transition into post-secondary education (i.e., GPA and college entrance scores). The results of both the Academic Perseverance Questionnaire and the College Academic Self-Efficacy Scale resulted in mean scores of 3.1 and 3.3 respectively. For the Academic Perseverance Questionnaire, behaviors related to perseverance were rated using a Likert-type scale; a mean score of 3.1 indicated that on the average participants found that the behaviors related to perseverance described their own behaviors half of the time. For the College Academic Self-Efficacy Scale (CASES), confidence in one's ability

to complete the list of behaviors associated with college success was also rated using a Likert-type scale; a mean score of 3.34 indicated that on the average participants were moderately confident in their ability to complete the list of behaviors associated with college success.

Although the predictive value of grade point average and college entrance scores are noted consistently in the literature, the results of this study do not support that notion. Thus, the academic perseverance of first-generation male students must be associated with other factors associated with variables which may cause this student population from persisting through to graduation. The one predictor to establish significance with academic perseverance, academic self-efficacy, should continue to be explored and combined with other variables (e.g., transition time between secondary and post-secondary education, age, college major).

The qualitative findings resulted in emergent themes and have broadened our understanding of the factors affecting the academic perseverance of first-generation university male students. From a personal perspective, participants' responses revealed the role of family, non-familial individuals (i.e., friends, peers and significant others), and the desire to be successful as some of the factors most highly reported to have contributed to academic perseverance. Institutional factors which contributed to the participants' sense of academic perseverance included the role of professors in terms of teaching quality, availability and approachability, as well as available resources (i.e., course availability, advising, clubs and activities). With thought and consideration given to the comments and recommendations put forth by participants, institutions can make changes that can make a positive impact on students and, ultimately, create an educational environment that fosters the opportunity for all students to persevere in higher education.

The literature review revealed that underrepresented student populations at the postsecondary level (i.e., first-generation students, ethnic minorities, low-income students, gender-specific) are disproportionately overrepresented relative to participation and attendance in higher education (Engle, 2007; Spellings, 2006), particularly males and first-generation students. Research addressing general inequities in educational opportunities, levels of postsecondary knowledge, postsecondary experiences, and outcomes for first-generation students has been extensively conducted (Baum & Ma, 2007; Billson & Terry, 1982; Hicks, 2002; Pascarella, Pierson, Wolniak, & Terenzini, 2004) and must continue to be explored through consideration of other variables not addressed in this study.

Over the past several decades the decline of males in the educational pipeline has been progressively increasing. This decline has been brought to the forefront as a major concern for education, often referred to as the “boy crisis” (King, 2006; Mortenson, 2008). While some research asserts that the pendulum is now swinging in favor of females and not necessarily at the expense of males (Corbett, Hill, & St. Rose, 2008), the last several decades has steered the educational focus on raising the educational and career aspirations, achievement, and attainment of girls, without a watchful concern of the effects on boys (Mortenson, 2008). Additional factors (e.g., socioeconomic status, support system, high-school rigor, access) can further perpetuate the entrance to and successful completion of post-secondary education. Creating an educational system for males and females alike will require rethinking of what the entire educational structure of the higher education system as a whole, but also at the institution level. Institutions must assess and address the underlying policies, mindsets, support programs and services in place and how that system is translated for males and females. Use of previous and current

research is essential to continue the work towards addressing educational inequalities persistent in the system.

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APPENDICES

Appendix A

Cover Letter

Dear Research Participant:

Your participation in a research project is requested. The title of the study is “Selected Predictors of Academic Perseverance of Sophomore First-Generation University Male Students”.

The research is being conducted by Valeria Garcia, a student in the Leadership and Education department at Barry University, and is seeking information that will be useful in the field of higher education. The aim of this quantitative predictive study will be to assess the impact of high school GPA, freshman GPA, SAT Math scores, SAT Critical Reading scores, and academic self-efficacy, and the outcome, students’ academic perseverance from freshman to sophomore year in college.

In accordance with this aim, the following procedures will be used: first-generation male students enrolled in their sophomore year in college will be asked to voluntarily participate in a web-based survey utilizing the survey platform, SurveyMonkey™, and to allow the web-survey administrator to anonymously release the survey results coupled with the individual’s self-reported information on the survey to the researcher. I anticipate the number of participants to be 100.

If you decide to participate in this research, you will be asked to do the following: participate in a web-based survey and allow the survey results paired with the information you self-report in the introduction of the survey to be anonymously released to the researcher.

While there are several items to this survey, the entire survey should take, on average, approximately fifteen-minutes of your time. At the completion of the survey, please be sure to hit the “done” button to submit your responses.

Your consent to be a research participant is strictly voluntary and should you decline to participate or should you choose to drop out at any time during the study, there will be no adverse effects on your standing as a student. The final dissertation product derived from this study will only report the overall statistics related to participant responses and the participating university will not be named thereby offering anonymity to you, your responses, and your institution.

This is an anonymous study. There are no known risks to your involvement in this study. Although there may be no direct benefits to you, your participation in this study will help our understanding of predictors of academic perseverance for first-generation male students and applications of future educational researchers.

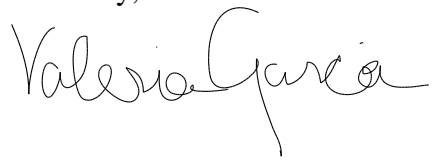
As a research participant, information you provide will be kept anonymous, that is, no names or other identifiers will be collected on any of the instruments used. Data will be kept in a locked file in the researcher's office. All electronic media will be securely stored for five years and then permanently destroyed. By completing and electronically completing this survey you have shown your agreement to participate in the study.

If you have any questions or concerns regarding the study or your participation in the study, you may contact me, Valeria Garcia, at (813) 404-2112, my supervisor, Dr. Patrick Gaffney, at (305) 899-4022, or the Institutional Review Board point of contact, Ms. Barbara Cook, at (305) 899-3020.

If you are satisfied with the information provided and are willing to participate in this research, please acknowledge your agreement to participate in this study by proceeding to the survey website via the link included in this e-mail message. Your completed responses to the survey and the submission of those responses via the web will serve as your voluntary consent to participate. A copy of this agreement should be maintained for your files.

Thank you for your participation.

Sincerely,

A handwritten signature in black ink that reads "Valeria Garcia". The signature is written in a cursive style with a large, prominent "V" and "G".

Valeria Garcia, MPA
Ph.D. candidate

Appendix B Electronic Survey

http://surveymonkey.com - [SURVEY PREVIEW MODE] Academic Perseverance - Mozilla Firefox

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Academic Perseverance Exit this survey

1. Overview

Dear Research Participant:

Thank you for voluntarily participating in this web-based survey.

Your truthful responses to this survey will add important value to this study which aims to assess the impact of selected predictors (i.e., high-school GPA, freshman GPA, SAT math scores, SAT critical reading scores, and academic self-efficacy) and the outcome, students' academic perseverance from freshman to sophomore year in college.

While there are several items to this survey, the entire survey should take approximately fifteen-minutes of your time (on average). At the completion of the survey, please be sure to hit the "done" button to submit your responses.

As a reminder, this is an anonymous study. Please be assured that as a research participant, information you provide will be kept anonymous.

I am extremely pleased and excited that you have chosen to participate in this research study.

Sincerely,

Valeria Garcia, MPA
Ph.D. Candidate

*** 1. Please indicate the highest level of your parent's or legal guardian's educational background.**

	No	Some	Diploma/Degree Earned
Father: High School	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Father: College	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mother: High School	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mother: College	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*** 2. What was your high-school Grade Point Average (GPA)? For example, 1.5, 3.7, 2.0.**

Done

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2. Academic Perseverance Questionnaire

*** 6. For each of the following statements, select a statement/number (1, 2, 3, 4, or 5) that best represents your past or present behavior.**

	1--This is not at all descriptive of me.	2--This describes my behavior on rare occasions.	3--This describes my behavior about half of the time.	4--This describes my typical behavior.	5--This is extremely descriptive of me.
1. Once I start a project, I am highly motivated and work continuously on it until it is completed.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. I have a severe problem with procrastination (putting things off).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. In high school I was very diligent about completing my homework; my work was always completed.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. At home, I was always very good about completing chores without delay.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. I can remember times in my life when I never seemed to be able to complete tasks that I started.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. The most difficult thing for me is getting started on a project. Once I start, I find it relatively easy to complete.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. In college, I always make it a habit of reading text assignments before class.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Although I get started on a project relatively quickly, my real problem is finishing the work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. If given a choice between working on a project or watching television, I often choose to watch television.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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Academic Perseverance [Exit this survey](#)

3. Academic Self-Efficacy Questionnaire

Your responses to this questionnaire are strictly confidential and will not be shown to others.

*** 7. How much confidence do you have about doing each of the behaviors listed below?**

On a scale from 1 to 5 in which "1" means having VERY LITTLE CONFIDENCE and "5" means having QUITE A LOT OF CONFIDENCE, please select the number that best represents your confidence in each item.

	1--Very Little Confidence	2--Little Confidence	3--Semi-Confident	4--A lot of Confidence	5--Quite a lot of Confidence
1. Taking well-organized notes during a lecture.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Participating in a class discussion.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Answering a question in a large class.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Answering a question in a small class.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Taking "objective" tests (multiple-choice, T-F, matching)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Taking essay tests.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. Writing a high quality term paper.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Listening carefully during a lecture on a difficult topic.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Tutoring another student.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. Explaining a concept to another student.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. Asking a professor in class to review a concept you don't understand.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. Earning good marks in most courses.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. Studying enough to understand	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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Academic Perseverance [Exit this survey](#)

4. Additional Questions

Your responses to these few additional questions will add important value to this study. Thank you for your time.

8. What factors in your personal life have contributed to your academic perseverance?

9. What institutional factors can be attributed to your academic perseverance?

10. At the institutional level, what feedback would you provide to enhance academic perseverance?

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Appendix C

Academic Perseverance Questionnaire

Directions: For each of the following statements, circle a number (1, 2, 3, 4, or 5) that best represents your past or present behavior.

- 1 – This is not at all descriptive of me.
- 2 – This describes my behavior on rare occasions.
- 3 – This describes my behavior about half of the time.
- 4 – This describes my typical behavior.
- 5 – This is extremely descriptive of me.

- | | | | | | |
|--|---|---|---|---|---|
| 1. Once I start a project, I am highly motivated and work continuously on it until it is completed. | 1 | 2 | 3 | 4 | 5 |
| 2. I have a severe problem with procrastination (putting things off). | 1 | 2 | 3 | 4 | 5 |
| 3. In high school I was very diligent about completing my homework; my work was always completed. | 1 | 2 | 3 | 4 | 5 |
| 4. At home, I was always very good about completing chores without delay. | 1 | 2 | 3 | 4 | 5 |
| 5. I can remember times in my life when I never seemed to be able to complete tasks that I started. | 1 | 2 | 3 | 4 | 5 |
| 6. The most difficult thing for me is getting started on a project. Once I start, I find it relatively easy to complete. | 1 | 2 | 3 | 4 | 5 |
| 7. In college, I always make it a habit of reading text assignments before class. | 1 | 2 | 3 | 4 | 5 |
| 8. Although I get started on a project relatively quickly, my real problem is finishing the work. | 1 | 2 | 3 | 4 | 5 |
| 9. If given a choice between working on a project or watching television, I often choose to watch television. | 1 | 2 | 3 | 4 | 5 |
| 10. When I have a project to complete, I often remember other projects, chores, tasks, etc. that seem more important. | 1 | 2 | 3 | 4 | 5 |

11. I consider myself a highly organized person. 1 2 3 4 5
12. I find it very easy to motivate myself to complete a task. 1 2 3 4 5
13. Although I have a good history at completing tasks, I have to work hard at staying motivated. 1 2 3 4 5
14. I tend to cram for exams. 1 2 3 4 5
15. When preparing for exams, I typically spread out my studying over several days. 1 2 3 4 5
16. When a term project is assigned, I begin working on it soon after the assignment is made. 1 2 3 4 5
17. I usually start term assignments a week or two before they are due. 1 2 3 4 5
18. I tend to think of myself as lazy. 1 2 3 4 5
19. I can work hard on reasonable assignments, but I tend to procrastinate when I think that the instructor expects too much from me. 1 2 3 4 5
20. I could complete assignments much more easily if I didn't have so many other important things going on in my life. 1 2 3 4 5
21. I have difficulty setting priorities, deciding what needs to be accomplished first. 1 2 3 4 5

Appendix D

College Academic Self-Efficacy Scale (CASES)

DIRECTIONS. Your responses are strictly confidential and will not be shown to others. Do not sign your name. We hope you will answer each item, but there are no penalties for omitting an item.

How much confidence do you have about doing each of the behaviors listed below?

Circle the number that best represents your confidence in each item.



- | Very
Little | 1 | 2 | 3 | 4 | 5 | Quite
A Lot |
|----------------|---|---|---|---|-----|---|
| 1 | 2 | 3 | 4 | 5 | 1. | Taking well-organized notes during a lecture. |
| 1 | 2 | 3 | 4 | 5 | 2. | Participating in a class discussion. |
| 1 | 2 | 3 | 4 | 5 | 3. | Answering a question in a large class. |
| 1 | 2 | 3 | 4 | 5 | 4. | Answering a question in a small class. |
| 1 | 2 | 3 | 4 | 5 | 5. | Taking "objective" tests (multiple-choice, T-F, matching) |
| 1 | 2 | 3 | 4 | 5 | 6. | Taking essay tests. |
| 1 | 2 | 3 | 4 | 5 | 7. | Writing a high quality term paper. |
| 1 | 2 | 3 | 4 | 5 | 8. | Listening carefully during a lecture on a difficult topic. |
| 1 | 2 | 3 | 4 | 5 | 9. | Tutoring another student. |
| 1 | 2 | 3 | 4 | 5 | 10. | Explaining a concept to another student. |
| 1 | 2 | 3 | 4 | 5 | 11. | Asking a professor in class to review a concept you don't understand. |
| 1 | 2 | 3 | 4 | 5 | 12. | Earning good marks in most courses. |
| 1 | 2 | 3 | 4 | 5 | 13. | Studying enough to understand content thoroughly. |
| 1 | 2 | 3 | 4 | 5 | 14. | Running for student government office. |
| 1 | 2 | 3 | 4 | 5 | 15. | Participating in extracurricular events (sports, clubs). |
| 1 | 2 | 3 | 4 | 5 | 16. | Making professors respect you. |
| 1 | 2 | 3 | 4 | 5 | 17. | Attending class regularly. |
| 1 | 2 | 3 | 4 | 5 | 18. | Attending class consistently in a dull course. |
| 1 | 2 | 3 | 4 | 5 | 19. | Making a professor think you're paying attention in class. |
| 1 | 2 | 3 | 4 | 5 | 20. | Understanding most ideas you read in your texts. |
| 1 | 2 | 3 | 4 | 5 | 21. | Understanding most ideas presented in class. |
| 1 | 2 | 3 | 4 | 5 | 22. | Performing simple math computations. |
| 1 | 2 | 3 | 4 | 5 | 23. | Using a computer. |
| 1 | 2 | 3 | 4 | 5 | 24. | Mastering most content in a math course. |
| 1 | 2 | 3 | 4 | 5 | 25. | Talking to a professor privately to get to know him or her. |
| 1 | 2 | 3 | 4 | 5 | 26. | Relating course content to material in other courses. |
| 1 | 2 | 3 | 4 | 5 | 27. | Challenging a professor's opinion in class. |
| 1 | 2 | 3 | 4 | 5 | 28. | Applying lecture content to a laboratory session. |
| 1 | 2 | 3 | 4 | 5 | 29. | Making good use of the library. |
| 1 | 2 | 3 | 4 | 5 | 30. | Getting good grades. |
| 1 | 2 | 3 | 4 | 5 | 31. | Spreading out studying instead of cramming. |
| 1 | 2 | 3 | 4 | 5 | 32. | Understanding difficult passages in textbooks. |
| 1 | 2 | 3 | 4 | 5 | 33. | Mastering content in a course you're not interested in. |

Thank you for your help!

Appendix E

Instrument Permission: College Academic Self-Efficacy Scale

Valeria Garcia, MPA
Office of Decision Support
University of South Florida
4202 E. Fowler Ave., ADM241
Tampa, FL 33620

1 April 2008

Dear Valeria,

Thank you for your inquiry about the College Academic Self-Efficacy Scale (CASES). Your student is certainly welcome to use CASES. I've attached a copy of the scale. Here are a few summary points about the scale.

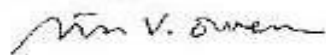
Items are scored as A ("quite a lot") = 5...E ("very little") = 1. On the other hand, because we read from right to left, data entry is faster letting A = 1, and E = 5. If you enter data with A = 1, then let the computer recode the values so that A becomes 5, B becomes 4, etc.
In calculating an overall CASES score, we prefer calculating a mean rather than a sum.

You may wish to modify questionnaire instructions to best fit your application. For example, if you need informed consent, you might say something like "Filling out this questionnaire is completely voluntary and confidential. There are no penalties for not participating, and you may quit at any time."

The next page shows the CASES items. Following that is a conversation about scoring CASES, plus some normative data.

Best wishes in your research.

Sincerely,



Steven V. Owen, Professor (retired)
Department of Epidemiology & Biostatistics
University of Texas Health Science Center at San Antonio
7703 Floyd Curl Dr., MC 7802
San Antonio, TX 78229-3900

Ph: 210-567-5866
Fax: 210-567-6305
Internet: OwenSV@uthscsa.edu

Attachments:

From: Owen, Steven V [OwenSV@uthscsa.edu]

Sent: Wed 5/14/2008 9:27 AM

To: Garcia, Valeria (Provost Office)

Cc:

Subject: RE: College Academic Self-Efficacy Scale

[View As Web Page](#)

Greetings, Valeria.

I have no problem at all extending CASES permission to an electronic format. Certainly it is the modern way to collect data.

Best wishes in your project.

steve

=====
Steven V. Owen, University Emeritus Professor
University of Connecticut

14002 Sage Bluff
San Antonio, TX 78216

-----Original Message-----

From: Garcia, Valeria (Provost Office) [<mailto:vgarcia@acad.usf.edu>]

Sent: Wed 14-May-08 8:16 AM

To: Owen, Steven V

Subject: RE: College Academic Self-Efficacy Scale

Dr. Owen,

Good morning. Thank you again for previously responding with your approval for me to use the CASES.

I do have one additional request specific to how the instrument is administered to the study participants. I plan on using a web-based survey platform, SurveyMonkey (TM), for my study and want to ask if the permission you have given me includes me being able to upload the instrument to this survey platform for use in my study?

I hope all is well and look forward to hearing back from you soon.

Take care,

Valeria Garcia

Appendix F

Instrument Permission: Academic Perseverance Questionnaire

From: Malcolm Van Blerkom [mlv2+@pitt.edu]
Sent: Wednesday, April 02, 2008 2:40 PM
To: Garcia, Valeria (Provost Office)
Subject: Re: Academic Perseverance Questionnaire

You have my permission to use that questionnaire. Please let me know if there is anything that you need.

Dr. Van Blerkom

Malcolm L. Van Blerkom, Ph.D.
Associate Professor of Educational Psychology
149 Biddle Hall
University of Pittsburgh at Johnstown
450 Schoolhouse Road
Johnstown, PA 15904-2990
(814) 269-7015

Garcia, Valeria (Provost Office) wrote:

>
> Good afternoon Dr. Van Blerkom,
>
> My name is Valeria Garcia and I am a graduate student in the School of
> Education, Higher Education Administration program at Barry
> University. I am currently in the process of writing my doctoral
> dissertation, "Selected Predictors of Academic Perseverance of
> Sophomore First-Generation University Male Students". I've encountered
> your instrument through my research in preparation for my study. I am
> writing to you today to inquire as to the possibility of me utilizing
> the Academic Perseverance Questionnaire instrument for my study.
>
> Thank you in advance for your consideration and time.
>
> I look forward to hearing back from you.
>
> Valeria Garcia
>>

From: [Malcolm Van Blerkom \[mlv2+@pitt.edu\]](mailto:mlv2+@pitt.edu)

Sent: Wed 5/14/2008 10:32 AM

To: [Garcia, Valeria \(Provost Office\)](#)

Cc:

Subject: Re: Academic Perseverance Questionnaire

Attachments:

[View As Web Page](#)

That will be fine!

Good luck with your study!

M.L. Van Blerkom

Garcia, Valeria (Provost Office) wrote:

>

> Dr. Van Blerkom,

>

> Good morning. Thank you again for previously responding with your approval to use the Academic Perseverance Questionnaire.

>

> I do have one additional request specific to how the instrument is administered to the study participants. I plan on using a web-based survey platform, SurveyMonkey (TM), for my study and want to ask if the permission you have given me includes me being able to upload the instrument to this survey platform for use in my study?

>

> I hope all is well and look forward to hearing back from you soon.

>

> Take care,

>

> Valeria Garcia

Appendix G

Participant Raw Data: Academic Perseverance Score and Predictor Variable Data

Respondent	High-School GPA	Freshman GPA	SAT Math Score	SAT Critical Reading Score	CASES Mean Score	Academic Perseverance Mean Score
1	4.40	3.30	550	600	4	3
2	3.50	2.69	560	590	4	3
3	3.00	2.80	440	560	3	4
4	2.40	3.90	800	800	3	3
5	4.00	4.00	630	730	4	3
6	3.50	3.40	530	540	3	3
7	3.47	3.50	570	540	3	4
8	3.80	3.50	730	680	4	3
9	3.50	3.80	550	550	5	2
10	3.80	3.00	620	710	3	3
11	4.00	3.30	440	400	1	4
12	3.10	3.70	550	460	4	3
13	3.40	2.75	650	450	3	4
14	3.80	.75	680	720	3	3
15	2.80	3.20	540	400	3	3
16	3.00	3.10	500	520	3	3
17	4.00	3.80	570	800	4	3
18	4.40	3.70	600	700	4	3
19	2.20	3.30	520	500	3	3
20	2.75	3.34	510	500	3	4
21	3.70	3.20	560	520	3	3
22	2.90	3.40	490	520	2	3
23	4.00	2.90	500	720	5	2
24	2.10	2.76	520	490	3	3

Respondent	High-School GPA	Freshman GPA	SAT Math Score	SAT Critical Reading Score	CASES Mean Score	Academic Perseverance Mean Score
25	3.25	3.30	530	520	4	4
26	2.40	3.90	800	800	3	3
27	3.00	3.12	600	580	3	3
28	2.80	3.00	520	510	3	3
29	1.30	2.00	510	480	3	3
30	2.00	2.50	480	530	3	3
31	3.40	3.30	530	540	3	4
32	2.59	3.32	500	500	3	2
33	2.90	3.40	520	510	3	3
34	3.40	3.00	520	530	3	4
35	2.30	3.10	490	525	3	3
36	3.90	3.60	580	510	4	3
37	3.90	3.21	480	500	3	3
38	3.85	3.20	600	570	4	3
39	2.00	2.40	500	500	3	3
40	3.33	3.00	520	520	4	3
41	1.50	2.75	540	550	3	3
42	3.40	3.00	450	500	3	3
43	2.10	3.30	500	520	3	3
44	2.80	2.75	500	530	3	3
45	3.50	3.60	600	580	4	3
46	3.20	2.75	540	520	2	3
47	3.30	3.50	530	550	4	3
48	3.80	3.20	600	620	5	3
49	4.00	3.75	610	590	4	3
50	2.65	3.20	500	530	3	4
51	2.00	2.20	520	510	3	3

Respondent	High-School GPA	Freshman GPA	SAT Math Score	SAT Critical Reading Score	CASES Mean Score	Academic Perseverance Mean Score
52	1.50	2.50	500	480	3	3
53	3.00	3.75	600	640	4	3
Summary Statistics						
N	53	53	53	53	53	53
Mean	3.1	3.2	552	561	3	3
Std. Dev.	.763	.553	76	94	.450	.732