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SELF-EFFICACY AND FIRST-GENERATION STUDENTS IN A
PHYSICIAN ASSISTANT PROGRAM

by

JUDITH B. STALLINGS

(Under the Direction of Teri Denlea Melton)

ABSTRACT

Purpose

The purpose of this mixed method study was to determine if a relationship existed between self-efficacy scores and a final program course grade for first-generation graduate professional college students (FGS) and non-first-generation graduate professional college students (NFGS) in a physician assistant program. In addition, the researcher sought to explore the perceptions of first-generation graduate professional program students regarding experiences, contributors, and successful strategies relative to self-efficacy as related to completion of their degree program.

Method

This mixed method study examined the experiences of 59 physician assistant students from Georgia Health Sciences University (formerly known as the Medical College of Georgia) by using the Generalized Self-Efficacy Scale (GSE), originally developed by Schwarzer and Jerusalem in 1981, and a demographic questionnaire which was designed by the researcher. Results from the two instruments were evaluated using bivariate correlations and descriptive statistics. The researcher also utilized chi-square and *t*-test for quantitative analyses. Second, the researcher developed a list of interview questions which expanded upon the study's research questions in order to explore the perceptions

of first-generation graduate professional students regarding experiences, contributors, and successful strategies relative to self-efficacy as related to completing their degree program.

Major Findings

Based on the quantitative findings of this study, it was not determined if self-efficacy has a significant influence on a final Anatomy course grade based on generation status. In addition, the researcher concluded that the group comparison between FGS and NFGS did not show a significant difference when comparing group Anatomy scores or self-efficacy scores. The qualitative phase revealed three common themes regarding self-efficacy in a physician assistant program: (a) mastery experiences, (b) family support, and (c) self-confidence.

INDEX WORDS: First-generation, Generalized Self-Efficacy Scale, Graduate student, Non-first-generation, Physician assistant, Professional, Self-efficacy

SELF-EFFICACY AND FIRST-GENERATION STUDENTS IN A
PHYSICIAN ASSISTANT PROGRAM

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JUDITH B. STALLINGS

A Dissertation Submitted to the Graduate Faculty of Georgia Southern University in
Partial Fulfillment of the Requirements for the Degree

DOCTOR OF EDUCATION
EDUCATION ADMINISTRATION

STATESBORO, GEORGIA

2011

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PHYSICIAN ASSISTANT PROGRAM

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Electronic Version Approved:

December 2011

DEDICATION

I dedicate this dissertation to the following: to God, my family and friends, my cohort members, supportive faculty members at Georgia Health Sciences University's Physician Assistant Department, to students of the classes of 2011 and 2012, and last but not least, to my three children, Jalisa, Jessica and Chris.

Sincerely, Judith

ACKNOWLEDGEMENTS

I remain forever thankful to many people who have supported and encouraged me along the way. First, I would like to give thanks to Dr. Barbara Russell, Associate Professor and Program Director of Medical Laboratory, Imaging and Radiologic Sciences at Georgia Health Sciences University, who constantly gave me insight into the dissertation process. She repeatedly told me, "It's going to be over before you know it." Also, I would like to thank Dr. Bonnie Dadig, Chairman of the Physician Assistant Program at Georgia Health Sciences University, who made it possible for me to balance my career, school and family.

In addition, I would like to thank my entire doctoral committee members, Dr. Teri Melton (Chair), Dr. Meca Williams-Johnson and Dr. James Green, all of Georgia Southern University, for their support and guidance of this dissertation. Thank you for your faith in my ability!

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Forever Grateful,

Judith B. Stallings

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CHAPTER I

INTRODUCTION

Collegiate life is a common experience in many families and is shared from one generation to the next. Actually, some families may discover an extensive history of graduates in their family genealogy. Some families envision college graduation as a traditional and expected process for each future descendent. In these families, there is no doubt that every member will attend college.

In other families, this is not the case, especially in families where there are no previous college graduates. Any descendent who attempts to attain a college degree is perceived as a pioneer to collegiate life. These pioneer children are considered *first-generation students*. First-generation students are students who have no previous college graduates in their family to give a personal depiction of collegiate life. Therefore, first-generation students may have college experiences which are different from those of non-first-generation students.

Engle and Tinto (2008) confirmed the grim reality for first generation college students: “For most of the 4.5 million low-income, first-generation students enrolled in postsecondary education today (approximately 24% of the undergraduate population), the path to the bachelor’s degree will be long, indirect, and uncertain” (p. 2). In fact, Chen (2005) stated that first-generation students completed fewer academic credits, took fewer courses, earned lower grades, needed more remedial assistance, and were more likely to withdraw and repeat a course. In addition, Choy (2001) stated that “parents’ education remains significant for gaining access to postsecondary education and for persistence and bachelor’s degree attainment at 4-year institutions even after controlling for other factors

such as income, educational expectations, academic preparation, parental involvement, and peer influence” (p. 29).

Due to the challenges faced by first-generation students, educators and researchers seek to understand more about them. While much has been written about first-generation students in community colleges (Horwedel, 2008) and in undergraduate programs which award a bachelor’s degree (Ishitani, 2006), this information may be too diverse to be generalized to other programs such as graduate or professional degree programs. Graduate programs grant a degree higher than a bachelor’s degree; this may include a master’s or doctoral degree. A professional degree is awarded based on competency and academic knowledge in a specialty area and signifies expertise in a particular field. Such degrees may be awarded through a technical or health science program as a certificate or bachelor’s, master’s, or doctoral degree.

Many researchers have examined a number of variables that may impact the success of first-generation college students (Grayson, 1997; Ishitani, 2006; Riehl, 1994). One variable that has received a great deal of attention is self-efficacy. According to Bandura (1997a), “Efficacy beliefs are concerned not only with exercise of control over action but also with the self-regulation of thought processes, motivations, and affective and physiological states” (p. 36).

Ramos-Sanchez and Nichols (2007) examined the correlation of self-efficacy and generation status in freshman college students; their findings indicated that generation status significantly predicted self-efficacy. However, this concept of self-regulation of thought processes with motivations was only examined in undergraduate students and not graduate or professional students.

Therefore, self-efficacy has been researched as a factor in the successes of non-first-generation and first-generation freshman students, but is limited for first-generation students in relationship to self-efficacy in graduate or professional programs. Consequently, more research is needed.

The Problem Statement

A first-generation student may be defined as an individual who has no parent who has attended college. This concept has been thoroughly researched; however, the research has applied mainly to undergraduate programs. In fact, few if any studies have explored first-generation students enrolled in a graduate professional program such as a physician assistant program. Additionally, while the concept of self-efficacy has been related to the success of first-generation students, in review of primary studies on generation status and self-efficacy, the researcher noticed this concept has been applied mainly to undergraduate programs. This establishes another gap in the literature and suggests the need for further research on the variable known as self-efficacy.

Second, regulatory agencies demand that administrators and educators demonstrate effectiveness and efficiency in educating all students. Certification examinations are one way to evaluate efficiency. The National Commission on Certification of Physician Assistants (NCCPA) administers the National Certification Examination for Physician Assistants. This test examines medical knowledge, applicability, and competence in medical practice as a physician assistant. The certification allows a physician assistant to be granted employment in any state, federal, or local agency. Failure on this examination could mean a decrease in salary or loss of employment. The Georgia Health Sciences University's (GHSU) Physician Assistant

Program has a high rate of first-time takers passing the certifying examination (Board scores: 2010 – 96% pass rate; 2009 – 90% pass rate; 2008 – 95% pass rate).

Unfortunately, some students do not pass their board exam at the initial testing.

Previous comparisons of students' final Human Gross Anatomy (Anatomy) score and the board examination success have been utilized as a guide in selecting mentors for students in preparation for the board examination. Students who scored low in Anatomy have worked with faculty mentors to improve their study habits. However, in some years the Anatomy score did not adequately predict the final outcome of the board examination. For instance, a review of annual national board scores from 2003 to 2007 of students entering GHSU's Physician Assistant Program and scoring a "C" in their Anatomy course, showed the following board failure rates for each of the five years beginning in 2003: 0%; 0%; 22%; 50%; 22%. These data include students who achieved a numerical score of less than 80 but higher than 69. The grading scale is as follows: A = 100-90; B = 89-80; C = 79-70; D = 69-60; F = 59 or below. The correlation between a low Anatomy course score (e.g., C) and doing well on the board examination were inversely proportionate in 2003 and 2004.

Observation of previous Anatomy course scores and board examination outcomes raise questions regarding the presence of other factors which assist or hinder a student in passing an Anatomy course and the final board examination. These factors may be multiple and/or complex. One of the factors may be generational status or some other unknown variable such as self-efficacy. In other words, there may be a connection between generational status and self-efficacy for professional graduate students. Second, there also may be a relationship between generational status and a graduate Anatomy

course grade as well as a relationship between self-efficacy and an Anatomy course grade.

Since regulatory agencies are inclined to examine numbers involving certification, enrollment, attrition, and matriculation, educators attempt to ascertain how to meet the needs of each student, especially first-generation students. Therefore, this study is important in determining if generation status and/or self-efficacy have any effect on student achievement (as measured by final Anatomy course scores) in graduate professional programs. Due to the limitations of the study, the researcher will not investigate a correlation between the grade in the Anatomy course taught during the first semester and the board scores, since the board exam is given at the end of the 27-month curriculum. Examination of the relationship between the first semester Anatomy course grade and board scores is more appropriate for a longitudinal study which was not within the scope of this present study.

Literature was limited regarding the relationship between graduate first-generation students and self-efficacy. Not only was the literature limited for graduate programs, but it was scant when searching for graduate professional programs such as a physician assistant program and the relationship between first-generation status and self-efficacy. Since first-generation students attend undergraduate, graduate, and professional programs, research should be available for each area.

Researchers have reported some of the challenges of undergraduate first-generation students and how previous life experiences may affect them in college. Analysis of first-generation students' perceptions of college life in comparison to traditional students has varied between the two groups. However, limited investigative

studies have been undertaken to evaluate the challenges, struggles, perceptions, and methods of coping for graduate first-generation students or, specifically, graduate professional first-generation students.

Therefore, the purpose of this mixed method study was to determine if a relationship exists between self-efficacy scores and a final program course grade for first-generation graduate professional college students and non-first-generation graduate professional college students enrolled in a physician assistant program. A professional student's level of self-efficacy is a significant variable in this study and is defined according to the basic description by Bandura, a renowned expert and historical reference for self-efficacy. In addition, the researcher sought to explore the perceptions of first-generation graduate professional program students regarding experiences, contributors, and successful strategies relative to self-efficacy as they related to completing their degree program.

Research Questions

With few results after thoroughly searching for empirical studies on professional graduate first-generation students and/or self-efficacy as related to student success, the researcher sought to ascertain more about these variables. In addition, the researcher desired to determine if a relationship existed between self-efficacy scores and a final program course grade based on generation status. Not only that, but the researcher sought to explore the perceptions of first-generation graduate professional program students regarding experiences, contributors, and successful strategies relative to self-efficacy as they related to completing their degree program. Therefore, the following

questions served as the overarching research question and sub-questions for this mixed method study:

- 1). What impact does self-efficacy have on the success of students in a graduate professional physician assistant program?
 - a) What is the relationship between self-efficacy and final grades in an Anatomy course based on generation status?
 - b) What are first-generation students' self-efficacy beliefs in regard to contributors, challenges, and strategies to completing their graduate professional programs?

Significance of the Study

This study provides significant information for a wide variety of audiences about first-generation students in a graduate professional program. Many researchers have examined self-efficacy in first-generation undergraduate students and traditional undergraduate students; however, little information is available about the influence of self-efficacy on students in graduate professional programs. Professional programs, such as the physician assistant program, will benefit from information involving first-generation students because many physician assistant programs award a graduate degree, not a bachelor's degree. Therefore, the previous research about undergraduate programs may not apply to graduate programs.

Information about unique factors specific to first-generation students in a professional program which are not seen in typical nonprofessional or liberal arts institutions will be beneficial to other professional programs. This information may be transferable to other graduate programs and will provide guidance to administrators and

faculty in obtaining resources needed to facilitate the success of first-generation professional students.

Finally, research data which provides insight into first-generation graduate students' struggles, experiences, and strategies may inform practice. As a result, the researcher desired to determine the relationship between self-efficacy scores and a final program course grade for both first-generation graduate professional college students and non-first-generation graduate professional college students in a physician assistant program. The researcher sought to explore the perceptions of first-generation graduate professional program students regarding experiences, contributors, and successful strategies relative to self-efficacy as they related to completing their degree program.

Researcher's Interest in the Topic

Due to the researcher's employment in the University System of Georgia and at Georgia Health Sciences University, the researcher chose to use both quantitative and qualitative measures to substantiate the findings of this study. Second, the researcher is a first-generation student who has a very strong interest in how self-efficacy interplays with the achievement, personal experiences, and success of first-generation students. Since the researcher has some personal attachment to the issue, the researcher chose to study other first-generation students via quantitative and qualitative measures in order to obtain as much trustworthiness as possible. For the purpose of this study, the role of the researcher was as an observer and interviewer.

Theoretical Framework

More recent studies have focused on cognition or cognitive thinking in relationship to generation status. In fact, self-efficacy and self-regulated learning are two specific variables which are currently being investigated further. Therefore, the researcher discusses both self-efficacy and self-regulated learning in order to provide in depth understanding of these concepts. However, self-efficacy as defined by Bandura (1997a) is the primary focus of discussion.

Research Design

The overarching question and sub-questions of this study steered the researcher toward utilizing a mixed method approach, which included both quantitative and qualitative data collection and analysis. A mixed method study, which included both quantitative and qualitative components, was vital not only to obtain subjective information but to interpret and understand a specific phenomenon not demonstrated in quantitative methods alone. In essence, this study provided both a quantitative and qualitative analysis of issues concerning professional graduate students' generation status and its relationship to self-efficacy based on a design. This information may be transferable not only to physician assistant programs but also to other graduate and/or professional graduate programs.

Definitions of Key Terms

Clarification of common terms utilized in educational research concerning generation status is essential to prevent ambiguity. Due to the uniqueness of this study (e.g., relating only to a professional graduate program), common terminology utilized for

the physician assistant profession may not be general knowledge to all readers.

Therefore, a brief description of the common language follows.

Academic performances. For the purpose of this study, academic performances are indicators used to assess specific cognitive abilities of a student. Ramos-Sanchez and Nichols (2007) used grade point average (GPA) and college adjustment as academic outcome indicators. For the purpose of this study, final Human Gross Anatomy course scores from GHSU's Physician Assistant Program will be used as an academic indicator.

Board exam. The board exam is defined as the national physician assistant's (PA) examination which allows a PA graduate to demonstrate competency in order to become employed in a healthcare setting. This certification is recognized nationally and is administered by the National Commission of Certification of Physician Assistants (NCCPA).

First-generation student (FGS). One definition of first-generation student is where neither parent has a degree higher than a high school education (Pascarella et al., 2004). Ishitani (2006) described FGSs as students whose parents never attended college. For the purpose of this study, an FGS will be defined as a student who has no parent who ever attended college.

First year students. First year students will be defined as newly enrolled physician assistant students in the didactic phase (e.g., lecture) of training. The didactic phase comprises four semesters.

General Self-Efficacy Scale (GSE). The General Self-Efficacy Scale is a 10-item scale which was originally created in 1981 by Ralf S. Schwarzer and Matthias S. Jerusalem to measure self-efficacy, but adapted by Schwarzer, Mueller, and Greenglass in 1999.

Georgia Health Sciences University (GHSU). The Georgia Health Sciences University (formerly known as the Medical College of Georgia) is a renowned research university located in Augusta, Georgia. The university is comprised of major colleges: (a) the Medical College of Georgia, (b) the College of Allied Health Sciences, (c) the College of Graduate Studies, (d) the College of Dentistry, and (e) the College of Nursing. The Physician Assistant Department is part of the College of Allied Health Sciences.

Master of Physician Assistant (MPA). A Master of Physician Assistant is the master's degree awarded to a PA student who graduates from Georgia Health Sciences University's Physician Assistant Program.

National Commission of Certification for Physician Assistants (NCCPA). The National Commission of Certification for Physician Assistants is the national organization that certifies physician assistant graduates who have matriculated through an accredited physician assistant program. This agency creates the national examination for PA certification. A successful exam score grants a PA graduate the licensure necessary to become employed in a healthcare facility.

Non-first-generation student (NFGS). Ramos-Sanchez and Nichols (2007) defined a non-first-generation student as a student having at least one parent who attended college. For the purpose of this study, an NFGS will be defined according to Ramos-Sanchez and Nichols' definition. This phrase, non-first-generation student, may be used synonymously with the term *traditional student*.

Physician Assistant (PA). Physician assistant is a professional who has been licensed as a medical practitioner to examine and treat medical diseases and disorders. Upon

graduation students may be awarded a certificate, bachelor's, or master's degree. For the purpose of this study, only master's degree physician assistant students will be examined.

Self-efficacy. Self-efficacy is defined by Albert Bandura (1997b) as “beliefs concerned not only with exercise of control over action but also with the self-regulation of thought processes, motivations and affective and physiological states” (p. 36).

Second year students. Second year students are defined as currently enrolled physician assistant students in their clinical phase of training. This phase consists of the last three semesters of the physician assistant training.

Student achievement. Student achievement is defined as acquiring a numerical score of 70 or higher on a specific final Anatomy course. A score less than 70 is considered failing.

Human Gross Anatomy (Anatomy) Course. This anatomy course is defined as a master's level course specifically designed for students acquiring a healthcare degree. The course is part of the physician assistant curriculum at the Georgia Health Sciences University and is taught during the first semester of the PA program.

Limitations, Delimitations, and Assumptions

As with all research, there were limitations to this study. The results of the study are not generalizable; however, that was not the goal of the study. The goal of the study was to obtain information for decision making transferable to other graduate or professional graduate programs since research in this area is limited. This limited the study because the researcher sought to gather perspectives of students currently enrolled in a professional degree program which also limited its generalizability.

Due to the fact that the researcher surveyed first and second year physician assistant students at various levels of training and at various locations, a survey provided the best means of contacting participants. In addition, the researcher anticipated a high return rate (e.g., 75%) of surveys even though the two levels of students were not on campus at the same time. In fact, there are very few occasions where both groups are on the Georgia Health Sciences University's campus simultaneously.

Finally, a longitudinal study which examined academic performance and self-efficacy for the entire 27 months of the PA training and sitting for the National Certification Physician Assistant Board Exam would have been the most ideal study and would have provided the most robust amount of information. However, because of the time constraints of the current study, the researcher was limited to less than one year. Therefore, the study examined only first and second year students for one semester over a segmented timeframe.

Additionally, delimitations were inherent in this study due to decisions made by the researcher. For the purpose of this study, the researcher selected currently enrolled students as participants because of their accessibility. The researcher did not seek to survey physician assistant graduates from the Georgia Health Sciences University due to reduced accessibility and frequent changes in contact information. The researcher chose not to survey all students at each of the four physician assistant programs in Georgia. Since all programs have similar training, the researcher surveyed students from only one of Georgia's four programs, Georgia Health Sciences University.

The researcher imposed these restrictions in order to narrow the scope of the study. Also, the researcher purported that the General Self-Efficacy Scale would determine which students have high self-efficacy and those who have low self-efficacy and that all interviewees would be open and honest.

Context

Participants of this study were either first or second year physician assistant students from Georgia Health Sciences University. These students completed the Human Gross Anatomy course prior to taking part in the study. A majority of the students were Georgia residents; however, a few were residents of other states. Whether or not a student was a Georgia resident, all students matriculated on GHSU's campus, located in Augusta, Georgia. No distance learning students participated in the study.

Chapter Summary

A first-generation student is defined as a student who has no parent who has attended college. Research has focused on first-generation undergraduate students; however, research is lacking for first-generation students enrolled in graduate programs, especially professional graduate programs such as the physician assistant program. The purpose of this mixed method study was to determine if a relationship exists between self-efficacy scores and final program course grades for first-generation graduate professional college students and non-first-generation graduate professional college students in a physician assistant program. The researcher sought to explore the perceptions of first-generation graduate professional program students regarding experiences, contributors, and successful strategies relative to self-efficacy as they related to completing their degree program.

The researcher selected a mixed method approach. Quantitative data collection for the study consisted of the General Self-Efficacy Scale, a demographic questionnaire. The qualitative data collection consisted of an interview session with only first-generation students. Findings from the study are presented by using bivariate correlational statistics, descriptive statistics, *t*-tests, and chi-squares. Findings are presented as emergent themes.

CHAPTER II

LITERATURE REVIEW

Collegiate life is a common experience in many families and is shared from one generation to the next. Actually, some families may discover an extensive history of graduates in their family genealogy. Some families envision college graduation as a traditional and expected process for each future descendent. In these families, there is no doubt that every member will attend college.

In other families, this is not the case, especially in families where there are no previous college graduates. Any descendent who attempts to attain a college degree is perceived as a pioneer to collegiate life. These pioneer children are considered *first-generation students*. First-generation students are students who have no previous college graduates in their family to give a personal depiction of collegiate life. Therefore, first-generation students may have college experiences which are different from those of non-first-generation students.

Engle and Tinto (2008) confirmed the grim reality for first-generation students: “For most of the 4.5 million low-income, first-generation students enrolled in postsecondary education today (approximately 24% of the undergraduate population), the path to the bachelor’s degree will be long, indirect, and uncertain” (p. 2). In fact, Chen (2005) stated that first-generation students completed fewer academic credits, took fewer courses, earned lower grades, needed more remedial assistance, and were more likely to withdraw and repeat a course. In addition, Choy (2001) stated that “parents’ education remains significant for gaining access to postsecondary education and for persistence and bachelor’s degree attainment at 4-year institutions even after controlling for other factors

such as income, educational expectations, academic preparation, parental involvement, and peer influence” (p. 29).

The Physician Assistant (PA) Program at Georgia Health Sciences University (GHSU) is a professional graduate program which awards a master’s degree after 27 months of training. The program admits first-generation and non-first generation students. However, there is limited research about the success of first-generation students in graduate professional programs and especially in the physician assistant profession. PA students face academic challenges because of the vast amount of knowledge required for the profession; as a result, they struggle at times just as any other student does.

Human Gross Anatomy (Anatomy) is a course required during the first semester and has been used as an indicator of future success in the program and on the National Physician Assistant Certification Examination. Students who perform poorly in the Anatomy course appear to have difficulty throughout the program. However, there are some inconsistencies in this theory. A few students may not do as well as expected in the Anatomy course, but they seem to do well later on the board exam. This leads to conjecture that there may be other variables which assist or impede a student’s academic performance later in the curriculum. These variables may not be as obvious as standard academic measures such as GPA or Graduate Record Examination scores. Further, if a student is a first-generation student, there may be additional variables unique to this population which may influence a student’s academic success. Experiences in a graduate professional school unique to first-generation students could also affect academic success in a PA program.

Chapter II provides informed data from research about first-generation students. Historical studies establish a foundation for the current knowledge which is available by (a) examining previous theoretical research for improving the success of first-generation students, (b) analyzing life experiences (e.g., pre-college attributes) and perceptions of first-generation students, (c) investigating the cognitive theories involving self-efficacy and self-regulated learning with academic outcomes; and, (d) examining research which has been conducted on self-efficacy and the physician assistant profession.

This literature review begins with a discussion of first-generation students and then leads into social engagement and intellectual development as two variables for improving the success of first-generation students. Motivational theory, mood, and affect also will be discussed briefly to demonstrate the relationship to self-efficacy. The literature review will not cover every topic published on first-generation students because of the vast amount of information available, but will cover pertinent research that applies to first-generation students and self-efficacy.

Search Strategies

The search strategy for this study began in August 2009 by querying Galileo and ERIC with terms such as first-generation student and theory which produced a broad array of articles. Later searches using first-generation student, research, and self-efficacy identified 11 articles. An advanced search of empirical articles was conducted in which first-generation and self-efficacy were limited to peer-reviewed, English, and full-text, and limited to the years between 2005 and 2009. Broader searches were performed with extended years to search for landmark cases from renowned researchers. Search criteria such as first-generation college students, self-efficacy, and graduate students produced no

results. A Google Scholar search in November 2010 using key phrases such as physician assistant and self-efficacy identified one essential result on self-efficacy and physician assistant clinical performance. Later searches in 2011 discovered more recent studies on first-generation students.

First-Generation Students

First-generation students are students who have no parent who has graduated from college; these students may experience different struggles than traditional or non-first-generation students during their collegiate education (Pike & Kuh, 2005). In contrast, a traditional or non-first-generation student is defined as a student having at least one or more parents who have graduated from college.

In the literature pertaining to generation status, a traditional or non-first-generation student may also be referred to as a second generation or a continuing-generation student; all of the terms are synonymous. Non-first-generation students envision college attendance as a natural occurrence in life. Nonetheless, educators and researchers have been intrigued with students who have parents who graduated from college and also with those students who do not have a parent who has graduated from college.

According to Engle and Tinto (2008), the path to the bachelor's degree for first-generation students will be prolonged and uncertain. Pike and Kuh (2005) sought to understand how first-generation students differ from traditional generation or non-first-generation students. Riehl (1994), on the other hand, examined whether or not pre-college attributes made any difference in the success of first-generation students. Other researchers investigated the extent a parent's attendance and acquisition of a college

degree had on a student's success in college (Pascarella, Pierson, Wolniak, & Terenzini, 2004; Riehl, 1994). While much has been written about first-generation students, many of these studies have been limited to undergraduate students in their first year of college (Pascarella, et al., 2004).

Researchers later examined whether other variables besides pre-college attributes and parental degree attainment were factors in the success of first-generation students. Ramos-Sanchez and Nichols (2007) examined the correlation between self-efficacy and generation status in freshman liberal arts college students. Self-efficacy as described by Albert Bandura (1997a) is the method of utilizing control in combination with an individual's thought process to perform a task. Ramos-Sanchez and Nichols investigated the theory of self-efficacy by using a modified College Self-Efficacy Instrument (CSEI) to assess self-efficacy as it related to college activities. Their study is one of the few studies which have examined self-efficacy and first-generation students. Since the theory of self-efficacy and first-generation college status has not been studied thoroughly, Ramos-Sanchez and Nichol's study is essential for this literature review.

Findings by Ramos-Sanchez and Nichols (2007) revealed that generational status significantly predicted self-efficacy and that generational status also predicted GPA. In other words, first or non-first-generation student status allows one to predict the level of self-efficacy as being higher or lower in comparison to other students. The results also suggested that generational status allows one to predict academic ability in freshman college students. However, other characteristics or attributes have also been associated with first-generation status. The following discussion gives more detail about these factors.

Common Themes Associated with First-Generation Students

A recent review of the literature on first-generation students resulted in several common themes. Some of the themes are (a) social engagement and intellectual development, (b) pre-college attributes which involve academic preparedness and parental degree attainment, and (c) cognitive thinking and social perceptions involving motivation, mood, confidence, and coping. Although these themes and concepts have been researched by many, there are some new variables which have intrigued researchers.

The most recent ones involve cognition or cognitive thinking. In fact, self-efficacy and self-regulated learning are two specific variables which are being investigated further. Self-efficacy and self-regulated learning are both parts of cognitive theory. Therefore, the researcher will discuss both self-efficacy and self-regulated learning in order to provide more understanding of these concepts. However, for this study self-efficacy will be the primary focus of discussion. These concepts will be discussed in further detail in the following sections. The first item of discussion is social engagement and intellectual development.

Social engagement and intellectual development. While researching the topic of first-generation students, the theories of social engagement and intellectual development showed up as a common focus of previous researchers searching for variables which could be utilized to predict college success (Riehl, 1994), especially pertaining to generation status. To begin, social engagement, sometimes referred to as student engagement, is the process by which students interact with other students, faculty, and campus services. Examples of social engagement can be membership in clubs or organizations which aid in learning about college life. Association with campus activities

establishes a connection with the process of how colleges function and develops a social networking group which creates a form of support for students having difficulty adjusting to college life. Intellectual development, another important variable, pertains to an individual's cognitive ability due to previous educational experiences. Pike and Kuh (2005) explored both of these variables by studying first year students.

Pike and Kuh (2005) performed a study to compare social engagement and intellectual development between first-generation and second-generation students. The study involved a stratified random sample of 3,000 undergraduates who took the College Student Experiences Questionnaire (CSEQ, 4th edition) developed by Pike and Kuh in 1998. "The findings from this study suggest that low levels of engagement are an indirect result of being the first in one's family to go to college and are more directly a function of lower educational aspirations and living off campus" (Pike and Kuh, 1998, p. 290). Grayson (1997) also discussed how lack of student involvement with the institution affects student success.

Many first-generation students are more likely to come from lower income families and have difficulty adjusting to college life. Their outlook on college life and education differs from the outlook of second-generation students. They tend to have less socialization activities and lack the needed connection with peers and faculty members. This lack of socialization may affect what Pike and Kuh (2005) described as intellectual development or gains. In this study, student gains in learning and intellectual development were examined in the areas of general education, communication skills, interpersonal development, and intellectual development (Pike & Kuh). Student gains in

learning were considered the result of how the students integrated their experiences in college and how they perceived their environment (Pike & Kuh).

Pre-college attributes. Generation status, meaning whether someone is a first- or second-generation student, has generated much interest in education. While seeking information regarding generation status and students success, researchers have sought to examine whether pre-college traits (e.g., high school academics, college preparedness, and parental education) had an effect on first-generation students' academic success. The following studies explored concepts involving pre-college attributes.

Riehl (1994) evaluated academic preparedness in order to assist with the college admissions selection process and aid institutions in creating resources to assist less prepared students in obtaining a degree. In essence, retention, persistence, and degree attainment were the main areas of focus for his research. The findings showed that first-generation students had lower SAT scores and lower high school GPAs. First-generation students also had low academic performance during the first semester of college (Riehl). However, this study was limited to first semester undergraduate students and did not explore professional graduate students.

Grayson (1997) sampled 1,849 full-time first year students from York University in Toronto. This study expanded on Terenzini's (1996) study by evaluating college GPA outcomes but included pre-college traits, institutional experiences, racial origin, and the effects of these characteristics on GPA. The study showed that "students from families with at least one university educated parent do achieve higher first year GPAs than other students" (Grayson, 1997, p. 667). Also, involvement in certain institutional experiences

helps students academically; however, other institutional experiences may distract and lower the GPA (Grayson, 1997).

Later, Pascarella et al. (2004) performed a 3-year study on college experiences and outcomes of first-generation students. The study extended from fall 1992 to spring 1995. Participants were selected from 18 4-year colleges and institutions, giving a total of 3,331 participants. The participants were selected randomly from the incoming first year class and received a monetary payment for participating in the study. Three follow up evaluations were conducted throughout the study to collect more data about each person's college experience for that particular year. In this study, "the findings suggest that level of parental postsecondary education has a significant unique influence on the academic selectivity of the institution a student attends, [and] the nature of the academic and nonacademic experiences one has during college" (Pascarella et al., p. 275).

Ishitani (2006) investigated longitudinal persistence behavior of 4,427 first-generation college students and their graduation rates at 4-year institutions. The researcher used the National Education Longitudinal Study (1988–2000) to develop a sample. The study was supported by the National Center of Educational Statistics (NCES). Ishitani's (2006) study examined the "effects of pre-college attributes of students on their attrition and degree completion behavior, mainly due to a lack of available time-varying items in the study data, such as academic and social integration" (p. 865). Findings demonstrated that first-generation students were less likely to complete their degrees in the time originally expected. Another study by Pike and Kuh (2005) stated that "in large part, first-generation students' lower persistence and graduation rates, and their lower scores on standardized assessment measures, are the

result of differences in the pre-college characteristics of first- and second-generation students” (p. 277). Riehl (1994) noted that first-generation students had a lower first-year retention rate than other freshmen at Indiana State University.

The literature on first-generation students indicates that a lack of parental degree attainment correlates highly with first-generation student outcomes (Prospero & Vohra-Gupta, 2007), and that first-generation students do not complete college at the same rate as second-generation students (Ishitani, 2006). Some first-generation students took as long as six years to complete their degree. Engle and Tinto’s (2008) report, sponsored by the Pell Institute for the Study of Opportunity in Higher Education, indicated that access is not enough for first-generation students. In addition, Engle and Tinto stated that “after six years, only 11 percent of low-income, first-generation students had earned bachelor’s degrees compared to 55 percent of their more advantaged peers” (p. 2).

Giancola, Munz, and Trares (2008) conducted a study of 317 participants, selected by convenience sampling of a class at Saint Louis University. All participants completed the Adult Student Priorities Survey (ASPS). The eight subscales of the ASPS included: Academic Advising, Academic Services, Admissions and Financial Aid Effectiveness, Campus Climate, Instructor Effectiveness, Registration Effectiveness, Safety and Security, and Service Excellence. The survey was given to 438 students with a 72% return rate, resulting in 317 completed surveys. Data were analyzed quantitatively via ANOVA, MANOVA, and MANCOVA. The purpose of this study was to examine differences in college perception between first-generation and continuing-generation adult undergraduates while controlling for demographic variables. Results showed that there were no differences in satisfaction between the two groups. However, when gender

(e.g., female) was not controlled, areas such as Instructor Effectiveness, Registration Effectiveness, and the remaining six areas demonstrated varied levels of importance between the first-generation and continuing-generation students.

Cognitive thinking and social perceptions. Researchers have examined first-generation status in relation to parental college degree attainment (Pascarella et al., 2004) and student success (Grayson, 1997; Pascarella et al). Other researchers have investigated the influence of pre-college attributes on first-generation students' success (Ishitani, 2006; Riehl, 1994). Currently there has been a focus on cognitive theory or cognitive thinking in regard to first-generation students. Much of the theoretical framework on cognitive theory was developed by Bandura (1994). The constructs of motivation, mood and affect, confidence, coping, persistence, and self-efficacy are all included in the domain of cognitive theory and many of these concepts overlap.

Cognitive theory describes an ability to assess one's environment and mentally design a means of succeeding regardless of the struggles one might face. The task or potential objective drives one to search for ways of mastering the problem at hand. Challenges are welcomed and a strategy enacted to meet the challenge.

Motivational theory deals with the ability to encourage oneself to obtain a desired goal or objective. This theory focuses on the individual as being in control of learning. Motivation can arise from many factors such as intrinsic (e.g., personal satisfaction) or extrinsic (e.g., rewards for outcomes) stimulation which can lead an individual to goal attainment. Orbe (2008) stated that first-generation students may be motivated by envisioning education as a privilege and an honor since the opportunity for education was

not available to minorities for many centuries. Having a deep heartfelt appreciation for the sacrifices and struggles of ancestors may motivate first-generation students as well.

Prospero and Vohra-Gupta (2007) explored how motivation and integration may affect academic achievement of first-generation students in comparison to non-first-generation students. The convenience sample consisted of 277 community college students (197 first-generation students and 80 non-first-generation students). A survey was distributed to each participant and collected demographic information as well as information about each participant's motivation and integration. Findings showed that academic integration contributed to higher grade point averages for first-generation students whereas extrinsic motivation did not.

Mood and affect are emotions which can be controlled by using cognitive strategies. With life come stresses, troubles, and obstacles, which may interfere with accomplishing what an individual would like to accomplish in life. Road blocks may appear which may make the goal seem slightly obscure or unattainable. In addition, unexpected situations may present which may appear too difficult to bear at the time, such as loss of a job, death of a family member, sicknesses, or other problems. However, in society there are those who ride on the tide and others who sink under pressure.

Bandura (1997a) theorized why some individuals succeed and others do not. His principles of success and cognitive thinking can be applied to any phase or situation in life. How a student applies certain cognitive skills may vary; everyone has a different way of managing and getting a job accomplished. "People with high self-efficacy are able to relax, divert their attention, calm themselves, and seek support from friends, family and others" (Bandura, 1997b, p. 1). Therefore, most challenges perceived by a

person with high self-efficacy are seen as manageable. They are able to cope with the situation. Individuals with high self-efficacy understand and perceive a present challenge, but are able to move forward by believing in themselves and their ability.

“Perceived self-efficacy is not a measure of the skills one has but a belief about what one can do under different sets of conditions with whatever skills one possesses” (Bandura, 1997a, p. 37). Self-confidence in one’s ability is an essential component of self-efficacy. This confidence comes from the previous successes in one’s life. A successful accomplishment creates a belief that one can do the same task yet again or one can attain an even greater achievement.

In preparation for a task or goal orientation, an individual has to reflect on his or her ability to perform the task presented. During the process of deciding how to embark on the goal, doubt or confidence will be the two extremes. Doubt, for whatever reason, can thwart the expected outcome. Confidence, on the other hand, is an attribute to visualizing the goal as possible. This struggle between doubt and confidence is not new for first-generation students. Orbe (2008) stated:

While early collegiate success increases the confidence of FGC [first-generation college] students, it does little to diminish the doubt that exists when they take on new challenges, such as upper-level classes or graduate school. In fact, FGC students describe suffering from an ever-present “imposter complex.” At each stage of their academic experience, they feel as if they are unqualified and simply posing as a member of the academic community; at any time, they will be “found out” and exposed for who they really are. (p. 89)

In essence, first-generation students may have recurrent thoughts of doubt with each new task or challenge. These thoughts of doubt do not disappear as first-generation students rise to higher levels of education. Orbe (2008) discussed the imposter complex in upper level classes (undergraduate) and graduate school as well. In other words, the individual perceives that his or her achievement is an uncommon experience and the individual is uncertain of his or her capability to maintain the position or acceptance. However, academic success along the way can assist in altering a student's self perception about academics in a more favorable way. Orbe posited that confidence is related to successful academic achievement as seen in an accomplished high school record and in overcoming personal obstacles. Additionally, confidence can be enhanced by encouraging and supportive academic advisors or mentors.

The thought processes of students regarding college also are deemed important. Pike and Kuh (2005) stated that first-generation students view education differently than their counterparts. One of the differences between the two groups is educational aspiration (e.g., advanced degree). A second difference is how each group utilizes social connections or networking in order to improve success. A third difference is that first-generation students perceive the college environment as being less supportive (Pike & Kuh). These are all challenges which first-generation students may experience.

Other researchers such as Phinney and Haas (2003) examined coping strategies of a more specific group of first-generation students. Phinney and Haas designed their study to ascertain how minority freshman first-generation students ($n = 30$) cope with stress in college and utilize strategies and resources. In this study, 30 participants performed three weeks of weekly journaling on how they dealt with stresses and which resources they

utilized during their moments of coping. Their study focused on situational, personal, academic, and financial stressors. They discovered that self-efficacy was highly correlated with coping success (Phinney & Haas).

Self-regulated learning. Zimmerman (2002) described self-regulated learning as “not a mental ability or an academic performance skill; rather, it is the self-directive process by which learners transform their mental abilities into academic skills” (p. 65). A study by Naumann, Bandalos, and Gutkin (2003) evaluated self-regulated learning in comparison to traditional college entrance examinations (e.g., American Collegiate Testing) in order to identify variables for college success for first-generation students.

Naumann et al. studied a sample of 155 participants in a university foundation class at a large Midwestern university. The independent variables included items such as generation status, motivational variables, intrinsic goal orientation, task values, and expectancy for success, beliefs, control beliefs, and self-efficacy. The dependent variable was GPA outcome. Participants were asked to consent for release of GPA and ACT/SAT scores.

Results showed that expectancy for success had a higher correlation for the first-generation group than for the second-generation group. On the other hand, ACT scores for the second-generation group were more reflective of GPA outcome than expectancy for success. In addition, Naumann et al. stated that the first-generation group’s ACT score combined with self-regulated learning variables were better predictors of success. To summarize, Naumann et al. reported that beliefs and motivation factors may be essential components to the success of first-generation students.

Self-efficacy. Not only was self-regulated learning researched by Naumann et al. (2003), but self-efficacy was as well. Self-efficacy is one's belief about potential success in performing a task (Bandura, 1997b). Human beings desire control, and people with high self-efficacy feel they have some control over their outcome. According to Roberts (2008), self-efficacy determines the amount of effort, the duration of perseverance, and how resilient an individual will be in facing adverse situations; the greater the sense of efficacy, the greater the effort, persistence, and resilience. "Efficacy beliefs are concerned not only with exercise of control over action but also with the self-regulation of thought processes, motivations and affective and physiological states" (Bandura, 1997a, p. 36). In fact, Bandura (1997b) described several ways in which self-efficacy relates to human functioning: (a) cognition, (b) motivation, and (c) mood or affect.

According to Bandura (1994), self-efficacious individuals "attribute failure to insufficient effort or deficient knowledge and skills which are acquirable" (p. 71). Individuals who have high self-efficacy seek to accomplish each goal set before them; in fact, they believe they can succeed and nothing can hinder them but lack of effort or lack of knowledge. Accomplishment of the goal gives them satisfaction and encourages them to tackle the next challenge. Roberts (2008) stated that a strong sense of personal efficacy relates to better health, higher achievement, and more social integration, and has been attributed to school achievement, emotional disorders, physical and mental health, and an individual's career choice. Bandura (1994) has described "perceived self-efficacy . . . as people's beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives" (p. 71).

On the other hand, individuals with low self-efficacy may not be as eager to take on new challenges. They may meditate more on past failures and defeats instead of thinking of ways to overcome the obstacle. Because of the lack of self ability and knowledge, individuals may not persist and may fail earlier than someone with higher self-efficacy. As Bandura (1994) stated, low self-efficacious individuals may shy away from difficult tasks, they may have lower aspirations and weak commitment, and they may be slower to recover from failures and setbacks. Failures and setbacks may affect not only self-efficacy but also affect an individual's self esteem.

Self-esteem versus self-efficacy. These two phrases are mistakenly used in the same context, which in fact they should not, because they have different meanings. For the purpose of this study, the researcher feels both concepts should be explained in order to clarify any misunderstandings. Self-efficacy, as mentioned previously, is mainly an individual's belief in his or her ability. However, self-esteem deals more with an individual's perception of self or how the individual values himself or herself in particular situations. According to Bandura (1997a), self-worth (i.e., self-esteem) and personal efficacy represent different phenomena. Bandura even discussed some of the different sources of self-esteem. In essence, there could be several reasons or factors involved when explaining why a person's level of self-esteem may vary based on particular situations. However, this is not the same as self-efficacy. Therefore self-esteem involves an individual's evaluation of self, not his or her actual belief in his or her ability to complete a task.

Sources of self-efficacy. Bandura (1994) described four sources of self-efficacy: (a) mastery experiences, (b) vicarious experiences, (c) verbal persuasion (i.e., social persuasion), and (d) physiological and affective states (i.e., somatic and emotional states). These sources give more understanding to how self-efficacy may be increased or decreased. In other words, the four sources can encourage or deter an individual from accomplishing a goal. For clarification purposes, a brief discussion of the four self-efficacy sources is essential.

“Enactive mastery experiences are the most influential source of efficacy information because they provide the most authentic evidence of whether one can muster whatever it takes to succeed” (Bandura, 1997a, p. 80). As the word *mastery* implies, an individual is an expert or has overcome a goal through much effort and diligence. During the process, the individual may have fallen a time or two, but the outcome is the true indicator of success, not necessarily the time it took for goal attainment. Also, during the time of short setbacks, a self-efficacious individual analyzes the situation and recalls the goal he or she is trying to acquire.

Self-efficacious individuals personally grow and develop in ways which will assist them with a new task in the future. By having a strong desire for the outcome and contemplating how to obtain the goal, an individual strives harder to reach it. Perseverance, desire, behavioral modification, and cognition may ignite a drive to continue and not quit. Mastery experiences at times are exactly as implied, a tougher lived experience with challenges and struggles. Therefore, mastery experiences create increased endurance and persistence in goal attainment. Bandura (1994) stated that by continuing during tough times, the individual emerges stronger from the adversity.

Vicarious experiences, the second source of self-efficacy, occur usually when individuals have someone to emulate or admire based on individual accomplishments or competencies. Individuals who have been successful in life can guide the way for future followers and be very encouraging. According to Margolis and McCabe (2006), “Such guidance helps struggling learners develop the internal imagery they need to conceptualize and implement targeted skills or learning strategies” (p. 219). Examples of a vicarious model could be a peer, a mentor, a friend, a co-worker, a teacher, or a supervisor, to name a few examples. Through vicarious models, individuals may compare their ability to the ability of someone else with similar attributes. If a person can associate similarities between himself or herself and the person who has attained the goal, then he or she can visualize the goal as attainable. According to Bandura (1994), the more similar the model is to the observer, the greater the persuasion.

In contrast, some vicarious experiences may demonstrate examples of failure instead of success. The nature of the failure and how similar the observer is to the individual undergoing the situation may or may not affect the efficacy level of the observer. As Bandura (1997b) stated:

The comparative information conveyed by modeling may alter the diagnosticity of failure experiences and foster behavior that confirms the vicariously based self-conception. Thus, people convinced of their inefficacy by seeing similar others fail are quick to accept their own subsequent failures as indicants of personal deficiencies. They then behave in ineffectual ways that generate confirmatory behavioral evidence of inability. (p. 88)

Failures can discourage some individuals and motivate others to press forward. Increased motivation may occur if the failure resulted from lack of effective strategies or lack of appropriate effort in overcoming the obstacles.

Verbal persuasion is the third source of self-efficacy. It involves a verbal means of encouraging someone attempting to obtain a goal or perform an act. Verbal persuasion increases one's belief in his or her own accomplishment through the words of others. With that being the case, effective words can stimulate, motivate, and encourage behavior. On the other hand, negative or highly critical words can affect one's belief in him or herself and discourage behavior. Therefore with verbal persuasion, words are used to increase one's belief in the fact that the outcome is possible or attainable. If effective, verbal persuasion can thwart thoughts of doubt and produce self-confidence. Bandura (1994) stated that people who are verbally persuaded may mobilize greater effort than if self doubt is present.

Physiological and affective states are the fourth source of self-efficacy. This involves the somatic and emotional process of evaluating one's ability; in other words, how the individual reacts emotionally and how the body reacts to challenges. This may include emotions of grief, stress, and anger. Other behaviors may present in the form of physical exhaustion. For example, *tears of frustration* can be very effective and cause one to strive longer during the trial. A highly self-efficacious person will fight within himself not to accept defeat and find ways to overcome the challenge. On the other hand, if emotions get the best of a person and take control, defeat is inevitable. As Bandura (1994) stated, "positive mood enhances perceived self-efficacy, despondent mood diminishes it" (p. 72).

In essence, self-efficacy can be stimulated by several factors: (a) mastery experiences, (b) vicarious experiences, (c) verbal persuasion, and (d) physiological and affective states. With that being the case, past as well as current experiences may have an effect on the level of self-efficacy and the effect is individualized. Research in the area of self-efficacy and student performance provides insight into the concept of self-efficacy and how it relates to students. Margolis and McCabe (2006) stated, “Low self-efficacy beliefs, unfortunately, impede academic achievement and . . . create self-fulfilling prophecies of failure and learned helplessness that can devastate psychological well-being” (p. 219). Researchers have sought to understand the relationship of self-efficacy to academic performance since academic performance is the indicator of a student’s success. However, few if any studies have examined self-efficacy of students enrolled in professional graduate programs.

Research in the Area of Academic Outcome Based on Self-Efficacy and Generation Status

More recent research involving Bandura’s concept of self-efficacy (1997a) and its relationship to first-generation students has been conducted. One study performed by Ramos-Sanchez and Nichols (2007) evaluated academic outcomes based on self-efficacy and generation status. The study’s population consisted of 192 freshman subjects from a liberal arts university on the west coast. Data were collected during the freshman year using online questionnaires (College Self-Efficacy Instrument; Student Adaptation to College Questionnaire) sent to 354 targeted participants with a return rate of 89%.

Data were analyzed quantitatively via ANOVA, *t*-tests, and multiple regressions. Results showed that generation status significantly predicted self-efficacy. Also, generation status was a predictor of GPA, but showed no significant relationship with college adjustment. The mediator, self-efficacy, did not decrease the relationship between generation status and GPA. Higher levels of self-efficacy were seen with non-first-generation students in comparison with first-generation students.

According to Ramos-Sanchez and Nichols (2007), “The finding that a student’s level of self-efficacy at the beginning of the year predicted later college adjustment has implications for counseling interventions, particularly because at-risk students can be identified early on by assessing their level of self-efficacy” (p. 13). This is an important fact which educators should be aware of when trying to decide on strategies to promote and retain students. Once low levels of self-efficacy are determined, measures can be established early in the semester to assist at risk students in achieving their goals.

Usher and Pajares (2008) conducted a study that examined perceptions and cognitive issues and their relationship to generation status. Their study was designed to measure construct validity of an instrument designed by Bandura which looked at self-efficacy for self regulated learning by elementary, middle, and high school students. There were 3,670 students who participated in the study. The researchers read the instrument aloud to the elementary school students, but not to the others. The researchers took Bandura’s Children’s Self-Efficacy Scale (CSES) and reduced the total item number from 11 to seven based on the teachers’ assessments of their students. The alpha coefficient for the study was .83. Other scales were used to measure writing skills, self concept, and writing apprehension. The findings by Usher and Pajares showed that self-

efficacy was positively related to achievement in writing, science, and in general academics. Due to the fact that Usher and Pajares' study was performed on children, their results may not be applicable to adults.

Ramos-Sanchez and Nichols (2007) provided significant findings but they related to undergraduate students in a typical liberal arts institution and not to graduate students in a healthcare program such as a physician assistant program. Also Ramos-Sanchez and Nichol's study had a small sample size which may have decreased its generalizability. Therefore, the findings may not be generalizable to a physician assistant graduate program or other professional programs.

Ramos-Sanchez and Nichols (2007) studied undergraduate students and Usher and Pajares (2008) evaluated elementary, middle, and high school students, none of which are comparable to professional graduate level students. Unfortunately, research is limited regarding graduate programs, especially graduate professional programs. More research is needed that targets professional graduate programs and, more specifically, the profession of physician assistant.

Physician Assistant Program

A physician assistant is a mid-level healthcare practitioner supervised by physician to work in areas such as primary care and in specialty areas such as dermatology, ophthalmology, and others. The physician assistant's training is based on the medical model which teaches a student how to formulate a diagnosis and a treatment/management plan. Other duties and responsibilities include taking medical histories, performing physical examinations, ordering laboratory tests, and writing medical orders. To be employed, a physician assistant requires state and national

licensure. State licensure and national licensure are granted after an individual acquires a degree from an accredited physician assistant program and successfully passes the national board examination. Due to the high number of programs in the nation (more than 140) and in order to narrow the study, the researcher focused only on the physician assistant program at Georgia Health Sciences University.

The Physician Assistant Department is one of eight departments housed in the College of Allied Health Sciences at GHSU and it grants a Master of Physician Assistant (MPA) degree to approximately 40 students each year. This program began in 1972, and since then has undergone major changes with faculty, curriculum, and the types of students who enter the program. At inception, the profession recruited mature individuals with substantial healthcare experience who would become skilled supervised practitioners. Over the years, however, there has been a national trend to recruit younger individuals with minimum healthcare experience.

The length of the GHSU PA program is approximately 27 months (seven semesters). It is comprised of a didactic phase and a clinical phase. The didactic phase continues through four semesters on the GHSU campus housed in Augusta, Georgia. All students, whether in-state or out-of-state, attend classes in Augusta for the first four semesters. Classes consist of courses such as Clinical Medicine, History and Physical Assessment, Pharmacology, Physiology, Biostatistics, and Human Gross Anatomy, just to name a few.

During the didactic phase, first year students take Human Gross Anatomy (Anatomy) during the first semester of PA training. The Anatomy course is comprehensive and includes identifying and understanding how the major parts of the

body are arranged and function. Unfortunately for students, Anatomy is taught during the first semester when students have to manage and become accustomed to being a professional graduate student. Students are highly stressed during the first semester and some students do not perform as well as they should.

Additionally, Anatomy is a preparatory forerunner to many other courses in the didactic phase. It has been emphasized to all PA students to do well in this course because its medical application will be needed in order to succeed in later courses. Faculty members have used the Anatomy course as a predictor of success later in the program. It is generally believed at GHSU that students who perform poorly in the Anatomy course tend to have difficulty during the first four semesters. However, there are some inconsistencies in this theory. A few students may not do as well as expected in the Anatomy course, but they seem to do well later on the National Certification Examination for Physician Assistants.

The National Certification Examination for Physician Assistants is a national board examination which is a strong performance indicator of a student's medical knowledge and medical competency; it is administered at the end of the 27 month PA program. Faculty and others generally believe that students will perform poorly on the National Certification Examination for Physician Assistants if they performed poorly in Anatomy. However, there seems to be inconsistent data regarding the accuracy of performance in Anatomy as a predictor of board performance. If this is the case, there may be other variables which affect a student's performance later in the curriculum. These variables may not be the obvious academic measures such as GPA or Graduate Record Examination scores.

After completion of the first four semesters, students are ready to begin the clinical phase which takes place during the next three semesters. The clinical phase consists of hands on training with real life patients in authentic learning environments and various medical specialties. Many clinical rotations are located in hospitals and clinics throughout Georgia. There are a few out-of-state rotational sites as well. The clinical phase involves supervised training opportunities for students to apply knowledge which was learned during the previous months in the pre-clinical settings.

During the clinical phase, students are supervised by a physician or practicing physician assistant. This supervised time provides students with opportunities to ask questions, observe, and enhance medical techniques such as acquiring a medical history and performing an adequate physical examination.

The program is challenging and is comprised of a diverse student body. The student body changes from year-to-year. For example, the 2011 class was comprised of 14 males, 35 females; 9 out-of state-residents, 40 in state residents; and had an average class age of 26. On average the demographics consist of a greater number of female than male students, single versus married students, traditional versus non-traditional, and students with previous healthcare experience versus those with limited healthcare experience.

According to the U.S. Census Bureau, 18% of GHSU's current students are classified as being economically disadvantaged. GHSU's program attracts non-first-generation students and first-generation students; approximately 16.3% of students come from a district where 50% or more of the residents graduated or attended college.

There are few or limited studies which investigate generational status in a physician assistant program and self-efficacy specific to a graduate professional program.

Fortunately, Opacic (2003) evaluated self-efficacy in relationship to the PA clinical year (e.g., second year of training), but did not include generation status as a variable.

Research of Self-Efficacy in the Physician Assistant Profession

A review of the literature found few studies which have investigated self-efficacy in relationship to clinical performance in healthcare. A few studies investigated areas of healthcare such as medicine and nursing. However, Opacic (2003), a physician assistant, evaluated the relationship between self-efficacy and student physician assistant clinical performance, which occurs during the second year of training. The researcher's main goal was to determine if self-efficacy could be used as a predictor of a physician assistant student's clinical performance.

The researcher conducted this study by utilizing 290 students from 10 physician assistant programs in Pennsylvania. The results of the study showed that self-efficacy was a significant predictor of clinical performance (Opacic, 2003). While these findings indicate that self-efficacy applies to medical education as well as social sciences, this study did not consider generational status nor did it evaluate the relationship of a specific course, such as Anatomy, to self-efficacy. In addition, Opacic's study does not discuss the unique experiences of first-generation students in a graduate professional school and how self-efficacy relates to success, challenges, and strategies for first-generation graduate professional students. Therefore, further research needs to be undertaken to evaluate self-efficacy and generational status in a physician assistant program.

Chapter Summary

A comprehensive review of the literature indicated several challenges for first-generation students. However, most of the research has looked at undergraduate programs with very little study of graduate programs. Additionally, researchers and others often assume that first-generation students are a homogeneous group whereas this may not be the case. Unfortunately, the literature is limited regarding graduate programs, especially graduate professional programs. Research comparing self-efficacy between first-generation and non-first-generation students in a graduate professional program is very much needed. The need is crucial for research which explores the perceptions of first-generation students in a graduate professional program regarding experiences, contributors, and successful strategies relative to self-efficacy as related to completing their degree program.

CHAPTER III

METHODS

The purpose of this mixed method study was to determine if a relationship exists between self-efficacy scores and a final program course grade for first-generation graduate professional college students and non-first-generation graduate professional college students in a physician assistant program. Additionally, the researcher sought to explore the perceptions of first-generation graduate professional program students regarding experiences, contributors, and successful strategies relative to self-efficacy as they related to completing their degree program. Chapter III presents the study's methodology. It consists of: (a) research questions; (b) research design that includes a rationale for a mixed method approach; (c) the role of the researcher; (d) sample; (e) instrument; and, (f) data collection and data analysis.

Research Questions

With few results after thoroughly searching for empirical studies of professional graduate first-generation students and self-efficacy as related to student success, the researcher sought to ascertain more about these variables. The researcher desired to determine if a relationship exists between self-efficacy and a final course grade based on generation status. The researcher also sought to explore the perceptions of first-generation graduate professional program students regarding experiences, contributors, and successful strategies relative to self-efficacy as they related to completing their degree program. Therefore, the following questions served as the overarching research question and sub-questions for this mixed method study:

- 1). What impact does self-efficacy have on the success of students in a graduate professional physician assistant program?
 - a) What is the relationship between self-efficacy and final grades in an Anatomy course based on generation status?
 - b) What are first-generation students' self-efficacy beliefs in regard to contributors, challenges, and strategies to completing their graduate professional programs?

Research Design

The overarching question and the sub-questions steered the study towards utilizing a mixed method approach, which included both quantitative and qualitative data collection and analysis. A mixed method study, which included both quantitative and qualitative components, was vital to obtaining substantive information detailing and interpreting the phenomena under study. In essence, this study provides both a quantitative and qualitative analysis of issues concerning professional graduate students' generation status and its relationship to self-efficacy based on a mixed method design. Therefore no portion of this study was given higher priority than the other. According to Creswell (2007), "priority occurs in a mixed methods study through such strategies as whether quantitative or qualitative information is emphasized first in the study, the extent of treatment of one type of data or the other, and the use of a theory . . . for the study" (p. 213).

Rationale for Mixed Method

The researcher's personal view on investigating the unknown was to examine multiple perspectives in order to gather information as close to reality as possible, which is essentially pragmatic in nature. According to Creswell and Plano-Clark (2011), pragmatism includes varied approaches based on what works with emphasis on objective and subjective knowledge. Among the various research paradigms, *postpositivism* and *constructivism* appear to expand upon the research questions and support a mixed method approach for this study. The postpositivist view is seen as epistemological in doctrine (Gall, Gall, & Borg, 2007). "Epistemology is the branch of philosophy that studies the nature of knowledge and the process by which knowledge is acquired and validated" (Gall et al., p. 15). The postpositivist paradigm supports objective data, as this researcher sought to explore, by including a quantitative component. Therefore, the researcher utilized the mixed method approach in order to understand the relationship between self-efficacy (independent variable) and student achievement (final Human Gross Anatomy [Anatomy] course scores as the dependent variable) in professional graduate students. Self-efficacy, the independent variable, was measured for all participants by using the General Self-Efficacy Scale (http://userpage.fu-berline.de/health/faq_gse.pdf) by Schwarzer and Jerusalem. Each participant provided demographic information (Appendix A) which assisted the researcher in identifying first-generation and non-first-generation participants. Demographic information consisted of participants' (a) age, (b) gender, (c) ethnicity, (d) first versus non-first-generation student status, (e) marital status, (f) highest degree obtained, and (g) academic measures such as GPA. Information

obtained from the questionnaire provided the quantitative component of the mixed method design. Descriptive statistics were utilized to analyze the demographic data.

On the other hand, the constructivism paradigm is based more on interpretations and ascribed meanings by individuals of the social environment who are actually involved in it (Gall et al., 2007). As a result, the researcher interviewed a maximum of 10 first-generation students in order to understand their experiences in a professional graduate program based on the constructivist perspective. The interviews provided an opportunity to explore the perceptions of first-generation graduate professional program students regarding experiences, contributors, and successful strategies relative to self-efficacy as they related to completing their degree program. This component of the study provided the qualitative aspect for the study in order to capture true meanings of the students' experiences, contributors, and successful strategies. The researcher did not interview non-first-generation students. With that being the case, the quantitative and qualitative components were utilized to understand the role of self-efficacy for first-generation students in a graduate professional program.

The Role of the Researcher

Due to the researcher's employment within the University System of Georgia and at the Georgia Health Sciences University, the researcher chose to use both quantitative and qualitative measures to substantiate the findings of this study. "By mixing the datasets, the researcher provides a better understanding of the problem than if either dataset had been used alone" (Creswell & Plano-Clark, 2007, p. 7). The researcher is a first-generation student who has a very strong interest in how self-efficacy interplays with student achievement and students' personal experiences and struggles as first-generation

students. Since the researcher has some personal attachment to the issue, the researcher chose to study other first-generation students via quantitative and qualitative measures in order to obtain as much rigor and thoroughness to the issue of generation status. For the purpose of this study, the role of researcher will be as an observer participant. The goal of the researcher is to prevent as much bias as possible.

Sample

The convenience sample for phase I of this study consisted of 87 physician assistant students matriculating through Georgia Health Sciences University's Physician Assistant Program located in Augusta, Georgia. All of the prospective study participants were currently enrolled in a professional master's degree program which awards a Master's of Physician Assistant Degree (MPA). Out of the total number of students targeted for the study, 48 were second year physician assistant students and the remaining 39 were first year students. For phase II of this study, criteria sampling was used. Gall et al. (2007) have described criterion sampling as the selection of cases to satisfy an important criterion. The researcher utilized a convenience sample and sampled only students from GHSU in order to obtain the best response rate for the quantitative component.

The GHSU PA program is comprised of a diverse student body. The student body changes from year-to-year. The Class of 2011 was made up of 14 males, 35 females; 9 out-of-state residents, 40 in state residents; and average age 26. On average the demographics consist of a greater number of female versus male students, single versus married students, traditional versus non-traditional, and students with previous healthcare experience versus students with limited healthcare experience. According to

the U.S. Census Bureau, 18% of GHSU's current students are classified as economically disadvantaged.

The MPA degree program is a 27 month program which includes didactic and clinical components. The didactic component consists of classroom instruction; the clinical component is the supervisory phase of the training where students are allowed to practice their skills prior to formal employment. First year students are in their didactic phase of training. Second year students are in their clinical phase of training.

Instruments

The first instrument utilized for the study was a demographic questionnaire (Appendix A) designed by the researcher. The demographic questionnaire identified participants as either first- or non-first-generation students based on whether or not either parent attended college. The demographic questionnaire also assisted the researcher in understanding the unique personal and academic backgrounds of each participant. In addition, the questionnaire allowed participants to consent to a future interview and self-report their Anatomy course grade using a letter grade rather than a numerical grade. Based on the design of the study, the demographic questionnaire was followed by the qualitative component of the study.

Based on the responses from the quantitative (demographic) component of the study, participants were classified by the researcher into a second category based on generation status: students who were first-generation and those who were non-first-generation. Any participant with one or more parents who attended college was considered a non-first-generation student. Any participant with no history of either parent attending college was classified as a first-generation student.

Data from the closed-ended demographic questions assisted the researcher in understanding the unique personal and academic background of each participant in the study population. The researcher used this data to compile the demographic profile of respondents. This included information about age, ethnicity, highest degree obtained, etc. After completing the demographic survey, each participant was directed to complete the Generalized Self-Efficacy Scale (http://userpage.fu-berline.de/health/faq_gse.pdf) by Schwarzer and Jerusalem. This scale was utilized to obtain quantitative data with a major focus on level of self-efficacy. The researcher obtained and tallied the results of the GSE. The total possible points from the GSE scale are 40.

The researcher utilized the GSE, which is a 10-item psychometric scale originally created by Schwarzer and Jerusalem in 1981 but adapted by Schwarzer and Greenglass in 1999 to evaluate coping and optimism. Each of the 10 items allows participants to select one of four responses. For example, (1) means *not true at all* and (4) means *very true*. The total maximum score from the GSE is 40. The GSE scale required about 5 minutes for completion.

Studies have shown that the GSE scale has high reliability and construct validity (Leganger et al., 2000; Schwarzer, Mueller, & Greenglass, 1999). “The scale has been used in numerous research projects, where it typically yielded internal consistencies between 0.75 and 0.91” (Schwarzer et al., p. 149). Gall et al. (1999) stated that a Cronbach’s alpha, which is a reliability coefficient of .70 or higher, is usually sufficient. Therefore, the GSE scale, which was utilized to obtain a quantitative measure of each subject’s level of self-efficacy, has the necessary reliability. Schwarzer (2009) has granted permission for research students to use his scale (

berline.de/health/faq_gse.pdf) if recognition of the source is included in the list of references.

The third instrument consisted of a pre-designed list of 17 interview questions (Appendix B) developed by the researcher. The interview questions consisted of a list of open-ended questions designed to obtain information for the qualitative component of this study. Face validity was established by utilizing reportable findings of renowned researchers in the area of first-generation status (Pascarella et al., 2004; Riehl, 1994). The interview questions were tested in a pilot study and revisions were made based on participants' feedback. Questions in the third instrument expanded on questions in the two previous questionnaires.

Data Collection

Phase I. After approval from the Institutional Review Board at Georgia Southern University (Appendix F) and from the Human Assurance Committee (HAC) (Appendix G) at GHSU, the demographic questionnaire along with the Generalized Self-Efficacy scale was administered via *Zoomerang*©, an online survey instrument, to each of the 87 students. Due to the time constraints of each student, an online process was more efficient for phase I. The questionnaire and the GSE scale stated the purpose of the study, that participation was voluntary, and that their participation assisted in fulfilling the researcher's doctoral program requirements. No monetary assistance was provided to participants. In addition, the participants were informed that results of the demographic questionnaire and GSE scale were confidential but not anonymous due to the identifiers requested in the demographic questionnaire.

Phase II. Participants were asked during administration of the online instrument to indicate their consent to a possible interview by the researcher in the near future. Any interested participant who selected to be part of the interview phase provided contact information which was utilized by the researcher to initiate an interview. A list of open-ended interview questions as well as a written consent form was provided to each participant.

The informed consent form outlined the purpose and significance of the study. Written statements informed participants that participation was completely voluntary and that no compensation would be distributed for their services. Additionally, participants were informed that they could freely withdraw from the study at any time. Both the demographic questionnaire and GSE scale were released and accessed simultaneously through the *Zoomerang*© link provided via email.

As previously discussed, after obtaining the results of the demographic questionnaire and GSE scale, the researcher reviewed the participants who indicated interest in being part of an interview. The researcher interviewed four students who were first-generation and who consented to be interviewed. This type of purposeful sampling is called criterion sampling.

The participants were contacted and an interview was arranged in a private setting. Each participant consented to the interview and received a copy of the signed consent for his or her records. An audio recording of the interviews was created, and the sessions lasted from 45 minutes to an hour.

Data Analysis

For the data analysis component of the study, quantitative measures were obtained from the demographic questionnaire and the GSE Scale. The researcher chose the GSE scale in order to evaluate the major construct which was self-efficacy. Based on each participant's response to the 10-item GSE scale, total scores were calculated.

The demographic questionnaire provided essential information for understanding first-generation professional students. Reportable statistical data from this questionnaire included (a) age, (b) gender, (c) ethnicity, (d) first- versus non-first-generation student status, (e) marital status, (f) highest degree obtained, and (g) academic measures such as GPA. Also, the questionnaire requested each participant's final Anatomy course grade in the form of a letter grade rather than a numerical score.

Data from the demographic questionnaire and GSE scale were analyzed to determine if a difference existed between self-efficacy scores of first-generation graduate professional college students and non-first-generation graduate professional college students. Bivariate correlational statistics were utilized to determine if a relationship existed between two variables, (a) the level of self-efficacy based on the GSE scale, and (b) student achievement as measured by the Anatomy course score. Since data for both variables are continuous scores, a Pearson product-moment correlation coefficient (r) was used.

The researcher compiled the results of the demographic questionnaire and identified first-generation and non-first-generation students, separating participants into two groups. This step was important due to the nature of the study and for identifying first-generation students to be interviewed.

SPSS© was the statistical software package used to analyze data from the demographic questionnaire and GSE scale. Results from both instruments gave descriptive information such as group means which were reported in a tabular format. Since generational status consisted of two sub-groups, first-generation and non-first-generation students, a *t*-test assisted in understanding and comparing the means of both groups in regard to self-efficacy scores and the final Anatomy course grade score. Chi-square as well as descriptive statistics were utilized to determine averages and significance.

Responses from the individual interviews were used to explore the second research sub-question. The researcher transcribed the recordings and conducted several readings in order to create codes for data in the transcripts. Then the researcher input codes to identify major patterns/themes. The researcher was the only coder for the qualitative component. The findings from the qualitative component of this mixed method study are presented in narrative form and review common themes from the participants' responses. Findings are presented in Chapter IV.

The researcher used major findings from the study and literature review to expound on future implications for further research and to summarize major theories with comparative and contrasting views. The researcher summarized findings after mixing the quantitative and qualitative components. The point of interface occurred during the data analysis process after analyzing separately the findings from each method and then combining them. Chapter V ends with an analysis and discussion of these findings. The researcher believes that reportable data will inform educational research in the area of first-generation professional graduate students.

Chapter Summary

The purpose of this mixed method study was to determine if a relationship exists between self-efficacy scores and a final Anatomy course grade for first-generation graduate professional college students and non-first-generation graduate professional college students in a physician assistant program. The researcher also sought to explore the perceptions of first-generation graduate professional program students regarding experiences, contributors, and successful strategies relative to self-efficacy as they related to completing their degree program. The researcher selected a mixed method approach consisting of a convenience sample of 87 physician assistant students matriculating at the Georgia Health Sciences University's Physician Assistant Program. Data collection for the study consisted of the General Self-Efficacy Scale, a demographic questionnaire, and an interview session with first-generation students only. The findings are presented in Chapter IV. All interview questions (Appendix B) are addressed with a focus on self-efficacy and the major themes presented in the literature review.

CHAPTER IV

DATA ANALYSIS

The purpose of this mixed method study was to determine if a relationship exists between self-efficacy scores and a final program course grade for first-generation graduate professional college students and non-first-generation graduate professional college students in a physician assistant program at the Georgia Health Sciences University, graduating classes of 2011 and 2012. The study involved two phases, phase I and phase II. Between the combined classes (e.g., classes of 2011 and 2012), the total sample size was 59. In phase I of the study (quantitative data collection), 59 participants completed the demographic questionnaire and the Generalized Self-Efficacy Scale via *Zoomerang*®. Responses from phase I assisted the researcher in identifying participants for phase II, the qualitative component which employed interviews with selected participants.

Due to the researcher's employment within the University System of Georgia at the Georgia Health Sciences University, the researcher chose to use both quantitative and qualitative measures to substantiate the findings of this study. The researcher is a first-generation student (FGS) who has a strong interest in how the self-efficacy of the FGS interplays with student achievement and the student's personal experiences and struggles. Since the researcher has some personal attachment to the issue at hand, the researcher chose to study other first-generation students via quantitative and qualitative measures. For the purpose of this study, the role of researcher was as an observer participant. The researcher sought to explore the perceptions of first-generation graduate professional program students regarding experiences, contributors, and successful strategies relative to

self-efficacy as they related to completing their degree program. Therefore, Chapter IV elaborates and interprets the objective (e.g., quantitative) and the subjective (e.g., qualitative) findings of this mixed method study based on the results of the data analysis.

Research Questions

After thoroughly searching for empirical studies in the area of professional graduate first-generation students and self-efficacy as related to student success, the researcher sought to ascertain more about these variables. Additionally, the researcher desired to determine if a relationship exists between self-efficacy and a final course grade based on generation status. The researcher also sought to explore the perceptions of first-generation graduate professional program students regarding experiences, contributors, and successful strategies relative to self-efficacy as related to completing their degree programs. Therefore, the following questions served as the overarching research question and sub-questions for this mixed method study:

- 1). What impact does self-efficacy have on the success of students in a graduate professional physician assistant program?
 - a) What is the relationship between self-efficacy and final grades in an Anatomy course based on generation status?
 - b) What are first-generation students' self-efficacy beliefs in regard to contributors, challenges, and strategies to completing their graduate professional programs?

Research Design

The purpose of the study and the overarching question and sub-questions dictated utilization of a mixed method approach, including both quantitative and qualitative data collection and analysis. A mixed method study was vital to obtaining substantive information that will both detail and interpret the phenomena under study. In essence, this study provided both quantitative and qualitative data analysis of issues resulting from the relationship between generation status and self-efficacy of first-generation graduate professional college students.

Phase I: Quantitative Data Analysis

A demographic questionnaire and the Generalized Self-Efficacy Scale were distributed in September 2011 to 87 participants from the classes of 2011 and 2012 at Georgia Health Sciences University in Augusta, Georgia. The questionnaire and scale were launched via *Zoomerang*© with a return response of 68.0% (e.g., 59 out of 87 completed responses were received). Anonymity was not ensured but responses were kept confidential. Out of the 60 students who attempted the survey, only one respondent decided not to complete the survey. Therefore, the results of the study consisted of a sample of 59 (68%) consenting participants. Data were collected over approximately two weeks with three survey reminders.

Demographic Profile of Respondents

As stated in Chapter III, participants in the quantitative component were asked to complete a demographic questionnaire answering questions about age, gender, ethnicity, marital status, final Anatomy course grade (self-reported), etc. Findings were as follows.

Generation status. Of the 59 participants who completed the survey, 18.6% ($n = 11$) were first-generation students (FGS) and 81.4% ($n = 48$) were non-first-generation students (NFGS). On the survey, respondents checked either *yes* or *no* to *if either parent attended college*. Results from this question assisted the researcher in determining which participants were actually first- versus non-first-generation students. Any participant with one or more parents who attended college was considered a non-first-generation student. Any participant with no history of a parent attending college was classified as a first-generation student (Figure 1).

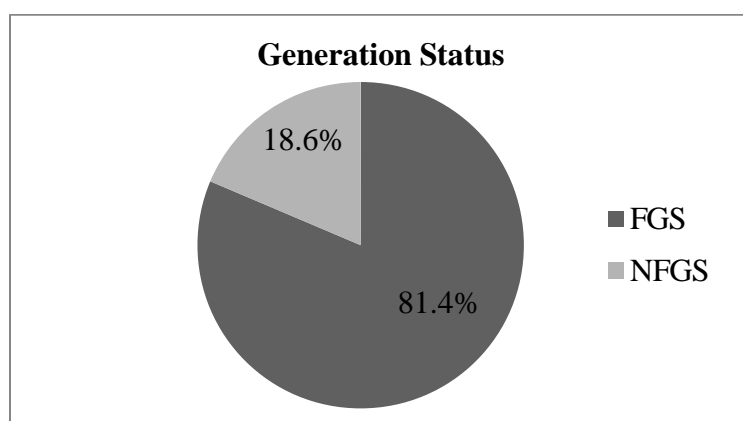


Figure 1. Generation status. FGS = first-generation students; NFGS = non-first-generation students.

Gender. Of the sample, 74.6% ($n = 44$) were females and 25.4% ($n = 15$) were males (Figure 2). The results showed a greater number of female than male respondents. This was expected due to a higher number of female physician assistant students than male students in the target population. Also, this result is not surprising, as this gender trend has been noted in many physician assistant programs across the nation.

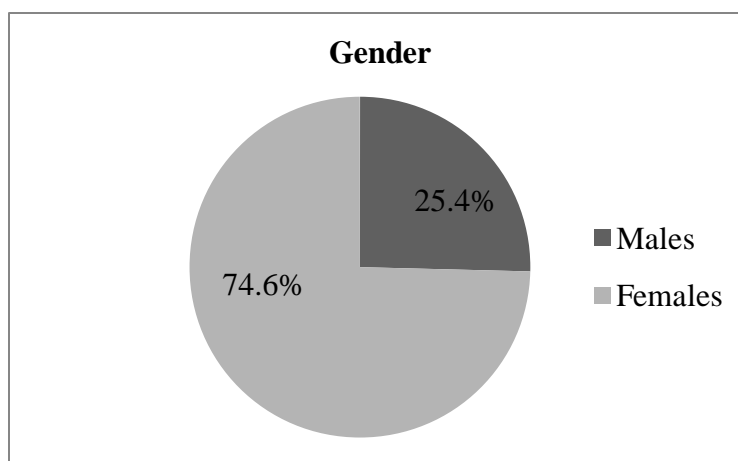


Figure 2. Gender of respondents in percentages. Female, $n = 44$ (74.6%); male, $n = 15$ (25.4%).

Ethnicity. The ethnic composition of the respondents ($n = 59$) is shown in Figure

3. Responses showed a higher percentage of Non-Hispanic White/European American participants at 91.5% ($n = 54$) and lower percentages for other ethnicities. Ethnicities were: 1.7% ($n = 1$) for Multiracial; 1.7% ($n = 1$) for Other; 3.4% ($n = 2$) for Asian American; and 1.7% ($n = 1$) for African American. No respondents selected Native American, Pacific Islander, or Latino/Hispanic as an option. Therefore, Non-Hispanic White/European American participants comprised the majority.

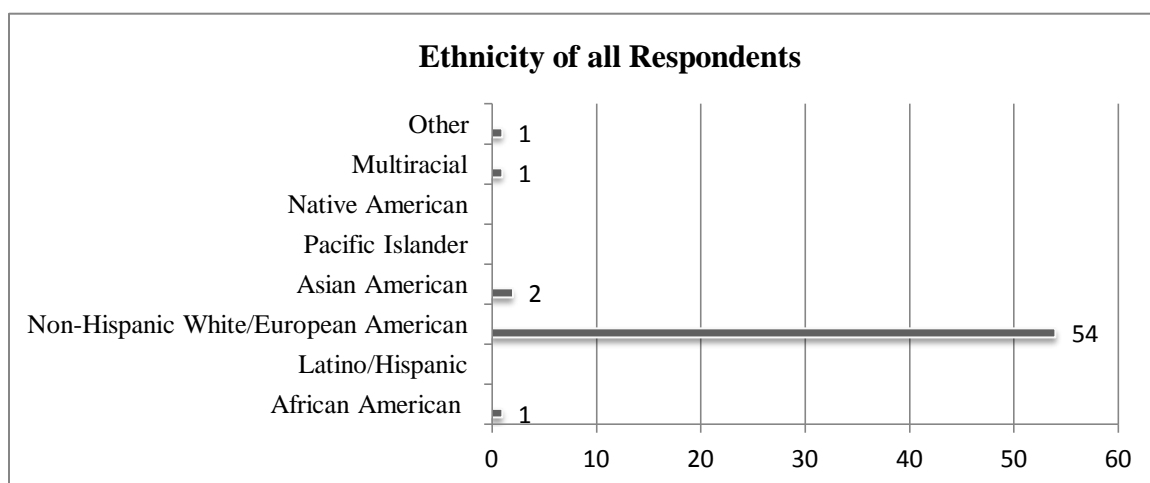


Figure 3. Ethnicity of respondents to survey.

Marital status. In terms of marital status (Figure 4), the majority of respondents ($n = 59$) were married (49.2%, $n = 29$) and almost half were single (47.4%, $n = 28$). Of the remaining participants, 3.4% ($n = 2$) were divorced and none selected Other 0% ($n = 0$).

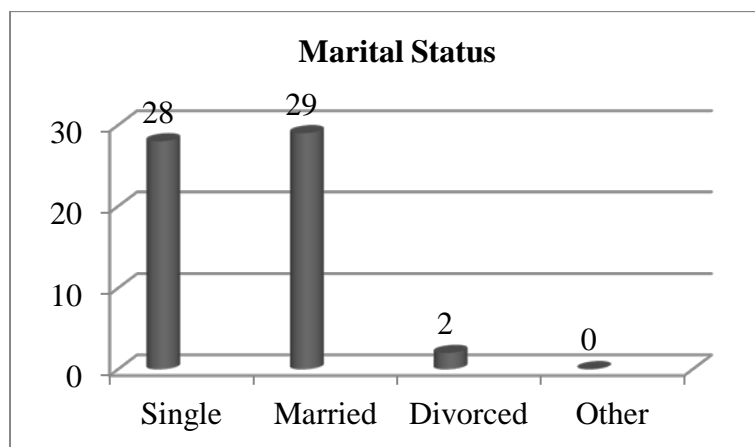


Figure 4. Marital status of respondents.

Comparative demographics based on generation status. In addition to basic demographic characteristics, the researcher sought to obtain descriptive information about the generation status of participants in the sample. In other words, the researcher desired to evaluate the characteristics of the FGS and the NFGS independently. This information enhanced the understanding of the general makeup of each group in terms of gender, ethnicity, and marital status. In terms of FGS gender, 36.4% ($n = 4$) were male and 63.6% ($n = 7$) female. Among the NFGS, 22.9% ($n = 11$) were male and 77.1% ($n = 37$) were female.

The breakdown of FGS ethnicity was 90.9% ($n = 10$) Non-Hispanic White/European American and 9.1% ($n = 1$) Multiracial. NFGS ethnicity was 2.1% ($n = 1$) African American; 91.6% ($n = 44$) Non-Hispanic White/European American; 4.2% ($n = 2$) Asian American; 2.1% ($n = 1$) Other.

FGS marital status was 54.5% ($n = 6$) single and 45.5% ($n = 5$) married. In contrast to FGS, NFGS marital status was 45.8% ($n = 22$) single; 50% ($n = 24$) married; 4% ($n = 2$) divorced. All of the previous data gave the researcher a more detailed description of the participants which, in turn, provided greater understanding of both groups when interpreting the quantitative and qualitative results.

Quantitative Findings Based on Generation Status

One of the components of this study was presentation of demographic data describing the sample. However, it is also necessary to present the quantitative data relative to generation status. Further, data from the demographic questionnaire and the Generalized Self-Efficacy Scale assisted in understanding the unique personal and academic backgrounds of each participant based on generation status. Therefore, the researcher tabulated data collected from NFGS and FGS using SPSS[®]. The data demonstrated that the mean GPA of NFGS prior to physician assistant school was 3.66 and their mean GPA after the first semester of PA school was 3.75 (Table 1). FGS' mean GPA prior to PA school was 3.61 and their mean GPA after one semester of PA school was 3.75 (Table 2). Participants self-reported these results on the demographic questionnaire.

Table 1

NFGS' GPA Prior to PA and GPA After One Semester

Variables	Minimum	Maximum	Mean	Std. Deviation
Age	23	52	27.88	5.945
GPA prior to PA school ^a	3.15	4.00	3.66	0.23754
GPA after one semester ^b	3.00	4.00	3.75	0.26834

Note. $N = 48$.

^aOnly 47 out of 48 respondents reported GPA prior to PA school. ^bOnly 44 out of 48 respondents reported GPA one semester after PA school started.

In comparing GPA prior to PA school, FGS have a slightly higher minimum GPA (3.32) in comparison to NFGS (3.15). Also, FGS have a slightly higher minimum GPA (Table 2) after one semester of PA school (3.50). These numbers are based on 59 participants, where 11 are FGS and 48 are NFGS.

Table 2

FGS' GPA Prior to PA and GPA after One Semester

Variables	Minimum	Maximum	Mean	Std. Deviation
Age ^a	24	49	30.64	7.632
GPA prior to PA school ^a	3.32	4.00	3.61	0.21533
GPA after one semester ^b	3.50	4.00	3.75	0.18400

Note. $N = 11$.

^aTen respondents provided GPA prior to PA school. ^bEleven respondents provided age and GPA after one semester of PA school.

Final Anatomy Course Grades

Respondents were students in the Georgia Health Sciences University Physician Assistant program who had completed the Human Gross Anatomy course. Anatomy is a course used by faculty as a possible indicator of future program success. The researcher chose to include the final Anatomy course grade as a variable to compare with self-efficacy and generation status. Participants were asked to self-report their final course grade in the form of a letter grade (e.g., A, B, C, D, or F), not as a numerical score. The letter grade was reported on the demographic questionnaire. Figure 5 shows the scores reported for the Anatomy course. All respondents indicated receiving either an A or a B as their final grade. No students reported a grade of a C. Therefore, 33.9% ($n = 20$) of the participants reported a grade of a B and 66.1% ($n = 39$) reported a grade of A, giving a total of 59 responses. Of the FGS, 63.6% ($n = 7$) reported an A and 36.4% ($n = 4$) reported a B. Of the NFGS, 66.7% ($n = 32$) reported an A and 33.3% ($n = 16$) reported a B.

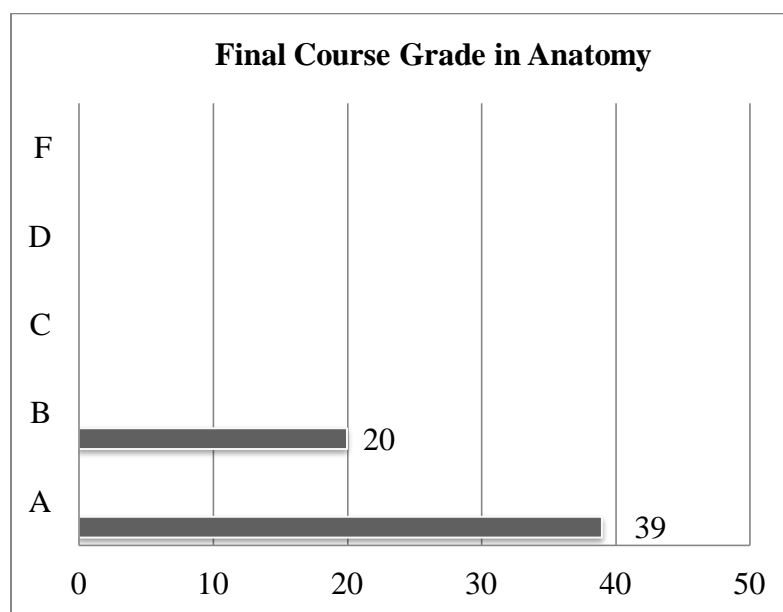


Figure 5. Final anatomy course grades

Self-Efficacy Scores

Respondents were asked to complete Schwarzer and Jerusalem's Generalized Self-Efficacy Scale (GSE). Results of the GSE were used to determine each participant's total self-efficacy score. Participants voluntarily responded to a 10-item question set relating to self-efficacy. Each respondent selected one of four possible responses. For example, (1) indicates *not true at all* and a (4) indicates *very true*. The maximum score possible on the self-efficacy scale was 40. The total self-efficacy scores allowed the researcher to assess each participant's level of self-efficacy. This was phase I of the mixed method study.

The total self-efficacy mean score for the sample demonstrated a fairly high self-efficacy score for the entire group ($M = 35.80, SD = 3.02$). When separating the sample into FGS and NFGS subgroups, the results were different. The FGS had a self-efficacy score as low as of 26 and the NFGS had a minimum self-efficacy score of 30. However, the FGS had a higher mean ($M = 36.09, SD = 4.25$) than the NFGS ($M = 35.72, SD = 2.71$). Additionally, the standard deviations reported for both FGS and NFGS have a wide range of differences. In fact, there is a greater range of self-efficacy scores reported by the FGS in comparison to scores reported by the NFGS. These results are reported in Table 3.

Table 3

Comparison of Mean Self-Efficacy Scores for FGS and NFGS

Categories	<i>N</i>	Minimum	Maximum	Mean	Std. Deviation
FGS' SE	11	26	40	36.0909	4.25334
Total					
NFGS' SE	48	30	40	35.7292	2.71120
Total					

The researcher also compiled the frequency results (Table 4) of the total self-efficacy scores for each both FGS and NFGS. Results showed that the highest frequency of self-efficacy score was 38 among both groups. The self-efficacy score of 36 was the second most reported score. However, the FGS group reported the lowest self-efficacy score, 26, of both groups.

Table 4.

Frequencies of Total Self-Efficacy Scores

Total Self-Efficacy Scores	Frequency of Occurrences	
	FGS	NFG
40	1	3
39	1	6
38	5	7
37		3
36	2	7
35		6
34		5
33		5
32		3
31		1
30	1	2
26	1	
Total	11	48

In addition, the researcher explored the relationship among individual GSE items on Schwarzer and Jerusalem's scale. The researcher utilized SPSS© to analyze the average numerical score for each of the ten items on the GSE scale for FGS and NFGS. Then the researcher utilized Schwarzer's data from 2009 for 18,000 adult participants'

data (http://userpage.fu-berline.de/health/faq_gse.pdf). Table 6 (Appendix C) displays the scores for all three groups. In review of the table results, it appears that the FGS group achieved higher on all ten items in comparison to the norm adult population. NFGS achieved higher on all items except Q2. Item Q2 reads, If someone opposes me, I can find means and ways to get what I want.

Interestingly, it was noted that FGS, ranked the highest on Q1, Q5, and Q6 (Appendix C). These three question items related to the ability to manage difficult problems, being resourceful and solving problems with necessary effort. The remaining question items were high as well, but overall, these three were the highest for the FGS.

Relationship Between Self-Efficacy and an Anatomy Course Grade for FGS

The researcher conducted a bivariate correlation using Pearson's correlation of the two variables self-efficacy and Anatomy to evaluate their relationship for FGS. The results displayed a negative correlation, $r(n = 11) = -.017, p > .05$. The two variables (self-efficacy and Anatomy course grade) were inversely proportional. The researcher concluded there is no significant relationship between self-efficacy and Anatomy course grade for FGS.

Relationship Between Self-Efficacy and an Anatomy Course Grade for NFGS

The researcher conducted a bivariate correlation using Pearson's correlation of the two variables self-efficacy and Anatomy to evaluate their relationship for NFGS. A positive correlation appears for self-efficacy and a final Anatomy course grade for NFGS, $r(n = 48) = .005, p > .05$. The two variables (self-efficacy and Anatomy course grade) were weakly correlated. The researcher concluded that there is no significant relationship between self-efficacy and Anatomy for NFGS.

Difference in Anatomy Course Scores Between FGS and NFGS

A *t*-test of independent samples was used to compare the FGS and NFGS mean Anatomy course scores to determine if a significant difference existed between the two groups. The data revealed a calculated significance of $t(57, -.188), .725, p > .05$. Therefore, no significant difference exists between the two groups' Anatomy course scores.

Additionally, the researcher utilized a chi-square analysis to evaluate significance based on frequency of occurrences in order to determine if there was a difference between the Anatomy course grade for FGS and NFGS. The researcher hypothesized that there was no difference in the sample. The chi-square test, based on the actual and expected occurrences, gave a result of ($\chi^2 = 0.848129; df = 1; p > .05$), which is greater than an alpha level .05. The researcher accepted the null hypothesis that there was no difference between the two groups. Therefore, the researcher proposes there is insufficient evidence to conclude that FGS and NFGS Anatomy scores are significantly different.

Difference in Self-Efficacy Scores Between FGS and NFGS

A *t*-test of independent samples was used to compare the FGS and NFGS mean self-efficacy scores to determine if there was a significant difference between self-efficacy among the two groups. The data revealed a calculated significance of $t(57, -.356), .235, p > .05$. In other words, there was no significant difference between the FGS and NFGS self-efficacy scores.

Phase II: Qualitative Findings Based on Generation Status

The second research sub-question explored self-efficacy beliefs in regard to contributors, challenges, and strategies of first-generation students in completing their graduate professional program. Self-efficacy, as stated previously, describes one's belief in his or her ability to take on new tasks or challenges. The second phase of the study was designed to seek answers to this question through interviews with first-generation graduate physician assistant students.

The second phase of the mixed method study consisted only of interviews with consenting first-generation students. These individuals consented to an interview by providing contact information on the quantitative survey (demographic questionnaire). Because the emphasis of the study was on FGS' experiences, contributors, and successful strategies relative to self-efficacy as they related to completing a degree program, NFGS were not included in the interview process.

The researcher was intent on interviewing 10 first-generation students in order to understand their experiences in a professional graduate program based on the constructivist perspective which involves interpretations and ascribed meanings. In other words, the researcher sought to determine the hidden meanings behind the participants' responses. Four of the 11 FGS out of the total 59 participants consented to and were included in the interview phase of this study. To protect confidentiality, participants are identified by a code which begins with the letters *SE* and a number following the letters. As their narrative is presented, each participant will be noted as SE05, SE06, SE19, or SE47.

Description of Participants

The composition and qualitative information about the four interviewees is important for understanding their background. The four interviewees were all Caucasian and included one male and three female participants. Ages ranged from 24 to 49, with an average age of 31.75 years (Table 5). Results showed that 75% ($n = 3$) were married and 25% ($n = 1$) were single. None of the participants had a parent who attended college; therefore, they were all first-generation students. Furthermore, all participants had either completed the entire PA training or were matriculating during the second phase of their PA training (e.g., clinical year). In fact, two participants were in their clinical year and the other two participants had completed their PA training.

Table 5 displays descriptive information about the four participants in a tabular format. Also included in the table are the self-efficacy scores for the four participants. The table displays score ranges from 36 to 40. In comparing Schwarzer's (2009) listing of norms for self-efficacy in the U.S. American adult population (http://userpage.fu-berline.de/health/faq_gse.pdf), the four participants rated higher than the U.S. American adult norm scores ($M = 29.48$, $SD = 5.13$). Additionally, Anatomy course scores are presented in the form of a letter grade. Two participants received an A and two received a B. This group of FGS performed well academically.

Although this was a competent group with high academic achievement, they were not a normal distribution. They were highly capable students to begin with (refer to Tables 1 and 2) and it was no surprise that they had high self-efficacy scores and A or B grades in Anatomy. The same findings may not occur in a program which has less rigid admissions requirements.

Table 5

Descriptive Information for Respondents Participating in the Qualitative Component of the Study

Identifier	Age	Gender	Marital Status	Self-Efficacy Total	Anatomy Course Grade
SE05	24	Female	Married	36	B
SE06	29	Female	Married	36	A
SE19	25	Male	Married	38	A
SE47	49	Female	Single	40	B

Note. All four participants were Non-Hispanic White/European American

Each participant had a different account of her/his academic achievement, personal struggles and experiences, as well as beliefs in herself/himself. Participants were more than willing to give personal accounts of their experiences in order to assist future students or educators in the area of self-efficacy.

Responses from the four participants were transcribed and coded for similar meanings and interpretations. As the researcher interpreted the four interview transcripts, several common themes and topics emerged. It was the researcher's desire to understand the experiences of the participants and to present them in a thorough and comprehensive manner. In the following section, the researcher will present themes that emerged from data analysis of the second sub-question.

The second research sub-question involved sources of self-efficacy that have contributed to completing a graduate professional degree, sources of self-efficacy that emerged as challenges in a graduate professional degree program, and strategies used by FGS to overcome their challenges. The researcher will present common themes

described by the participants about self-efficacy beliefs that contributed to completion of their program.

Common Themes

Interview responses demonstrated that the four participants were confident in their ability. Each of them believed, he/she “can do anything.” They believed they can accomplish whatever they set their mind to do, with the awareness that much work may be required. The four participants were also aware of what works for them or which types of tools are necessary to do well. Tools may have consisted of utilizing their personal skills (e.g., personal drive, self-motivation, positive imagery) and/or resources to get the job completed. Each of them also reflected on past successes as a way to succeed in a new challenge. Self-doubt may have been present at the onset of the new challenge, but it went away as the participant observed his or her success.

Previous experiences assisted the participants in managing new situations, even if the past experiences were not related to healthcare. Participants reported that previous jobs which required much work and training or organization, prioritizing, and people skills were vital in assisting them in PA school. The experiences from the past were applied to future experiences with the attitude that if it worked before, it will work again but in a different situation. Two participants, SE06, SE19, gave personal encounters of having a not so easy childhood where situations did not weaken them, but made them stronger.

Participants felt it came easy for them to multitask, stay focused, communicate, apply effort and time to the task, and memorize facts. In fact, one participant stated, that it was “easy to learn.”

Responses showed the highest level of confidence occurred during actual hands-on experiences. For example, confidence increased as the students were allowed to practice what they had learned. Areas of highest confidence were presented with patient care/clinical rotations and small groups. Confidence was also built when answering questions correctly.

The respondents' viewpoint of themselves as first-generation students was obtained when the researcher investigated the effect of being the first person in their family to go to college on reaching their goal to become a physician assistant. SE19 replied:

It feels great. And I feel like I've got a story of hope to all the people that have given up. And a lot of people, especially now a days, with the economy the way it is, they need to hear a story of hope.

So, SE19 felt proud of his accomplishment as a first-generation student. He hopes his "story" encourages others to continue and not to quit.

SE05 had this reply to the question:

I never considered the fact that my parents didn't go to college. It didn't matter to me at all. So I guess it really – I don't think it had any effect. I really don't. I mean, my parents have been very supportive and confident that I can do it. And so they always have been behind me 100 percent, but I don't think it has discouraged me or encouraged me more to be the first person.

Participant SE05 never considered being a first-generation student and she does not think it would encourage or discourage her. She believed in her own ability. SE47 had a similar viewpoint. SE47 replied:

I don't think I ever thought about being a first-generation [student] . . . my parents have instilled in me to be independent and not to rely on somebody. So whatever it took to be independent and to be happy and to go after what you want. So for me, I always knew a higher education was going to be necessary. Maybe back in the time it was not important to get what they needed. But these days, it is. And just in general for the PA opportunity and today, I mean I'm extremely grateful to have been accepted into the program. I mean this is what - I realized what my dream was and to have the opportunity to pursue it, I've been extremely grateful for it and I don't think being the first-generation or a traditional, for me, either way, [that] it would affect it. Go after what makes you happy and this is it.

Overall, respondents felt that being a first-generation student had no effect or no negative effect on them personally.

Finally, having the support of family was a quality noted by all the participants. The support of family appeared to encourage the students more than anything else. Family was present to assist them through tough academic times and family supported them in their educational endeavors. Even though they did not have much guidance from parents about college life, participants cherished the support that family members did provide. When asked specifically how family assisted them with achieving their goals, participants stated the importance of communication in the sense of having someone to talk with and words of encouragement. Other means of support included mental, emotional, financial, and spiritual.

Common theme 1: Mastery experiences. Life experiences shape a person's character and define who he or she is as an individual. Being a physician assistant student has its challenges and experiences. During the interview, participants discussed several challenges encountered during their collegiate experience as a physician assistant student. The most common challenge was management of the amount of course work as a PA student. Participants discussed the long hours in lecture and the many hours of studying. SE06 said, "There were not enough hours in the day." Other challenges included separation from family and giving up of their social life. However, the students learned to manage both school and family efficiently.

When contemplating the effect of these collegiate experiences, results were positive. Participants felt these experiences reinforced their I-can-do-it attitude with each successful step. SE05 believed she has more of an I-can-do-it attitude after going through some of these experiences. Many participants stated their state of mind or thinking was a factor in what they could do. SE47 stated, "I can do anything I put my mind to do." She used her mental capacities to believe in herself and she knew it had to be set in her mind. Demonstrating her confidence in her ability, SE06 stated, "I always feel like I can do anything."

Participant SE47 used a personal testimony about conquering her previous career. She stated, "It goes back to my . . . career . . . for almost 12 years. I guess before school. It's the same process. I went into a field. I acquired the education . . . And then you start gaining, I guess, experiences and your confidence grows."

Participant SE05 stated, “The fact that I did [patient care as a tech] before, motivates me now to learn more, so that I can continue and obviously become a PA.” SE19 gives the experience of mastering a set of courses. He states, “I had a ton of sciences classes . . . At one point I had to take six science courses in one semester, and I think that was just about the equivalent to one of the tougher semesters in PA school.” Therefore, reflecting on past successes was a stimulator and a motivator for the participants. Overall, these successful experiences encouraged participants to take on new challenges.

Common theme 2: Family support. The second shared theme was participants’ means of support during the physician assistant training. They all immediately responded that family was the major means of support during tough academic times. SE19 stated, “Just being there for me, and having someone to express my success with. That would be the main support.” When asked to be more specific regarding who was more supportive, participants stated that it was their grandmother, husband, parents, or fiancée who was the major support person.

Also in the area of support during taking on new educational endeavors, they all answered yes when asked if their family was supportive of their educational endeavors.

SE06 stated:

Yes, they support me. But they have even less money than I do now. They can’t help me financially. They help me emotionally and spiritually. They encourage me. Even in high school when we took Trig. They never took those classes. I had to learn to do it on my own. Read in a book and figure it out. [I asked

myself] What does this mean? I sought help from faculty members and teachers. My parents couldn't help me.

Participant's SE06 family lacked the education and knowledge to assist her with her courses; however, SE06, felt she had the support she really needed to accomplish her goal through her family's encouragement.

Participant SE05 gave an interesting response about family support in her educational endeavors. She stated, "My parents are incredible . . . They didn't have the same goals in life as I do . . . They don't understand what I'm going through, but they're there to support me in it." She recognized the issue of whether or not the parents understood her experiences in her collegiate endeavors; however, SE05 focused more on the fact that she had her parents there to lean on if necessary.

SE47 listed "good meals, words of encouragement, personal presence, someone to talk to" as essential to her success. SE05 stated that her family assisted her "mentally and financially." On the other hand, SE06 also commented that her family helped her "emotionally and spiritually." So, there were various ways in which each participant evaluated the type of support received.

Friends were identified as helping, but not as frequently as family. SE19 stated, "His name is Bruce. He was my best man at my wedding, and he is very supportive . . . he just shares wisdom all the time for me. And that means a lot, and just being able to call him." Needless to say, even though SE19 had support from friends, it was difficult at times for his friends to really understand the rigors of his collegiate life. SE19 stated:

And my friends, a lot of my friends went in the ROTC, so they did not really have difficult classes to take, so they would be hanging out at the house whenever I got

home from the library studying. And they just didn't understand why I was studying. So that was difficult not being able to hang out with them. But I made it through.

Therefore, friends were utilized as means of support as well as family. However, participants identified family more frequently as the major source of support.

Common theme 3: Self-confidence. The physician assistant program is 27 months of rigorous studying and clinical training in medicine. It requires much discipline, skill, motivation, support, intelligence, and training. Therefore, the researcher sought to understand how FGS describe their self-efficacy beliefs in completing a graduate professional program of this nature. Interview questions were designed to gather that information.

Overall, all respondents believed in their ability to complete the program and accomplish the tasks required of each of them as a physician assistant student. SE47 stated, "It requires the same tools as I used earlier in other experiences." Previous experiences reinforced their I-can-do attitude in regard to new challenges and tasks.

None of the four interview participants had times of doubt about completing the program. SE47 stated that, "It was not an option. I may have been worried about getting into school but once I got into school . . . then I got it. I can do it." Other respondents stated that there was no option as well. SE005 stated, "I've doubted getting the grade I want, but I've never doubted actually finishing." Therefore, none of the participants doubted completing the program. The participants' confidence in their ability overshadowed any appearance of doubt.

Therefore, three themes emerged: (a) mastery experiences, (b) family support, and (c) self-confidence during the coding process. The researcher has included Table 7 (Appendix D) to present a code mapping of the first iteration of initial codes. The table was designed to present the three common themes as previously stated above with quotes from each of the four participants. In addition, interview questions (Appendix D) are displayed in the table to assist with relating the question back to the common themes. The table is presented to demonstrate the relationship between the participants' responses and themes. In addition, Table 7 highlights one of the sources of self-efficacy contributors to success; that is, mastery experiences.

For the purpose of providing a visual relationship among the three themes, the researcher supplied a diagram to demonstrate the connection between the themes. Figure 6 (Appendix E), shows how the three themes build upon each other and their relationship. As indicated by Figure 6, family support is central to the other two themes and to their self-efficacy. Family support aids in boosting the participants' self-confidence and gives them the extra motivation and determination to continue with the task. Self-confidence, on the other hand is also central to mastery experiences and performances. Individuals have to believe in their ability for the expected outcome. Therefore, all three common themes are directed back to self-efficacy.

Self-efficacy Sources as Contributors to Success

The qualitative sub-question sought to explore FGS sources of self-efficacy that contributed to undertaking and completing a graduate professional degree program. The researcher used Bandura's four sources of self-efficacy as discussed in Chapter II: (a) verbal persuasion, (b) mastery experiences, (c) vicarious experiences, and (d) physiological and affective states. Participant SE06 gives this

account of verbal persuasion after being asked about ways in which her family assisted in achieving her goals. Positive comments from a close family member encouraged her to believe in her own ability. Participant SE06 replied:

I am still not remembering it. She [grandmother] would say, 'You can do it. You are my girl. I have faith in you. You can do whatever you want. Just take a break.' She has faith in me so I have to have faith in myself. I want to please her.

A second source of self-efficacy, mastery experiences, can be experienced through successfully accomplishing a task which has a high goal. Reviewing past goal attainments can be used for future goals. SE47 stated:

It goes back to my. . . career . . . for almost 12 years, I guess, before [PA] school. It's the same process. I went into a field, I acquired the education, I came out, I was inexperienced and 'green,' let's say and then you are thinking, 'holy cow,' I can't believe they're paying me to do this. And then you start gaining, I guess, experiences and your confidence grows and you start kind of giggling at yourself, that, look where I'm at now, look what I've accomplished and I can do this if I just – I have the tools, I know I can do it. I've done it before. Okay, you remember how it was. You get through the first couple of months and you're like, 'holy cow.' But your confidence grew and that 'self-doubt,' or whatever, kind of went away.

SE47 utilized previous experiences of success to assist her with a new challenge. She mentions doubt during the new challenge, but then the doubt left as she began to visualize her ability and her confidence increased.

Each of the four participants had to shadow physician assistants in the clinical arena. This allowed interested applicants an opportunity to experience the life of a physician assistant. SE19 stated, “I guess having friends in the field, I knew how satisfying and rewarding the career as a PA would be. So that helped out as a kind of incentive I guess to get through all that.” In addition, it allowed the applicant to have a vicarious experience in healthcare. In essence, the students have a chance to see someone else in action and then they may compare themselves to the healthcare individual.

Physiological and affective states were also observed in the transcribed responses. This source of self-efficacy was not stated as frequently as the other three; however, it did boost the participant’s motivation to continue to reach for their goal. For example, SE06 stated, “I can’t do it. I am so frustrated. I have worked so hard.” Her frustration gave her the power to continue and not quit. This example describes physiological and affective states.

The researcher observed all four sources of self-efficacy during the analysis of the qualitative data. Of the four sources, verbal persuasion and mastery experiences appeared the most frequently. All of these experiences contributed to their success.

Self-efficacy Sources as Challenges to Success

The second qualitative sub-question sought to explore sources of self-efficacy that emerged as challenges to FGS in graduate professional degree programs. There were no sources of self-efficacy, as presented in Chapter II in reference to Bandura, that presented as major challenges to the four participants. In other words, none of Bandura’s four sources of self-efficacy were complete hindrances to participants’ level of self-efficacy or added more stress. Overall, the sources of self-efficacy were more motivational than a deterrent to success.

For example, prospective physician assistant applicants are required to obtain observation hours in the clinical arena. Interested applicants are encouraged to locate a practicing physician or physician assistant to observe treating patients and performing procedures prior to beginning the physician assistant program. Job shadowing creates a vicarious experience. The four respondents cited encounters of previous observation experiences in healthcare as encouraging. None of the participants gave accounts where a vicarious experience presented more doubt. Nor did the vicarious experience negatively affect the participants' goal to seek the physician assistant degree. In addition, there were a few examples of non-medical experiences which were described as encouraging when facing new situations. For SE19, the vicarious experiences added to his success as a first-generation physician assistant student when comparing himself to someone else who had accomplished a similar goal. SE19 stated:

I would be working with Mexicans [on a tree farm], and you know how they have a very . . . they're known for their strong work ethic, and I was even able to outwork most of them, especially when . . . it was a very a difficult job.

In regard to verbal persuasion, all of the participants referred to positive feedback from family or friends during times of struggle or academic toughness. Words of encouragement assisted the students in going forward and not quitting. SE05 gives an account of her husband encouraging her during a tough time. SE05 stated, "I just can't study anymore, I can't do this anymore and he's the one that says, 'You know, you can do this. You can handle this. You're smart. You got this.'" None of the respondents gave any accounts of discouraging words. Verbal persuasion added to the success of first-generation physician assistant students.

Mastery experiences encouraged them as well, but of the four sources of self-efficacy, this may have created more of a challenge to success than the other sources. Goals set before them were obtainable and the level of difficulty of the challenge did not hinder them; however, it did require more effort in obtaining the goal. SE06 stated:

Like if I am trying to . . . I can't let it beat me. I have to keep . . . even if I had to stay up all night and drink a lot of coffee. I wasn't going to let it beat me. I wasn't going to fail a test. I wasn't gonna do this or I wasn't gonna do that even if I didn't get a lot of sleep. I wanted to get through and to do well.

Therefore, mastery experiences did present as a slight challenge to FGS by requiring students to apply more effort to get the task accomplished; however, the mastery experience did not halt continued progress.

A fourth source of self-efficacy, described as physiological and affective states, can affect self-efficacy as well. Individuals can become emotional, stressed, and react physically due to the challenge. Participant SE06 had this to say about this source of self-efficacy. "I can always call her [grandmother] and say. I can't do it. I am so frustrated. I have worked so hard." This participant's reaction to the frustration was not to quit, but to seek advice or support from someone who was close to her heart. A family member assisted her in taking the frustration and turning the situation around in order to think more positively and to keep going. Some individuals would have yielded to their frustration and quit. However, SE06 did not; she persisted. The researcher observed that the physiological and affective states were more of a motivator and encouragement to the participant not to quit. Therefore, all the sources of self-efficacy had a positive outcome even if the initial reaction may have been slight doubt or frustration. None of the sources

of self-efficacy emerged as challenges to the success of graduate first-generation physician assistant students.

Self-efficacy Sources as Strategies to Overcome Challenges to Success

The qualitative sub-question sought to explore FGS' strategies to overcome their challenges. The researcher observed several strategies to overcome challenges. One common mode of overcoming challenges was the use of connections and social networking. SE06 described how she used connections:

If I am stuck, if I can't figure it out by myself . . . Like in the PA I would ask faculty for help or I could ask physician assistants who I shadowed prior to school. I can ask other students. There was always a way to get over the challenge I was having. If there was something I didn't understand . . . where there is a will there is definitely a way.

Therefore, SE06's means of overcoming her challenges were to utilize resources through friends, other physician assistant students, or graduates in the profession. SE06 utilized connections and social networking to assist her progress in the program.

Participants also utilized *YouTube* and *Facebook* as means of networking.

A second strategy utilized for achieving success was the ability to use personal skills to accomplish a task. Participants discussed their personal skills and gave a long list of skills they possess, such as perseverance, belief in yourself, commitment, and positive imagery. SE47 discussed some strategies she utilized to succeed in the program. She described it as follows:

So it's always about prioritizing, multitasking, you have to be resourceful. You don't want to continually, like, reinvent the wheel on something. You want to get things done as quickly as you can. So you have to be resourceful about them and

just overall being able to interact with people. If you need help, you need to understand that and acknowledge it and go for the help and not kind of sit there with yourself stuck. Like in school, I mean, I needed to find books or material to get a concept down. Some things I could read and I understand. Some things I didn't. I would have to find another source. And me, I'm a visual learner so I kind of look for a lot of visual aid. And that said, that's with anything.

In essence, SE47 was resourceful and she realized she had to be organized in order to succeed in the program. She would seek out not only human resources, but material resources as well. In addition, she took initiative to search out answers to problems she encountered. She understood how she learned best.

Among all the participants, the concept of a strong work ethic appeared as well as drive. SE06 discussed her willpower and how diligent she had to be to succeed not only in PA school, but also in her prior educational years. She stated:

I had to work to get here [PA school]. When I was younger I had little bit problems learning and behavior issues . . . I didn't do well in high school and I went to tech school and I worked as hard as I could and took remedial classes the first year . . . I trained myself on my own. I didn't have anyone to help me. It was mostly willpower. A lot of it is.

Overall the ability to be resourceful, to use personal skills and abilities, and to have good work ethic assisted the participants in overcoming challenges.

Mixed Methods Findings Based on Generation Status

Since this study's main focus was on first-generation students' self-efficacy in a physician assistant program, a mixed method approach assisted in greater understanding of this concept. The mixed method approach presents the quantitative component first, which links to the qualitative piece. Therefore, no component of this study has been given higher priority than the other. Both phases are presented in unison with major key findings of both.

Findings from the quantitative analysis of the relationship between self-efficacy and an Anatomy course grade for both the FGS and the NFGS did not show a significant relationship between the two variables for either group. Further, the correlation was negative for FGS and positive for NFGS. The researcher hypothesized there would be a positive relationship between self-efficacy scores and the Anatomy course grade. The negative correlation seen in the FGS group aligns with the previously stated negative correlation between board scores from the entering classes of 2003 and 2004 and their Anatomy course grades. The board results of these two entering classes displayed results which were inversed when comparing the Anatomy course grade (i.e., an C) with passing the national certification exam. When examining the relationship between self-efficacy and academic outcome, the results of the quantitative component of this research support the findings of the study of board scores for those two years; both were inverse. However, the generation status of the classes of 2003 and 2004 board exam takers is unknown.

The results of this study demonstrated high academic achievement for the FGS who participated in phase II of the study. The FGS who were interviewed had either an A or B in Human Gross Anatomy. All of the participants reported high total self-efficacy

scores ranging from 36 to 40. The total self-efficacy scores for the four participants was high ($M = 37.5$, $SD = 1.91$). In addition, the researcher observed the inverse relationship between self-efficacy scores and the Anatomy course grade for the four participants. However, the qualitative responses from the four participants gave responses typical of someone with high self-efficacy.

Impact of Self-Efficacy on Success

Findings from the qualitative component showed that self-efficacy had a strong influence on success of FGS. One of the emergent themes revealed during the coding process for the qualitative component was confidence with minimum self-doubt regarding the participants' ability. Participants' belief in themselves assisted them in managing tough times and in accomplishing their goals. SE06 believes this about herself:

I always feel like I can do anything. I never feel like I am not going to be able to do it. I can't think of a time when I think I wasn't gonna to do something. I get myself through it. I feel like I can do it. Somehow or some way I can find a way.

All of the interview participants fit the description of FGS; however, their classification did not dictate their future regarding what they could or could not accomplish. Their support system and their belief in themselves assisted them along the way, especially in a professional graduate program. SE06 says:

I have gotten this far, there is no way . . . I can't drop the ball now and just kind of let it go. My parents are so proud of me. I mean I have worked hard to get here. I can't lose it now. There is no way I could stop now after fighting so hard through the PA program . . . to get through Organic Chemistry and Biochemistry and things like that. I can't just let it go.

Therefore, the qualitative component of this study supports self-efficacy as having a major effect on the success of students. In contrast, the quantitative component does not support self-efficacy as having an impact on academic success as evaluated by a course grade such as Anatomy.

Impact of Self-efficacy in Completing a Graduate Professional Program

There appeared to be no self-doubt among the four interview participants as to whether or not they would complete the PA program. Each participant's motivation and drive assisted in her or his perseverance throughout the program. Attaining the physician assistant degree was a strong desire for all of them and they were willing to work to receive the professional degree. Once they began the program, none of the four participants thought of quitting the program. In fact, SE47 gave this account: "I think faith is a big one for me. Faith and perseverance, being committed, have drive. I use positive imagery a lot. I see myself as if . . . see yourself as if you are there and that helps." Thus, the qualitative component of the mixed method study supports self-efficacy and an I-can-do-it attitude as having an impact on completing a graduate professional program." However, the quantitative phase of this study does not present enough evidence to support self-efficacy as having an impact on completing a graduate professional program.

Chapter Summary

This was a mixed method study which examined a convenience sample of 59 first- and non-first-generation students from a professional graduate program at Georgia Health Sciences University. The quantitative findings showed there is no significant relationship between self-efficacy scores and a final course grade in Anatomy within the

two groups, FGS and NFGS. Also, there was no significant difference between the two groups when comparing their Anatomy final grades. The researcher concluded there was not enough evidence to conclude that these two groups are significantly different when analyzing their Anatomy scores. Further, there was no significant difference between the two groups' self-efficacy scores.

The qualitative findings based on a sample of four purposefully selected individuals revealed three common themes: (a) mastery experiences, (b) family support, and (c) self-confidence. Previous experiences assisted participants in managing new situations, even if the past experiences were not related to healthcare. Confidence was increased as students were allowed to practice what they had learned. Areas of highest confidence were present with patient care/clinical rotations and small groups. Confidence was also increased when answering questions correctly. Self-doubt may have been present at the onset of the new challenge, but it disappeared as participants observed their success. Finally, participants received valued support from family members through communication or physical presence.

Additionally, the mixed method findings from the qualitative phase demonstrate that self-efficacy has a major effect on the success of students. In contrast, the quantitative phase does not support self-efficacy as having an impact on academic success based on a course grade such as Anatomy. The qualitative component of the mixed method study supports self-efficacy as having an impact on completing a graduate professional program with the I-can-do-it attitude. However, the quantitative phase does not present sufficient evidence to support self-efficacy as having an impact on completing a graduate professional degree. A discussion of the findings follows in Chapter V.

CHAPTER V

SUMMARY

First-generation students are students who have no previous college graduates in their family who are able to give a personal depiction of collegiate life. Therefore, they may have college experiences which are different than non-first-generation students. Engle and Tinto (2008) confirmed the grim reality for these students: “For most of the 4.5 million low-income, first-generation students enrolled in postsecondary education today (approximately 24 percent of the undergraduate population), the path to the bachelor’s degree will be long, indirect, and uncertain” (p. 2). According to Pike and Kuh (2005), first-generation students are students who have no parent who has graduated from college and they may experience different struggles than traditional or non-first-generation students during their collegiate exposure. However, for this study, the researcher defined a first-generation student as having no parent to attend college.

While literature searches displayed numerous studies on first-generation students in undergraduate programs, few if any studies explored first-generation students enrolled in a graduate professional program, such as physician assistant, which awards a graduate degree. In addition, few if any studies have investigated self-efficacy as a variable in the success of first-generation students in a graduate professional program.

Therefore, this study is important because of the exploration of the relationship of generation statuses and/or self-efficacy on student achievement. In addition, this study is also important for the examination of first-generation physician assistant students’ self-efficacy beliefs in completing their program.

Discussion

The purpose of this mixed method study was to determine if a relationship existed in self-efficacy scores and a final Anatomy course grade between first-generation graduate professional physician assistant students and non-first-generation graduate professional physician assistant students from the graduating classes of 2011 and 2012. In addition, the researcher sought to explore the perceptions of first-generation graduate professional program students regarding experiences, contributors, and successful strategies relative to self-efficacy as they related to completing their degree program. The discussion will begin with the quantitative portion first and then follow-up with the qualitative discussion later in the text.

Impact of Self-Efficacy on Success

The researcher utilized quantitative measures in order to statistically demonstrate a relationship and/or difference among the variables self-efficacy and an Anatomy course grade in FGS and NFGS. First, the researcher examined the relationship within the two subgroups. For example, the researcher investigated the relationship of the variables within the FGS and NFGS groups alone and then compared the differences between the two groups FGS and NFGS.

In review of the literature, previous researchers (Ramos-Sanchez & Nichols, 2007) have discussed the impact of self-efficacy on undergraduate students but not graduate students. Data from Ramos-Sanchez and Nichols' study were collected on 192 freshman subjects. Their results revealed that generation status significantly predicted self-efficacy; however, their findings pertained to undergraduate students and not professional graduate students. In contrast, Usher and Pajares (2008) conducted a study

which was designed to measure construct validity of self-efficacy for self-regulated learning for students in elementary, middle and high school. They did not evaluate graduate students as well. However, Usher and Pajares' study did display a positive relationship between self-efficacy and academics. Since literature was lacking in the area of professional graduate students and self-efficacy, the researcher developed questions to expound on the impact of self-efficacy on the success of students in a graduate professional physician assistant program.

The first research sub-question, which was quantitative in nature, explored the relationship between self-efficacy scores and a course grade in Anatomy for FGS physician assistant students. The researcher conducted a bivariate correlation, using Pearson's correlation of the two variables self-efficacy and Anatomy to evaluate their relationship in FGS. The results displayed a negative correlation, $r(n = 11) = -.017, p > .05$. The two variables (e.g., self-efficacy and final Human Gross Anatomy course grades) were inversely proportional for FGS. This study does not support the research of Usher and Pajares (2008) where self-efficacy had a positive relationship with academics. Also Usher and Pajares' study addressed children, while this study addressed adults in a graduate professional program. In addition, this study does not support the findings of other researchers in the area of self-efficacy and academic achievement (Ramos-Sanchez & Nichols, 2007). The researcher also noticed that there were no reportable grades lower than a B on the demographic survey. The researcher proposes that the inverse relationship may be due to other factors such as additional points added to final test scores. Also, a letter grade was obtained instead of a numerical course grade of the participants. If the researcher had numerical final test scores, the results may have

presented differently. In addition, a larger sample size may have displayed different results as well.

Secondly, the researcher quantitatively explored the relationship between self-efficacy scores and a course grade in NFGS. The Pearson's correlation showed a positive correlation between self-efficacy and Human Gross Anatomy in NFGS, $r(n = 48) = .005$, $p > .05$. As compared to the FGS group, there is no significant difference; however, the correlation is larger and positive. This may be due to the larger sample size ($n = 48$).

Thirdly, the researcher quantitatively explored the difference in a specific Anatomy course between FGS and NFGS. A t -test of independent samples was used to compare the two groups' means (e.g., FGS & NFGS) in order to determine if a significant difference existed between the two groups. The data revealed a calculated significance of $t(57, -.188), .725, p > .05$). The significance is greater than the alpha level at .05. Also, a chi-square analysis was used to test significance based on frequency of occurrences. The researcher hypothesized that there was no difference in the sample. The chi-square test, based on the actual and expected occurrences, gave a result of ($\chi^2 = 0.848129$; $df = 1$; $p > .05$). The researcher again purports that the size of the sample may have affected the statistical analysis, especially when using a chi-square test which is based on frequency. The researcher accepted the null hypothesis. Also no "Cs" were reported by the demographic questionnaire.

Lastly, the researcher quantitatively explored the difference of self-efficacy scores between FGS and NFGS. The researcher used a t -test of independent samples to compare the two groups' means in order to determine if there was a significant difference between self-efficacy among the two groups, $t(57, -.356), .235, p > .05$). The researcher

found that there was no difference in the sample between the two groups. The researcher again purports that the size of the sample may have affected the statistical analysis. The researcher accepted the null hypothesis that there is no significant difference between the two groups. Therefore, based on the quantitative results of the comparative means of both groups, FGS and NFGS, there was no significance with either self-efficacy scores or Anatomy course grades.

These statistical results indicated that the performances between the two groups in Anatomy are similar and that their scores are not related to generational status. In addition, self-efficacy scores between the two groups are also similar which indicated that in a professional graduate program such as physician assistant, both groups are relative similar in self-efficacy beliefs.

With this being a quite competent group with high academic achievement in order to meet the program's rigorous admissions requirements, they were not a normal distribution. They were highly capable students to begin with (see Tables 1 & 2). Therefore, it was no surprise that they had high self-efficacy scores and that their grades were an A or B in Anatomy. In addition, the participants of this study had fairly high first semester grades (Table 1 & 2), which refutes the findings of Riehl's study (1994) involving FGS undergraduates who had lower academic performances during the first semester of college. Again, this is a graduate professional program with high selection criteria; findings may not be the same in a program which has less rigid admissions requirements.

Impact of Self-Efficacy in Completing a Graduate Professional Program

Qualitatively, the four participants described positive encounters with self-efficacy when expressing their sources of self-efficacy as physician assistant students. The qualitative portion assisted in understanding the concept of self-efficacy in first-generation physician assistant students. Common themes emerged as the four participants responded to the seventeen interview questions. The qualitative phase revealed three common themes regarding self-efficacy in a physician assistant program: (a) mastery experiences, (b) family support, and (c) self-confidence.

Mastery experiences were stated when discussing previous careers prior to the physician assistant degree. Bandura (1997a) discussed the four sources of self-efficacy and how they differ. The previous experiences motivated and stimulated the participants to continue because of their past successes. Second, family support was stated several times when discussing major means of support during tough academic times. Family was central to their self-efficacy beliefs. In addition to mastery experiences and family support, self-confidence was displayed during the interview in the form of an “I can do it” attitude.

The qualitative phase also gave more information about: (a) sources of contributors to success, (b) sources of challenges to success, and (c) strategies to overcome challenges to success. The section ended with mixed method findings based on generation status which included information on the impact of self-efficacy on success and in completing a graduate professional program. Comments during the interview allowed the researcher to understand more about their experiences as a student.

Findings of the impact of self-efficacy on success for first-generation students showed a strong influence when evaluating the qualitative piece. Findings of little doubt but much confidence emerged from the coding process. The participants' beliefs in themselves and support of family assisted them in managing tough times and in accomplishing their goals. Also, their use of skills with knowledge and mind regulation assisted them in making it this far in life. The mind set to push oneself to the extremes to get the job done relates to self-regulated learning as seen by Zimmerman (2002). The ability to use one's mind and physical skills, in an effective way, truly affects the outcome. Circumstances may delay progress, but the individual is at the center of control. In essence, what one believes and if that is failure or success controls much of the outcome.

Being a first-generation student was a factor for this group of participants; however, they did not allow their circumstances to dictate their future regarding what they could or could not accomplish. Pascarella, et al. (2004) discussed that the level of postsecondary education has a significant influence on the nature of the academic and nonacademic experiences during college. Pike and Kuh (2005) discussed the different struggles that FGS may experience in comparison to traditional or non-first-generation students. However, the participants stated that their support system and their beliefs in themselves assisted them during times of struggle or academic trials, even in a professional graduate program. In addition, the researcher did not seek to explore self-determination as part of this study; however, in discussion with the participants, self-determination was revealed as defined by Ryan and Deci (2000). Therefore, the qualitative phase supports self-efficacy as having a major affect on the success of students even in a professional graduate program. Contrastingly, the quantitative phase

does not support self-efficacy as having an impact on academic success based on a course grade such as Anatomy.

Several researchers (e.g., Engle & Tinto, 2008; Ishitani, 2006; Riehl, 1994) have discussed persistence, retention rate, and graduation rates of FGS. Of the four participants, there appeared to be no self-doubt in relation to whether they would complete the program or not. There may have been slight doubt at the onset of new tasks or challenges which supports Orbe (2008) discussion of doubt with new challenges; however, their personal drive and motivation assisted them throughout the program. Also, the physician assistant degree was a strong desire for all of them, and they were willing to work to receive the professional degree. Once beginning the program, none of the four participants thought of quitting the program. They were going to put in the effort to succeed no matter what happened. Overall, all of the participants were highly confident in their ability and each of them had an attitude of “I can do it.” Their comments never gave the impression that the participants assumed that the physician assistant degree was easy to obtain, but quite the opposite. The participants made it fairly clear that the program is a challenge but could be managed with the skills and support.

Conclusions

Self-efficacy does have an effect on the success of physician assistant students and on their completion of the program based on the qualitative phase of this study. These four participants frequently utilized all four sources of self-efficacy as described by Bandura (1997a). Mastery experiences and verbal persuasion were more frequently utilized. Quantitatively, the results do not show a significant relationship between the two variables, self-efficacy and an Anatomy course grade. This may be due to the small

sample size or other extraneous factors such as additional points added to the final course grade.

In addition, this study has limitations due to the small sample size and is not generalizable; however, that was not the goal of the study. The goal of the researcher was to provide information which may be transferable to other graduate or professional graduate programs. In addition, the researcher sought to examine only students at Georgia Health Sciences University and not at any other PA program.

This study is important in the area of education for the purposes of recognizing that self-efficacy, one's belief in his ability, can lead to academic success and goal achievement even in professional graduate students. It is also important for educational awareness in order to recognize that grades alone do not adequately predict success, even in a professional graduate program. Based on the results of this study, mastery experiences, verbal persuasion, personal skills, level of self-confidence, and support affect achievement even in graduate physician assistant students.

The research questions explored the relationship between self-efficacy and a course grade in Anatomy for FGS. Based on the quantitative findings of this study, it was not proven if self-efficacy has a major significance on an individual course such as Human Gross Anatomy. The researcher expected to find a stronger correlation between the two variables, self-efficacy and a course grade. However, the results demonstrated a negative correlation in the FGS group which was insignificant. The two variables were inversely proportional, which implies that as self-efficacy increases, the Anatomy course decreases. The data analyses may be affected by potential points added to the final test averages. If an actual numerical score had been obtained or reported by participants,

perhaps there may have appeared a different result. The researcher accepted the null hypothesis that there is no difference.

Secondly, the researcher sought to quantitatively determine if a relationship existed between self-efficacy and a course grade for NFGS. Data demonstrated that the NFGS group had a positive correlation which was insignificant. Neither group, the FGS nor the NFGS demonstrated a strong correlation between the two variables self-efficacy and an Anatomy course grade.

Thirdly, the researcher also sought to examine whether there was a difference between FGS and NFGS Anatomy course scores. The researcher concluded that the group comparison between FGS and NFGS did not show a significant difference when comparing group Anatomy scores. Therefore, the researcher proposed that there is not enough evidence to conclude that these two groups' scores are significantly different.

Lastly, the researcher sought to determine if a difference existed between the self-efficacy scores of the FGS and NFGS. No significant difference appeared in the analysis. Therefore, the researcher proposed that there is not enough evidence to conclude that these two groups scores are significantly different.

In review of this study's findings, being cognizant of the fact that one is a first-generation student did not appear to be an academic barrier at this stage of education. Perhaps that is due to their previous life experiences which have taught these four first-generation students how to cope and manage their situations. Perhaps these four first-generation students have had to rely on more self-efficacy skills such as resourcefulness and good work ethic in order to make it through.

The results of this study infer that the average successful first-generation physician assistant student uses several resources in achieving their degree. Academics or intelligence is vital, but so are social networking and/or connections combined with cognitive thinking skills as well. The participants of this study utilized resources such as fellow classmates, faculty, friends in the profession, *YouTube*, and *Facebook* as tools to make it through the program. These findings support the research of Grayson (1997) who discussed how lack of student involvement with the institution affects their success and it supports Pike and Kuh (2005) who studied social engagement (i.e., student engagement). Student involvement with campus life is important as well as connections with fellow peers. The participants of this study utilized resources which were available to them.

Implications for Future Research

The result of this study gives future implications for researchers, educators, administrators and regulatory agencies in regard to admission, retention and persistence rates. In addition, this study supplies more information in the discipline of physician assistant.

The researcher proposes that more research is needed to ascertain if a difference is present between the two variables, FGS and self-efficacy, in physician assistant students. In addition, a qualitative study which analyzes the deeper meanings of a larger sample of FGS physician assistant students is vital as well. Thirdly, a more extensive qualitative study, which examines the lived experiences of FGS and NFGS in a physician assistant program, would inform practice as well.

This current study examined students over a shorter timeframe but a study which investigates students over the entire length of the program would give more information. In addition, more research which evaluates not only Anatomy, but other academic courses in

regard to self-efficacy is needed as well. Also, the utilization of students' actual numerical Anatomy scores may add more precision to the statistical measures.

Riehl (1994) as well as other researchers, have searched for variables which may be utilized to predict college success. The researcher of this study sought for variables which may predict success in a course or in a program such as physician assistant. Self-efficacy appears to a significant variable based on the qualitative findings of this study. Perhaps future educational endeavors by administrators, faculty and regulatory agencies will be undertaken to examine self-efficacy more closely when considering academic success, retention, and persistence in colleges and professional graduate programs.

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APPENDIX A
DEMOGRAPHIC QUESTIONNAIRE

Demographic Questionnaire

1. Date of birth:
2. Gender: Male Female
3. Ethnicity: African American; Latino/Hispanic; Non-Hispanic White/European American; Asian American; Pacific Islander; Native American; Multiracial; Other
4. Did either of your parents attend college? Yes No
5. Marital Status:
 - a. Single
 - b. Married
 - c. Divorced
 - d. Other (Please explain.)
6. Highest Degree Obtained:
 - a. Doctorate
 - b. Master
 - c. Bachelor
 - d. Associate
 - e. 3 years of college
 - f. 2 years or less of college
7. Overall GPA prior to entering Georgia Health Sciences University
8. GPA after the first semester of PA school
9. Are you willing or able to participate in an interview concerning professional graduate students? Yes or No. If “Yes”, please provide your contact information below.

Name:

Address:

Contact Number

Email address:

APPENDIX B
INTERVIEW QUESTIONS

Interview Questions

Let me define a few terms before we begin. A first-generation student (FGS) will be defined as a student who has no parent who has ever attended college. A non-first-generation student (NFGS) will be defined as having at least one parent who has attended college. A non-first generation student may also be compared to a traditional student. Thirdly, self-efficacy describes ones belief in his/her ability to accomplish a task.

1. Did either of your parents attend college?
2. Contemplating your collegiate experiences as a physician assistant student, what would you consider to be your most difficult challenges?
3. Describe how you feel/felt these experiences affect/affected your “I can do attitude” when taking on new challenges or tasks?
4. What effect has being the first person to go to college had on reaching your physician assistant goal?
5. What things as a student come easy or natural for you while striving to acquire a professional degree? Please explain.
6. Describe times during your PA training where you felt the highest level of confidence in your ability.
7. Think about a time in your life where you were successful, can you tell me about it? How does it (e.g., the previous success) motivate you now?
8. What personal skills do you possess which have assisted you in making it this far in your career?
9. Who/what do you use as a means of support during tough academic times?
10. What external/environmental factors (e.g., lack of parental support, lack of academic preparedness, etc) have added to your struggles to obtain a graduate professional degree?
11. Describe times in which you doubted that you would finish or complete the program as a physician assistant student. What was/were the cause(s) of that doubt?
12. How involved is your family in your educational endeavors and in what ways do they assist you in achieving your goals?
13. What previous experiences helped to prepare you for a professional graduate program?
14. What have been your experiences with self-doubt in taking on a new educational experience?
15. Why do you aspire to acquire a professional graduate degree?
16. What social networking or connections have you utilized during your professional degree attainment?
17. Is there anything else about this topic which you would like to discuss at this time?

18. Please check any of the following statements if you are interested:

- a. I am available for clarification of my responses.
- b. I would like a copy of the study.
- c. I would like to participate in any future studies.

Participant's contact information is:

Name:

Address:

Contact Number:

Email address:

APPENDIX C

COMPARISON OF FGS AND NFGS QUESTION ITEMS

WITH SCHWARZER'S (2009) 18,000 PARTICIPANTS' DATA

Table 6

Comparison of FGS and NFGS Question Items with Schwarzer's (2009) 18,000 Participants' Data.

GSE Question Items	FGS	NFGS	Schwarzer's Data	
Q1	3.9091	3.5833	3.1381	I can always manage to solve difficult problems if I try hard enough.
Q2	3.6364	2.7917	2.9664	If someone opposes me, I can find means and ways to get what I want.
Q3	2.9000	3.7500	2.8057	It is easy for me to stick to my aims and accomplish my goals.
Q4	3.5455	3.7083	2.8544	I am confident that I could deal efficiently with unexpected events.
Q5	3.7273	3.4565	2.9030	Thanks to my resourcefulness, I know how to handle unforeseen situations.
Q6	4.0000	3.8542	3.0266	I can solve most problems if I invest the necessary effort.
Q7	3.5455	3.6458	2.9484	I can remain calm when facing difficulties because I can rely on my coping abilities.
Q8	3.5455	3.6250	2.9790	When I am confronted with a problem, I can usually find several solutions.
Q9	3.9091	3.8333	3.0050	If I am in trouble, I can usually think of something to do.
Q10	3.6364	3.6250	2.9721	No matter what comes my way, I am usually able to handle it.

Note. Column four data retrieved by SPSS© from http://userpage.fu-berline.de/health/faq_gse.pdf.

APPENDIX D

CODE MAPPING: THREE EMERGENT THEMES

Table 7

Code Mapping: Three Emergent Themes

Emergent Themes	1 st Iteration: Initial Codes	Data: Participants' Quotes	Interview Questions
Theme #1: Mastery Experiences	Multiple jobs	SE19 - "I guess I was pretty successful at the multiple jobs that I had in high school and junior college."	2a; 7a; 13
	Experience	SE19 - "I think that I cherish my experience more than others that had an easier road I guess. I can think about those times, and then get through whatever trouble I'm having."	
	Prior experience	SE05 - "I was a tech before I went to PA school. And I think that, to me, was the biggest success."	
	Moving from inexperience to experience	SE47 - "You remember you were inexperienced, you were nervous about this but you were patient, you were open and...you made it through."	
	Previous successes	SE06 - "After fighting so hard through the PA program. To get through Organic Chemistry and Biochemistry and things like that."	
Theme #2: Family Support	Fiancé's support	SE19 - "My fiancé definitely helped me through because she was going through a lot of stuff with pharmacy school."	9; 12a; 12b; 12c
	Family support	SE19 - "Without a doubt [family is supportive of educational endeavors]."	
	Family support	SE05 - "They don't understand what I'm going through, but they're there to support me in it. My family's definitely vital."	
	Family and Friends support	SE47 - "Definitely family and friends."	
	Family support	SE47 - "I think they were all equally supportive in their own ways."	
	Family support	SE06 - "Yes, they [family] support me."	

Theme #3: Self-Confidence	No doubt	SE19 - “Yeah, like I said I mean doubt just never really crosses my mind.”	2b; 3; 6; 7a; 7b; 7c; 11; 14
	No self-doubt	SE19 - “I did think about furthering my academic career. I don’t think that I would have much doubt, given my prior experiences and successes.”	
	Self-confidence	SE05 - “I feel much more confident in front of a patient.”	
	Self-confidence	SE47 - “It made me very confident in myself that I can do a lot of different things.”	
	Self-beliefs	SE06 - “I always feel like I can do anything.”	

APPENDIX E
COMMON THEMES DISPLAYED IN FGS

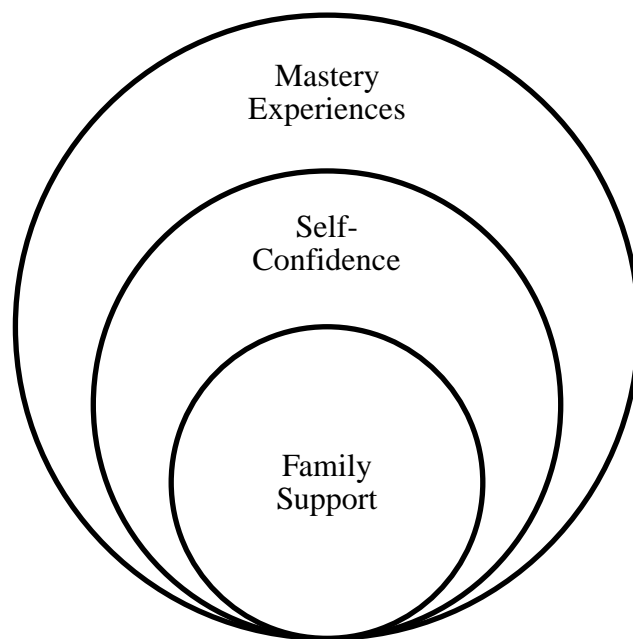


Figure 6. Common themes displayed in FGS.

APPENDIX F:
GEORGIA SOUTHERN UNIVERSITY'S
IRB APPROVAL LETTER

Georgia Southern University
Office of Research Services & Sponsored Programs
Institutional Review Board (IRB)

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To: Judith B. Stallings
Teri Denlea Melton
College of Allied Health

CC: Charles E. Patterson
Vice President for Research and Dean of the Graduate College

From: Office of Research Services and Sponsored Programs
Administrative Support Office for Research Oversight Committees
(IACUC/IBC/IRB)

Initial Approval Date: June 14, 2011

Expiration Date: June 14, 2012

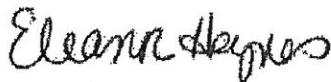
Subject: Status of Application for Approval to Utilize Human Subjects in Research

After a review of your proposed research project numbered H11453 and titled "Self-Efficacy and First-Generation Students in a Physician Assistant program," it appears that (1) the research subjects are at minimal risk, (2) appropriate safeguards are planned, and (3) the research activities involve only procedures which are allowable. You are authorized to enroll up to a maximum of 89 subjects.

Therefore, as authorized in the Federal Policy for the Protection of Human Subjects, I am pleased to notify you that the Institutional Review Board has approved your proposed research.

If at the end of this approval period there have been no changes to the research protocol; you may request an extension of the approval period. Total project approval on this application may not exceed 36 months. If additional time is required, a new application may be submitted for continuing work. In the interim, please provide the IRB with any information concerning any significant adverse event, **whether or not it is believed to be related to the study**, within five working days of the event. In addition, if a change or modification of the approved methodology becomes necessary, you must notify the IRB Coordinator **prior** to initiating any such changes or modifications. At that time, an amended application for IRB approval may be submitted. Upon completion of your data collection, you are required to complete a *Research Study Termination* form to notify the IRB Coordinator, so your file may be closed.

Sincerely,



Eleanor Haynes
Compliance Officer

APPENDIX G:
GEORGIA HEALTH SCIENCES UNIVERSITY'S
IRB APPROVAL LETTER

Date: 8/29/2011

HAC File #: HAC 1107002 , 1107002 Stallings

Protocol

Title Self-Efficacy and First-Generation Students in a Physician Assistant Program

PI Name Judith Stallings

Approval Date 8/24/2011

Expiration Date 8/23/2012

The Human Assurance Committee (HAC) chairperson or designee reviewed and approved the referenced study and enclosed document(s) by the expedited procedure in accordance with the Department of Health and Human Services (DHHS) policy and the Institutional Assurance on file with the DHHS under the following criteria:

(6) Collection of data from voice, video, digital, or image recordings made for research purposes.

(7) Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies. (Note: Some research in this category may be exempt from the HHS regulations for the protection of human subjects, 45 CFR 46.101 (b)(3). This listing refers only to research that is not exempt.)

The request for waiver of written documentation of informed consent is granted only for the invitation to participate in the survey portion of this study based on the following criteria:

That the research presents no more than minimal risk of harm to subjects and involves no procedures for which written consent is normally required outside of the research context.

The approval includes the following supporting documents

<u>Stallings,J GHSUinstruments June 29 2011.doc.DOCX.pdf</u>	8/24/2011 0.01
<u>ICD GHSU August 12 2011.DOC.pdf</u>	8/24/2011 0.01
<u>Invitation letter August 12 2011.DOC.pdf</u>	8/24/2011 0.01

The Committee calls your attention to the following obligations as Principal Investigator of this study. Under the terms of our approved Institutional Assurance to the Department of Health and Human Services, you must provide the HAC with a progress report at the termination of the study, or prior to the expiration of this approval, whichever comes first. If the study will continue beyond the initial approval term, review by the Human Assurance Committee is required, with a progress report constituting an important part of

the review.

Failure to submit a Continuation Request by its due date will result in an automatic termination of this study. Reinstatement will only be granted following resubmission of the study to the HAC.

If patients are research subjects, as Principal Investigator, you must insure that all medical records contain appropriate indication of study participation, as specified in the MCG Health System Policies and Procedures (1.6.0, 3/17/95).

The HAC has determined that the interval of continuing review as noted by the approval and approval expiration dates above is appropriate to the degree of risk for this protocol.

Research investigators are responsible for obtaining informed consent and for assuring that no human subject will be involved in the research prior to the obtaining of the consent. Ensure that each subject signing the written informed consent document (ICD) is given a signed copy of the ICD. The ICD must be the current one reviewed and stamped approved by the HAC; the approval and expiration dates of the HAC's review of this project are stamped on each page of the ICD. Copy and use this stamped ICD for the coming year. Maintain a single copy of previously approved ICD in your regulatory binder and discard any unsigned, out of date ICD. Keep the signed ICD in a secure location for a period of three years after termination of the final IRB approval period or as mandated by the sponsor, if applicable.

If Veterans Affairs (VA) patients or facilities will be involved in this study, a letter of approval from the VA Research & Development Committee must also be obtained prior to involvement of VA patients or facilities.

Please feel free to contact our office at 706-721-3110 if you have any questions.

Warning: This is a private message for eIRB users only. If the reader of this message is not the intended recipient you are hereby notified that any dissemination, distribution or copying of this information is STRICTLY PROHIBITED.

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