

SELF-EFFICACY SCORE DIFFERENCES BETWEEN FIRST-YEAR, MALE AND FEMALE
FIRST-GENERATION AND NON-FIRST-GENERATION COLLEGE STUDENTS AS
MEASURED BY THE COLLEGE SELF-EFFICACY INVENTORY (CSEI)

by

Janet M. Shepherd

Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

Doctor of Education

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ABSTRACT

Students of all backgrounds have a transition period when entering college. However, first-time, first-generation college students encounter more problems and have more difficulties becoming acclimated to college resulting in decreased first-year retention rates for first-generation students. These problems and difficulties are related to course work, socialization, and roommate issues. Research has shown that self-efficacy and collective efficacy are important in student achievement. This research study explored if there was a difference in student perception of self-efficacy among male and female first-year, first-generation college students and male and female first-year, non-first-generation college students. A quantitative, causal-comparative study was conducted utilizing the College Self-Efficacy Inventory (CSEI). A sample size of 151 was utilized; the survey participants included all of the incoming first-year, full-time freshmen (ages 18 and older) at a rural, Midwestern college. The survey was distributed during the first two weeks of the fall 2016 term. Analysis of the survey data was completed using a two-way ANOVA. Overall, the results indicated that first-year, first-generation students had a lower mean CSEI score than that of non-first-generation students, although the difference was not statistically significant. The development of first-generation student self-efficacy by the educational process is at the heart of the teacher-servant Christian tenet. Just as Jesus came to earth to instruct people in the ways of the Father, teachers must also serve and instruct students in the ways of higher education by applying those principles dear to the hearts of all Christians as taught by Jesus Christ. Among the most important tenets taught by Christ was to love God with all your heart (Mark 12:30; Matthew 22:37), to love one's neighbors (Mark 12:31; Mathew 22:39), and to treat others as you would like to be treated (Luke 6:31; Matthew 7:12). The mission of a teacher, therefore, is to teach the first-generation student as an individual, and not

just as an economic entity that fuels the bottom line of a university. At the heart of the teacher-servant attitude is understanding how each student learns and, in particular, identifying stumbling blocks that exist in first-generation students' lives that are producing impediments to their learning process.

Keywords: self-efficacy, first-generation, retention, collective efficacy, intervention, modeling

Dedication

I would like to dedicate my dissertation to Stephen, who has been my loyal supporter, loving husband, and faithful companion. Thank you for your love, understanding, and patience.

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I would like to thank the students who participated in this survey knowing that the benefits are for future students who will follow them.

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I am also thankful for my research consultant, Dr. Philip Alsup, who guided the statistical analysis of my dissertation.

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List of Abbreviations

American Association of University Professors (AAUP)

College Self-Efficacy Inventory (CSEI)

Expected Family Contribution (EFC)

First Year Experience (FYE)

Free Application for Federal Student Aid (FAFSA)

Grade Point Average (GPA)

High School Grade Point Average (HSGPA)

Integrated Postsecondary Education Data System (IPEDS)

Learning Management System (LMS)

National Center for Education Statistics (NCES)

Self-Regulated Learning (SRL)

Student Adaptation to College Questionnaire (SACQ)

Student Experience in the Research University (SERU)

Student Information System (SIS)

Summer Experience Program (SEP)

CHAPTER ONE: INTRODUCTION

Background

The number of first-generation students in U.S. colleges and universities is increasing (Irlbeck, Adams, Akers, Burris, & Jones, 2014; Stuber, 2011). While the number of first-generation students enrolling in college has increased, their retention rate has decreased causing college administrators to investigate the reason for the decline in retention of first-year, full-time students and ways to retain these students (Irlbeck et al., 2014; Woosley & Shepler, 2011). Consequently, one area to examine is whether first-year, first-generation college students have a lower self-efficacy than non-first-generation college students at the start of college. According to the U.S. Department of Education, which is now emphasizing and refocusing its attention on first-year college retention rates, one of the components of the new College Scorecard is first-year retention rates (The White House, Office of the Press Secretary, 2015). The College Scorecard highlights a university's tuition cost, value, and quality and provides national data to prospective students on five data points: costs, financial aid and debt, graduation and retention rates, earnings after school, and ACT and SAT scores (The White House, Office of the Press Secretary, 2015). Furthermore, first-year college retention rates and graduation rates are receiving greater attention in prominent journals (Morse, Brooks, & Mason, 2015). C

Consequently, because of the emphasis on higher retention rates and increasing first-generation student enrollments, first-year retention rates among first-generation students have become an important statistic to public colleges and private universities (Forbus, Newbold, & Mehta, 2011; Irlbeck et al., 2014; Soria & Stebleton, 2012; Wright, Jenkins-Guarnieri, & Murdock, 2012). While much research has been completed on first-year retention rates, little research has been conducted specific to self-efficacy's influence on first-generation students.

Historical Context

Various factors affecting retention rates have been studied extensively including students' high school grade point average (HSGPA) and first-year academic grade point average (GPA) (Engberg & Wolniak, 2010; Johnson, 2008; Kim, 2015; Noble & Sawyer, 2004; Tinto, 1993), early intrusive interventions (Faulconer, Geissler, Majewski, & Trifilo, 2014; Seidman, 1996; Tampke, 2013), classroom attendance policies (Policy Center on the First Year of College, 2002), and student engagement (Astin, 1993; Hoffman & Lowitzki, 2005; Pascarella & Terenzini, 1991). A student's HSGPA and GPA in the first year of college has been found to be an important indicator in student retention (Engberg & Wolniak, 2010; Johnson, 2008; Kim, 2015; Noble & Sawyer, 2004; Tinto, 1993). High school students often anticipate a similar GPA in their first year of college; however, a student's high school GPA does not necessarily correlate with a high GPA in college as many high school students believe (Ishitani & DesJardins, 2002; Reason, 2009; Tinto, 1993). Therefore, many first-generation students fall into a sense of discouragement when those expectations are not met. First-generation students arrive at college with different characteristics than their non-first-generation peers (Robbins, Oh, Le, & Button, 2009; Terenzini, Springer, Yaeger, Pascarella, & Nora, 1996). These characteristics include a lower socio-economic status and lower academic aspirations that, in turn, affect classroom attendance (Young & Johnson, 2004). Early research results from 200 colleges over a four-year span revealed that students' interaction with their peers and faculty was one of the single most important influences on academic performance (Astin, 1993). Utilizing peer and faculty mentors helped to increase student engagement (Kiyama, Luca, Raucci, & Crump-Owens, 2014; Ward, Thomas, & Disch, 2014). Thus, many colleges have instituted early alert programs (Faulconer et al., 2014; Seidman, 1996; Tampke, 2013). The early alert programs are utilized to assist in

providing intrusive interventions—particularly for students identified as at-risk whose grades are low during the first few weeks of the semester. Therefore, if first-generation students have a lower self-efficacy upon entering college, they may be at a disadvantage from the beginning of their college experience and may withdraw and engage less with their peers than non-first-generation students.

Social Context

For universities and colleges, the cost of recruiting new students is higher than the cost of retaining current students; thus, increasing first-year retention rates among first-generation students is fiscally important (Alarcon & Edwards, 2013; Astin, 1993; Cohen, Brawer, & Kisker, 2013; Pascarella & Terenzini, 1991; Tinto, 1993). Prospective students are easier to attract with higher college retention rates because it reflects on the university's student learning outcomes and quality of education, thus increasing the university's marketing opportunities (Wright et al., 2012). Colleges that demonstrate success and evidence of persistence are more attractive to prospective students.

However, care must be taken to treat students individually. Recognizing a student as an individual is often counter-intuitive in today's higher education environment. Because of corporate top-down management philosophy, the process of educating students can become mechanized (Chomsky, 2014; Ginsberg, 2011; Morgan, 2006). By regarding students as moving parts in the educational process, higher education—and teachers in particular—do a great disservice to their teacher-servant vocation. If there is one vocation that does not deserve to be distant and impersonal, it is the teaching profession (Greene, 1998; Moreland, 2007; Schultz, 2013; Van Brummelen, 2009). The teacher's role is to help and facilitate each individual student to learn—not just those students who fit the prescribed characteristics of the college student and

the classroom environment. Thus, to reach every student—and to especially reach first-year, first-generation students—the teacher must understand the role of self-efficacy and how it impacts the first-year, first-generation student's learning (Bandura, 1986).

Theoretical Context

Bandura's (1977) theory of self-efficacy was the basis for this research study and was the basis for the College Self-Efficacy Inventory survey tool that was utilized in this research. Self-efficacy encompasses people's perceptions and how those perceptions can influence events that affect their lives. For students, self-efficacy involves their resiliency to overcome failure (Bandura, 1986). Self-efficacy has been categorized into four components: mastery experience, vicarious experience, verbal persuasion, and somatic or emotional states (Bandura, 1986). Students who have a high self-efficacy are able to complete tasks successfully that will influence their academic outcome and persistence. Students with low self-efficacy have a difficult time in college and tend to withdraw from others. Thus, self-efficacy relates how resilient students are to diverse situations and changes that take place throughout the day (Bandura, 1997). First-generation students, in particular, struggle with problems throughout the academic year such as housing, interpersonal relationships with roommates, physical appearance through weight gain or weight loss, and ability to be competent in class (Woosley & Shepler, 2011).

Collective efficacy is a group's shared ability to be successful (Maimon, Browning, & Brooks-Gunn, 2010). Faculty can motivate students by sharing with first-generation students how the class as a whole can work together in order to promote positive student ability. Teachers can emphasize positively the work of students to produce moderate gains in all students' existing skills. Thus, the teacher's influence on the classroom environment can help students finish a difficult task or assignment (Miller, 2011). Additionally, in a study completed by Wolniak,

Mayhew, and Engberg (2012), collective efficacy was found to be a significant predictor in retention as it related to learning. Overall, colleges must nurture student self-efficacy and faculty members' consciousness of collective efficacy so that all students are academically settled and have a desire to learn. Therefore, it is a teacher's responsibility to be inclusive in the classroom by understanding how all students learn.

The lack of retaining first-year, first-generation students creates problems for society in three areas: for the student, for the college, and for society at large. First-generation students are often in a lower socio-economic level; by not staying in school, first-generation students lose the opportunity to increase their socio-economic level and to become employed in higher paying jobs (Brady-Amoon & Fuertes, 2011; Stephens, Fryberg, Markus, Johnson, & Covarrubias, 2012). Young adults (25-34) with a bachelor's degree earned a median income of \$49,900 in 2014; young adults without a bachelor's degree earned a median income of \$30,000 in 2014 (National Center for Education Statistics, 2015). The 66% discrepancy indicated a trend that has been prevalent over the last 14 years (National Center for Education Statistics, 2014). Thus, non-college graduates risk not generating income at the same levels as college graduates. For colleges, decreased retention rates affect their curriculum planning and facility projections (Hajrasouliha & Ewing, 2016; Stuber, 2011). In general, society suffers because there will be fewer educated workers available to enter the workforce (Irlbeck et al., 2014; Kupfer, 2012). Thus, instituting programs that help first-generation students increase self-efficacy will have an impact on the student, on the college, and on society.

Problem Statement

Research has shown correlations between self-efficacy and student college retention (Brewer & Yucedag-Ozcan, 2015; Raelin, Bailey, Hamann, Pendleton, Reisberg, & Whitman,

2014; Wright et al., 2012). However, to date, there is little research that has studied whether the self-efficacy of first-year, first-generation college students upon entering college is different from first-year, non-first-generation college students. Gore, Leuwerke, and Turley (2006) examined the self-efficacy of 257 entering freshmen college students who were enrolled in a first-year experience course. However, they did not distinguish between first-generation students and non-first generation students. In a study completed by Vuong, Brown-Welty, and Tracz (2010), researchers examined sophomore student retention and self-efficacy; however, the sample population of sophomores had already excluded first-year, first-generation students who did not persist to their second year of college. Brady-Amoon and Fuertes (2011) studied 271 liberal arts students to determine the correlation of self-efficacy and self-rated abilities; however, the research did not distinguish between first-generation students and non-first-generation students. Soria and Stebleton (2012) studied first-generation students and engagement as a retention factor, but did not associate self-efficacy. The problem is that the number of first-generation students entering college is increasing while their first-year retention rate continues to decline.

Purpose Statement

The purpose of this quantitative, causal-comparative study was to determine whether the self-efficacy of first-year, first-generation college students during their first semester of college was significantly different from first-year, non-first-generation college students. The sample consisted of incoming first-year, full-time students who were 18 years of age or older drawn from a population of first-year, full-time students at a rural, Midwestern four-year liberal arts private university. This research study utilized a causal-comparative research design in which cause-and-effect relationships were identified in the independent and dependent variables (Gall,

Gall, & Borg, 2007). The first independent variable was the student status of first-year, first-generation college student or first-year, non-first-generation college student. The second independent variable was gender. The dependent variable was the student's self-efficacy score as measured by the College Self-Efficacy Inventory (CSEI) instrument (Solberg, O'Brien, Villarreal, Kennell, & Davis, 1993). The CSEI contained 20 questions that measured students' confidence in their ability to perform college-related tasks in three areas: course self-efficacy, social self-efficacy, and roommate self-efficacy. The research utilized a convenience sample that included entering first-time, full-time college students (ages 18 and older) at a rural Midwestern university. Therefore, this study investigated whether first-year, first-generation college students' perceptions of self-efficacy was significantly different from first-year, non-first-generation college students.

Significance of the Study

By understanding the self-efficacy of their first-generation students, instructors of first-year students can utilize mentoring, professional counseling, and collective efficacy to help increase the first-generation students' self-efficacy. First-generation students differ significantly from non-first-generation students in their engagement in the classroom (Soria & Stebleton, 2012). Research has shown that higher self-efficacy impacts student attendance in the classroom (Brady-Amoon & Fuertes, 2011). Faculty members who embrace collective efficacy within the classroom impact individual self-efficacy through positive group interaction and feedback (Maimon et al., 2010). Intervention programs that are planned and focused specifically for first-generation students will help to increase students' self-efficacy and offset the lack of college preparation that often exists for first-generation students (Wolniak et al., 2012).

In addition, the issue of first-generation students not being prepared for college and lacking the support of parents who do not have a college degree is an international concern (Grayson, 2011; Kupfer, 2012; Spiegler & Bednarek, 2013). Countries having the highest share of first-generation students include Portugal, Italy, Turkey, and Poland (Spiegler & Bednarek, 2013). In Canada, Grayson (2011) found that first-generation students have problems adjusting to university life regarding their unique experiences, dispositions, and expectations that differ from their peers. If universities continue to address only those problems associated with non-first-year, first-generation students, then those problems of first-year, first-generation students will not be answered; and if they are addressed, it is not by the intentional efforts of universities to solve them, but by indirect means associated with solving problems for other students (Grayson, 2011). First-generation students present the same concerns internationally regarding academic preparedness, pre-college characteristics, upward mobility, and persistence. Policies that are not focused specifically on helping first-year, first-generation students and how their identities relate to higher education fail to address the needs of this segment of society by preventing their upward mobility (Kupfer, 2012).

Research Question

The research question for this study was:

RQ1: Is there a difference between the self-efficacy of first-year, first-generation male and female college students and first-year, non-first-generation male and female college students as measured by the College Self-Efficacy Inventory?

Null Hypotheses

The null hypotheses for this study were:

H₀1: There is no significant difference between first-year, first-generation college students' self-efficacy and first-year, non-first-generation college students' self-efficacy as measured by the College Self-Efficacy Inventory (CSEI).

H₀2: There is no significant difference between the self-efficacy of male and female first-year college students as measured by the College Self-Efficacy Inventory (CSEI).

H₀3: There is no significant interaction between the self-efficacy of male and female first-year, first-generation college students and first-year, non-first-generation college students as measured by the College Self-Efficacy Inventory (CSEI).

Definitions

1. *Affectivity* – A broad, subjective emotional response to one's environment (Watson, Clark, & Tellegen, 1988)
2. *Collective efficacy* - The shared belief in the good of the group and the ability of the teacher to influence a classroom (Miller, 2011).
3. *First-generation student* – A student whose parents do not possess a college degree (Soria & Stebleton, 2012).
4. *First-year retention rate* - First-year college retention rate is defined as completion of the first-year of college, followed by subsequent re-enrollment in the second year and denoted as a percentage (Integrated Postsecondary Education Data System, 2015).
5. *Intervention* – A sustained effort by college faculty and staff to provide students with the thoughtful and authentic attention they need to be successful (Tinto, 1993).
6. *Mastery experience* – Mastery experience is how past failures predict future failures (Bandura, 1997).

7. *Modeling* - Behavior that is learned socially by imitation and by observation of others (Miller, 2011).
8. *Self-efficacy* – Self-efficacy is believing in one’s ability to complete a task in order to produce prescribed achievements (Bandura, 1997).
9. *Somatic or emotional states* – Somatic or emotional states refer to the physiological state of a student that can influence their well-being (Bandura, 1997).
10. *Underachievement* - Underachievement is the underutilized potential of a student (Fong & Krause, 2014).
11. *Verbal persuasion* – Verbal persuasion is when others talk to students in an effort to promote their self-efficacy to complete a task or an assignment (Bandura, 1997).
12. *Vicarious experience* – Vicarious experience refers to how individuals relate to the other’s experiences that they have witnessed—both positive and negative (Bandura (1997).

CHAPTER TWO: LITERATURE REVIEW

Introduction

Many universities and colleges operate much like corporate America in the United States utilizing a classical management theory of top-down management style (Morgan, 2006). By doing so, universities and colleges emphasize what corporate America emphasizes—maintaining an appearance of profit even though they may be a non-profit organization. This emphasis is demonstrated through the efficiencies displayed on college and university campuses such as utilizing integrated enrollment and recruiting centers, creating centralized call centers for advancement purposes, and collaborating with third-party vendors for financial aid, student billing, and food service, etc. These efficiencies produce quantitative percentiles that either increase a university's potential or decrease its ranking according to prominent university national publications (Morse et al., 2015). For instance, one journal uses college retention rates as 20% of institutions' rankings (Morse et al., 2015). Recently, the White House has developed the College Scorecard that utilizes retention rates as one of the five components to rank universities (The White House, Office of the Press Secretary, 2015). The College Scorecard displays the institution's average tuition, average financial aid and debt, average graduation and retention rates, average earnings after school, and the average ACT and SAT range of scores. These five items are also benchmarked against the national average (The White House, Office of the Press Secretary, 2015). Because enrollment rates and retention rates are the end results of yearly analyses for colleges and universities, college administrators are focusing their efforts toward internal first-year programs to foster an increase in retention rates (Faulconer et al., 2014; Kiyama et al., 2014; Seidman, 1996; Tampke, 2013; Ward et al., 2014). First-year programs that are established by the university to aid students in their achievements academically, socially, and

emotionally also help to produce students that are better citizens and have greater future earning power (Alarcon & Edwards, 2013; Tinto, 1987). However, these programs have not been geared specifically to first-year, first-generation students who may have lower self-efficacy than non-first-generation students.

First-Generation Students

These first-year programs designed to help first-year students are important to the end percentile of retention rates and focus on student achievement and well-being. While they might contribute to the overall success of the university, their primary goal is to help students. By focusing on students, these programs help universities and colleges to depart from the corporate top-down model by emphasizing the individual physical, social, emotional, and psychological needs of the students. In particular, university and college programs that focus on first-year, first-generation students are particularly important. First-generation students have historically brought more problems into the higher education academic community because of the lack of household experience regarding college (Woosley et al., 2011). Because these students are the first members of their family to attend college, they do not have the support mechanisms at home to give them guidance or advice about what is to take place in the college environment. In short, their college experience is an entirely new experience for them.

Additionally, first-year, first-generation student enrollment is increasing (Irlbeck et al., 2014). This, in turn, means that a larger percentage of students entering college have little information about what to expect. Therefore, it is not surprising that many of these same students do not return to school in their sophomore year; thus, they have lower retention rates (Irlbeck et al., 2014). These first-year, first-generation students are defined as individuals whose parents do not have a college degree (Soria & Stebleton, 2012). Earlier research has also defined first-

generation students in this manner (Forbus et al., 2011; Longwell-Grice & Longwell-Grice, 2008; Stuber, 2011). Furthermore, research by Irlbeck et al. (2014) indicated that first-year, first-generation students are at double the risk for leaving school after the first year. Given these indicators, it would be better for a university to retain these students rather than spend additional money to find new students. Current students who become comfortable with their academic surroundings are more likely to re-enroll for a second year. By retaining these students, universities and colleges enhance their financial resources, and it enables them to save money. Thus, there are many advantages to colleges and universities to establish comprehensive retention programs for first-year, first-generation students. These programs help them financially, as well as increase the students' likelihood of returning. According to Wright et al. (2012), there was a direct connection between retention rates and self-efficacy programs for students. When self-efficacy programs are established to increase retention, universities have a better marketing potential to reach prospective students and their parents.

Theoretical Framework

Self-Efficacy

There is often confusion between self-efficacy and student potential. A student's potential as equated by an instructor relates to what the student can ultimately do academically as reflected in the student's grades. When universities take on a corporate management style (Morgan, 2006), the student's potential relates solely to the grades created by the efficiencies in the classroom such as the number of assignments completed, the numerical grades earned, and the overall percentages achieved. These efficiencies do not take into consideration the students' self-efficacy levels and their individual needs. Self-efficacy is a personal, internalized feeling that each student has regarding his or her own relationship to learning (Bandura, 1997). If students do not

feel that they can academically achieve their goals, then they will not achieve those goals. Self-efficacy is at the core of students knowing that they can succeed. If they do not think they can succeed, this thought will undermine all of the instructor's efforts in trying to lead students to their potential in the academic environment. In the corporate model of university success, student self-efficacy is often overlooked and the educational process becomes mechanical (Morgan, 2006). This produces a disconnection between the university and the student and the instructor and the student. Therefore, while the instruction in the classroom could be first-rate and while the academic classroom environment could be conducive to learning, without students understanding their self-efficacy and without their belief in themselves the potential for success is limited. Bandura (1997) recognized this discrepancy in the learning process and students' influences on their own success by realizing that this disconnection existed. Bandura (1997) implied that only through understanding students' experiences and addressing those experiences by increasing students' sense of self can complete learning take place. He emphasized self-efficacy as empowering someone to execute a course of action (Bandura, 1997). Thus, while a professor may know that a student is capable of success, if the student does not know it, then he or she cannot attain the optimum academic performance.

Therefore, education at its core is about reaching out to other people in order to instill in them valuable academic and social lessons. Instructors who are teacher-servants understand this tenet to serve others (Luke 22:26). If an educational system disregards how to accomplish that tenet, it reduces education to a level of corporate attitude where statistics become more important than students. Focusing on individuals and enhancing both their lives and their academic potential by focusing on how their past experience relates to their present experience will help all universities to attain their purpose for existing (Brady-Amoon & Fuertes, 2011). But it is this

personal contact in treating the student as an individual and not as a percentile that will give the university purpose. By understanding how self-efficacy influences academic outcome, the university will have a more positive experience because the student will also have a more positive experience. One of the key factors, therefore, in a university and college producing good statistics is by understanding their mission for existing. Colleges are formed to improve the lives of their students and to make better citizens. DeWitz, Woolsey, and Walsh (2009) noted that “self-efficacy was one of the most significant predictors for purpose in life” (p. 30). If this outcome is to occur, then universities and colleges must pay attention to the individual qualities of self-efficacy in students and their experiences—both negative and positive.

Literature Review

Self-Efficacy and First-Generation Students

Because first-year, first-generation students are the first family members to attend college, they bring with them a myriad of problems related to the lack of collegial benchmarks in their upbringing that allows them to understand the academic environment (Irlbeck et al., 2014). While high school advisors and counselors have given them rudimentary advice on what to expect in a college environment, first-generation students have more apprehension from the students’ perspective about what to expect (Brady-Amoon & Fuertes, 2011; Robbins et al., 2009; Terenzini et al., 1996; Woosley & Shepler, 2011). Some of life’s academic experiences will not be found in pre-college life. This is particularly evident in the attitudes and social-economic environments where first-year, first-generation students have grown up. Attitudes are revealed in such questions as: Why do you want to go to college when you can find a good job right now? Bandura (1997) noted that these types of attitudes and problems associated with first-year, first-generation students affected their academic performance unless otherwise dealt with through

university programs. Simple social problems that arise while living in residential housing can be a large problem for first-generation students. Residential housing requires students to get along with everyone because of their close physical proximity to other students. These types of experiences are life's learning lessons because it is difficult to get along with all types of individuals (Lombardi, Murray, & Gerdes, 2012). This situation is particularly true for first-year, first-generation students. Therefore, first-year, first-generation students could very well withdraw from school over the negative perception they have about residential housing (Brady-Amoon & Fuertes, 2011). Thus, a university program established to help explain residential housing and why it is important would help students' lack of self-efficacy by bringing them closer to their own life's previous experiences as it relates to their new college experience. Understanding one's self-efficacy according to DeWitz et al. (2009) is one of the most important factors in students understanding their purpose in life. Without knowing oneself through self-efficacy means that encountering new problems or at least unfamiliar ones will lead to a significant decrease in flexibility regarding how to resolve them. If students cannot understand themselves, it is difficult for them to understand what tools are available to them through their own experiences and personalities to solve new problems (Miller, 2011).

A high self-efficacy level in students is an advantageous internal resource in the difficult transition into college for first-year, first-generation college students (Jury, Smeding, Court, & Darnon, 2015; Ramos-Sanchez & Nichols, 2007; Wohn, Ellison, Khan, Fewins-Bliss, & Gray, 2013). Students that have greater internal resources, such as positive beliefs to buffer some of the obstacles of their new and unfamiliar college environment, have a greater likelihood of succeeding. Without the guidance of parents who did not attend college, first-year, first-generation students lack the familial support of a mentor. This lack of guidance creates greater

anxiety about attending college when compared to the experiences of children of college-educated parents (Holland, 2010; Ramos-Sanchez & Nichols, 2007; Wohn et al., 2013). Students without this parental guidance have utilized social media as an alternative support (Wohn et al., 2013). Even one parent with a college education categorizes a student into a non-first-generational status. Therefore, first-year students who have a college-educated parent will encounter fewer insurmountable obstacles because of their parents' advice. For example, in order to afford college, first-year, first-generation college students rely on institutional aid. However, because they are first-year, first-generation students it is more difficult for them to understand and maneuver the complexities of student financial aid (Lombardi et al., 2012). The financial aid jargon is often unfamiliar to them and the filing of forms for Federal Pell Grants, the Free Application for Federal Student Aid (FAFSA), and the Expected Family Contribution (EFC) is challenging. First-year, first-generation students often perceived themselves as less prepared and lacked basic knowledge about postsecondary education (Holland, 2010; Ramos-Sanchez & Nichols, 2007; Wohn et al., 2013). Holland (2010) found this especially true in the under-represented minority of African-American students. In short, having a parent who attended college will make it easier for their children to make the transition to college by better adjusting to the demands of the college environment. With a parent who attended college, first-year students will have a higher belief in their own abilities to succeed and will make the necessary adjustments. Therefore, one can reasonably assume that first-year, first-generation students without parental mentoring will have more negative consequences that will impede their ability to perform academically. In turn, students' internal cognitive processes about their low ability to succeed will result in a lower GPA (Holland, 2010; Jury et al., 2015; Ramos-Sanchez & Nichols, 2007; Wohn et al., 2013).

Self-efficacy—a student’s belief to complete a behavior successfully in order to receive a positive outcome—is at the heart of the first-year, first-generation student’s dilemma because self-efficacy has been linked to the academic performance of first-year students when the transition from high school to college offers the greatest challenges (Holland, 2010; Jury et al., 2015; Ramos-Sanchez & Nichols, 2007; Wohn et al., 2013). In general, non-first-generation college students perform better academically than their first-generation students’ counterparts (Ramos-Sanchez & Nichols, 2007; Stephens et al., 2012). First-generation students often have to work prior to entering college and during the academic year because of fewer financial resources available to them (Stephens et al., 2012). Thus, they have less time to devote to studies, extracurricular activities, and internships in the summer. Examination of students’ self-efficacy level at the beginning of the academic year often predicted how well students could adjust to college by the end of the academic year. In turn, better adjustment to the college environment produced a better GPA (Jury et al., 2015; Ramos-Sanchez & Nichols, 2007; Stephens et al., 2012). First-generation students are often subject to social-class inequalities that affect their academic achievements (Jury et al., 2015; Robbins et al., 2009; Terenzini et al., 1996; Young & Johnson, 2004). Therefore, a higher level of self-efficacy is a valuable internal resource in predicting initial college adjustment performance. Students’ levels of self-efficacy have a direct impact on how much effort students will exert to complete a task. Thus, self-efficacy is an indicator of persistence when students encounter adversity. A low level of self-efficacy, especially in first-year, first-generation college students, could impact how much effort they are willing to expend to meet the goal of returning their sophomore year and eventually graduating.

However, because self-efficacy is malleable and counselors can work with intervention programs to replace negative self-beliefs with more positive ones, it provides colleges and

universities with opportunities to increase students' self-efficacy levels and their persistence through efficacy building programs to help students to exert more effort (Faulconer et al., 2014; Kiyama et al., 2014; Tampke, 2013; Ward et al., 2014). Bandura's (1997) four sources of self-efficacy—mastery experience, vicarious experience, verbal persuasion, and emotional arousal—could be used by counselors, mentors, and faculty to increase first-year, first-generation students' likelihood of persisting to their sophomore year.

One indicator of students encountering problems in colleges and universities is their lack of classroom attendance. This is one of the first indicators of trouble. How can students learn if they do not attend? Research by Brady-Amoon and Fuertes (2011) that studied 271 students found a connection between declining class attendance and self-efficacy. If students do not believe that they can succeed, then why should they even try by attending class? Other factors, such as their choice of friends, affect students' decisions on whether to attend class. Who first-year, first-generation students choose as friends in college can be detrimental to students' first-year experiences. Thus, colleges and universities are creating living-learning centers to create positive environments within specific cohorts such as in Science, Technology, Engineering, and Math (STEM) programs to offset the decline in enrollment especially among minorities and first-generation students (Graham, Frederick, Byars-Winston, Hunter, & Handelsman, 2013; Soldner, Rowan-Kenyon, Kurotsuchilnkelas, Garvey, & Robbins, 2012). Likewise, according to Brady-Amoon and Fuertes (2011) self-efficacy programs that are broad in scope and specific in content with interventions ranging from community members, mentors, and advisors are required. In doing so, they have a greater likelihood of addressing many of the problems associated with first-year, first-generation students, but non-attendance seems to be one of the first and best indicators that students lack self-efficacy to succeed (Seidman, 1996; Tinto, 1993).

Self-Efficacy and Underachievers

Through weekly journal entries the Fong and Krause (2014) study analyzed factors that contributed to making underachievers feel confident and unconfident. Bandura's four components of self-efficacy (i.e., mastery experience, vicarious experience, verbal persuasions, and emotional states) were utilized. Underachievement is the underutilized potential of a student (Fong & Krause, 2014). Underachievement is often measured by accessing the predicted ability of students with their actual academic performance. In larger societal and futuristic terms, it projects the loss of productive members of society by raising concerns about their vulnerability. Environmental factors often play a role in restricting students' positive mastery experiences. Yet, when specific environmental influences (such as quality of instructor, course scheduling, etc.) can be ruled out as having a significant impact, then students' self-efficacy must be examined to remediate their underachievement. Research has indicated that students' perceptions of their own academic abilities change over time (Fong & Krause, 2014). For instance, the once bright elementary student can quickly become the despondent high school student amid negative mastery and vicarious experiences. In particular, first-year, first-generation students are just as vulnerable to the formation of negative beliefs because of their previous academic experiences. Emerging adulthood is often equated with the changing perceptions of one's own academic ability as students who endure the same negative self-assessment of their abilities in high school. Because both groups of students are undergoing a transformation of self-identity and self-beliefs, both are equated with being underachievers (Arnett, 2000). Achievement often depends on a student's self-efficacy. Among the broad scope of self-efficacy, Bandura (1997) identified four categories of self-efficacy that are particularly valuable. These four categories are mastery experience, vicarious experience, verbal persuasion, and somatic or emotional state. These four

components must be addressed to solve issues such as underachieving (Fong & Krause, 2014) or the problem of students' low attendance (Bandura, 1997; Brady-Amoon & Fuertes, 2011).

Self-Efficacy and Mastery Experience

Mastery experience focuses on how first-year, first-generation students' past failures relate to their current successes (Bandura, 1997). High mastery experiences relate how students have experienced success in the past, and it also implies problem-solving skills and a degree of perseverance in the face of adversity to overcome the impediments to being successful. Therefore, it measures students' resolve to succeed and the positive impact of success on students' resilience to overcome difficulties in the future. Mastery experience is often the best predictor of a student's self-efficacy (Usher & Pajares, 2008). Mastery experiences of students' past successes plays an important role in determining self-efficacy in college (Cantrell, Correll, Clouse, Creech, Bridges, & Owens, 2013). In particular, students who had successfully attained a pre-determined goal had increased self-efficacy. However, students who failed to attain a pre-determined goal experienced decreased self-efficacy. Therefore, nurturing first-year, first-generation students with low self-efficacy by helping them reach their goals will, in turn, create a higher self-efficacy in them (Cantrell et al., 2013; Kiyama et al., 2014; Usher & Pajares, 2008; Ward et al., 2014).

For example, if high school students believed they did not do well in high school algebra, then they will also believe that they will not do well in college algebra. This correlation among students is a superficial analysis. There may have been many factors associated with students' failures in high school algebra that were beyond their control (Brady-Amoon & Fuertes, 2011). One factor might have been the high school teacher's proficiency in the subject content (Gilpin & Bekkerman, 2012) or the manner in which the teacher communicated the content to the

students (de Souza, de Sousa, Belísio, & Azevedo, 2012). Gilpin and Bekkerman (2012) found that teacher quality impacted student outcomes; thus, a less qualified teacher may have contributed to the student's failure in algebra. In addition, de Souza et al. (2012) identified that sleep deprivation can impede a teacher's effectiveness and impact the performance of students. Another factor might have been the hour of the day in which students started the school day (Onyper, Thacher, Gilbert, & Gradess, 2012) or the number of times the course met per week (Reardon, Leierer, & Lee, 2012). Onyper et al. (2012) found that when classes started one-half hour later, students performed better because they had additional sleep that reduced fatigue and increased attendance. A six-year study by Reardon et al. (2012) indicated that students retained more information when attending class four times a week rather than once a week. Furthermore, classes that met for a short duration (intensive 6-week course) increased the earned grade and the expected grade (Reardon et al., 2012). Thus, the classes with shorter duration and greater intensity seemed to improve the student outcome. However, studies have shown that in algebra the opposite is true (Gallo & Odu, 2009). In those classes, a condensed, shorter duration produced an overload of material for the students, and it compromised the attention span because of the intensity of the subject matter which often resulted in rote learning in which previous experience could not be connected to the new subject matter (Gallo & Odu, 2009).

Another factor in students' inabilities to attain goals is the lack of the required sleep necessary to function at high academic levels. Research has indicated that high school students—as well as college students—average one to three hours per week below the recommended sleep time necessary to perform at higher cognitive thinking levels (Hershner & Chervin, 2014). Still another factor might have been a lack of resources available to the high school instructor to teach the class appropriately. For instance, a lack of computers or software programs that may have

provided the students with tutorials for help may have been unavailable. While first-year, first-generation students carry past failures forward (mastery experience), it would be up to a self-efficacy program to point out to the students that their perceptions of their individual shortcomings and failures might be inaccurate and might be due to many factors. Subsequently, Brady-Amoon and Fuertes (2011) suggested interventions are needed by faculty, advisors, and peers. While students believe that past history is a reliable predictor of future events, it is a matter of increasing students' self-efficacy to understand and view the past through a new lens to overcome their previous perceptions. College is a new beginning for students, and if students through self-efficacy programs can understand that it is a new beginning and be able to apply a new mindset to the problems presented in the future, then their success will increase (Brady-Amoon & Fuertes, 2011).

Self-Efficacy and Vicarious Experience

Students often have a deficiency in self-efficacy because they have been surrounded in the past by other people who have failed (Bandura, 1997). Bandura referred to this as a vicarious experience. In other words, students have a difficulty believing that they can succeed when people they have known have failed. Vicarious experiences are obtained by observing the mastery experience levels of others. In short, if students observe success in others' abilities to persevere and problem-solve to overcome a problem, then students will often appraise their own abilities based on its comparison with others who are similar (Fong & Krause, 2014). Vicarious experience is particularly valuable if students are trying to overcome the insecurity of their own self-efficacy. Observing others being successful can persuade them that they, too, can be successful. By watching others fail through negative modeling, they assume a contextual failure into their own life experience. If, for instance, students observed a sibling not attending high

school and the sibling failed, then first-generation students could assume the same non-attendance attitude and thereby set themselves up for failure. This negative view that transfers from another person to first-year, first-generation students creates low self-efficacy (Bandura, 1997). If, however, students observed other students or siblings with high-self efficacy attending school and succeeding (positive modeling), then first-year, first-generation students will have a greater likelihood of being successful. Hence, who first-year, first-generation students select as their social group in college will contribute to low or high self-efficacy (Fenning & May, 2013). How well students are accepted socially can impact their academic success (Fenning & May, 2013). A counselor's intervention into understanding students' social lives can help to nurture them into establishing social groups to facilitate positive vicarious experiences and diminishing their short-term and long-term problems in college (Brady-Amoon & Fuertes, 2011; Fenning & May, 2013).

In addition, faculty members can utilize vicarious experiences to increase first-year, first-generation students self-efficacy. In a study completed by Bartsch, Case, and Meerman (2012), students in a statistics course were assigned to either an experimental or a control group and given a pre and post-intervention survey (Lane & Lane, 2001) for academic self-efficacy. The experimental group experienced an intervention in which a graduate student explained how she had been successful in the statistics course. She explained her time management, study habits, and how she managed her stress while enrolled in the course. The control group was asked to write what they thought a successful student would look like. Both the experimental and the control group then completed a post-test for self-efficacy. After the live vicarious presentation, the students in the experimental group had a higher self-efficacy on the post-test than did the control group. The findings suggested that students with low self-efficacy may increase their

self-efficacy by listening to other successful students (Bartsch et al., 2012). Thus, first-year, first-generation students can enhance their self-efficacy—especially in their more difficult, first-year courses—through vicarious experiences by listening to students who are similar to them and who have been successful.

Self-Efficacy and Verbal Persuasion

How teachers, parents, and peers communicate with students impacts their self-efficacy through verbal persuasion (Bandura, 1997). Criticism can be perceived by students as both positive and negative. If perceived as negative by students, then it lowers students' expectations of themselves by lowering their self-efficacy (Fong & Krause, 2014). If, on the other hand, students perceived the praise as positive feedback because of the instructor's positive diction, then the student's self-efficacy will be increased and thus increase academic achievement (Fenning & May, 2013; Vallerand & Reid, 1984). Overall, criticism has to be positive and authentic.

At the core of self-efficacy is helping students to believe that they can succeed. It is the responsibility of every advisor, counselor, and teacher to help persuade students to believe in their own success (Brady-Amoon & Fuertes, 2011). This persuasion, however, must be based on individual student personality traits. Therefore, understanding students' past experiences and helping them to overcome the negativism inhibiting their own success through honest, verbal persuasion can enhance students' abilities to believe in their own aptitudes (Bandura, 1997). Counselors, advisors, and teachers must take the role of persuading students who have negative self-efficacies into knowing that they can attain a goal and complete a task.

Fenning and May's research (2013) has shown a connection between self-efficacy, learning, and solving mathematical problems. By observing students and their changing learning

abilities over time and by associating the new learning abilities with previous experience, students were able to make self-judgments about their own abilities (Fenning & May, 2013). Teachers who supported students through positive verbal reinforcements helped students to overcome barriers to their academic achievements (Fenning & May, 2013). In a self-regulated learning (SRL) environment, verbal persuasion helped students to gain greater problem-solving abilities and increased self-efficacy associated with seeking help. The research indicated that students' self-efficacies did change over the time span of various academic course demands (Fenning & May, 2013). Because of these dynamic changes that resulted from students' relationships with their past experiences, self-efficacy changes should be taken into account and reinforced by the instructor in students' learning experiences. It should be the teacher's responsibility during the learning process to enhance students' self-efficacies through verbal persuasion by understanding that students' self-efficacies are changed over the duration of the course content (Fenning & May, 2013). These changes in self-efficacy are based on students' past judgments of their own abilities to complete a task. Because of the teacher's positive verbal persuasion, students' negative self-efficacies can diminish over time. This was especially true in mathematic courses where students perceived their past negative experiences would continue into the future (Fenning & May, 2013). With positive verbal persuasion from instructors, students diminished their previous low-self efficacies that were the result of past experiences with higher self-efficacies. Because of students' increase in academic proficiencies as indicated by fewer errors, it can be speculated that past performance played less and less of a role as an accurate historical predictor of success. It is also possible that students draw from multiple sets of heuristic experiences to create their own negative self-efficacies (Fenning & May, 2013). These negative experiences lead to negative judgments about their ability to succeed. Problem-

solving performance was influenced by students' perceptions about the learning task. In self-regulated learning (SRL), students' perceptions about their prior learning activities influenced their perceptions about the current problem-solving tasks and influenced their behavior towards solving future tasks (Fenning & May, 2013). Thus, learning behavior was influenced by changing students' self-efficacies. Therefore, teachers through verbal persuasion must let students know about their successes as they occur and allow students to reflect on their successes (Zimmerman, Moylan, Hudesman, White, & Flugman, 2011). Zimmerman et al. (2011) found that students who took part in self-reflection training "were better calibrated in their task-specific self-efficacy beliefs before solving problems and in their self-evaluative judgments after solving problems" (p. 141). This information helped students to understand and recognize their skill mastery which, in turn, raised their self-efficacy. Teacher intervention into students' progress through positive verbal persuasion helped students to develop their problem-solving skills and to increase their self-efficacy for future problem-solving situations.

Thus, if positive verbal persuasion is based genuinely on students' stumbling blocks to better their self-efficacy and the comments are directed toward reversing their negative perception, then higher self-efficacy based on verbal persuasion can be very effective. However, according to Miller (2011) when low self-efficacy students perceive that the counselor's praise is false, it can have the reverse effect and produce even lower self-efficacy.

Self-Efficacy and Somatic or Emotional State

Somatic or emotional state according to Bandura (1997) is the fourth component to understanding students' self-efficacy. For example, fatigue and anxiety can often lead to low student academic performance. Bandura (1997) stated that this fatigue/anxiety correlation to low performance is cyclic. Fatigue and anxiety lead to low academic performance, and then low

academic performance leads to more anxiety and more fatigue. The question is: How resilient are students in overcoming problems? Students' resiliency, if strong, can protect them from succumbing to the anxiety and fatigue associated with low academic performance. Students' resiliency relies on their individual inner strengths (Lombardi et al., 2012). These inner strengths are connected to students' perceptions of their individual self-efficacy and their power to resist ongoing problems.

Students have varying degrees of emotional stability. This emotional variation can be stated in terms of affectivity—negative affectivity or positive affectivity (Alarcon & Edwards, 2013). Affectivity is generally defined as a broad, subjective emotional response to one's environment (Watson et al., 1988). Positive affectivity is related by such personality characteristics as enthusiasm and interest, while negative affective qualities include irritability and distress (Alarcon & Edwards, 2013). The level of affectivity among students creates a general emotional state that can affect judgement as to how students feel at any given moment. Research has shown that those with a higher negative affectivity had a lesser desire to remain in school (Alarcon & Edwards, 2013). They also expressed a higher dissatisfaction with school because of their lack of affiliation and engagement with it (Alarcon & Edwards, 2013; Tinto, 1987; Tinto, 1993). This dissatisfaction, in turn, impacted their academic performance by their abandonment of school work (Alarcon & Edwards, 2013). Thus, negative affective students can succumb to the negative stressors of college and lessen their likelihood for re-enrollment.

Students' positive affectivity is related to their general well-being and their desire to participate in class and remain in school (Alarcon & Edwards, 2013). While positive affective students experienced the same stressors as negatively affective students, positive affective students had a higher resiliency to withstand the social and academic pressures of college. In

general, they had a higher commitment and expectation of their academic and social performance that produced a more positive mood. In this psychological environment, they were more able to attain their personal goals (Alarcon & Edwards, 2013). Thus, an individual student's positive or negative affectivity can influence whether they remain in college. A higher frustration level with college stressors related to its environment can lead to a dissatisfaction with school that culminates in the students' withdrawal from college. A higher positive affectivity increases the likelihood of re-enrollment and leads to a more positive university experience.

A study by Gilardi and Guglielmetti (2011) noted that engagement, social integration, and the meaning of life were rated differently among students with different self-efficacy levels. Therefore, first-year, first-generation students with low self-efficacy levels succumb more easily to the daily problems in a new and unfamiliar college environment that cause them fatigue and anxiety. To others, the daily problems may seem small. For example, doing laundry to many students would be a small chore; however, to first-year, first-generation students who have never had to do their own laundry at home, doing the laundry becomes another problem to overcome amid a myriad of problems associated with life in the residence halls (Gilardi & Guglielmetti, 2011). Thus, first-year, first-generation students struggle with the particularisms of a new lifestyle presented at the university, and self-efficacy is at the heart of students doing well amid new situations (Woosley & Shepler, 2011). Any new situation could be a determining factor that tips the scale of students' emotional self-efficacy into a negative category where students could slowly downward spiral into withdrawing from school.

Self-Efficacy and Collective Efficacy

Self-efficacy is also impacted by collective efficacy. In the classroom, collective efficacy can be evidenced by the instructor emphasizing the positive attributes of their students' work. By

commenting on the classes' collective work as a whole, the teacher instills into individual students that group work and group participation are essential for everyone to make positive academic gains. It is the shared belief in collective efficacy that establishes the framework of positive self-efficacy in everyone (Wolniak et al., 2012). The collective environment enhances individual self-efficacy by illustrating the positive qualities that everyone contributes (Maimon et al., 2010). This positive feedback, in turn, encourages individual students to improve their work and to contribute in a positive manner so that the entire class can improve collectively. This collective efficacy can be interpreted as each student's participation to improve the caliber of the entire class. Maimon et al. (2010) indicated that collective efficacy acts as a positive force on individual self-efficacy. Collective efficacy does so by re-establishing a protective environment where every individual's contribution is protected by the whole as represented by the class.

The teacher's role is important in establishing collective efficacy in the classroom (Miller, 2011). Through the teachers' power to influence students' outcomes, generally known as agency, the teacher can develop the students' self-efficacies by providing a collective efficacy environment that allows individual students to believe that they can succeed by their individual contributions to the group (Miller, 2011). In turn, collective efficacy can develop individual self-efficacy by helping students to become stronger in adverse conditions by students knowing that they are not alone in the world or in college, but supported collectively by the class, thereby reducing their anxiety and failure. This behavior adjustment helps first-year, first-generation college students because it helps them to readjust their behavior and to better focus their behavior on problem-solving solutions (Wolniak et al., 2012).

Self-Efficacy and Top-Down Corporate Management

More and more universities are adopting a top-down corporate management style (Chomsky, 2014). Not surprising is that promoting self-efficacy is not a university top-down management priority. The growing top-down corporate model governing many universities is more interested in reducing labor costs by hiring temporary, part-time faculty members and viewing students as corporate entities and resources (Chomsky, 2014). Through the corporate lens (Morgan, 2006), students are viewed as commodities and treated as numerical widgets traveling down a university assembly line conveyor belt. If a student falls off the conveyor belt he or she is simply replaced by another one. However, students are individuals who have lives and personal aspirations that they hope to accomplish by their affiliation with a particular college or university. In a top-down corporate management style, performance targets are tied into budgetary systems (Morgan, 2006). If performance targets are not profitable then they are not good, and if performance targets are not measurable in accounting terms to impact the bottom line, then they are not good.

This impersonal management style is counterproductive to educational goals where student achievement and individual freedom and liberty have always represented higher education's top priority as defended by John Stuart Mill (Guttek, 2011). Higher education has seen the top-down corporate style of management impact all levels of higher education (Chomsky, 2014). For example, if class size is not optimum, then the course must be discontinued. If small class sizes can be combined to eliminate a teaching position, then combine the small classes. If liberal arts courses have to be eliminated and sacrifice a student's well-rounded education, then eliminate the liberal arts courses. If the faculty-to-student ratio increases dramatically, then the university is more efficient. If tenure is no longer honored, then hire non-

tenured, part-time adjunct faculty. Seventy percent or more of U.S. faculty members are adjuncts (American Association of University Professors, 2016). These top-down corporate management decisions can have a negative impact on first-year, first-generation students who need more individual attention.

Furthermore, universities utilizing top-down corporate management appear to need more layers of bureaucracy at the top by adding additional layers of administrators (Chomsky, 2014; Ginsberg, 2011). If progress and success are measured in industrialized, mechanized, or re-engineered business processes via profits and generated revenues, then the tide of discrepancy widens between what is valuable and to whom it is valuable (Chomsky, 2014; Morgan, 2006). To the first-year, first-generation student, what is valuable is completing and receiving a good education, one that can help them to determine a career path and to find gainful employment in that field after graduation (Gibbons & Shoffner, 2014). First-year, first-generation students need a safe and welcoming environment that will demonstrate and deliver personal attention to meet their needs and to overcome their inadequate preparation for college (Engle, Bermeo, & O'Brien, 2006). Yet, to the university top-down management team, this type of individual attention is of little relevance. Top-down management offers modest—if any—consideration to looking inward at the students' needs; it is more interested in looking outward and satisfying its revenue needs.

Monetary figures are abstract numbers representing faceless and nameless entities who have no voice when accountants factor the worth and health of a university. Little else matters but building deep revenue streams that corporate management can use for promotions at the expense of raising the cost of tuition to students and parents. In top-down corporate management structures, the university faculty members are unable to preserve the original intent of their university's mission—to help all students learn—because too many university administrators are

helping themselves to higher salaries while there is little money left over to preserve the university's true mission (Chomsky, 2014). Thus, first-year, first-generation students and programs to help them persist go unattended and their attrition increases. Perhaps this is because many university administrators, like so many Americans, reject the idea of absolute truth as part of their worldview. In George Barna's study (as cited in Munsil, 2015), "by a three-to-one margin, American adults reject the idea of any absolute truth—64 percent to 22 percent" (p. 35).

This is a conundrum of the university today. The top-down corporate administration has, for the most part, taken a secular worldview and not a biblical worldview in how to retain students (Munsil, 2015). At the heart of this dilemma is the lack of compassion for the poor and those who are needy (Munsil, 2015). The Bible is clear about the university administration's role regarding first-year, first-generation students' welfare. Jesus spoke about those who have to take care of the least of society (Matthew 25:40). Those who are the least of society in the Bible not only referred to orphans and widows but anyone in need. The first-year, first-generation student falls into the category of the least of society. Their story takes place in a strangers' land because they are out of their element and in a new environment of strangeness at the university. Unprepared and ill-equipped first-year, first-generation students are like the cripple at the pool of Bethesda who for years could not get anyone to help him get to the water first to heal himself when an angel disturbed the water (John 5:1-15). The cripple was both helpless and hopeless to help himself, and in many respects first-year, first-generation students need the help of intervention programs (Ramsey & Peale, 2010; Stuber, 2011; Wiggins, 2011) to give them hope and raise their self-efficacy. Ramsey and Peale (2010) noted successful programs that included presentations by faculty who were first-generation students speaking to new first-year, first-generation students about the challenges of college and how they overcame them to be successful

at Fresno State University in California. Another program at the University of Cincinnati included special housing for first-year, first-generation students that limited outside distractions (Ramsey & Peale, 2010). Stuber (2011), in her study, documented programs that offered resources such as tutoring, mentoring, and advising prior to the start of classes, similar to bridge programs to help acclimate first-year, first-generation students. Wiggins (2011) detailed a program that involved first-year, first-generation students as small learning communities that focused on the whole student through advising, mentoring, and tutoring through a Summer Experience Program (SEP). Without intervention, first-year, first-generation students will not reach the pool of their future capabilities and will lie on their past failures that prevent their future success. Despite the need of first-year, first-generation student self-efficacy programs to improve their chances of getting to the pool of life, administrators in top-down corporate management believe that draining the pool altogether is the best way for students to succeed. If top-down corporate administrations continue to cut back programs that help disenfranchised students to succeed, then successive generations will pass on the low self-efficacy of failure to their children, who, in turn, will not attend college because of the vicarious experiences around them. Therefore, at the core of university administrators' behavior is the need for a Christian worldview towards intervention programs that help build self-efficacy for first-year, first-generation students.

Self-Efficacy and the Christian's Responsibility

One of the central tenants of the Bible is to have compassion for others, especially those people who are less fortunate (Matthew 12:34). Christ died for all of us and gathered to himself the less fortunate who through their sins had alienated themselves from God (Galatians 1:4). Throughout human history people have struggled to remain in God's grace, and they did so

through the chastening power of God and his graciousness to forgive the sinful (Matthew 11:28-30). Ultimately, that price became the death of His only son for us because the sacrifice was meant to save and to help us—the less fortunate (Matthew 26:28). Likewise, our duty as Christians is to help others who are also less fortunate, although Christ has made it clear that we are not known and not forgiven by our works (Galatians 2:16). Salvation is a gift from God and not of our own doing, “lest any man should boast” (Ephesians 2:8-9, King James Version). Therefore, helping the less fortunate is our Christian responsibility in gratitude for what God has done for us (Galatians 6:2). Our works on the behalf of others in a selfish world will set us apart and glorify God (1 Corinthians 6:20). Christians demonstrate their faith through good works as noted in James 2:18, “shew me thy faith without thy works, and I will shew thee my faith by my works.”

Mature Christians understand that it is, indeed, their responsibility to do right by others by extending their compassion to help those who are less fortunate (Matthew 5:16). Less fortunate could be defined as those who are deficient in some form (Mark 2:17). This deficiency can take root in many circumstances—health, wealth, or social status—and can result in negative self-efficacy mastery experiences (Bandura, 1997). This deficiency is especially apparent in first-year, first-generation students (Cantrell et al., 2013; Matthew 25:35-36; Usher & Pajares, 2008). In the Bible, even those afflicted with physical deficiencies are healed to reveal the endless power of God’s faith (James 5:14-16). Symbolically, the blind are healed to see and the lame are healed to walk to convey the message of opening the eyes to Christ as our Savior and to walk in His direction (Acts 3:1-11; John 5:1-9; John 9:11; Mark 8:22-25). Those people who are less fortunate need to see the revelation of God’s word and how it can work miracles in their lives (Mark 9:23; Matthew 25:40). No less miraculous are first-year, first-generation students who

have the opportunity to be the very first person in their families to go to college and attain a degree (Soria & Stebleton, 2012). For them, it is the revelation through vicarious self-efficacy experiences (Bandura, 1997; Brady-Amoon & Fuertes, 2011; Fong & Krause, 2014) of finally having the chance to be released from the chains of ignorance that have held them and the members of their families in bondage for decades. The Holy Spirit has moved their curiosity beyond their past and has led them towards an awakening of purpose in their lives (Acts 20:22; Luke 2:27; Luke 4:1; Mark 1:12; Matthew 4:1) where for the first time higher education will be factored into the equation for their future. After decades of non-attendance in higher education by their families, more and more first-generation students are arriving on university campuses (Irlbeck et al., 2014). Through the grace of God they have arrived to study and to believe that they can do more with their lives. In this regard, it is the university's Christian responsibility to nurture first-year, first-generation students' possibilities for success through increasing their self-efficacy by adopting programs that will focus on their academic and social adjustment (Wright et al., 2012). They are, indeed, one of society's less fortunate individuals who need Christian charity to help them to overcome their transition from homes without higher education references to the feeling of being comfortable both academically and socially on the university campus (Luke 10:2; Matthew 9:37).

Jesus Christ throughout the New Testament helped people through parables to transition from the law of the Old Testament to the grace of the New Testament (Galatians 3:24). The life and death of Jesus Christ on the cross provides the essence for both the importance and the difficulty involved with making a transition because it must be both an intellectual as well as a spiritual experience (Galatians 2:20). At the core of the Christian educator's responsibility is to help first-year, first-generation students to transition to college (Luke 12:48). Helping them to

understand both the healing power of Christ in their lives as well as the attributes of being educated is parallel to putting on the new man and letting the old man fall away (Colossians 3:10; Ephesians 4:24). Helping the downtrodden and those in despair is what Christians do because God has placed in their hearts the compassion to both see and feel the plight of others (Luke 15:4; Mathew 19:19). By nurturing first-year, first-generation students and implementing programs to increase their self-efficacy, Christian educators are performing their Christian responsibility to replace ignorance with knowledge and faithlessness with faith (Luke 6:43; Matthew 7:18). This nurturing, in turn, promotes both a sharp mind and a keen spirit and quickens first-year, first-generation students to “put on the whole armour of God, that ye may be able to stand against the wiles of the devil” (Ephesians 6:11) in order to protect themselves in a fallen world (Amos 5:2; Isaiah 14:12; 1 Peter 1:24; Revelation 2:5). One way to achieve this transformation is for educators to have the Christian capacity to understand first-year, first-generation students’ plight. They are without a compass in a sea of university jargon. Without the knowledge of the university lexicon and what to expect, they remain adrift and rudderless. Unless help arrives in the form of intervention, they will remain isolated and less able to adapt to their new university environment.

Research Gap

There is an abundance of research regarding student college retention rates (Alarcon & Edwards, 2013; Astin, 1993; Bandura, 1977; Bandura, 1986; Cohen et al., 2013; DeWitz et al., 2009; Engberg & Wolniak, 2010; Faulconer et al., 2014; Gilardi & Guglielmetti, 2011; Gore et al., 2006; Graham et al., 2013; Hoffman & Lowitzki, 2005; Ishitani & DesJardins, 2002; Johnson, 2008; Kim, 2015; Kiyama et al., 2014; Longwell-Grice & Longwell-Grice, 2008; Noble & Sawyer, 2004; Pascarella & Terenzini, 1991; Reason, 2009; Robbins et al., 2009;

Seidman, 1996; Soldner et al., 2012; Tampke, 2013; Tinto, 1987; Tinto, 1993; Ward et al., 2014; Wolniak et al., 2012; Young & Johnson, 2004). There is also extensive research on the role of self-efficacy and student retention in general (Arnett, 2000; Brady-Amoon Fuertes, 2011; Cantrell et al., 2013; Fenning & May, 2013; Fong & Krause, 2014; Lane & Lane, 2001; Maimon et al., 2010; Ramos-Sanchez & Nichols, 2007; Solberg et al., 1993; Solberg et al., 1998; Usher & Pajares, 2008; Vallerand & Reid, 1984; Watson et al., 1988; Wright et al., 2012; Zimmerman et al., 2011). However, research has not determined if there is a statistically significant difference in self-efficacy between first-year, first-generation students and first-year, non-first-generation students.

The reason for this research gap may be due to the lack of institutional coding of first-generation students. Higher education institutions tend to track and collect data determined by the Integrated Postsecondary Education Data System (IPEDS). IPEDS data collection is mandatory for all higher education institutions that participate in awarding federal financial aid assistance to students.

The completion of all IPEDS surveys, in a timely and accurate manner, is mandatory for all institutions that participate or are applicants for participation in any Federal financial assistance program authorized by Title IV of the Higher Education Act (HEA) of 1965, as amended. IPEDS surveys are mandated by 20 U.S.C. 1094(a)(17). (National Center for Education Statistics, 2015)

However, IPEDS does not require the collection of data on first-generation students. Because this data point has not been required by IPEDS, many higher education institutions have not historically tracked and coded first-generation status of students in their internal processes.

Although IPEDS still does not require reporting of institutional data on first-generation students, many institutions have begun coding and tracking first-generation student status in their Student Information Systems (SIS) in order to track data for grants that help minority students, low-income students, and first-generation students.

Thus, recent research has indicated that first-generation students have lower college retention rates than non-first-generation students (Irlbeck et al., 2014; Kupfer, 2012; Lombardi et al., 2012; Ramsey & Peale, 2010; Soria & Stebleton, 2012; Spiegler & Bednarek, 2013; Stuber, 2011; Wiggins, 2011; Woosley & Shepler, 2011). However, these studies did not associate self-efficacy with the first-year, first-generation students and lower retention rates.

In addition, studies have shown that first-generation students, on average, have lower academic achievement (Forbus et al., 2011; Grayson, 2011; Ramos-Sanchez & Nichols, 2007). Studies have also shown that self-efficacy plays a role in overall student achievement and retention (Brady-Amoon Fuertes, 2011; Cantrell et al., 2013; Fenning & May, 2013; Fong & Krause, 2014; Maimon et al., 2010; Wright et al., 2012; Zimmerman et al., 2011). However, these research studies have not addressed whether self-efficacy of first-year, first-generation students is different from that of first-year, non-first-generation students.

Vuong et al. (2010) utilized the College Self-Efficacy Inventory (CSEI) instrument and focused their study on the self-efficacy of sophomores who were first-generation and non-first-generation students. The research results indicated that self-efficacy impacted GPA and that non-first-generation sophomore students outperformed academically the first-generation sophomore students (Vuong et al., 2010). However, the first-year, first-generation students who did not persist to sophomores were already eliminated from the study. Likewise, the Brady-Amoon and Fuertes (2011) study again utilized the CSEI instrument and studied the self-efficacy of students

who had diverse socioeconomic statuses and ethnicities. Yet, their sample population did not distinguish between first-year, first-generation students and non-first-generation students.

However, their findings indicated that self-efficacy and self-rated abilities are correlated and that self-efficacy does contribute to students' adjustment in college (Brady-Amoon & Fuertes, 2011).

Therefore, the lack of studies utilizing the CSEI instrument specific to first-year, first-generation students and self-efficacy suggest the need to determine if first-year, first-generation students' self-efficacy differs from first-year, non-first-generation students in order to promote self-efficacy intervention programs that can be utilized to promote higher academic achievement and increase retention of first-year, first-generation students.

Summary

Thus far, research has proven that students who have a higher self-efficacy will do better academically and socially and that they are more likely to be retained. It is in the best interest of colleges and universities to initiate intervention programs to foster self-efficacy to allow for the development of first-year, first-generation students. Colleges and universities need to initiate first-year, first-generation intervention programs for a number of reasons. First, research has proven that it is more fiscally responsible to retain a student than to recruit a new one. Second, colleges and universities are well aware that retention rates are now being used as an indicator to rank U.S. colleges and universities. Third, it is also in the best interest of colleges and universities to nurture first-year, first-generation students by helping them to cope with their new social and academic environments. By doing so, they increase the probability of the student's academic success. The student's academic success, in turn, will promote the greater likelihood that the student will return in their sophomore year. Therefore, programs that increase students' self-efficacy are in everyone's best interest, especially those programs that would address the

needs of first-year, first-generation students. Thus, this research study examined if there was a difference between the self-efficacy of first-year, first-generation college students and first-year, non-first-generation college students as measured by the College Self-Efficacy Inventory. This research added to the body of research on first-year, first-generation students' self-efficacy and sought to promote intervention programs to help increase and foster the self-efficacy and collective efficacy of first-year, first-generation students.

CHAPTER THREE: METHODS

Design

This quantitative, causal-comparative study sought to determine if there was a difference in self-efficacy between first-year, first-generation college students and first-year, non-first-generation college students. A causal-comparative research design was appropriate because there were two independent variables that were present or absent that showed cause-and-effect relationships and a dependent variable that showed how the groups differed (Gall et al., 2007; Solberg et al., 1993). By identifying the association among variables, causal-comparative analysis helped to identify the existing differences among the groups of individuals (Warner, 2013). In addition, if the main effect tests or interaction tests were significant, follow-up tests could be conducted (Green & Salkind, 2014). In this study, each student was a member of only one group—first-year, first-generation status or first-year, non-first-generation status and either male or female. The independent variables in this study were first-year, first-generation college students or first-year, non-first-generation college students and gender (male or female). A first-generation college student was one whose parents had not received a college degree (Soria & Stebleton, 2012). The dependent variable in this research study was the student's self-efficacy score as measured by the College Self-Efficacy Inventory (CSEI) instrument (Gore et al., 2006; Solberg et al., 1993). Self-efficacy was a student's belief in his or her ability to accomplish a task successfully or the ability to produce a desired outcome (Bandura, 1997; Fenning & May, 2013; Lombardi et al., 2012; Wolniak et al., 2012). The dependent variable measured a student's self-efficacy in three subcomponents: course self-efficacy, roommate self-efficacy, and social self-efficacy (Gore et al., 2006; Solberg et al., 1993).

Research Question(s)

The research question for this study is:

RQ1: Is there a difference between the self-efficacy of first-year, first-generation male and female college students and first-year, non-first-generation male and female college students as measured by the College Self-Efficacy Inventory?

Null Hypotheses

The null hypotheses for this study were:

H₀₁: There is no significant difference between first-year, first-generation college students' self-efficacy and first-year, non-first-generation college students' self-efficacy as measured by the College Self-Efficacy Inventory (CSEI).

H₀₂: There is no significant difference between the self-efficacy of male and female first-year college students as measured by the College Self-Efficacy Inventory (CSEI).

H₀₃: There is no significant interaction between the self-efficacy of male and female first-year, first-generation college students and first-year, non-first-generation college students as measured by the College Self-Efficacy Inventory (CSEI).

Participants and Setting

Participants for this causal-comparative study were drawn from a rural, Midwestern university. University ABC was a private, four-year, liberal arts university offering baccalaureate and master degrees. University ABC had a residential campus, an online program, a self-paced program, domestic centers, and international centers. University ABC was chosen because of its relatively large population of first-generation students. The large population of first-generation students was due to the fact that University ABC's admission standards were not highly selective, which attracted students from lower socio-economic levels. According to Lombardi et

al. (2012), fifty percent of first-generation students are from families with an average household income of less than \$25,000 as compared to only 7% of students who are non-first-generation students. Students were admitted to University ABC who met the admissions standards of a 17 ACT and a 2.00 GPA. Students were also admitted conditionally with a lower ACT or GPA, if approved by the University's Admissions Committee. Thus, first-year, first-generation students were more likely to come from families that had a lower socio-economic level and were more likely to be lower achievers (Ramos-Sanchez & Nichols, 2007; Stephens et al., 2012).

The most recent census data (fall 2015) reported 907 students on the University's residential campus; 32% of the first-time, full-time incoming cohort were first-generation students. Additional demographics of the fall 2015 census data reported a gender percentage of male (57%) to female (43%), a student-to-faculty ratio of 17:1, and a minority percentage of 25% (IPEDS, 2015). University ABC had a first-year retention rate of 67%, and its six-year graduation rate was 42% for the 2009 incoming cohort graduating up to and including 2015 (IPEDS, 2015).

This research study utilized a convenience sample. In this study, the participants included all incoming first-year, full-time college students at University ABC's residential campus. University ABC was chosen because it was a private, four-year liberal arts college with a residential campus and had approximately 200 first-time, full-time students admitted each fall semester. University ABC's student population consisted of approximately 40%-45% first-generation students due primarily to its lower admission standards.

Based upon the recommended medium-effect sample size for an analysis of variance, the minimum total sample size was 126 with an alpha of .05 level of significance and a statistical power of .7 (Gall et al., 2007). The sample was a convenience sample that is naturally occurring

of incoming first-time, full-time freshmen students at the University's residential campus. Out of 176 possible participants, the sample consisted of 151 participants of which 85 were male and 66 were female. The survey had an 85.80% response rate. The participants included 31 African Americans, 10 Hispanics, 105 Caucasian, and 5 other race/ethnicities. The participants ranged in age from 18 to 20. Of the 151 participants, 39.73% were first generation students.

In a selected set of courses (FYE 123), students were offered the opportunity to complete the survey during the beginning of the fall semester before experiencing failures or successes as a college student. Thus, the survey captured students' beliefs at the start of their college experience. A recruitment letter introducing the study was provided to all incoming first-time, full-time students during the first week of the fall 2016 semester (see Appendix A). A letter introducing the study was emailed to all faculty teaching FYE 123 course sections prior to the start of the fall 2016 semester (see Appendix B). Participants were students 18 years of age and older and were asked to sign a consent form (see Appendix C). The recruiting information and the consent form were fully reviewed with each participant by the researcher. The participants were offered the opportunity to ask questions initially, to ask questions at any point during the data collection activities, and to ask questions after the conclusion of data collection. Students were informed of their freedom to withdraw from the study at any time without negative consequences or prejudice.

Instrumentation

The College Self-Efficacy Inventory (CSEI) three-component structure was utilized in this research study to measure the independent variables of first-generation male and female college students and non-first-generation male and female college students and the dependent variable of their measure of self-efficacy. In 1993, the CSEI was developed and validated by

Solberg et al., (1993). The CSEI inventory identified three sub-components: course self-efficacy, roommate self-efficacy, and social self-efficacy. The CSEI consisted of 20 items that measured participants' beliefs in their ability to complete a college-related task successfully: 7 course self-efficacy questions, 5 roommate self-efficacy questions, and 8 social self-efficacy questions. The CSEI utilized a 9-point Likert scale to score all 20 items ranging from 1 (totally unconfident) to 9 (totally confident). A combined possible score on the CSEI ranged from 9 to 180. A score of 9 was the lowest possible score indicating that students were not at all confident that they could complete any of the 20 college-related tasks. A score of 180 was the highest possible score indicating that students were extremely confident that they could complete all of the 20 college-related tasks. The reliability in previous studies proved to be strong: total Cronbach alpha = .93, subscales = .88, .88, and .88 (course, social, and roommate respectively) (Solberg et al., 1993). The construct of self-efficacy was also validated as "evidenced by the fact that scores on this instrument negatively correlate with measures of physical and psychological distress and positively correlate with adjustment, academic persistence, and social integration" (Gore et al., 2006, p. 230). The CSEI was administered through the University's Learning Management System (LMS) via the LMS survey tool and took approximately 10-15 minutes to complete. The researcher exported the survey data from the LMS survey tool to Excel for data analysis in SPSS.

Additionally, Solberg, Gusavac, Hamann, and Felch (1998) tested the CSEI instrument in an empirical study ($N > 2000$) with community college students. The three subcomponents of the CSEI instrument again proved reliable and valid: total Cronbach alpha = .91, subscales = .86, .89, and .79, (course, social, and roommate, respectively). Gore et al. (2006) again tested the CSEI for validity and reliability using the three components of course, social, and roommate. The reliability proved to be once again strong: total Cronbach alpha = .92, subscales = .88, .86,

and .83 (course, social, and roommate, respectively). To further explore the validity of scores on the CSEI, scores on the CSEI were moderately correlated with scores on two other measures of self-efficacy beliefs—the Career Decision-Making Self-Efficacy Beliefs Instrument ($r = .62, p < .01$) and the Occupational Self-Efficacy Beliefs Instrument ($r = .27, p < .01$) (Gore et al., 2006). Thus, the construct of self-efficacy was again validated.

Permission to use the College Self-Efficacy Inventory instrument was acquired from Dr. V. S. Solberg. Through email communication, Dr. Solberg instructed the researcher to complete the “Request for Instrument” form (see Appendix E) obtained from the Boston University Lab for Career and Workforce Development (Massachusetts Institute for College and Career Readiness Website, 2016). Once the form was received and processed, Dr. Solberg granted permission to use the CSEI via email (see Appendix F).

Procedures

The research study was conducted utilizing the following IRB, survey, and data collection procedures. The researcher secured the appropriate permission from the Institutional Review Board (IRB) at Liberty University via the Liberty University’s IRB application form (see Appendix G). The researcher also secured permission from the IRB at University ABC via the University ABC’s IRB application form (see Appendix H). In addition, the researcher secured permission from the President of University ABC to conduct the study during Fall Term 1, 2016 (see Appendix I).

Once approval was granted from both Liberty University and University ABC, a recruitment letter introducing the study was provided to all students enrolled in FYE 123 (see Appendix A) and faculty members who taught FYE 123 (see Appendix B) course sections during the first week of the 2016 fall semester. FYE 123 courses were identified through the

University's Office of the Registrar. Participants in the study included all first-year, full-time incoming students at the University's residential campus who were 18 years of age or older. All participants were asked to sign a consent form (see Appendix C).

Prior to the start of Fall Term 1, the College Self-Efficacy Instrument (CSEI) was uploaded into the University's Learning Management System (see Appendix J for a copy of the CSEI). The CSEI was accessible via a URL link in the LMS survey tool. The CSEI survey contained 20 questions that captured students' confidence in how well they could perform specific tasks at the start of their college experience. The survey remained open for one week.

An instruction sheet was provided to faculty members prior to the start of Fall Term 1 courses. Faculty received the following instructions (see Appendix D):

1. The Director of Academic Success scheduled a D2L training session for students in each FYE 123 course during the first week of class.
2. A training facilitator conducted the D2L training.
3. Students participated in a 20-minute D2L training session introducing them to the University's new Learning Management System.
4. At the end of the training session, the student recruitment letter was distributed along with the Consent Document.
5. Students who wanted to participate were asked to sign the Consent Document.
6. Students who signed the Consent Document were provided a link to the CSEI survey in D2L.
7. Students were asked to complete the online survey titled, "College Self-Efficacy Inventory" via the hyperlink provided in the FYE 123 course.

8. The survey took approximately 10-15 minutes to complete. The survey remained open for one week.
9. Students who completed the survey were given a \$10 gift card during class to the University Coffee Shop.
10. The data collection was confidential and students' answers were reported in aggregate only.
11. The remaining class time was available for instructor use.

For each FYE 123 course, the facilitator explained the answer choices to students that ranged from 1 to 9 on a Likert Scale, with 1 (not at all confident) to 9 (extremely confident). The facilitator emphasized that data would be used only in aggregate and student names would remain confidential. Only the principal investigator would have access to names.

When the survey deadline passed, the researcher exported the data to Excel, aggregated the data, and uploaded the data to SPSS for statistical analysis. Data was kept on a password protected computer as well as on an external hard drive in a locked cabinet. Survey results were presented to University ABC as a professional courtesy. A thank you letter was sent to each faculty member who taught FYE 123 courses (see Appendix K).

Data Analysis

A two-way ANOVA was used for all three null hypotheses to analyze the data. The dependent variable (self-efficacy) was measured by the CSEI instrument, and the ANOVA *F* test differentiated individuals on quantitative differences (Green & Salkind, 2014; Warner, 2013). A two-way ANOVA was appropriate for a causal-comparative study that utilized between-subjects groups (Green & Salkind, 2014; Warner, 2013). To determine the presence of any outliers within the data, a box and whiskers plot was run. The Shapiro-Wilk test was run on each group to test

for the assumption of normality. Levene's Test of Equality of Error Variance was used to test for the assumption of equal variance. Levene's Test of Equality of Error Variance determined whether the error variance of the dependent variable was approximately equal across groups. Normality of distribution for the dependent variable was also evaluated using histograms. Descriptive statistics included the mean and standard deviation for the dependent variable (self-efficacy score) and the two main effects (first generation status and gender) and the interaction effect (first generation status x gender) were run. Tests of Between-Subjects Effects were run to determine if the Null Hypotheses were rejected or accepted. A significance level of $\alpha < .05$ was applied in each analysis. Inferential statistics were provided including *d.f. between* groups, *d.f. within* groups, *F*-statistic, *p*-value, and Partial Eta Squared. The effect size was interpreted in terms of Partial Eta Squared (η_p^2) based on Cohen's *d* (Warner, 2013).

CHAPTER FOUR: FINDINGS

Research Question

The research question for this study is:

RQ1: Is there a difference between the self-efficacy of first-year, first-generation male and female college students and first-year, non-first-generation male and female college students as measured by the College Self-Efficacy Inventory?

Null Hypotheses

The null hypotheses for this study were:

H₀₁: There is no significant difference between first-year, first-generation college students' self-efficacy and first-year, non-first-generation college students' self-efficacy as measured by the College Self-Efficacy Inventory (CSEI).

H₀₂: There is no significant difference between the self-efficacy of male and female first-year college students as measured by the College Self-Efficacy Inventory (CSEI).

H₀₃: There is no significant interaction between the self-efficacy of male and female first-year, first-generation college students and first-year, non-first-generation college students as measured by the College Self-Efficacy Inventory (CSEI).

Descriptive Statistics

Descriptive statistics were obtained for the two independent variables (generation status and gender) and the dependent variable CSEI score (see Table 1). The means (*M*) and the standard deviations (*SD*) for the CSEI score as a function of the two factors were provided as well as the sample size. The first sample size comparison of generation status is 60 vs. 91; the second sample size comparison is 85 vs. 66.

Table 1
Descriptive Statistics

First Generation Status	Gender	<i>M</i>	<i>SD</i>	N
First Generation	Men	135.66	14.408	32
	Women	136.00	17.872	28
	Total	135.82	15.977	60
Non-First Generation	Men	137.64	18.826	53
	Women	136.42	16.951	38
	Total	137.13	17.980	91
Total	Men	136.89	17.232	85
	Women	136.24	17.213	66
	Total	136.61	17.169	151

Results

Data Screening

The researcher conducted data screening to identify data inconsistencies and outliers on the main dependent variables and CSEI scores. The data was sorted on each effect and examined for inconsistencies. The data screening revealed no data errors or inconsistencies. A box and whiskers plot was used to identify outliers for each effect. One severe outlier was removed from the men's first-generation group. (See Figure 1). Five marginal outliers (points that are outside $Q1 - 1.5 * IQR$ or $Q3 + 1.5 * IQR$) were retained in the data because they were not severe outliers (points that are more extreme than $Q1 - 3 * IQR$ or $Q3 + 3 * IQR$) (Warner, 2013).

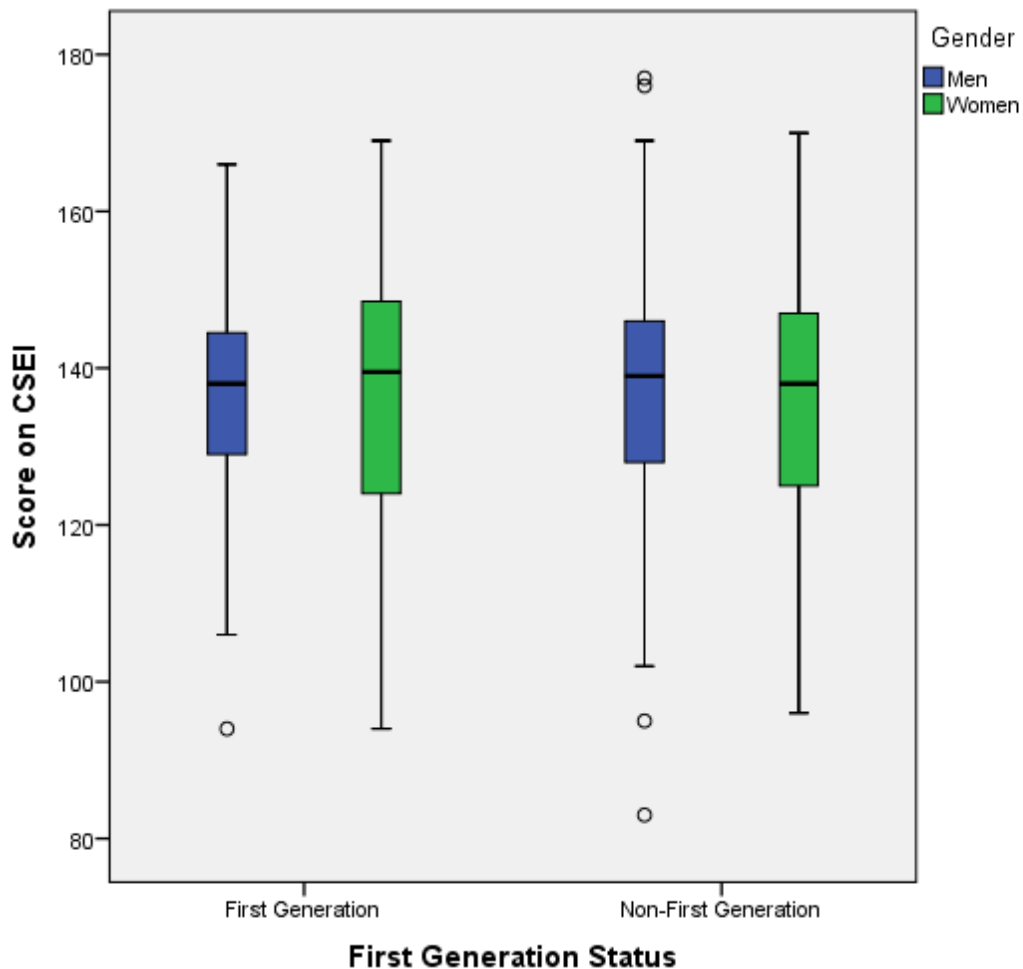


Figure 1. Distributions of CSEI scores by first-generation status for males and females.

Assumptions

A two-way ANOVA was used to determine if the CSEI scores were statistically different between first-generation students and non-first-generation. Two assumption tests were utilized for the two-way ANOVA—the assumption of normality and the assumption of equal variance (homogeneity). The Kolmogorov-Smirnov test of normality was used to determine the assumption of normality. The Kolmogorov-Smirnov test of normality revealed the following significances: first-generation ($p = .200$); non-first-generation ($p = .200$); male ($p = .163$); female

($p = .200$). No violations of normality were found. (See Tables 2-3 for the Kolmogorov-Smirnov tests of normality.)

Table 2

Tests of Normality – Generation Status

	Generation Status	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	<i>df</i>	Sig.	Statistic	<i>df</i>	Sig.
Score on CSEI	First Generation	.088	60	.200*	.971	60	.169
Score on CSEI	Non-First Generation	.067	91	.200*	.982	91	.261

* This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Table 3

Tests of Normality – Gender Status

	Gender Status	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	<i>df</i>	Sig.	Statistic	<i>df</i>	Sig.
Score on CSEI	Male	.087	85	.163	.973	85	.072
Score on CSEI	Female	.079	66	.200*	.978	66	.299

* This is a lower bound of the true significance.

a. Lilliefors Significance Correction

The assumption of equal variance (or homogeneity) was examined using the Levene's test. A violation was not found ($p = .504$), so the assumption of equal variance (or homogeneity) was met. For this reason, the researcher continued with the analysis. (See Table 4 for Levene's Test.)

Table 4

Levene's Test of Equality of Error Variances^a

Dependent Variable: Score on CSEI

<i>F</i>	<i>df1</i>	<i>df2</i>	Sig.
.785	3	147	.504

Note: Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + gender + genstatus + gender * genstatus

Results for Null Hypothesis One

A Two-way ANOVA was used to test the first null hypothesis that there is no significant difference between first-year, first-generation college students' self-efficacy and first-year, non-first-generation college students' self-efficacy as measured by the College Self-Efficacy Inventory. There was not a significant difference in College Self-Efficacy Inventory scores between first-generation students' self-efficacy scores and non-first-generation students' self-efficacy scores, $F(1, 147) = .172, p = .679, \eta_p^2 = .001, \alpha = .05$ (see Appendix L). Based on these findings, the results fail to reject the first null hypothesis.

Results for Null Hypothesis Two

A Two-way ANOVA was used to test the second null hypothesis that there is no significant difference between the self-efficacy of male and female first-year college students as measured by the College Self-Efficacy Inventory. There was not a significant difference in College Self-Efficacy Inventory scores between males' self-efficacy scores and females' self-efficacy scores, $F(1, 147) = .023, p = .880, \eta_p^2 = .000, \alpha = .05$ (see Appendix L). Based on these findings, the results fail to reject the second null hypothesis.

Results for Null Hypothesis Three

A Two-way ANOVA was used to test the third null hypothesis that there is no significant interaction between the self-efficacy of male and female first-year, first-generation college students and first-year, non-first-generation college students as measured by the College Self-Efficacy Inventory. There was not a significant interaction in College Self-Efficacy Inventory scores between male and female first-year, first-generation college students' scores and first-year, non-first-generation college students' scores, $F(1, 147) = .073, p = .788, \eta_p^2 = .000, \alpha = .05$ (see Appendix L). Based on these findings, the results fail to reject the third null hypothesis.

Additional Analysis

Estimated Marginal Means

The number of cases differed across cells; the study included 85 male students and 66 female students who participated in the study. Therefore, the estimated marginal means were reported in Tables 6-8. The estimated marginal means were slightly higher for first-generation students (135.83) compared to the descriptive means (135.82) as well as for non-first-generation students (137.03) compared to the descriptive means (137.13). On average, first-generation students scored lower than non-first-generation students (see Table 6). The estimated marginal means were slightly lower by gender for both males and females compared to the descriptive means: males 136.65 vs. 136.89 (estimated means and descriptive means, respectively) and females 136.22 vs. 136.24 (estimated means and descriptive means, respectively). On average, men scored higher than women (see Table 7). However, on average first-generation women scored higher than first-generation men, and non-first-generation men scored higher than non-first-generation women (see Table 8). The descriptive means and the estimated marginal means were identical for the interaction effect of first generation status x gender.

Table 5

Estimated Marginal Means: First Generation Status

Dependent Variable: Score on CSEI

First Generation Status	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
First Generation	135.828	2.242	131.398	140.258
Non-First Generation	137.031	1.841	133.392	140.670

Table 6

Estimated Marginal Means: Gender

Dependent Variable: Score on CSEI

Gender	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Men	136.649	1.939	132.817	140.481
Women	136.211	2.157	131.947	140.474

Table 7

*Estimated Marginal Means: First Generation Status * Gender*

Dependent Variable: Score on CSEI

First Generation Status	Gender	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
First Generation	Men	135.656	3.063	129.604	141.709
	Women	136.000	3.274	129.530	142.470
Non-First Generation	Men	137.642	2.380	132.939	142.344
	Women	136.421	2.810	130.867	141.975

CSEI Subcomponents

Descriptive statistics were obtained for the two main effects (first-generation status and gender), the subcomponents that included dependent variables of course score, social score, and

roommate score, and the interaction effect (first-generation status x gender) (see Tables 9 – 11).

The means (*M*) and the standard deviations (*SD*) for the CSEI subcomponent scores as a function of the two factors (first-generation status and gender) were provided as well as the sample size.

Table 8

Descriptive Statistics – Course Subcomponent

Dependent Variable: Course Subcomponent

Gender	First Generation Status	Mean	Std. Deviation	N
Men	First Generation	44.38	5.917	32
	Non-First Generation	46.06	7.929	53
	Total	45.42	7.246	85
Women	First Generation	47.29	7.930	28
	Non-First Generation	45.76	6.934	38
	Total	46.41	7.353	66
Total	First Generation	45.73	7.023	60
	Non-First Generation	45.93	7.490	91
	Total	45.85	7.285	151

Table 9

Descriptive Statistics – Social Subcomponent

Dependent Variable: Social Subcomponent

Gender	First Generation Status	Mean	Std. Deviation	N
Men	First Generation	55.19	6.582	32
	Non-First Generation	54.72	9.063	53
	Total	54.89	8.178	85
Women	First Generation	53.43	8.171	28
	Non-First Generation	53.79	8.415	38
	Total	53.64	8.251	66
Total	First Generation	54.37	7.355	60
	Non-First Generation	54.33	8.762	91
	Total	54.34	8.207	151

Table 10

Descriptive Statistics – Roommate Subcomponent

Dependent Variable: Roommate Subcomponent

Gender	First Generation Status	Mean	Std. Deviation	N
Men	First Generation	36.09	4.431	32
	Non-First Generation	36.87	5.170	53
	Total	36.58	4.893	85
Women	First Generation	35.29	5.550	28
	Non-First Generation	36.87	4.867	38
	Total	36.20	5.186	66
Total	First Generation	35.72	4.958	60
	Non-First Generation	36.87	5.018	91
	Total	36.41	5.010	151

CHAPTER FIVE: DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

Discussion

The purpose of this quantitative, causal-comparative study was to determine whether the self-efficacy of first-year, first-generation college male and female students during their first semester of college was significantly different from first-year, non-first-generation male and female college students. In the current research, the College Self-Efficacy Inventory measured the students' confidence in their ability to perform tasks related to their courses, roommates, and social interactions. The first null hypothesis stated that there is no significant difference between first-year, first-generation college students' self-efficacy and first-year, non-first-generation college students' self-efficacy as measured by the College Self-Efficacy Inventory. The first null hypothesis failed to be rejected; the difference was not statistically significant $F(1, 147) = .172$, $p = .679$, $\eta_p^2 = .001$, based on $\alpha = .05$. This was in contrast to previous research in which first-generation status was a significant predictor for college retention (Ishitani, 2006; Woosley et al., 2011). One explanation for the non-significant result may be due to the low admission standards at University ABC that required an ACT score of 17 and a GPA of 2.0. However, the mean CSEI score for first-generation students compared to non-first generation students was 1.31 points lower. Consistent with previous research, the lower mean self-efficacy scores of first-generation students supported the research by Alarcon and Edwards (2013), who found that ability and motivation were significant predictors of retention.

The second null hypothesis stated that there is no significant difference between the self-efficacy of male and female first-year college students as measured by the College Self-Efficacy Inventory (CSEI). The second null hypothesis failed to be rejected, $F(1, 147) = .023$, $p = .880$, $\eta_p^2 = .000$, based on $\alpha = .05$. The mean self-efficacy scores were very close between males ($M =$

136.89) and females ($M = 136.24$). These results supported the research of Cantrell et al., (2013) in which gender was not a statistically significant dependent variable in determining the difference of CSEI scores. However, the pattern of mean scores suggested a practical difference in which the slightly lower female mean score supported previous research that found females were 1.59 times more likely to leave college than males (Alarcon & Edwards, 2013; Cantrell et al., 2013).

The third null hypothesis stated that there is no significant interaction between the self-efficacy of male and female first-year, first-generation college students and male and female first-year, non-first-generation college students as measured by the College Self-Efficacy Inventory (CSEI). The third null hypothesis failed to be rejected, $F(1, 147) = .073, p = .788, \eta_p^2 = .000$, based on $\alpha = .05$. A particularly interesting result was that male non-first-generation students had a mean score of 1.98 points higher than male first-generation students; and overall, male first-generation students had the lowest CSEI mean score of 135.66. Males had the highest difference in mean CSEI scores between first-generation status and non-first-generation status. In addition, the total mean score for all males was the highest self-efficacy score.

The CSEI subcomponent scores indicated that students were most confident regarding their roommates ($\sigma = 5.01$) over course work ($\sigma = 7.29$) or social interactions ($\sigma = 8.21$). Previous research has indicated that students who lived in learning communities with their peers had a higher general self-efficacy that contributed to reaching future goals and outcomes (Fenning & May, 2013). Students felt more comfortable around students who were like them rather than around individuals who they could not relate to or who do not possess some of their characteristics (Cantrell et al., 2013).

Conclusions

Research is important in understanding the self-efficacy of students, particularly incoming first-generation students. In this study, the results suggested that the lower mean CSEI scores of the sample first-generation students provided practical implications for intervention programs aimed at developing students' self-efficacy. It is important to remember that the current survey participants were from a university student population with low university admission standards. Although the CSEI scores were lower for first-generation students, the lower university admission standards could explain why the data results were not statistically significant. In the future, if larger test samples are used from different universities, then university admission standards should be a variable in assessing the research results. However, administrators and educators should use the current survey results to provide student intervention programming for first-generation students and professional development for instructors in supporting and developing first-generation students' self-efficacy.

Because there is a wide range of self-efficacy approaches and student self-efficacy is malleable, it gives colleges and universities a wide variety of approaches to implementing intervention programs (Faulconer et al., 2014; Kiyama et al., 2014; Tampke, 2013; Ward et al., 2014). Whatever a university's program configuration to help first-generation students overcome the transition into the college environment, self-efficacy and the awareness of its four sources (i.e., mastery experience, vicarious experience, verbal persuasion, and emotional arousal) should be used by counselors, mentors, and faculty to increase first-year, first-generation students' likelihood of persisting to their sophomore year. A student's ability to think and live in the college environment and to succeed academically depends on their self-efficacy. In particular, self-efficacy intervention programs will help to offset the lack of college preparedness

(Faulconer et al., 2014; Kiyama et al., 2014; Tampke, 2013; Ward et al., 2014). These initiatives will not only help first-generation students, but also all students who may be at risk in succeeding academically and socially.

The development of first-generation student self-efficacy by the educational process is at the heart of the teacher-servant Christian tenet. Just as Jesus came to earth to instruct people in the ways of the Father, teachers must also serve and instruct students in the ways of higher education by applying those principles dear to the hearts of all Christians as taught by Jesus Christ. Among the most important tenets taught by Christ was to love God with all your heart (Mark 12:30; Matthew 22:37), to love one's neighbors (Mark 12:31; Mathew 22:39), and to treat others as you would like to be treated (Luke 6:31; Matthew 7:12). The mission of a teacher, therefore, is to teach the first-generation student as an individual, and not just as an economic entity that fuels the bottom line of a university. At the heart of the teacher-servant attitude is understanding how each student learns and, in particular, identifying stumbling blocks that exist in first-generation students' lives that are producing impediments to their learning process.

Implications

Overall, the study found that first-generation students had lower mean CSEI scores ($M = 135.82$) than did non-first-generation students ($M = 137.13$) and men had higher mean CSEI scores ($M = 136.89$) than did women ($M = 136.24$). The current findings have implications in programming for first-generation students and non-first-generation students who may be at risk. Students who have a low self-efficacy may not be motivated to perform or to achieve at their potential even if they have the necessary ability (Alarcon & Edwards, 2013, Brady-Amoon & Fuertes, 2011). Therefore, students must have proper academic success resources in place to increase students' ability and motivation in order for them to succeed academically.

Universities can address the issue of student self-efficacy development through intervention programs aimed at increasing self-efficacy. These intervention programs include study groups and learning communities to help students identify and incorporate a positive learning experience that will increase their self-efficacy (Alarcon & Edwards, 2013). For example, modeling might be used to help students with low self-efficacy through vicarious learning (Cantrell et al., 2013). Research has shown that modeling may have the most immediate and direct impact on students by observing one of their peers who has shown the specific behaviors needed to be successful (Bandura, 2008; Bartsch et al., 2012, Lane, Lane, & Kyprianou, 2004). Observing peers perform specific actions and behaviors and listening to their experience about how they persevered through a difficult situation can help first-generation students to overcome their fear and to be more successful (Bartsch et al., 2012). In particular, low-self efficacy students distanced themselves from their past negative experiences by drawing parallels between the student models and themselves. This distance and perspective helped low self-efficacy students to identify those same qualities in themselves. This can be accomplished through face-to-face vicarious experiences in which low self-efficacy students hear and understand how other peers similar to themselves have avoided the negative consequences of their past experiences in order to succeed in an academic environment. In practice, programs and individuals who promote students' self-efficacy development also promote improved academic performance (Brady-Amoon & Fuertes, 2011).

By providing positive feedback through forms of verbal persuasion self-efficacy and collective efficacy, college instructors can support and develop students' self-efficacy (Maimon, et al., 2010; Miller, 2011; Wolniak et al., 2012). Positive feedback that increases self-efficacy can quickly be negated by a subsequent failure (Fong & Krause, 2014). Thus, it is important for

first-generation students that authentic feedback is parallel with developing skills and strategies to be successful (Cantrell et al., 2013). Authenticity in education is essential for student development.

Limitations

One limitation of the current research was that the data was collected at one point in time. Students' confidence levels may change over the course of the academic year (Bernacki, Nokes-Malach, & Alevan, 2015.) Many students were leaving their family, friends, and home for the first time; this transition could be perceived as stressful and leave students feeling less confident about their coursework, their roommates and living environment, and their social interactions. There were environmental factors as well such as managing time, financial stressors, and cultural differences. Thus, assessing self-efficacy at the beginning and at the end of the year may offer additional insight into the students' dynamic adjustment to college (Bernacki, et al., 2015).

Another limitation of the current research was the student sample. It is important to note that the student sample was drawn from a single university which limits the generalization to a broader population. The student sample was chosen from a university that does not have highly selective admission standards. Thus, the majority of enrolled students were from lower socio-economic levels who received need-based grants and loans, and there was a large percentage of enrolled minorities both of which created a large at-risk population for incoming students. A study of a more diverse student population—including non-traditional students—at colleges with varying admission standards (i.e., more selective) would be beneficial to universities in helping to understand the needs of first-generation college students as opposed to high-achieving students.

Recommendations for Future Research

Future research might utilize pre- and post-surveys to document changes in self-efficacy over time. This might be done by utilizing control groups to examine the effect of intervention programs as related to self-efficacy on incoming students, and in particular, first-generation students (Bernacki, et al., 2015, Brady-Amoon & Fuyertes, 2011). Future research might also consider the implications of socio-economic levels and ethnicity/race upon self-efficacy of first-generation students. Finally, the current study might be replicated with different university and college populations and different university and college environments.

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APPENDICES

Appendix A

Student Recruitment Letter

[Date tbd]

Dear Student:

As a graduate student in the School of Education at Liberty University, I am conducting research as part of the requirements for a doctoral degree. The purpose of my research is determine if there is a significant difference between first-generation student self-efficacy and non-first-generation student self-efficacy and I am writing to invite you to participate in my study.

If you are 18 years of age or older, a first-time, full-time student, and are willing to participate you will be asked to complete a 20-question survey. It should take approximately 10 to 15 minutes for you to complete the survey. Your name and/or other identifying information will be requested as part of your participation, but the information will remain confidential.

To participate, please follow these procedures:

1. Sign the attached consent document.
2. Participate in the D2L training session that will be conducted during the first week of class in your course.
3. At the end of the training session, click on the survey link provided.
4. You will be asked to complete the online survey titled, "College Self-Efficacy Inventory" via the hyperlink provided in your course.
5. The data collection will be confidential and all data will be reported in aggregate.
6. The survey will take approximately 10-15 minutes to complete.

A consent document is attached to this letter. The consent document contains additional information about my research. Please sign the consent document and return it to me during your course.

If you choose to participate, you will receive a \$10 gift card to the University Coffee Shop upon completing the survey in class.

Sincerely,

Janet Shepherd

Appendix B

Letter to Faculty Introducing the Study

Dear Instructor:

As a graduate student in the School of Education at Liberty University, I am conducting research as part of the requirements for a doctoral degree. The purpose of my research is to determine if there is a significant difference between first-generation student self-efficacy and non-first-generation student self-efficacy, and I am writing to inform you of my study. I have received permission from the [redacted] to conduct the "College Self-Efficacy Inventory" survey in all of the [redacted] course sections during the beginning of fall 2016 term 1.

If students are 18 years of age or older, a first-time, full-time student, and are willing to participate they will be asked to complete a 20-question survey. It should take approximately 10 to 15 minutes for them to complete the survey. Their name and/or other identifying information will be requested as part of their participation, but the information will remain confidential.

To participate, students will follow these procedures:

1. Sign the consent document.
2. Participate in the D2L training session that will be conducted during the first week of class in their [redacted] course.
3. At the end of the training session, they will click on the link provided.
4. They will be asked to complete the online survey titled, "College Self-Efficacy Inventory" via the hyperlink provided in their [redacted] course.
5. The data collection will be confidential and all data will be reported in aggregate.
6. The survey will take approximately 10-15 minutes to complete.

The [redacted] will be scheduling the D2L training sessions during the beginning of the [redacted] classes. The survey completion portion will only take 10-15 minutes of class time.

The results of this study will inform the establishment of student success programs. These programs will help students (first-year, first-generation students in particular) to become confident in their academic tasks, social interactions, and interpersonal relationships; this, in turn will improve university retention rates and help society by creating a more informed citizenry.

Thank you for your collaboration in allowing this survey to be conducted in your [redacted] [redacted] course.

Sincerely,

Janet Shepherd

[redacted]

Appendix C
Informed Consent Form

The Liberty University Institutional Review Board has approved this document for use from 8/26/2016 to -- Protocol # 2608.082616

**CONSENT
FORM**

Self-Efficacy and First-Generation Student College
Retention
Janet M.
Shepherd
Liberty
University
School of
Education

You are invited to be in a research study to measure College Self-Efficacy. You were selected as a possible participant because you are an incoming first-year college student. I ask that you read this form and ask any questions you may have before agreeing to be in the study.

Janet Shepherd, a doctoral candidate in School of Education at Liberty University, is conducting this study.

Background Information: The purpose of this study is to measure the self-efficacy of incoming first-year students utilizing a 20-question survey. The results will provide data on whether there is a significant difference between first-generation student self-efficacy and non-first-generation student self-efficacy. Self-efficacy can be defined as how confident one believes he or she is in completing a task.

Procedures: If you agree to be in this study, I would ask you to do the following things:

1. Participate in the D2L training session that will be conducted during one week of class in [redacted] course in Fall Term 1, 2016.
2. You will be asked to complete the online survey titled, "College Self-Efficacy Inventory" via the hyperlink provided in your [redacted] course.
3. The data collection will be confidential and all data will be reported in aggregate.
4. The survey will be open for one week and take approximately 10-15 minutes to complete.

Risks and Benefits of being in the Study: The risks involved in this study are minimal and are no more than the participant would encounter in everyday life.

The benefits to participation are indirect benefits to the student, the university, and society. The results of this study will inform the establishment of student success programs. These programs will help students (first-year, first-generation students in particular) to become confident in their academic tasks, social interactions, and interpersonal relationships; this, in turn will improve university retention rates.

Compensation: You will receive a \$10 gift card to the University Coffee Shop for taking part in this study upon completion of the survey in class.

Confidentiality: The records of this study will be kept private. In any sort of report I might publish, I will not include any information that will make it possible to identify a subject. Research records will be

stored securely, and only the researcher will have access to the records. We may share the data we collect from you for use in future research studies or with other researchers; if we share the data that we collect about you, we will remove any information that could identify you before we share it. Data will be kept on a password protected computer as well as on an external hard drive in a locked cabinet.

Voluntary Nature of the Study: Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with Liberty University or If you decide to participate, you are free to not answer any question or withdraw at any time without affecting those relationships.

How to Withdraw from the Study: If you choose to withdraw from the study, please contact the researcher at the email address/phone number included in the next paragraph. Should you choose to withdraw, data collected from you will be destroyed immediately and will not be included in this study.

Contacts and Questions: The researcher conducting this study is Janet Shepherd. You may ask any questions you have now. If you have questions later, **you are encouraged** to contact her at [redacted]. You may also contact the researcher's faculty advisor, Dr. Sarah Horne at [redacted].

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, **you are encouraged** to contact the Institutional Review Board, 1971 University Blvd, Green Hall Suite 1887, Lynchburg, VA 24515 or email at [redacted].

Please notify the researcher if you would like a copy of this information to keep for your records.

Statement of Consent:

I have read and understood the above information. I have asked questions and have received answers. I consent to participate in the study.

(NOTE: DO NOT AGREE TO PARTICIPATE UNLESS IRB APPROVAL INFORMATION WITH CURRENT DATES HAS BEEN ADDED TO THIS DOCUMENT.)

Signature

Date

Signature of Investigator

Date

Appendix D

Faculty Instruction Sheet

“College Self-Efficacy Inventory” Survey

1. The [redacted] will schedule a D2L training session for your students during the beginning of the term.
2. [redacted] will conduct the D2L training for you.
3. Students will participate in the D2L training session introducing them to the University’s new learning management system.
4. At the end of the training session, the student recruitment letter will be distributed along with the Consent Document.
5. Students who want to participate, will be asked to sign the Consent Document.
6. Students who have signed the Consent Document will be asked click on the link provided in D2L.
7. Students will be asked to complete the online survey titled, “College Self-Efficacy Inventory” via the hyperlink provided in the [redacted] course.
8. The survey will take approximately 10-15 minutes to complete.
9. Students who complete the survey will be given a \$10 gift card during class to the University Coffee Shop.
10. The data collection will be confidential and all data will be reported in aggregate.
11. The remaining class time will be available for instructor use.

Appendix E

Request to Use CSEI Instrument

Request for Instrument(s)



Instrument Request Form

- Name*

First Last

- I am*

- Address*

Street Address Address Line 2 City
 State / Province / Region ZIP / Postal Code
 Country

- Phone*

- Email*

Enter Email Confirm Email

- I request permission to copy the:*

- Career Search Self-efficacy Scale (Middle and High School)
- Career Search Self-efficacy Scale (College)
- Academic Self-efficacy (Middle and High School)

- Academic Self-efficacy (College)
 - Social Support/Connections (Family, Peers, Friends)
 - Motivation (High School)
 - Goal-Setting (High School)
 - College Stress Inventory
 - College Distress Scale
 - Quality Learning Experiences
 - Career Decision-Making Difficulties
- Proposed use of instrument:*

The purpose of this quantitative study will be to dete

258 of 300 max characters

- For use in my research entitled:*

SELF-EFFICACY AND FIRST-GENERATION STUDENT
by Janet M. Shepherd
A Dissertation Presented in Partial Fulfillment
Of the Requirements for the Degree
Doctor of Education
Liberty University
2016

221 of 300 max characters

- Signature*

Janet Shepher

- Date*

4/4/2016

Terms and Conditions

1) In exchange for this permission, I agree to submit to Dr. V. Scott Solberg a copy of the following: a) An abstract of my study purpose, framework and findings. b) The means and standard deviations as computed on the scale from my sample. c) The correlation matrix. d) Any other information or findings that could be helpful in assessing the reliability or validity of the instrument would be greatly appreciated. 2) The use of these instruments is for research purposes only. User agrees not to resell or otherwise distribute access to these instruments to any third parties. 3) The underlying data accessed by these instruments remains the property of AdvancePath Academics, Inc, and should not be reused, resold, or otherwise distributed. The request for the above indicated scale and/or inventory is for use in the research described above only.

- Terms and conditions*
 - I certify and agree with terms and conditions

By checking this box you certify that you have advanced graduate level training in the administration and interpretation of these assessment instruments; hold at least a master's degree in a clinical discipline; or possess research credentials.

Appendix F

Permission to Use CSEI Instrument

From: [REDACTED]
Sent: Tuesday, April 26, 2016 3:35:13 PM
To: Shepherd, Janet
Subject: Re: Requesting Approval to Use Dr. Solberg's CSEI Instrument

You are good to go and have my permission.
Scott

From: "Shepherd, Janet" [REDACTED]
Date: Friday, April 22, 2016 at 11:44 AM
To: "Solberg, V. Scott" [REDACTED]
Subject: Re: Requesting Approval to Use Dr. Solberg's CSEI Instrument

Dear Dr. Solberg,

I have completed the form and submitted it.

Please let me know if you need any additional information.

I look forward to receiving and utilizing your survey in my research study.

Kind Regards,
Janet Shepherd

[REDACTED]

From: Solberg, V. Scott [REDACTED]
Sent: Monday, April 4, 2016 10:07 AM
To: Shepherd, Janet
Subject: Re: Requesting Approval to Use Dr. Solberg's CSEI Instrument

Here you go

<http://sites.bu.edu/careerdevelopmentlab/resources/request-for-instruments/>



Request for Instrument(s) » Career Development Lab ...

sites.bu.edu

BU Lab for Career and Workforce Development ...
Home; About us. Mission and Vision; Research
Teams. Dr.Solberg's Team

From: "Shepherd, Janet" [redacted]
Date: Monday, April 4, 2016 at 9:11 AM
To: "Solberg, V. Scott" [redacted]
Cc: "School of Education, Graduate Admissions" [redacted]
Subject: Re: Requesting Approval to Use Dr. Solberg's CSEI Instrument

Good Morning Dr. Solberg,

I am sorry to bother you, but the link to the form was not in the email. Could you please resend?

Thank you very much.

Kind Regards,
Janet

From: Solberg, V. Scott [redacted]
Sent: Wednesday, March 30, 2016 4:03 PM
To: Shepherd, Janet
Cc: School of Education, Graduate Admissions
Subject: Re: Requesting Approval to Use Dr. Solberg's CSEI Instrument

Janet

Here is the link to the request to use the instrument page. I am between staff who normally process this so sorry for the delay. Email me once you have completed the form and I'll send you out the survey.

Scott

From: "School of Education, Graduate Admissions" [REDACTED]
Date: Wednesday, March 30, 2016 at 2:52 PM
To: "Solberg, V. Scott" [REDACTED]
Subject: FW: Requesting Approval to Use Dr. Solberg's CSEI Instrument

Hi Professor Solberg,

The student below contacted our office in regards to using your CSEI as the survey tool for her doctoral study. She called our office and asked if we would forward this request to you. I hope you are having a great week!

Best,
Caitlin Fay
Graduate Assistant

From: Shepherd, Janet [REDACTED]
Sent: Wednesday, March 30, 2016 10:32 AM
To: School of Education, Graduate Admissions [REDACTED]
Subject: Requesting Approval to Use Dr. Solberg's CSEI Instrument

Greetings,

Per my telephone call to Caitlin yesterday, 3/29, I am emailing the School of Education to request approval to use Dr. Solberg's College Self-Efficacy Inventory Instrument (CSEI) as the survey tool for my doctoral study and dissertation titled, "Self-Efficacy and First-Generation Student College Retention." I would also like to request an electronic copy of the CSEI.

Caitlin indicated that you would be able to forward my request to Dr. Solberg to obtain his written approval.

I am attaching my draft prospectus. The summary is below:

Thus far, research has proven that students who have a higher self-efficacy will do better academically, socially, and are more likely to be retained. It is in the best interest of colleges and universities to initiate programs to foster self-efficacy to allow for the development of first-year, first-generation students. Colleges and universities need to initiate programs for a number of reasons. First, research has proven that it is more fiscally responsible to retain a student than to recruit a new one. Second, colleges and universities are well aware that retention rates are now being used as an indicator to rank U.S. colleges and universities. Third, it is also in the best interest of colleges and universities to nurture first-generation students by helping them to cope with their new social and academic environments. By doing so, they increase the probability of the student's academic success. The student's academic success, in turn, will promote the greater likelihood that the student will return. Therefore, programs that increase students' self-efficacy are in everyone's best interest, especially those programs that would address the needs of first-

year, first-generation students. Thus, this research study will examine if there is a difference between the self-efficacy of first-year, first-generation college students and first-year, non-first-generation college students as measured by the College Self-Efficacy Inventory. This research will add to the body of research on first-year, first-generation students' self-efficacy and seeks to promote programs to help increase and foster the self-efficacy and collective efficacy of first-year, first-generation students.

Thank you for your assistance. I look forward to hearing from Dr. Solberg.

Kind Regards,

Janet Shepherd
Doctoral Candidate
Liberty University
School of Education

Appendix G

IRB Application - Liberty University

IRB Application # _____ jdd2608 _____

1. APPLICATION INSTRUCTIONS:

- a. Complete each section of this form.
- b. Email it and any accompanying materials (i.e., recruitment letters, consent forms, instruments, and permission letters) to
- c. **Please note; we can only accept our forms in Microsoft Word format; we cannot adequately review applications and supporting documents submitted as PDFs, Google docs, or in html format. *See signature pages and permission letter exceptions below in item f.**
- d. Please submit one signed copy of the fourth page of the protocol form, which is the Investigator's Agreement.
- e. If you intend to use LU students, staff, or faculty as participants or LU students, staff, or faculty data in your study, you will need to have the appropriate department chair/dean sign page two below.
- f. ***Signed pages 2 and 4, proprietary documents, and permission letters can be submitted by email (attached, scanned document or PDF) to**
- g. Electronic signatures are acceptable for pages 2 and 4 if a time and date stamp is included. If you choose to sign electronically, be careful not to convert the entire IRB application to a PDF.
- h. Please be sure to use the grey form fields to complete this document; **do not remove any information/sections or change the format of the application.** Use the tab key to move from one form field to the next.
- i. **Applications with the following problems will be returned immediately for revisions: 1) Grammar/spelling/punctuation errors, 2) A lack of professionalism (lack of consistency/clarity) on the application itself or any supporting documents, or 3) Incomplete applications. Failure to minimize these errors will delay the review and approval process.**

2. BASIC PROTOCOL INFORMATION:

Study/Thesis/Dissertation Title: **Self-Efficacy and First-Generation Student College Retention**

Principal Investigator(s) (PI) (Who is planning to conduct the research?): **Janet M. Shepherd**

Professional Title (i.e., student, teacher, principal, professor, etc.): **Doctoral Student**

School/Department (i.e., School of Education, LUCOM, etc.): **School of Education**

Personal Mailing Address:

Telephone:

LU Email:

Check all that apply: Faculty Graduate Student Undergraduate Student Staff

Check the appropriate box for your program: Online Residential

This research is for: Class Project Master's Thesis Scholarly Project (DNP)

Doctoral Dissertation Faculty Research Other (describe):

If applicable, have you defended and passed your dissertation proposal? Yes No

If no, what is your defense date?

Co-Researcher(s): N/A

School/Department(s):

Telephone(s):

LU/Other Email(s):

Faculty Advisor/Chair/Mentor: Dr. Sarah E. Horne

School/Department: **Liberty University, College of General Studies**

Telephone:

LU Email:

Non-key Personnel (i.e., reader, assistants, etc.): N/A

School/Department:

Telephone:

LU Email:

Consultants (required for School of Education EdD candidates): Dr. Philip Alsop

School/Department: **Liberty University, School of Education**

Telephone:

LU Email:

Liberty University Participants:

Do you intend to use LU students, staff, or faculty as participants or LU student, staff, or faculty data in your study? If yes, please list the department and/or classes you hope to enlist, and the number of participants/data sets you would like to enroll/use. If you do not intend to use LU participants in your study, please select "no" and proceed to the section titled "Funding Source."

No

Yes

Number of participants/data sets

 Department

Class(es)/Year

In order to process your request to use LU participants, we must ensure that you have contacted the appropriate department and gained permission to collect data/include their students. Please obtain the original signature of the department chair in order to verify this.

 Name of Department Chair/Dean

 Signature of **Department Chair/Dean**

Date

Funding Source: If research is funded, please provide the following:

Grant Name (or name of the funding source): **N/A**

Funding Period (month/year):

Grant Number:

Anticipated start and completion dates for collecting and analyzing data: Upon IRB approval, the CSEI Survey will be open for a one-week period during Fall Term 1, 2016. The researcher will conduct the survey during one specific week of Fall Term 1 of the academic year. Thus, upon receiving IRB approval, the researcher will contact the IT department to unlock the survey for a period of one week. The survey will be available to students for one week. The anticipated start date to open the survey and begin data collection will be two working days after IRB approval; for example, if IRB approval is received on 8/29/2016, the survey would open on 8/31/2016 and would remain open for one week until 9/7/2016; if IRB approval is received on 8/31/2016, the survey would open 9/2/2016 and would remain open for one week until 9/9/2016, etc. Therefore, depending upon the date of IRB approval, the data collection will begin two days after IRB approval and remain open for one week. The data collection will be completed prior to the end of the Fall Term 1 (10/14/2016).

Completion of required CITI research ethics training course(s):

School of Education

05/05/2016

 Course Name(s) (School of Education, Psychology/Counseling, etc.)

Date

3. OTHER STUDY MATERIALS AND CONSIDERATIONS:

Use of voice, video, digital, or image recordings?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Participant compensation?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Advertising for participants?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
More than minimal psychological stress?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Confidential material (questionnaires, surveys, interviews, test scores, photos, etc.)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Extra costs to the participants (tests, hospitalization, etc.)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
The inclusion of pregnant women?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
More than minimal risk? *	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Alcohol consumption?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Waiver of Informed Consent?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
The use of protected health information obtained from healthcare practitioners or institutions?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
VO2 Max Exercise?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
The use of blood?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Total amount of blood	N/A
Blood draws over time period (days)	N/A
The use of rDNA or Biohazardous materials?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
The use of human tissue or cell lines?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
The use of other fluids that could mask the presence of blood (including urine and feces)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
The use of an Investigational New Drug (IND) or an Approved Drug for an Unapproved Use?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Drug name, IND number, and company:
The use of an Investigational Medical Device or an Approved Medical Device for an Unapproved Use?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Device name, IDE number, and company:
The use of Radiation or Radioisotopes?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

**Minimal risk is defined as “the probability and magnitude of harm or discomfort anticipated in the research are not greater in and of themselves than those ordinarily encountered in daily life or during the performance of routine physical or psychological examinations or tests.” [45 CFR 46.102(i)]*

4. *INVESTIGATOR AGREEMENT & SIGNATURE PAGE (Stand-alone signature pages are available at <http://www.liberty.edu/academics/graduate/irb/index.cfm?PID=20088>):

BY SIGNING THIS DOCUMENT, THE INVESTIGATOR AGREES:

- 1. That no participants will be recruited or entered under the protocol until the PI has received the final approval or exemption email from the chair of the Institutional Review Board.**
2. That no participants will be recruited or entered under the protocol until all key personnel for the project have been properly educated on the protocol for the study.

3. That any modifications of the protocol or consent form will not be initiated without prior written approval, by email, from the IRB and the faculty advisor, except when necessary to eliminate immediate hazards to the participants.
4. The PI agrees to carry out the protocol as stated in the approved application: all participants will be recruited and consented as stated in the protocol approved or exempted by the IRB. If written consent is required, all participants will be consented by signing a copy of the approved consent form.
5. That any unanticipated problems involving risks to participants or others participating in the approved protocol, which must be in accordance with the Liberty Way (and/or the Honor Code) and the Confidentiality Statement, will be promptly reported in writing to the IRB.
6. That the IRB office will be notified within 30 days of a change in the PI for the study.
7. That the IRB office will be notified within 30 days of the completion of this study.
8. That the PI will inform the IRB and complete all necessary reports should he/she terminate University association.
9. To maintain records and keep informed consent documents for **three years** after completion of the project, even if the PI terminates association with the University.
10. That he/she has access to copies of 45 CFR 46 and the Belmont Report.

Principal Investigator (Printed)
Date

Principal Investigator (Signature)

FOR STUDENT PROPOSALS ONLY

BY SIGNING THIS DOCUMENT, THE FACULTY ADVISOR AGREES:

1. To assume responsibility for the oversight of the student's current investigation as outlined in the approved IRB application.
2. To work with the investigator and the Institutional Review Board, as needed, in maintaining compliance with this agreement.
3. To monitor email contact between the Institutional Review Board and principal investigator. Faculty advisors are cced on all IRB emails to PIs.
4. That the principal investigator is qualified to perform this study.
5. **That by signing this document you verify you have carefully read this application and approve of the procedures described herein, and also verify that the application complies with all instructions listed above.** If you have any questions, please contact our office

Faculty Advisor (Printed)
Date

Faculty Advisor (Original Signature)

***The Institutional Review Board reserves the right to terminate this study at any time if, in its opinion, (1) the risks of further experimentation are prohibitive, or (2) the above agreement is breached.**

5. PURPOSE:

- a. Purpose of the Research:** Write an original, brief, non-technical description of the purpose of your project. Include in your description your research hypothesis or question, a narrative that explains the major constructs of your study, and how the data will advance your research hypothesis or question. This section should be easy to read for someone not familiar with your academic discipline.

The purpose of this quantitative study will be to determine whether the self-efficacy of first-year, first-generation male and female college students during their first semester of college is significantly different from first-year, non-first-generation male and female college students. The major construct for this study is the theory of self-efficacy defined as believing in one's ability to complete a task in order to produce prescribed achievements. By understanding the first-year, first-generation students' self-efficacy, instructors of first-year students can utilize mentoring, professional counseling, and collective efficacy to help increase the first-year, first-generation students' self-efficacy. Intervention programs that are planned and focused specifically for first-generation students will help to increase students' self-efficacy and offset the lack of college preparation that often exists for first-generation students. Thus, by raising their self-efficacy it will promote re-enrollment in their sophomore year, thus raising retention rates of first-year, first-generation students.

The College Self-Efficacy Inventory (CSEI) survey will be utilized. The CSEI inventory consists of three sub-components: course self-efficacy, roommate self-efficacy, and social self-efficacy.

The research question for this study is:

RQ1: Is there a difference between the self-efficacy of first-year, first-generation male and female college students and first-year, non-first-generation male and female college students as measured by the College Self-Efficacy Inventory?

The null hypotheses for this study are:

H01: There is no significant difference between first-year, first-generation college students' self-efficacy and first-year, non-first-generation college students' self-efficacy as measured by the College Self-Efficacy Inventory (CSEI).

H02: There is no significant difference between the self-efficacy of male and female first-year college students as measured by the College Self-Efficacy Inventory (CSEI).

H03: There is no significant interaction between the self-efficacy of male and female first-year, first-generation college students and first-year, non-first-generation college students as measured by the College Self-Efficacy Inventory (CSEI).

6. PARTICIPANT INCLUSION/EXCLUSION CRITERIA:

- a. Population:** From or about whom will the data be collected? Address each area in non-scientific language. Enter N/A where appropriate.
- i. **Provide the inclusion criteria for the participant population—gender, age range, ethnic background, health status, occupation, employer, and any other applicable information—and provide a rationale for targeting this population.** If you are related to any or all of your participants, please explain. **The participant population will be all incoming first-year, full-time students at [redacted] (listed as University ABC in the proposal) who are 18 years of age and older. The target population is appropriate because it will include both first-generation and non-first-generation students. [redacted] student population is approximately one-third first-generation students.**
 - ii. **Who will be excluded from your study (e.g., persons under 18 years of age): First-year incoming students who are under 18 yers of age.**
 - iii. **Explain the rationale for the involvement of any special population (e.g., children, specific focus on ethnic populations, mentally disabled, lower socio-economic status, prisoners). N/A**
 - iv. **Provide the maximum number of participants you plan to enroll from all participant populations and justify the sample size.** You will not be approved to enroll a number greater than the number you list. If, at a later time, it becomes apparent you need to increase your sample size, you will need to submit a change in protocol form and await emailed approval of your requested change before recruiting additional participants. **In order to ensure a sample size of 126 completed surveys, the maximum number of participants will be a sample size of 200-225 participants. Based upon the recommended medium-effect sample size for an analysis of variance with three groups, “the minimum total sample size will be 126 with an alpha of .05 level of significance and a statistical power of .7” (Gall et al., 2007, p. 145).**
 - v. **For NIH, federal, or state-funded protocols only:** Researchers sometimes believe their particular project is not appropriate for certain types of participants. These may include, for example: women, minorities, and children. If you believe your project should not include one or more of these groups, please provide your justification for their exclusion. Your justification will be reviewed according to the applicable NIH, federal, or state guidelines. **N/A**
- b. Types of Participants:** Only check the boxes for those participants who will be the *focus* of your study. You do not need to check the boxes for individuals who may be coincidental to your study.

- Normal Participants (Age 18-65)
- Minors (under age 18)
- Over age 65
- University Students
- Active-Duty Military Personnel
- Discharged/Retired Military Personnel
- Inpatients
- Outpatients
- Patient Controls

- Pregnant Women
 - Fetuses
 - Cognitively Disabled
 - Physically Disabled
 - Participants Incapable of Giving Consent
 - Prisoners or Institutional Individuals
 - A specific racial or ethnic population
 - Other Potentially Elevated Risk Populations
- Participants related to the researcher(s)

7. RECRUITMENT OF PARTICIPANTS:

- a. **Contacting Participants:** Describe in detail *how* you will contact participants regarding this study.

The researcher will visit all First Year Experience courses titled, [redacted] referred to as "FYE 123" in the dissertation proposal during one week of class in Fall Term 1, 2016. The researcher will hand all incoming first-year, full-time students the student recruitment letter (attached). Students who are 18 years and older will be invited to participate in the study during the D2L training session that will be scheduled during one week in Fall Term 1, 2016 during their respective course section of the First Year Experience course, [redacted] referred to as "FYE 123" in the proposal.

*Please submit as separate Word documents to [redacted] with this application one copy of all letters, emails, flyers, advertisements, or social media posts you plan to use to recruit participants for your study. If you will contact participants verbally, please provide a script that outlines what you plan to say to potential participants.

- b. **Location of Recruitment:** Describe the location, setting, and timing of recruitment.

The location of recruitment will be a rural, Midwestern university. [redacted] is a private, four-year, liberal arts University offering baccalaureate and master degrees located in [redacted]. The setting will be the students' scheduled classrooms for their [redacted] course. The recruitment will take place during one week in Fall Term 1, 2016 upon IRB approval.

- c. **Screening Procedures:** Describe any screening procedures you will use when recruiting your participant population (i.e., screening survey, database query, etc.).

N/A

- d. **Relationships:** Does the researcher have a position of grading or professional authority over the participants (e.g., the researcher is the participants' teacher or principal)? If a position of authority exists, what safeguards are in place to reduce the likelihood of compromising the integrity of the research (e.g., addressing the conflicts in the consent process and/or emphasizing the pre-existing relationship will not be impacted by participation in the research, etc.)?

N/A Researcher has no position of authority over participants.

8. RESEARCH PROCEDURES:

- a. ***Description of the Research:** Write an original, non-technical, step-by-step (1, 2, 3, 4 . . .) description of what your participants will be required to do during your study and data collection process, **including information about how long each procedure should take.**

The research study will be conducted utilizing the following procedures:

1. The researcher will secure the appropriate permission from the Institutional Review Board (IRB) at Liberty University via the Liberty University's IRB application form.
2. The researcher will secure permission from the IRB at [redacted] via the University's IRB application form (see Appendix H).
3. All participants will be first-year, full-time incoming students and 18 years of age or older.
4. All participants will be asked to sign a consent form.
5. A recruitment letter introducing the study will be provided to all students enrolled in FYE 123 and faculty members teaching the [redacted] course sections during one week of Fall Term 1, 2016.
6. The College Self-Efficacy Instrument will be uploaded into the University's Learning Management System (D2L) utilizing its survey tool with a URL link to access the CSEI survey.
7. The survey containing the CSEI questions will be unlocked and remain open for one week after IRB approval is granted.
8. An instruction sheet will be provided to faculty members:
 - A. The [redacted] will schedule a D2L training session for your students during one week of class during Fall Term 1, 2016.
 - B. A training facilitator will conduct the D2L training.
 - C. Students will participate in the D2L training session introducing them to the University's new learning management system.
 - D. At the end of the training session, the student recruitment letter will be distributed along with the Consent Document.
 - E. Students who want to participate, will be asked to sign the Consent Document.
 - F. Students will be asked to complete the online survey titled, "College Self-Efficacy Inventory" via the hyperlink provided in the [redacted] course.
 - G. The survey will be open for one week and will take approximately 10-15 minutes to complete.
 - H. Students who complete the survey will be given a \$10 gift card during class to the University Coffee Shop.
 - I. The data collection will be confidential and all data will be reported in aggregate.
9. The facilitator will explain the answer choices to students ranging from 0 to 9 on a Likert Scale, with 0 (not at all confident) to 9 (extremely confident).
10. The facilitator will emphasize that data will be used only in aggregate and students' names will remain anonymous.
11. When the survey deadline has passed, the researcher will export the data to Excel, aggregate the data, and upload the data to SPSS for statistical analysis.
12. Data will be kept on a password protected computer as well as on an external hard drive in a locked cabinet.
13. Survey results will be presented to [redacted] as a professional courtesy.
14. A thank you letter will be sent to faculty members who taught the [redacted] course sections.

Students will be asked to follow these procedures:

1. Read the recruitment letter.

2. Sign the consent document.
3. Participate in the D2L training session that will be conducted during one week of Fall Term 1, 2016 in their [redacted] course.
4. They will be asked to complete the online survey titled, "College Self-Efficacy Inventory" via the hyperlink provided in their [redacted] course in D2L.
5. They will be informed that the data collection is confidential and all data will be reported in aggregate.
6. The survey will be open for one week and will take approximately 10-15 minutes to complete.

*Please submit as separate Word documents to [redacted] with this application one copy of all instruments, surveys, interview questions or outlines, observation checklists, etc.

- b. **Location of the Study:** Please describe the location in which the study will be conducted. Be specific; include city, state, school/district, clinic, etc.

The location of the study will be a rural, Midwestern university. [redacted] [redacted] is a private, four-year, liberal arts University offering baccalaureate and master degrees located at [redacted] [redacted] The setting will be the students' scheduled classrooms for their [redacted] course as identified by the University registrar. The recruitment will take place during one week in Fall Term 1, 2016.

9. DATA ANALYSIS:

- a. **Estimated number of participants to be enrolled or data sets collected:** Minimum number of participants will be 126; maximum number of participants will be 200-225.
- b. **Analysis Method(s):** Describe *how* the data will be analyzed and what will be done with the data and the resulting analysis, including any plans for future publication or presentation.

A two-way ANOVA will be used for all three null hypotheses to analyze the data. "The ANOVA F test evaluates whether the dependent variable differentiates individuals on a quantitative dimension" (Green & Salkind, 2014, p. 163). A two-way ANOVA is appropriate for a causal-comparative study that will utilize between-subjects groups. To determine the presence of any outliers within the data, a Box and Whiskers plot will be applied. If the Box and Whiskers plot determines that there are outliers, the outlier data points will be removed and the Box and Whiskers plot will be rerun until all outliers have been removed. The Shapiro-Wilk test will be run on each group to test for the assumption of normality. Levene's Test of Equality of Error Variance will be used to test for the assumption of equal variance. Levene's Test of Equality of Error Variance will test the three null hypotheses to determine that the error variance of the dependent variable is equal across groups. Descriptive statistics including the mean and standard deviation for the dependent variable (self-efficacy score) and the two main effects (first generation status and gender) and the interaction effect (first generation status x gender) will be provided. Tests of Between-Subjects Effects will be run to determine if the Null

Hypotheses are rejected or if the researcher fails to reject the Null Hypotheses; $\alpha < .05$. Inferential statistics will be provided including d.f. between groups, d.f. within groups, F-statistic, F-critical, p-value, and Partial Eta Squared. The effect size will be determined utilizing Partial Eta Squared (η^2) based on Cohen's d (Warner, 2013).

The data will be utilized in the dissertation and provided to as a professional courtesy. There are no plans for future publications.

10. PARENTAL/GUARDIAN CONSENT:

- a. Does your study require parental/guardian consent? (If your intended participants are under 18, parental/guardian consent is required in most cases.)
- Yes
 - No
- b. Does your study entail greater than minimal risk without potential for participant benefit?
- Yes (If so, consent of both parents is required.)
 - No

11. ASSENT FROM CHILDREN:

- a. Is assent required for your study? Assent is required unless the child is not capable (age, psychological state, sedation), or the research holds out the prospect of direct benefit that is only available within the context of the research. If the parental consent process (full or part) is waived (see #14 below), assent may be also. See our website for this information.
- Yes
 - No

12. PROCESS OF OBTAINING INFORMED CONSENT:

- a. **Consent Procedures:** Describe in detail *how and when* you will provide consent information and, if required, obtain consent from participants and/or parents/guardians and, if applicable, child assent. **The consent document will be attached to the recruitment letter that will be handed out by the researcher to all incoming first-year, full-time students during the D2L training session that will be scheduled for their respective course section of the FYE course, referred to as "FYE 123" in the proposal during one week in Fall Term 1, 2016.**

13. *DECEPTION:

- a. Are there any aspects of the study kept secret from the participants (e.g. the full purpose of the study)?
- No
 - Yes
 - If yes, describe the deception involved and the debrief procedures. Attach a post-experiment debriefing statement and consent form offering participants the option of having the data destroyed:
- b. Is any deception used in the study procedures?
- No
 - Yes

1. If yes, describe the deception involved and the planned debriefing procedures.

***Attach a post-experiment debriefing statement and consent form offering participants the option of having the data destroyed. A debriefing template is available on our website.**

14. WAIVER OR MODIFICATION FOR REQUIRED ELEMENTS IN INFORMED CONSENT PROCESS:

- a. A waiver or modification of some or all of the required elements of informed consent is sometimes used in research involving *deception, the use of archival data, and other minimal risk studies*. If requesting a waiver or modification of consent, please address the following:
 - i. Does the research pose no more than minimal risk to participants (i.e., no more risk than the risk involved in everyday activities)? **N/A and**
 - ii. Will the waiver have no adverse effects on participants' rights and welfare?
and
 - iii. Would the research be impracticable without the waiver?
 1. Yes
 - a. Please explain.
 2. No
 - iv. **and** Will participant debriefing occur (i.e., Will the true purpose and/or deceptive procedures used in the study be reported to participants at a later date?)?
 1. Yes
 2. No

15. WAIVER OF SIGNED INFORMED CONSENT DOCUMENT:

- a. A waiver of signed consent is sometimes used in anonymous surveys or research involving secondary data. This does not eliminate the need for a consent document, but it does eliminate the need for a signature(s). If you are requesting a waiver of signed consent, please address the following (yes or no):
 - i. Would the signed consent form be the only record linking the participant and the research? **N/A and**
 - ii. Does a breach of confidentiality constitute the principal risk to participants?
or
 - iii. Does the research pose no more than minimal risk to participants (i.e., no more risk than everyday activities)? **and**
 - iv. Does the research include any activities that would require signed consent in a non-research context?
 - v. Will you provide the participants with a written statement about the research (i.e., an information sheet that contains all the elements of the consent form but without the signature lines)?

16. CHECKLIST OF INFORMED CONSENT/ASSENT:

- a. **Attach a copy of all informed consent/assent documents.** Informed consent/assent template(s) are available at <http://www.liberty.edu/index.cfm?PID=20088>, and additional information concerning consent is located at <http://www.liberty.edu/index.cfm?PID=12837>.

17. PARTICIPANT PRIVACY AND CONFIDENTIALITY:

- a. **Privacy:** Privacy refers to persons and their interest in controlling access to their information. Describe what steps you will take to protect the privacy of your participants (e.g., If you plan

to interview participants, will you conduct your interviews in a setting where others cannot easily overhear?).

Only the principal investigator will have access to the data. Data will be kept on a password protected computer as well as on an external hard drive in a locked cabinet.

- b. Confidentiality:** Confidentiality refers to agreements with the participant about how data are to be handled.
- i. How will you keep your data secure (i.e., password protection, locked filing cabinet, etc.)? **Data will be kept on a password protected computer as well as on an external hard drive in a locked cabinet.**
 - ii. Who will have access to the data? **The Principal Investigator will be the only person who has access to the data.**
 - iii. *Will you destroy the data once the three-year retention period required by the federal regulations expires?
 1. Yes
 - a. How will the data be destroyed? **Deletion of electronic data files.**
 2. No

***Please note that all research-related data must be stored for a minimum of three years after the end date of the study, as required by federal regulations.**

- c. Is all or part of the data archival (i.e., previously collected for another purpose)?**
- i. No (Please skip to d below.)
 - ii. Yes
 1. **Is the archival data publicly accessible?**
 - a. Yes
 - i. Please provide the location of the publicly accessible data (website, etc.).
 - b. No
 - i. *Please describe how you will obtain access to this data.
 2. **Will you receive the data stripped of identifying information, including names, postal addresses, telephone numbers, email addresses, social security numbers, medical record numbers, birth dates, etc.?**
 - a. Yes
 - i. Please describe who will link and/or strip the data. Please note that this person should have regular access to the data and he or she should be a neutral third party not involved in the study.
 - b. No
 - i. If no, please describe what data will remain identifiable and why this information will not be removed.
 3. **Can the names or identities of the participants be deduced from the data set?**
 - a. Yes

- i. Please describe.
 - b. No
 - i. Initial the following: I will not attempt to deduce the identity of the participants in this study:
4. **Please provide the list of data fields you intend to use for your analysis and/or provide the original instruments used in the study.**

***If the archival data is not publically available, please submit proof of permission to access the data (i.e., school district research officer letter or email). If you will receive the data stripped of identifiers, this should be stated in the letter or email.**

- d. **If you are using non-archival data, is the non-archival data you will collect anonymous?** (i.e., Data do not contain identifying information including names, postal addresses, telephone numbers, email addresses, social security numbers, medical record numbers, birth dates, etc. and *cannot be linked to identifying information by use of pseudonyms, codes, or other means.*) If you are audio or video recording or photographing participants, your data is **not** considered anonymous.
- i. Yes
 - 1. Describe the process you will use to collect the data to ensure that it is anonymous.
 - a. If you agree to the following, please type your initials. I will not attempt to deduce the identity of the participants in the study:
 - ii. No
 - 1. Can the names of the participants be deduced from the non-archival data?
 - a. Yes
 - i. Please describe:
 - b. No (i.e., Names are not listed, but identities could be deduced.)
 - i. Please describe: **Students will be identified by University ID #; names will not be listed.**
 - 2. Please describe the process you will use to collect the data and to ensure the confidentiality of the participants (i.e., You may know who participated, but participant identities will not be disclosed.). If you plan to maintain a list or codebook linking pseudonyms or codes to participant identities, include this information and verify that the list or codebook will be kept secure and separate from the data by stating where it will be kept and who will have access to the data and list or codebook. **The Principal Investigator will know who participated, but identities will not be disclosed. All data will be reported in aggregate only.**
 - iii. N/A (Non-archival data will not be utilized.)

***If you plan to use participant data such as photos, recordings, videos, drawings, etc. for presentations beyond data analysis for the research study (e.g., classroom presentations, library archive, or conference presentations), you will need to provide a materials release form to the participant.**

e. **Media Use:**

- i. Will your participants be audio recorded? Yes No
- ii. Will your participants be video recorded? Yes No
- iii. Will your participants be photographed? Yes No

1. *If you answered *yes* to any of the above, and a participant withdraws from your study, how will you withdraw their recording or photograph?

***Please add the heading *How to Withdraw from the Study* on the informed consent document and include a description of the removal procedures.**

- iv. Will your participants be audio recorded, video recorded, or photographed without their knowledge?
 1. Yes
 - a. *Describe the deception and the debriefing procedures.

***Attach a post-experiment debriefing statement and a post-deception consent form, offering participants the option of having their tape/photograph destroyed.**

2. No

18. PARTICIPANT COMPENSATION:

- a. *Describe any compensation participants will receive. **Each student will receive a \$10 gift card to the University Coffee Shop upon completion of the survey.**

*** Research compensation exceeding \$600 per participant within a one-year period is considered income and will need to be filed on the participants' income tax returns. If your study is grant funded, Liberty Universities' Business Office policies might affect how you compensate participants. Please contact the IRB for information on who to contact for guidance on this matter.**

19. PARTICIPANT RISKS AND BENEFITS:

a. Risks:

- i. Describe the risks to participants and steps that will be taken to minimize those risks. Risks can be physical, psychological, economic, social, or legal. If the only potential risk is a breach in confidentiality if the data is lost or stolen, please state this fact here. **The risks involved in this study are minimal and are no more than the participant would encounter in everyday life. The only potential risk is a breach in confidentiality if the data is lost or stolen.**
- ii. Will alternative procedures or treatments that might be advantageous to the participants be made available?
 1. Yes
 - a. Please describe the alternative procedures.
 2. No
- iii. Describe provisions for ensuring necessary medical or professional intervention in the event of adverse effects to participants. Examples include the proximity of the research location to medical facilities and your ability to provide counseling referrals in the event of emotional distress. **N/A**

b. Benefits:

- i. Describe the possible direct benefits to the participants. If participants are not expected to receive direct benefits, please state so. Participants should not expect to

receive a direct benefit from completing a survey or participating in an interview.

Participants will not receive a direct benefit from completing the survey.

- ii. Describe the possible benefits to society. **The benefits to participation are indirect benefits to the student, the university, and society. The results of this study will inform the establishment of student success programs. These programs will help students--first-year, first-generation students, in particular--to become confident in their academic tasks, social interactions, and interpersonal relationships; this, in turn will improve university retention rates and help society by creating a more informed citizenry ready to enter the workforce.**
- c. **Investigator's evaluation of the risk-benefit ratio:** Please explain why you believe this study is worth doing even with any identified risks. **Because there is minimal risk, the study is worth undertaking to further the research on helping first-year, first-generation students persist in college from their first year to their second year.**

INVESTIGATOR AGREEMENT & SIGNATURE PAGE*

BY SIGNING THIS DOCUMENT, THE INVESTIGATOR AGREES:

1. That no participants will be recruited or entered under the protocol until the Investigator has received the final approval or exemption email from the chair of the Institutional Review Board.
2. That no participants will be recruited or entered under the protocol until all key personnel for the project have been properly educated on the protocol for the study.
3. That any modifications of the protocol or consent form will not be initiated without prior written approval, by email, from the IRB and the faculty advisor, except when necessary to eliminate immediate hazards to the participants.
4. The PI agrees to carry out the protocol as stated in the approved application: all participants will be recruited and consented as stated in the protocol approved or exempted by the IRB. If written consent is required, all participants will be consented by signing a copy of the approved consent form.
5. That any unanticipated problems involving risks to participants or others participating in the approved protocol, which must be in accordance with the Liberty Way (and/or the Honor Code) and the Confidentiality Statement, will be promptly reported in writing to the IRB.
6. That the IRB office will be notified within 30 days of a change in the PI for the study.
7. That the IRB office will be notified within 30 days of the completion of this study.
8. That the PI will inform the IRB and complete all necessary reports should he/she terminate University Association.
9. To maintain records and keep informed consent documents for three years after completion of the project, even if the PI terminates association with the University.
10. That he/she has access to copies of 45 CFR 46 and the Belmont Report.

BY SIGNING THIS DOCUMENT, THE FACULTY ADVISOR AGREES:

1. To assume responsibility for the oversight of the student's current investigation, as outlined in the approved IRB application.
2. To work with the investigator, and the Institutional Review Board, as needed, in maintaining compliance with this agreement.
3. To monitor email contact between the Institutional Review Board and principle investigator. Faculty advisors are cced on all IRB emails to PIs.
4. That the principal investigator is qualified to perform this study.
5. That by signing this document you verify you have carefully read this application and approve of the procedures described herein, and also verify that the application complies with all instructions listed above. If you have any questions, please contact our office (irb@liberty.edu).

***The Institutional Review Board reserves the right to terminate this study at any time if, in its opinion, (1) the risks of further experimentation are prohibitive, or (2) the above agreement is breached.**

Appendix H

Application for Approval of a Research Proposal Using Human Research Subjects Research Proposal Form

Students, faculty or employees who conduct research involving human subjects must submit research proposals for review and approval by the Human Subjects Committee.

Researcher's Name: Janet Shepherd

Email Address: **Daytime Telephone:**

Mailing Address:

Faculty **Staff** **Student** **Other**

Students identify supervising faculty member: _____

Researcher's Home Location (Place an "x" by one location only, and if the research is at a center, please identify the center in the space provided.):

Fayette _____ Center _____ Online _____ Independent Study

Please answer the questions below as thoroughly as possible:

1. What is the purpose of your study?

The purpose of this quantitative study will be to determine whether the self-efficacy of first-year, first-generation college students during their first semester of college is significantly different from first-year, non-first-generation college students. The major construct for this study is the theory of self-efficacy defined as believing in one's ability to complete a task in order to produce prescribed achievements. By understanding the first-year, first-generation students' self-efficacy, instructors of first-year students can utilize mentoring, professional counseling, and collective efficacy to help increase the first-year, first-generation students' self-efficacy. Intervention programs that are planned and focused specifically for first-generation students will help to increase students' self-efficacy and offset the lack of college preparation that often exists for first-generation students. Thus, by raising their self-efficacy it will promote re-enrollment in their sophomore year, thus raising retention rates of first-year, first-generation students.

The College Self-Efficacy Inventory (CSEI) survey will be utilized. The CSEI inventory consists of three sub-components: course self-efficacy, roommate self-efficacy, and social self-efficacy.

The research question for this study is:

RQ1: Is there a difference between the self-efficacy of first-year, first-generation college students and first-year, non-first-generation college students as measured by the College Self-Efficacy Inventory?

The null hypotheses for this study are:

H01: There is no significant difference between first-year, first-generation college students' self-efficacy and first-year, non-first-generation college students' self-efficacy as measured by the College Self-Efficacy Inventory (CSEI).

H02: There is no significant difference between the self-efficacy of male and female first-year college students as measured by the College Self-Efficacy Inventory (CSEI).

H03: There is no significant interaction between the self-efficacy of male and female first-year, first-generation college students and first-year, non-first-generation college students as measured by the College Self-Efficacy Inventory (CSEI).

2. Identify the subject population:
 - a. Age Range: 18 years and older
 - b. Location of Subjects: (Check all that apply.)
 - elementary/secondary schools
 - outpatients
 - hospitals and clinics
 - university/college students
 - other special or hospital institutions _____
 - c. Special Characteristics of subject population: (Check all that apply.)
 - inpatients
 - prisoners
 - halfway house residents
 - Specify type of halfway house _____
 - Other special characteristics All incoming first-time, full-time incoming students.

3. Describe the participation required by your research subjects. For example, will the subjects complete a survey, take a test, be observed by you or others, be interviewed by you or others, etc. (Attach a copy of your questionnaire, survey, interview guideline, or other data collection tools.)

Students will be asked to follow these procedures:

1. *Read the recruitment letter.*
2. *Sign the attached consent document.*
3. *Participate in the D2L training session that will be conducted during the first week of class in your [] course.*
4. *At the end of the training session, click on the link provided.*
5. *They will be asked to complete the online survey titled, "College Self-Efficacy Inventory" via the hyperlink provided in your [] course.*
6. *The data collection will be confidential and all data will be reported in aggregate.*
7. *The survey will take approximately 10-15 minutes to complete.*

4. Describe the nature and amount of risk, or type of substantial stress or discomfort the participating subjects may experience during the research project.

The risks involved in this study are minimal and are no more than the participant would encounter in everyday life. The only potential risk is a breach in confidentiality if the data is lost or stolen.

5. Will deception be used in your study? (If subjects are not informed of the exact nature of the study before they participate, some form of subject deception is being used.)

Yes ___ No X

If deception is being used, describe that nature of the deception and your method for debriefing subjects after data are collected.

6. Describe how the participating research subject has the opportunity to ask questions before consenting to take part in the study.

The recruiting information and the informed consent form will be fully reviewed with each participant, and they will be offered the opportunity to ask questions initially, at any point during the data collection activities, and at or after the conclusion of data collection.

7. How will the participating research subject be informed of her or his freedom to withdraw from the study at any time without prejudice or concern of a negative consequence?

The consent form will have the following wording:

How to Withdraw from the Study: *If you choose to withdraw from the study, please contact the researcher at the email address/phone number included in the next paragraph. Should you choose to withdraw, data collected from you will be destroyed immediately and will not be included in this study.*

Contacts and Questions: *The researcher conducting this study is Janet Shepherd. You may ask any questions you have now. If you have questions later, **you are encouraged** to contact her at [redacted] You may also contact the researcher's faculty advisor, Dr. Sarah Horne at [redacted] If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, **you are encouraged** to contact the Institutional Review Board, [redacted]*

Please notify the researcher if you would like a copy of this information to keep for your records.

8. How will your data be handled, kept confidential, and kept anonymous?

Only the principal investigator will have access to the data. Data will be kept on a password protected computer as well as on an external hard drive in a locked cabinet. The principal investigator will know who participated, but identities will not be disclosed. All data will be reported in aggregate only.

9. Will you be requesting verbal consent to participate in the study from the research subject? If yes, describe how you will obtain verbal consent.

No.

10. Attach a copy of your Informed Consent Form.

Forward this form and attachments electronically as indicated below:

For research which does not meet the criteria for exempt research, the researcher must submit the completed form and attachments to the Department Head of the department from which the research is proposed, or to the School Dean. The Department Head, School Dean shall review the application to determine the type of review necessary.

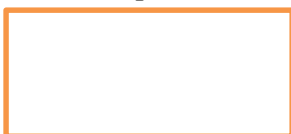
You will receive a decision that your proposal is approved, or that it will be forwarded to the Human Subjects Committee for a full review, within five (5) working days. If your proposal is forwarded to the Human Subjects Committee, you will receive a decision regarding the research project within ten (10) working days of submission.

Appendix I


Permission from President to Conduct Research




May 23, 2016
Janet Shepherd



Dear Janet,

Thank you for your letter requesting permission to conduct research at  as part of the requirements for your Ed.D. degree through Liberty University.

I grant permission to do so and understand that participants will be presented with informed consent information prior to participating, that taking part in this study is completely voluntary, and that participants are welcome to discontinue participation at any time. I also understand that you will obtain IRB approval from  and Liberty University.

Sincerely,



President



Appendix J

College Self-Efficacy Inventory



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Appendix K

Thank You Letter to Faculty

August 31, 2016

Dear Instructor:

Thank you for allowing me time during your course to conduct the “College Self-Efficacy Inventory” survey as part of the requirements for a doctoral degree. The purpose of my research is to determine if there is a significant difference between first-generation student self-efficacy and non-first-generation student self-efficacy.

The results of this study will inform the establishment of student success programs. These programs will help students (first-year, first-generation students in particular) to become confident in their academic tasks, social interactions, and interpersonal relationships; this, in turn will improve university retention rates and help society by creating a more informed citizenry.

Again, thank you for your collaboration.

Sincerely,

Janet Shepherd
Associate Provost

Appendix L

Tests of Between-Subjects Effects

Tests of Between-Subjects Effects

Dependent Variable: Score on CSEI

Source	Type III Sum of Squares	<i>df</i>	M^2	F	Sig.	Partial Eta Squared
Corrected Model	97.276 ^a	3	32.425	.108	.955	.002
Intercept	2655500.077	1	2655500.077	8847.520	.000	.984
gender	6.854	1	6.854	.023	.880	.000
genstatus	51.631	1	51.631	.172	.679	.001
gender * genstatus	21.817	1	21.817	.073	.788	.000
Error	44120.671	147	300.141			
Total	2862194.000	151				
Corrected Total	44217.947	150				

Note: a. R Squared = .002 (Adjusted R Squared = -.018)