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Bridge Program Participants' Satisfaction, Retention, Grade Point Average, and Credits Earned

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2018

Abstract

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MA, University of North Carolina—Charlotte, 2011

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Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

An increasing number of first-generation college students enroll in college each year. However, according to national statistics, as many as 900,000 first-generation college students drop out each year. Colleges have developed summer bridge programs to help first-generation students succeed; participants have shown an increase in grade point average (GPA) and retention. There is limited research focusing specifically on private nonprofit university bridge programs, and national statistics show 34% of first-generation college students electing private universities. Thus, the purpose of this quantitative cross-sectional study was to evaluate a private nonprofit university bridge program called the Pfeiffer Readiness Education Program. Using the Seidman retention model as a theoretical framework, this study investigated student satisfaction, retention, GPA, and credits earned versus attempted for first-generation participants in an early intervention program. To determine statistical significance between groups of first-generation participants ($n = 39$) and first-generation nonparticipants ($n = 35$), t test is used. The early intervention program demonstrated statistical significance ($p < .05$) between participants and nonparticipants in student satisfaction, retention from Fall 2016 to Spring 2017, retention from Fall 2016 to Fall 2017, GPA in Fall 2016, GPA from Fall 2016 to Fall 2017, and credits earned versus attempted ratio for Fall 2016 to Fall 2017. This study may provide staff of similar institutions with understanding of the importance of early intervention programs for first-generation college students. Programs to retain and graduate first-generation college students could promote positive social change.

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Dedication

This dissertation is dedicated to my family. I could not have completed this degree without the love and support of my husband, Zac. He has been by my side through this bumpy road and has continued to emphasize the light at the end of the tunnel. While I was obtaining this degree, we adopted our precious daughter Emily. While Zac helped with support, Emily gave me a reason to complete this degree.

As I pursued my education as a first-generation college student, my family struggled to understand the dissertation process. I would like to dedicate this to my mother, who called me a "lifelong student," and to my grandparents, who referred to my work on this document as "writing a book for school." They have always been supportive of my education, and as I near the end of my fourth degree, this path in life would not be possible without their encouragement to keep going.

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I would also like to acknowledge my family, friends, and colleagues for their words of encouragement throughout this process. While this is a stressful and intense program, they have each continued to be an open ear and a shoulder to lean on for my dissertation.

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Chapter 1: Introduction to the Study

First-generation college students are attending college at a higher rate than in the past (Smith, 2015). Data provided by The College Board (2013) reveal that over one-third of students entering college (both 2- and 4-year institutions) are classified as first generation. Similarly, Opidee (2015) estimated that 30% of college students are the first in their family to attend an institution of higher education, and 26% are both first generation and low income. This is equivalent to 4.5 million students in the United States (Opidee, 2015). The College Board reported that 23% of enrolled Caucasian students are first generation; percentages differ significantly for minority groups. For example, 41% of enrolled African American students and 61% of enrolled Hispanic students are first generation. Many factors impact first-generation students' college success, including socioeconomic status, previous high school performance, and lack of academic confidence (Chau, 2012). Additionally, first-generation college students are less likely to be academically prepared and more likely to need remedial work (College Board, 2013). In fact, the 6-year graduation rate for first-generation college students is 39%, whereas the 6-year graduation rate for non-first-generation college students is 57.5% (National Center for Education Statistics, 2011).

To help first-generation students gain the skills necessary to be successful, some 4-year colleges have developed programs and services to help them succeed. Bridge programs are examples of such programs; these vary in length but usually occur the summer prior to enrollment (National Center for Postsecondary Research, 2012).

Generally, these intervention programs continue into the students' first or fall term (Weinstein, 2014). The importance of these bridge programs for first-generation college students cannot be overstated. Kallison and Stader (2012) examined the importance of bridge programs and found that they not only prepare students for enrollment, but also help them build strong connections with staff, faculty, and peers at the institution. In the eight bridge programs they studied, 80% of first-generation college students felt that the program helped to prepare them for college, and 88.5% felt motivated to graduate.

Comparing retention rates across different types of 4-year institutions, the National Center of Education Statistics (NCES, 2015a) revealed retention rates of 80% at public institutions, 81% at nonprofit private institutions, and 57% at for-profit private institutions. The data from NCES did not distinguish between first-generation and non-first-generation retention rates. There was, however, differentiation based on socioeconomic status. NCES (2015a) revealed that in the 2002-2012 data, among students completing a bachelor's degree within 8 years of high school completion, 14% had low socioeconomic status, 29% had middle socioeconomic status, and 60% had high socioeconomic status. These data pertained to all types of college institutions.

Research exists on the value of bridge programs, especially in relation to retention from first to second term and grade point average (GPA) for first-generation economically disadvantaged program participants versus similar nonparticipants (Carthon, Nguyen, Chittams, Park, & Guevara, 2014; Pike, Hansen, & Childress, 2014; Stephens, Hamedani, & Destin, 2014). The research showed that students in bridge

programs were retained from first to second term at a 96% rate versus 87% for those not in such programs. Additionally, average GPA for bridge program participants was 2.84 versus 2.54 for nonparticipants after the first term at the institution (Evans, 2014). Wathington, Prelow, and Barnett (2013) discussed the importance of early intervention programs to increase course completion and overall persistence at the university. They conducted a study in which they followed bridge program participants for 2 years at nine community colleges. They discovered that program participants completed both their first math course ($p < .05$), and their first writing course ($p < .01$) at significantly higher rates than first-generation nonparticipants.

Missing from the literature on bridge programs is research on student satisfaction with the college and credits attempted versus earned. Student satisfaction is important because it is a significant contributor to student persistence. Schreiner and Nelson (2013) pointed out that student satisfaction represent 35% of the reasons why students leave institutions. Credits attempted versus earned is equally important because it is an indicator of how long it will take a student to earn a degree while staying eligible for financial aid (Federal Student Aid, 2016).

Most studies of bridge programs focus on public colleges; there is limited research on private nonprofit universities (Padgett, Johnson, & Pascarella, 2012). Among first-generation college students at 4-year universities, 53% attend public institutions, while 47% are enrolled in a private nonprofit institutions (Padgett et al., 2012). With the attendance rate for first-generation college students increasing (College Board, 2013) and

limited research existing on private nonprofit universities (Padgett et al., 2012), further research is needed to investigate bridge programs within private nonprofit universities. Research should specifically focus on GPA and retention, student satisfaction, and credits attempted versus earned.

The purpose of this study was to determine whether a bridge program for economically disadvantaged first-generation students at a small private nonprofit 4-year university increased first-year-to-second-year student retention, GPA, satisfaction with the institution, and credits attempted versus earned for participants compared to similar nonparticipating students. By comparing the averages of both groups for each variable, this study assessed the relationship between participating in the bridge program and first-year persistence. Positive outcomes could result in other colleges and universities adopting the program's principles of early, intensive, and "continuous" intervention to increase student satisfaction, retention, GPA, and credits earned versus attempted over time (Seidman, 2012). This study could lead to an increase in economically disadvantaged first-generation students completing degrees in a timely manner.

With the use of the Seidman (2012) model of early, intensive, and continuous intervention, this study investigated the use of a bridge program at a private nonprofit university. Speiglar and Bednarak (2013) illustrated that first-generation students have a higher risk of attrition at private universities by 5% to 10%. The Pfeiffer Readiness Education Program (PREP) was studied to determine whether participating students had

increased levels of satisfaction, retention, student GPA, and credits earned versus attempted.

To fill a gap in existing research on first-generation college student success, this study applied the Seidman (2012) early, intensive, and continuous intervention model to a bridge program at a small private nonprofit 4-year university. The results of this study may be useful to similar universities experiencing retention differences between first-generation students and traditional students. This study may also help institutions whose leaders are looking to develop similar programs to increase first-generation college student success. The following topics are discussed in this chapter: background of the study, problem statement, purpose of the study, research questions and hypotheses, theoretical framework, definitions, assumptions, scope and delimitations, limitations, and significance.

Background

In 1975, Tinto presented a model for college student retention that posited that in order for students to be retained, they must be academically and socially integrated into the formal and informal systems of the college. Much research has been conducted on this premise (Pascarella, Pierson, Wolniak, & Terenzini, 2004; Terenzini, Springer, Yaegar, Pascarella & Nora, 2006) affirming its tenets. As early as 2008, Engle and Tinto noticed that the first-generation college student population was increasing in enrollment but that these students were not graduating at the same rate as their non-first-generation peers. Up to 50% of first-generation students left college during their freshman year

(Engle & Tinto, 2008). Their study indicated that first-generation students were 4 times as likely to drop out of college in the first year and that only 11% graduated within 6 years with a bachelor's degree.

NCES (2015) has shown graduation rates increasing for first-generation students. In 2005, NCES data showed 24% of first-generation college students graduating within 6 years with a bachelor's degree, whereas NCES data in 2015 showed an increase to 37% of first-generation college students earning a bachelor's degree. These national data do not include retention from freshman to sophomore year or how institutions are increasing their graduation rates for first-generation college students. Smaller studies such as Engle and Tinto (2008) show a dropout rate between freshman and sophomore year. When income is considered, only 14% of low-income first-generation college students graduate within 8 years with a bachelor's degree (NCES, 2015a).

Stephens et al. (2014) illustrated the struggle of first-generation college students encountering multiple obstacles, such as maneuvering through the multiple facets of acceptance, financial aid, and housing. This leads to what Stephens et al. referred to as an "achievement gap of the social classes" (p. 943). Falcon (2015) noted that additional obstacles once enrolled include lack of familial support, self-esteem, and college readiness.

NCES (2011) calculated that 34% of high school students were first-generation college students. The majority, 48%, went to a 2-year degree program, while 19% went to public 4-year institutions and the remaining 33% attended private universities. When

looking at a different study by the College Board (2013), children in school ages 5 through 17, one-third would be first-generation college students with most being from underrepresented minority groups. Neither the NCES study nor the College Board study looked specifically at retention for the different types of universities for first-generation college students.

There was a 38% increase in Hispanic students represented from 1971-2007 (Higher Education Research Institute, 2007). NCES (2012) reported that first-generation college students were more likely to be from a minority group, with 42% being African Americans, 48% being Hispanic, and 28% being Caucasian. Michel (2016) estimated that 10% of first-generation Hispanic students graduate from college within 4 years across the United States. Michel concluded by encouraging universities to make special considerations when working with minority students by creating early interventions.

Colleges and universities are attempting to increase retention rates for low-income first-generation students through early intervention programs. Although 47% of first-generation college students in 4-year institutions are enrolled in private institutions (College Board, 2013), most published research relates to public universities (Padgett et al., 2012). The College Board (2013) reported a higher percentage of first-generation college students enrolled in private 4-year institutions than the 33% reported by NCES (2011) because the NCES data represented an older 1998-2008 cohort.

Additionally, there is a gap in the literature regarding the impact of early intervention programs on satisfaction. Schreiner and Nelson (2013) noted that poor

satisfaction caused 37% of students to indicate that they would be unlikely to select the same institution if given the chance to choose again at enrollment. Literature also lacks studies showing students making progress through credits earned versus attempted, which early intervention programs may help. Making Satisfactory Academic Progress (SAP) will provide insight on students graduating within four years as well as remaining eligible for financial aid (Federal Student Aid, 2016). Although literature regarding early intervention bridge programs is common, the aforementioned gaps in this literature have not been addressed, and researchers have not focused on the use of Seidman's (2012) retention equation: Retention = Early identification + (early + intensive + continuous) intervention.

This study provides insight on first-generation success and addresses the gaps in literature surrounding the impact of early intervention programs on student satisfaction and credits earned versus attempted. A small, private, nonprofit 4-year university created an active early intervention bridge program called the Pfeiffer Readiness Education Program (PREP), which has been in existence for the past 6 years. The university has focused on the program's ability to increase retention and GPA among participants in comparison to the general population of non-first-generation college students, which are not statistically similar populations (Pfeiffer University, 2013). It is possible that this early intervention strategy may have also increased student satisfaction with the university as well as credits attempted versus earned when compared to statistically similar nonparticipants. Data have not been collected in these areas by PREP, only by

first-year seminar courses, and retention information is not available for the intervention program. At this point, the university is investing in an initial early intervention, but it is not considering how intervention programs may increase satisfaction and credits earned, which could assist with recruitment (Pfeiffer University, 2013).

University staff could look at specific areas in which student satisfaction has increased through participation in the program, as well as use retention, credits earned versus attempted, and GPA to recruit more at-risk students. In that first-generation college students are more likely to attend 2-year colleges (NCES, 2012), this information could assist admission counselors in understanding how to support this population. This study provides information on first-generation college student participants in a bridge program in comparison to similar nonparticipants. It also applied Seidman's retention equation in the context of a private nonprofit university to gain insights on the early, intensive, and continuous intervention program's impact on student satisfaction, retention, GPA, and credits earned versus attempted.

Leaders at most colleges and universities are concerned with student satisfaction, retention, and GPA for students, particularly from the first to the second year (Carroll, 2015; Willcoxson, Cotter, & Joy, 2011). Perhaps it is time to research ways of increasing student satisfaction, retention, GPA, and credits earned versus attempted for the first-generation student population while considering the Seidman (2012) retention equation of retention = early identification + (early + intensive + continuous) intervention. This can lead to students being identified before classes begin in order to have them participate in

an intensive bridge program, as well as tracking students to identify when university resources would be useful as students progress past freshman year. This would also assist the university in not only retaining and graduating first-generation college students, but also creating social change by having this vulnerable student population achieve academic and personal goals.

Problem Statement

A problem facing universities across the United States is that first-generation college students are not graduating at the same rate as their non-first-generation peers. NCES (2015a) stated that the majority of student attrition occurs from the first to second year, noting that 20% of students leave after the first year and do not return to an institution within 5 years. Additionally, first-generation 6-year graduation rates tend to be 15 percentage points below those of non-first-generation peers (NCES, 2011). To help this group of students persist to academic and personal goal attainment, higher educational institutions need to research the first-generation student population.

Although Tinto and Sherman (1974) and Seidman (2005) researched the value of early intervention programs to build retention efforts for first-year college students, neither considered student satisfaction as a way to understand why students may stay at nor leave a private nonprofit university. Similarly, Schreiner (2009) investigated the lack of research linking student satisfaction and retention. Studies such as Cabrera, Miner, and Milem (2013) only showed a higher percentage of students being retained or improving GPA. These studies did not indicate whether students were satisfied or dissatisfied with

the university after receiving the assistance offered by the early intervention program or whether there was a difference in credits earned versus attempted. Research has also failed to show the results from an early intervention program that is "continuous" with its interventions throughout the first year at a private nonprofit university (Seidman, 2012).

Although there have been many studies about the benefits of early intervention programs, the PREP at a small, private, nonprofit 4-year university is unique in that it works to build college success skills before the start of the first semester in addition to offering intervention points at mid-term and end-of-term meetings to connect the student with multiple areas of this private nonprofit university. Melzer and Grant (2016) shared that students in underrepresented groups (first-generation and lower socioeconomic status) are less likely to seek help and use resources at larger institutions. There is a gap in research concerning smaller private nonprofit universities and their use of early intervention programs for underrepresented groups to improve academic performance.

Purpose of Study

The purpose of this quantitative quasi-experimental study was to examine an early intervention program for first-generation college students called the Pfeiffer Readiness Education Program (PREP). This study determined the effect of PREP attendance on students' satisfaction with the college, retention, GPA, and credits attempted versus earned when compared to similar nonparticipant students. Student satisfaction was determined by using the Noel-Levitz (2013) Student Satisfaction Inventory (SSI). Retention, GPA, and credits attempted versus earned were determined by obtaining

student records from the registrar. Within this study, the control group was the statistically similar nonparticipants, and the variables were satisfaction, retention, GPA, and credits earned versus attempted. Participation in the program was the independent variable.

Research Questions and Hypotheses

1. Is there a difference in first-year satisfaction with the university between PREP participants and those who qualified but did not attend?
    a. Null hypothesis: There is no significant difference in satisfaction with the university between PREP participants and those who qualified but did not attend.
    b. Alternate hypothesis: There is a significant difference in satisfaction with the university between PREP participants and those who qualified but did not attend.
2. Is there a difference in first-year retention between PREP participants and those who qualified but did not attend?
    a. Null hypothesis: There is no significant difference in first-year retention between PREP participants and those who qualified but did not attend.
    b. Alternate hypothesis: There is a significant difference in first-year retention between PREP participants and those who qualified but did not attend.

3. Is there a difference in first-year GPA between PREP participants and those who qualified but did not attend?
    a. Null hypothesis: There is no significant difference in first-year GPA between PREP participants and those who qualified but did not attend.
    b. Alternate hypothesis: There is a significant difference in first-year GPA between PREP participants and those who qualified but did not attend.
4. Is there a difference in first-year ratio of credits attempted versus earned between PREP participants and those who qualified but did not attend?
    a. Null hypothesis: There is no significant difference in first-year ratio of credits attempted versus earned between PREP participants and those who qualified but did not attend.
    b. Alternative hypothesis: There is a significant difference in first-year ratio of credits attempted versus earned between PREP participants and those who qualified but did not attend.

Theoretical Framework for the Study

Building on Tinto and Sherman's (1974) efforts to close the gap between disadvantaged and non-disadvantaged students, Seidman (2012) created a formula for "continued" intervention as a way for institutions to boost retention rates within higher education. Seidman's formula states that Retention = Early Identification + (Early + Intensive + Continuous) Intervention. This formula has been used to increase term-to-term retention as well as graduation rates for colleges and universities for all students,

from undergraduate through graduate school (Seidman, 2012). Through the use of positive experiences and early, "continuous," and intense intervention, the student's chances for retention will increase.

Seidman (2012) maintained that the information necessary to begin an early intervention is available from the student application. Colleges collect information related to students, such as socioeconomic data, demographic information, and academic information; Seidman encouraged institutions to use these data to determine whether a student will need an early intervention to be successful. The intervention, according to Seidman, can begin the summer prior to the first semester. In order for a program to be considered intensive, it must be powerful enough to create an academic change. Seidman suggested 5 days per week, with 4 or 5 hours per day involved in this intensive program. During the initial intervention, Seidman indicated that the student must attain the desired college preparatory skills. This is similar to a 2-credit-hour developmental course, which requires 30 contact hours.

Additionally, instead of there being a time limit for the attainment of all goals, this equation focuses on continuous intervention. According to Seidman (2012), the intervention must persist throughout a student's college career. This promotes contact with student success staff to ensure that the student is not only being academically successful, but also using his or her resources after the early intervention has taken place. He encouraged colleges and universities to use this equation as a way to develop

academic assistance as early as possible with prescribed interventions depending on needs, and then adjusting the intervention as necessary for each student.

This study used Seidman's (2012) formula of early, intensive, and continuous intervention. Prior to fall enrollment, students spent 7 days living on campus, with 4-5 hours of involvement with the program. Contact with these students, as a part of PREP, remained ongoing through their freshman year to offer participants resources if any issues arose, and adjustments were made to the individual interventions based on students' needs. In order for the early intervention to remain "continuous," a university employee from PREP served as a member of the early-alert committee, a chair for the freshman first-year experience committee, and a chair on the student development conduct board, in addition to being in contact with academic advisors to check on participants performing poorly as well as meeting with participants as needed. In this study, PREP was considered an early intervention for those who had been identified to participate in this summer program for first-generation accepted students.

Nature of the Study

This study was a quasi-experimental quantitative cross-sectional analysis of participants and nonparticipants using *t* tests to determine significant differences between groups. The population for this study was first-generation college students who enrolled in private 4-year institutions. The sample was created using a multistage sample method. A quasi-experimental design was used because students self-selected whether or not to participate in the program. Fifty students were accepted into the program (i.e., the

experimental group), and the remaining 50-75 first-generation students with similar characteristics were in the control group consisting of students not participating in the program. It is important to note that participating students needed to self-identify as first-generation college students. All data were received with names removed to maintain anonymity throughout the project. Participants and nonparticipants were still tracked regarding retention, GPA, and credits attempted versus earned by a member of Academic Affairs. This information was received with names and student identification numbers redacted. Average student satisfaction for participants and nonparticipants was compared using questions in the Noel-Levitz (2013) SSI. The institution added two questions to the survey to track satisfaction between the experimental and control groups. Students were asked if they participated in the PREP experience and whether they identified as first-generation college students. No names were used for satisfaction surveys per campus policy, so these raw data were available at the end of the semester.

To determine the effect of the PREP program, the project compared similarities and differences between those who participated and those who did not, including race and gender. Race and gender were also compared to that of the entering class to ensure that both were representative samples. Quantitative analyses determined where significant relationships exist at the $p < .05$ level or below by using *t* tests. The averages of retention, GPA, satisfaction, and credits earned versus attempted for the participants and the control group were all significant.

Definitions

The following terms are defined below as they are used in this study:

Attrition: Condition in which a student fails to re-enroll at the same institution for consecutive semesters (Seidman, 2012).

Bridge program: Summer program designed to assist incoming students with obtaining academic skills (Covarrubias, Gallimore, & Okagaki, 2016).

Dropout: A student who enrolled to complete a 4-year degree but did not complete the degree (Seidman, 2012).

Early intervention: The ability of a college to provide immediate support to identified students in need of assistance (Seidman, 2012).

First generation: A college student with neither parent having earned a 4-year college degree (Stephens, Fryberg, Markus, Johnson, & Covarrubias, 2012).

Non-first-generation: A college student with at least one parent who has earned a 4-year college degree (Stephens et al., 2012).

Persistence: Percentage of students who return to college at any institution for the following year (National Student Clearinghouse Research Center, 2017).

Retention rate: A measure of the rate at which students persist in their educational program at an institution, expressed as a percentage (NCES, 2017).

Socioeconomic status: The social standing or class of an individual or group. It is often measured as a combination of education, income, and occupation. Examinations of

socioeconomic status often reveal inequities in access to resources, plus issues related to privilege, power, and control (American Psychological Association, 2017).

Underrepresented groups: Students of color, first-generation students, and students from lower socioeconomic status levels (Seidman, 2012).

Assumptions

When students chose to participate in the PREP, the study depended on responses to admission questionnaires completed by incoming students. Therefore, an assumption of this study was that incoming students correctly self-identified as first-generation or non-first-generation college students. Similarly, parents completed the Federal Application for Federal Student Aid (FAFSA) by submitting income information and information regarding the highest education attained by each parent. It was assumed that this had been completed correctly. Further, it was assumed for this study that all individuals (both participants and nonparticipants) completed the Noel-Levitz (2013) SSI honestly as an assessment for satisfaction. A final assumption was that admissions personnel entered information from questionnaires correctly and mailed appropriate marketing for the PREP program to the correct students as well as to the correct addresses.

Scope and Delimitations

The scope of this study encompassed full-time incoming freshmen at a small, private, nonprofit 4-year university who self-identified as being first generation. This population was chosen to take a closer look at an early intervention program, the PREP.

Although race and gender data were collected, data on nationality or any other identifying label were not collected, which was a delimitation. Samples consisted only of participants and nonparticipants in the first-generation population attending a small, private, nonprofit 4-year university in North Carolina. Another delimitation was lack of identification and evaluation of student majors because the university does not ask students to identify majors until the end of the first year. Only students contemplating the natural sciences are asked to complete a major declaration form before the end of two consecutive semesters.

Limitations

This study was conducted at a private nonprofit university within rural North Carolina. Since the inception of the PREP experience, data have not been collected comparing participants in this program with others. Further, this study was conducted at a small private nonprofit university and therefore may not be applicable to all types of institutions in all areas. Another limitation to this study was that the satisfaction inventory used to compare populations was administered through the first-year experience course, instead of through the program, with the responses presented as raw data. Finally, requiring the student to identify as first-generation correctly on the application as well as on the satisfaction inventory requires the student to be correct on both The student identifying as a participant on the satisfaction inventory and the student relating participation to satisfaction after a year was requiring the student to be fully truthful without making a mistake. This is a limitation of this study.

Significance

Many universities have created early intervention bridge programs for first-generation college students, Pell Grant recipients, and those conditionally accepted into the university. This study examined whether intervention program participation correlates with retention, GPA, overall satisfaction with the university, and credits earned versus attempted. As suggested by Campbell and Mislevy (2013), by taking an early interest in these students and investing in their success, university administrators can quantitatively see return on investment through retention. Administrators can also quantitatively see increased campus satisfaction for participants when compared to nonparticipants of the early-intervention program. Further, Campbell and Mislevy suggested the importance of student perceptions and satisfaction when universities seek to increase retention of first-year students. Campbell and Mislevy showed that as perceptions or satisfaction increased by 1 point, the risk of dropping out decreased by 1.5 points when other variables were held constant. This proves that increased satisfaction levels are associated with decreased risk of dropping out.

This study offered a chance for the university to assess the impact that its PREP program has had on first-generation college students. This research may also assist other institutions with similar retention issues for first-generation college students. By continuously supporting these students from the first to the second year through early intervention, this study determined whether students would continue to persist at greater numbers toward graduation. Most studies in this area have measured retention from the

first to second term, and interventions are generally limited to that timeframe. This program is unique in that it involves an early intervention throughout the entire first year.

Summary

As colleges and universities continue to make strides in retention efforts, it is important to study groups that are failing to graduate with their peers. Some universities have started bridge programs to bring first-generation students on campus prior to enrollment in the first semester, but studies tend to focus on GPAs (Stephens et al., 2014) or retention (Wathington, Prelow, & Barnett, 2013). This quantitative quasi-experimental study investigated the importance of student satisfaction, as well as the amount of credits earned versus attempted.

The total graduation rate at 4-year universities after 6 years averaged 59% for the 2008 entering cohort, but NCES (2015) did not classify the difference between first-generation and non-first-generation students or different types of institutions. NCES (2011) showed that 20% of first-generation college students are not retained past the first year at 4-year institutions. The lack of retention for this population needs further investigation. Contributing further information in regard to early intervention programs may help other institutions with the retention of first-generation college students. If colleges are going to accept first-generation students, then there is an obligation to help them succeed (Seidman, 2012). This issue is important to the current student population identifying as first generation.

Chapter 1 has clearly stated the need for this study and its purpose. Chapter 2 focuses on current research on retention, existing bridge programs, and the impact that these programs have had on first-generation college student success. This current research within Chapter 2 indicates obstacles that this particular population faces within higher education, as well as how colleges and universities are attempting to support these students. With an emphasis on framework, Chapter 2 focuses on early intervention strategies as well as applications of the Seidman (2012) retention formula to increase student achievement.

Chapter 2: Literature Review

A problem impacting universities across the United States is first-generation student attrition. First-generation college students do not have parents who attended college and thus do not have a direct college reference point. This description applies to nearly one-quarter of the undergraduate student population in the United States. Without a college intervention, the inequity of graduation rates between first-generation and non-first-generation groups will continue (College Board, 2013). NCES (2015a) provided data indicating that most attrition for first-generation college students occurs during the first year of college, with 20% of first-generation students leaving the university (within the 2002-2012 cohort) and not returning to any college for at least 5 years within 4-year institutions. This equates to over 900,000 first-generation college students dropping out of college within the first year (NCES, 2015a).

With first-generation college students representing such a large portion of currently enrolled college students, it is important to address disparities in achieving a college degree. In addition, first-generation students not only have a lower graduation rate; the College Board (2013) also disclosed that first-generation college students have lower GPAs than their peers. Chau (2012) contended that this achievement gap stems from lack of academic confidence from high school performance. In support, the College Board (2013) stated that first-generation college students are less likely to be academically prepared and more likely to require remedial work before starting credit-bearing courses. The need for remedial work was also supported by Seidman (2012).

When investigating the reasons behind academic preparedness and the need for remedial work for first-generation college students, Harackiewicz et al. (2014) found that first-generation students benefited from positive affirmations. In their study, 154 first-generation college students participated in value affirmation assignments throughout the semester. An *affirmation assignment* is a writing assignment for which students are asked to reflect on values or experiences to bring those positive moments to light during stressful times. This assignment narrowed the achievement gap between first-generation and non-first-generation college students in the course by 50% and increased retention by 20% for students taking the second part of the course. Similarly, Stanford University (2012) used value affirmation assignments for all minority students, who included first-generation college students, in gateway or first college-level courses. The need for remediation dropped from 18% to 5%.

Stephens et al. (2012) investigated the need for remedial work among first-generation students as it related to campus culture. This study took place at both private and public universities. If students were placed in a culture of independence—that is, without mentors—then first-generation students notably struggled with the first semester of college. When placed in a culture of interdependence with a mentor, students were still held responsible but were more successful in completing the course without the need for remediation (Stephens et al., 2012). Covarrubias and Fryberg (2015) noted that this achievement gap may be less about ability than about achievement guilt. The 53 first-generation college students in their study had more guilt about the opportunities available

after graduation than their non-first-generation peers. Covarrubias and Fryberg recommended that a conversation occur early in a student's college career about making his or her family proud by achieving a college degree instead of focusing on the stress of the college opportunity.

Another reason for urgency in addressing the achievement gap is the changing dynamic of different populations within the first-generation college student category. For example, within the first-generation college student population at the undergraduate level, there was a 38% increase in Hispanic students from 1971-2007 (Higher Education Research Institute, 2007). Michel (2016) estimated that 10% of first-generation Hispanic students graduate from college within 4 years across the United States. Comparatively, 60% of all students enrolled in a bachelor's degree program will graduate from college (Michel, 2016). It is imperative for colleges and universities to assist this population of students in persisting. One way that colleges can help all first-generation college students to persist is the use of early intervention programs.

An early intervention program involves a college or university identifying students in need early (Seidman 2012) and providing access to academic support to assist them in meeting their academic goals (Nash Community College, 2016). Sometimes called *bridge programs*, these programs seek to bridge the gap between high school and the first semester of college by hosting a selected population on campus during the summer after acceptance, before students' first fall term (Cabrera, Miner, & Milem, 2013). These early intervention programs assist students by introducing them to academic

support resources available at the institution. Petty (2014) stated the use of such early intervention programs motivates first-generation college students at the very beginning of their college education, noting that with the help of the program, students are able to seek resources, meet with mentors, and form a social network of similar peers.

Bridge programs vary in length but usually occur during the summer prior to enrollment (National Center for Postsecondary Research, 2012). Generally, these intervention programs continue into the students' first or fall term (Weinstein, 2014). The importance of these bridge programs for first-generation college students cannot be overstated. Kallison and Stader (2012) examined the importance of bridge programs and found that they not only prepare students for enrollment, but also help students build strong connections with staff, faculty, and peers at the institution in order to become familiar with resources. In the eight bridge programs they studied, 80% of first-generation college students felt that the program helped to prepare them for college, and 88.5% felt motivated to graduate.

The purpose of this quantitative quasi-experimental study was to examine an early intervention program known as the PREP for first-generation college students at a small, private, nonprofit 4-year university. This study quantitatively determined whether the program influenced satisfaction with the university, retention, GPA, and credits attempted versus earned for program participants when compared to similar first-generation nonparticipants at the university during their freshman year.

For the purposes of this study, a *first-generation college student* is one who is enrolled in postsecondary education, with neither parent having obtained a bachelor's degree. Weinstein (2014) discussed multiple impediments that first-generation college students face due to not having a college role model. These impediments include lack of knowledge about how to apply for financial aid, unfamiliarity with the application process, and lack of understanding of the process of course registration.

Other factors impacting first-generation student college success include lower socioeconomic status, previous high school performance, and lack of academic confidence (Chau, 2012). Because of these factors, first-generation college students are less likely to be academically prepared and more likely to need remedial work (College Board, 2013). Given that first-generation college student graduation rates are an issue for colleges and universities, Seidman (2012) explained that universities should provide programs to support these students if they are going to continue to admit disadvantaged first-generation college students.

This chapter details the literature search strategy used for this study. The literature review examines current literature regarding Seidman's (2012) retention formula and model, which relate early intervention to student retention. The literature review also examines research related to first-generation college students. Although this study focused on a specific early intervention program (PREP), it also fills a gap in the literature regarding early intervention programs at private universities. This literature review compares and contrasts the early intervention programs at public universities as

well, in order to extend knowledge in the discipline concerning this population in multiple college settings.

Literature Search Strategies

In gathering peer-reviewed journal articles and national publications, I used the Walden University library databases. For national information and statistics, reports from NCES were used. In examining online information, I used Google Scholar with search parameters set to publications from 2012, with key words including *first-generation*, *retention*, *grade point average*, *college satisfaction*, *achievement gap*, *bridge programs*, *early intervention*, *Pell Grant*, and *socioeconomic status*. Because there is less literature surrounding first-generation college students in private universities, the search also included interlibrary loan books published since 2012 about first-generation college students so that I might find more descriptive statistics about their experiences.

Theoretical Foundation

The concept of retention may not have been important during the first few hundred years of higher education, due to the narrow group of students seeking degrees. Now that a much more diverse group of individuals is attending colleges, retention is increasingly important. When students leave the university, they may be burdened by paying back student loans toward a degree that was not attained. From the university perspective, the university is losing revenue when students drop out. Colleges and universities must fulfill their mission of meeting the needs of all students accepted, which

includes the use of early intervention to benefit students' efforts to attain degrees and to benefit the institution by encouraging these students to remain enrolled (Seidman, 2012).

For non-first-generation college students, the concept of college is understood within the home, and this understanding is much different than that found in the homes of most first-generation college students. It is at that point where colleges must start early intervention efforts to assist with retention (Jehangir, 2010). Retention of first-generation college students needs to be considered as early as freshman orientation (Pendakur, 2016). If a university offers the same orientation to all students, that institution is ignoring students' individual identities. Pendakur (2016) suggested an identity-centered framework to connect specific populations with support networks within the university before classes ever begin. Davis (2010) focused on the identity of first-generation college students and the reported feeling of low confidence due to isolation. To advocate for this population, it is essential to assist this population from admission to the university through graduation (Davis, 2010).

Seidman's Retention Formula for Student Success

Seidman (2012) created the following retention formula for student success: R= Early ID + (E+IN+C) IV. This stands for Retention = Early Identification + Early, Intensive, and Continuous Intervention. This suggests that retention equals early identification of individuals with academic and/or personal deficiencies, and that once these individuals are identified, early, intensive, and continuous intervention should be provided. With this formula, Seidman focused on term-to-term retention as well as

graduation rates. This formula is designed for all students, including those "right out of high school, adults, and retirees; from any socioeconomic status, culture and religion; brick and mortar institutions, internet-delivered programs, hybrid institutions, undergraduate, and graduate schools" (Seidman, 2012, p. 268).

Delving deeper into the equation, one sees that the first step, early identification, is critical. When students are admitted, students classified as "at risk" can be identified (due to being deficient in a particular skill), according to Seidman (2012, p. 272). This is possible because students would have submitted required admission materials such as transcripts and possibly scores for standardized test such as the SAT or ACT. Colleges can also administer their own assessments to ensure that students have the skills necessary to be successful. This process of early identification can occur prior to enrollment into courses. Seidman contended that a college that accepts a student has a moral obligation through its mission to provide programs and services to help the student be successful.

Early intervention occurs once a student is identified as being at risk or deficient in a particular skill necessary to be successful in foundation courses. This may occur while the student is still in high school or during the summer prior to the student starting courses. Early intervention can be a required part of admission to the university. A student can work on identified deficiencies prior to enrollment instead of taking remedial coursework that does not award college credit and often leads to excessive classes taken during the first term (Seidman, 2012).

Intensive intervention, in this equation, is defined as "creating an intervention strong enough to affect the desired change" (Seidman, 2012, p. 273). Such programs may have students spend several days with multiple hours each day working to master these skills before enrolling in courses. This is not a one-stop-shop, but a continuous intervention to assist the student academically throughout the college experience. In this equation, *continuous intervention* is defined as "an intervention that persists until the change is effected" (Seidman, 2012, p. 274). This may continue into the first term or throughout the student's college experience, so that the relationship created in this intervention becomes a commitment from the student to the university as well as a commitment from the university to the student (Seidman, 2012).

Overall, Seidman's (2012) retention formula is a way to identify students prior to enrollment in order to offer them early, intensive, and continuous intervention, which results in the students achieving their academic and/or personal goals. It is important to recognize that the intervention can be adjusted to fit the student but must be strong enough to create the desired change. When a college or university takes this early step, the institution is showing the family that the student is not just a number, but a cared-for individual of the community, as well as that the institution is invested in the student's academic success.

Seidman's Retention Model

The basis of this model is early identification of students who are deficient in a skill, with the institution using early, intensive, and "continuous" intervention (Seidman,

2012). This allows for students to obtain foundational skills in reading, writing, and/or math before they enter the college classroom. This model also allows for students to participate in a program prior to enrollment instead of taking courses to develop these foundational skills, which often lack college credit but are still an expense for the student. Seidman suggested that students participate in these interactive modules online or in person to build a solid foundation.

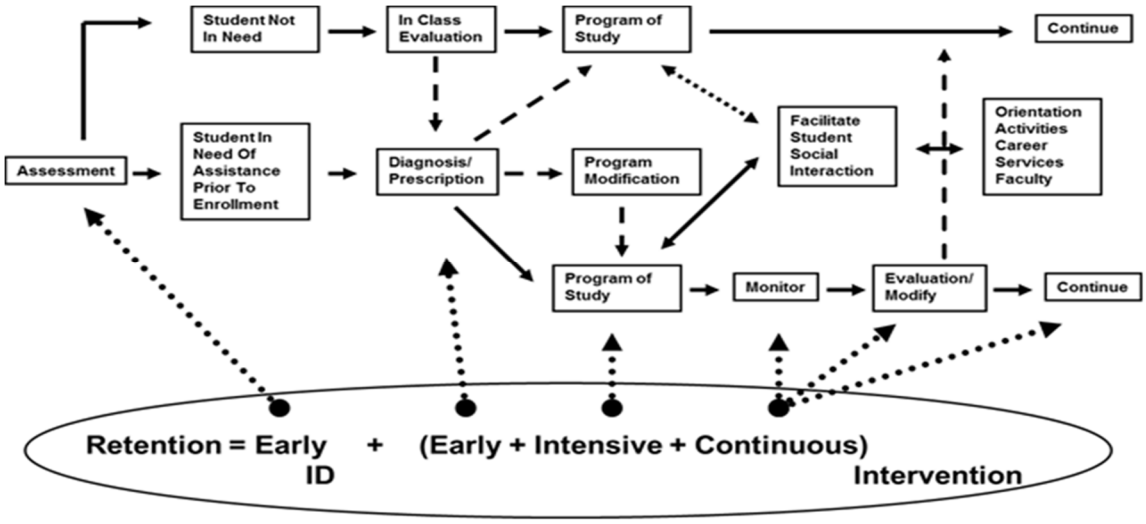

Figure 1. Seidman's retention model. From *College Student Retention: Formula for Student Success* (p. 280), by A. Seidman, 2012, Lanham, MD: Rowman and Littlefield. Copyright 2012 by Alan Seidman. Reprinted with permission.

Basis of Seidman's Retention Model and Formula

The foundation for Seidman's (2012) retention formula and model relies on Tinto's model (1987, 1993) regarding student departure. Tinto saw student departure as a barometer of the college's health as well as the student's college experience. He focused on student attrition and factors that lead to departure from the university. Tinto investigated faculty-student interactions as well as the student's academic and social

integration into the college's formal and informal systems. He encouraged colleges to commit to students and their success in order to retain them through graduation (Tinto, 1993). Prior to Tinto, the primary focus of retention was placed on the student's energy to become involved on campus (Astin, 1985). This social and academic retention model focused on the student's initiative rather than that of the institution. Similar in this era, Pascarella and Terenzini (1980) wanted to predict persistence from a theoretical model based on the student's engagement on campus.

When looking deeper into the Tinto (1987, 1993) model, he went into detail suggesting colleges show their commitment to students through expectations, student support services, listening to feedback through assessments, and getting the student involved (Tinto, 2012). This put the responsibility on the institution rather than determining persistence based on the investment of energy from the student. Within his concept of student support services, he specifically mentions the use of summer bridge programs to facilitate the transformation of a high school student into a college student so that all students enter college on an equal playing field. He defined these programs as teaching developmental skills in one four-week on-campus courses before the beginning of their first semester for an intensive academic and social support system. By doing this, students are aware of resources and have found a community of peers for support as they enter college together. Tinto mentioned that these programs are more meaningful if it is immediately connected to a support program that continues into the fall term.

Seidman (2012) builds on this model by showing colleges and universities how to implement a model of retention, as well as how to allow students to meet their academic and personal goals. Seidman specifically adds the concept of identifying these students early with the information at admission and making the intervention mandatory for admission if necessary. Building on Tinto (1993, 2012), the student's intervention must be early, intensive, and continuous in order to be successful. Seidman stated that by having positive experiences with the university students will persist.

Previous Use of Theory

Burkholder Jr., Lenio, Holland, Seidman, and Neal (2013) used the Seidman (2012) formula to create a culture of student persistence across a for-profit public online institution. This specific study allowed the institution insight into the student population by looking at student progress. In this case, the Office of Student Progress Initiatives was created to ensure student progress was an institutional and fundamental part of the university.

Di Maria and Kwai (2014) used the Seidman (2012) formula as a basis for creating a program to retain undergraduate international students. Di Maria and Kwai looked at two different public systems to compare their retention of undergraduate international students. The first system was made up of 32 public universities and colleges serving over 240,000 undergraduate students, while the second system was made up of five large institutions serving undergraduate, graduate, and doctoral students. In this case, the problem was the lack of use of student support services by international

students. Di Maria and Kwai noticed early intervention had an influence on retention, spring GPA, credits earned versus attempted, and campus employment. This same study concluded 73% of administrators agree international students need more services, and 89.6% of administrators admit to wanting more training for this shared responsibility. These results lead to interventions across all campuses as well as the creation of an International Student and Scholar Integration Committee to oversee student support services for this specific population.

Elkins (2015) used Seidman's (2012) retention formula as the theoretical framework for identifying nursing students in need of intervention. She used their high-school GPA, entrance exam scores, and grades for the first anatomy course to identify students early. Upon completion of the intervention program, she was able to predict the completion of the Bachelor of Science in Nursing (BSN) degree as well as passing the state exam (NCLEX).

Rationale of Use

Selecting the Seidman (2012) formula as a foundation of the Pfeiffer Readiness Education Program (PREP) was due to it including early identification of a student in need of skill assistance. PREP only advertises the service to those first-generation students in need of increasing skills prior to enrollment based on GPA and/or SAT scores. This program was intensive, with over 30 hours of class time devoted to teaching study skills, note taking strategies, and advising, while also allowing the participants to meet various faculty and staff that make up a critical part of first-year success. All

modules and meetings occur prior to the first semester of enrollment. This program then partnered with student support services to meet with the participants monthly, and even more frequently if the student is reported to the early-alert system for overall campus intervention. Seidman's formula includes the early identification aspect of the program as well as the early, intensive, and continuous intervention the PREP program used to support participants. Instead of selecting older models, this specific model assists institutions with a plan of action to support all students. For this study, the formula was used to assist first-generation college students entering on an equal playing field with their non-first-generation peers.

Building on Existing Theory

While Seidman (2012) indicated that the formula is applicable to all students, research is limited on the use of this equation at a private university, as well as its use to increase retention for first-generation college students. Institutions have used Seidman's formula with specific populations such as adult students, undergraduates, and international students to either use this as a foundation or as one of the models used to assess an intervention's success. This study will build on the existing theory by using the formula at a nonprofit private rural institution with first-generation college student participants. Existing research currently has not documented the correlation of student satisfaction at private universities for participants and nonparticipants of the intervention. Other than retention, this study will focus on participants and other first-generation

nonparticipants to compare GPAs, credits earned versus attempted, and satisfaction with the university.

Literature Review Related to Key Variables and Concepts

First-Generation College Students

First-generation college students are not a newly researched category. For this study, Seidman's (2012) definition of first-generation college students will be used. He defined a first-generation college student as one enrolled in higher education without a parent who has attended college. Since first-generation college students do not have a college mentor in their parents they do not know what it takes to be a successful college student (Tinto, 2012). This specific population is noted to typically lack skills or cultural capital when it comes to starting college when compared to their peers coming from a college educated family (Seidman, 2012).

Seidman's (2012) formula posits early identification of students in need of academic and social assistance, yet Davis (2010) found most admission offices do not count first-generation college students as a distinct population needing early intervention upon acceptance into the university, even when they are identified by the Free Application for Federal Student Aid (FAFSA). Thus, this prevents the university from creating interventions necessary at the start of the student's college career. Davis argued the disclosure of being a first-generation college student is just as important as identifying race and ethnicity upon acceptance to meet all students' needs. With early identification of a first-generation college student, Davis sees the university showing this

population is a priority from the very beginning. This is especially true since the literature demonstrated that first-generation college students leave at a much higher rate than there non-first-generation peers (National Center for Education Statistics, 2011) for a variety of reasons to be discussed later in the literature.

Arzuaga (2016) encouraged colleges and universities to be aware of first-generation student status prior to orientation and to hold an orientation session specifically for the parents of these students. This session would be used to discuss the values and expectations of the institution as well as discuss the support services available during the students' transition to the university. In the past, the use of parents has not been used to assist in making a positive impact on the students' success. Arzuaga encouraged colleges and universities to have programmatic efforts to include parents, as well as have parent weekends for them to understand the rigor of college for the student. This also augurs well for the student to see the continued support from their family. For this to happen, early identification of this population must occur and the university must be committed to this specific population not only at the beginning of the student's career but through continuous support until graduation. Similarly, Jehangir (2010) stated first-generation college student families need to see this commitment from the university to trust that the monetary and time investment will lead to opportunities not afforded to the rest of the family without a college education.

While first-generation college students do not have the cultural capital from family to assist with transition, the university needs to prove its commitment by having

faculty members ready to motivate them towards success (Wilbur & Roscigno, 2016). Bonaparte (2014) reiterated the importance of motivating first-generation college students but placed the responsibility on faculty members to understand their culture as well as how to remove obstacles. Suggestions ranged from faculty assisting in the creation of study groups, seeking first-generation college students to assist with research, and identifying these students early to engage them in class. Similarly, Schademan and Thompson (2015) encourage institutions of higher education to use faculty members to assist by being cultural agents for first-generation college students. This study concluded the importance of faculty members to assist students in being more academically prepared, but reported problems when faculty members saw first-generation students as being unprepared and/or not ready leading to a student performing poorly. It was suggested that universities consider hiring first-generation faculty members to connect to first-generation college students to nurture students towards success. (Schademan & Thompson, 2015).

When looking further into the impact of mentoring, Schwartz, Kanchewa, Rhodes, and Cutler (2016) showed faculty and staff mentors as being one of the most profound retention influences for under-represented students, such as first-generation college students. In order for this population to attain their educational goals, students were approached as seniors in high school to build social capital the summer before entering college. The initial mentoring turned into intentional support, which impacted GPAs as well as retention for 91.6% of students. With first-generation college students

being less likely to seek connections with faculty and staff, this form of early intervention was seen as highly successful. O'Keeffe (2013) agrees on the importance of faculty/staff mentors, but also states the importance of ensuring those relationships are positive. O'Keeffe urges those in charge of faculty/staff mentors to check on connections with students to ensure the student sees the relationship as meaningful or it can be a negative impact on retention, especially during the first year.

First-Generation College Student Statistics

Statistics show a need for programmatic efforts from the university to address the difference between first-generation college students and their peers according to Pendakur (2016). The United States Department of Education Strategic Plan of 2014 specifically mentions access, affordability, and degree attainment as an objective to assist first-generation college students in all colleges and universities across America (United States Department of Education, 2014). Upon high school graduation, first-generation college students are 68% less likely to enroll in a 4-year university (Wilbur & Roscigno, 2016) than their non-first-generation peers. This student population, according to The College Board (2013), now makes up one-third of the current high school population. This has grown from 15.9% since 2005 (University of California Los Angeles, 2007). Once enrolled, NCES (2015) reported that 20% of first-generation students from 4-year institutions in the 2002-2012 cohort left college during their first year and not returning to another institution within five years. When compared to their non-first-generation peers,

first-generation college students have a six-year graduation rate of 39% while their peers have a graduation rate of 57.5% (NCES, 2011).

College Access and Affordability

Engle and Tinto (2008) discussed risk factors associated with both low-income first-generation college students as well as non-low-income first-generation college students. They determined risk factors for both groups to be delaying entry, attending part-time, working full-time, being financially independent from parents, having dependent children, having a GED, and being a single parent. When looking at low-income first-generation students, they had 14% of students with no risk-factors while the non-low-income and non-first-generation students had 50% of students with no risk-factors. On average, a low-income first-generation college student had three risk factors contributing to reasons behind not attending college.

Perna (2015) evaluated the likelihood of first-generation college students to be low-income. She noted that 9.2 million undergraduates were awarded Pell Grants in 2013 but commented that Pell Grants have not kept up with the rising cost of college tuition. Providing this essential funding is imperative to the access of higher education by low-income students. Perna added that 77% of students in the highest quartile of family income graduate with a bachelor's degree, but only 9% graduate with a bachelor's degree from the lowest quartile. This agrees with the College Board (2013) study showing 48% of first-generation college students using a waiver to afford the SAT compared to 14% of non-first-generation college students.

According to the United Stated Department of Education (USDE) (2017a), college tuition has more than doubled in the past thirty years. It is predicted that by 2020, two-thirds of jobs will require a college education. College graduates, on average, will make $1,000,000 more over their lifetime than non-graduates. For this reason, the American Opportunity Tax Credit will award $10,000 over four years to people enrolled in higher education. In 2016, this will help 10 million families afford the expense of obtaining a college degree (USDE, 2017).

Degree Attainment Gap

In addition to the issues of access, affordability and degree attainment, when investigating the degree attainment gap between first-generation and non-first-generation college students, Moreno (2016) Arzuaga (2016) and Jehangir (2010) researched the concept of attainment guilt. Moreno saw first-generation college students feeling guilty for breaking the norm of getting a job after high school and seeking higher education. Consequently, if families are not involved in the process, some family members may see the student as separating from the close-knit family structure. This leads to guilt for not being physically available and/or not being able to contribute financially to the costly degree. Moreno saw guilt when students in a qualitative study reported a feeling of putting their needs above their family by going to college or causing financial problems at home by needing books, school materials, and additional funds outside of tuition. This typically lead to the first-generation student obtaining a job and sometimes working full-time while being a full-time student, which often lead to academic turmoil.

Engle and Tinto (2008) found that 80% of first-generation college students work, with 63% of them working more than 20 hours per week. The results showed a significant impact on percentage reaching graduation over six years when related to hours worked. Fourteen percent earned a bachelor's degree when working more than 20 hours per week (Engle & Tinto). According to Mitchell (as cited by Petty, 2014) first-generation students are working more than studying, which is an impediment for success in the classroom. He encouraged colleges and universities to offer more opportunities for first-generation students to work on campus while also providing an academic pathway for these students to be successful.

Similarly, Hovdhaugen (2013) researched when the number of hours a student worked became too much to manage while also being a full-time student. He found that part-time work under 20 hours per week did not influence GPAs or retention, but working more than 20 hours consistently each week resulted in higher college drop-out rates. Hovdhaugen wanted a new analysis tool to incorporate off-campus factors towards retention since employment can result in student departure.

To combat guilt, stress, and academic performance issues, Stephens et al. (2014) selected 168 incoming first-generation college students to create a difference-education intervention by using their stories as a way to highlight how differences can shape their college experience. Instead of focusing on just their backgrounds, they used students' stories during the beginning of the semester to show how different students may need different resources. This led to 63% of first-generation participants seeking student

support services such as counseling and tutoring, which resulted in students achieving a higher GPA for the semester than in the previous semester as well as more engaged students on campus.

Ishitani (2016) researched persistence of first-generation college students through their sophomore year and discovered social integration into the college or university was a struggle, which lead to withdrawal. Similarly, Garcia (2015) researched first-generation college student involvement and found a positive correlation between student involvement and degree attainment. Garcia noted first-generation college students struggle with being involved on campus because this required an additional time commitment, which often conflicted with work schedules. In addition, if a student feels attainment guilt, he/she may spend more time off campus at home or with friends outside of the institution to decrease that feeling. This prevents the student from integrating into the campus culture. Garcia looked specifically at this population and saw those who were more involved felt more control over their academic success and were more likely to seek assistance when needed. Also, Garcia noted living-learning communities helped with the transition from high school to college, but also assisted with integrating the student into the campus community. It was his recommendation for first-generation college students to be early identified and placed in a common living area to increase co-curricular involvement.

DeRosa and Dolby (2014) also mention the concept of involvement in activities to increase retention but focus on the institutional role rather than the role of the student.

DeRosa and Dolby wanted to phrase the problem away from a deficiency of the student, but more on a deficiency in policy by the institution for first-generation student success. For example, they stated that a university using first-generation student status as a way of labeling students "at-risk" when differences should be celebrated. They recommended institutions use these differences in classroom discussions to validate the student's identity in a way to make the student proud of their background as well as proud to be a part of the institution. Instead, the student may think "I don't think the university knows me" rather than how their differences can contribute to the campus community (DeRosa & Dolby, p. 2).

Specific Challenges

Ward, Siegel, and Davenport (2012) assessed specific challenges impacting first-generation students' academic performance. The first noted challenge was the concept of academic inadequacy due to the placement of some students into developmental education courses. This is confirmed by the College Board (2013), which asserted first-generation college students are less likely to be academically prepared and more likely to require remedial work before starting credit bearing courses. Ward, Siegel, and Davenport found that students felt more stress because of the additional work for non-credit bearing courses, and that they may also need to remain in 12 hours of credit-bearing courses to receive financial aid. The authors recommended helping students focus on overall skills, such as study skills and note taking, rather than specific deficiencies to help the student across the curriculum.

Another challenge Ward, Siegel, and Davenport (2012) identified was academic adjustment to college with no pre-existing idea of the college experience from a parent. This ranged from knowing how to approach faculty, when to approach faculty, and how behavior in a college classroom differs from that of a high school classroom. Flores (2014) agreed that academic adjustment is a challenge faced by first-generation college students because they are not aware of how using office hours, getting to know faculty, showing respect, and reading something the professor has published as means of showing the student is dedicated to success as this was not necessarily part of the high school experience.

Davis (2010), however, sees the imposter phenomenon as well as performance anxiety as the two major challenges of first-generation college students. Davis used the example of a first-generation college student receiving a high grade and believing it was just luck or receiving a positive comment on an assignment and the student believing the professor was just using some positive reinforcement strategy rather that complimenting the student. Feeling like an imposter or having performance anxiety leads to not contributing to classroom discussions as well as not attempting to make friends outside of the classroom. Davis saw these challenges specifically contributing to early drop-out for first-generation college students.

Wilbur and Roscigno (2016) added the financial stress leading to full-time employment as a specific challenge for first-generation college students. By constantly being in class, at work, or asleep, academic performance becomes an issue as well as

being isolated from their college peers. This relates back to Davis (2010) and the lack of availability for co-curricular involvement as well as the imposter phenomenon for first-generation college students, which is different for their non-first-generation peers who do not work or do not have the same financial or family stressors. This does not mean that all first-generation college students come from a low socioeconomic background, but Wilbur and Roscigno stated however, there is a relationship between being first-generation and being from a low-income family. A feeling of isolation from friends as well as isolation from family is a specific challenge for first-generation college students leading to dropping out of college within the first year. Wilbur and Roscigno followed 16,197 students from 10th grade through college graduation. They found first-generation college students were significantly more likely to have a job during college, significantly more likely to work full-time, and significantly more likely to live at home to lower the cost of tuition. They also said that living off-campus leads to a 35% higher chance of not completing a degree and experiencing life stress of working while being in college decreases the chance of graduation by an additional 17%.

Use of Student Support Services

Davidson (2016) completed a qualitative study regarding the stories of first-generation college students who successfully completed their undergraduate degree. A common theme within his research was the use of Student Support Services. Davidson described this theme to not only offer academic support, but to also offer social support to

increase resilience in order for the student to succeed. These services included tutoring, counseling, career counseling, and academic advising.

Wibrowski, Matthews, and Kitsantas (2016) studied 137 incoming first-generation college students. As these students approached graduation, those students who used student support services were more motivated to succeed and increased their ability to self-regulate. While these skills could not prove direct responsibility for graduation, the correlation of used services showed a contribution to the student's success.

Dumais, Rizzuto, and Cleary (2013) looked at first and non-first-generation student use of online student support services while being enrolled in online courses. They found first-generation college students were more likely to ask for assistance, but when interviewed, blamed their failure on the instructor rather than accepting fault for errors. Dumais, Rizzuto, and Cleary suggested an intervention for first-generation online students or a more direct program to ensure they were aware of services at the very beginning of their program. By following this advice, PREP is being taught by staff and faculty from Student Support Services to ensure participants in the program are aware of the academic services offered by the university.

Tinto (2012) stressed the importance of student support services for first-generation college students to assist in navigating the institution as well as assisting the student with the transition from high school to college. By using these services, a student is more likely to understand college expectations. Tinto believed these services provided a peer network acting as a community for first-generation students to turn to in times of

need. He highlighted several programs, such as TRIO, where student support services are used to provide students with similar peers on a similar journey, which makes students more likely to use the services provided. TRIO received its name from the three laws combined to form this federally funded program which are the Education Opportunity Act of 1964, Higher Education Act of 1965, and Special Services for Disadvantaged Students Act of 1968 (United States Department of Education, 2017b). Student support services are an integral part of the college experience that provides "intellectual, social, and emotional development" according to Tinto, 2012 (p. 50). He also suggested institutions use these tools to reach out to students as they monitor progress instead of waiting for students to walk through the door asking for assistance.

Bridge Programs

According to Ward, Siegel, and Davenport (2012), bridge programs are "targeted orientation programs for first-generation students" with a focus on learning outcomes, the student's transition to college, and preparation for the rigor required academically (p.108). Bridge programs are one such program which vary in length but usually occur the summer prior to enrollment (National Center for Postsecondary Research, 2012). Generally, these intervention programs continue into the students' first or fall term (Weinstein, 2014).

According to the National Center for Postsecondary Education (NCPE) (2010), bridge programs have been created by institutions as early as 1999-2000 for first-generation college students, but efficacy has not been well documented. NCPE sees

bridge programs as a way to bridge the gap between high school and college while offering developmental education before the first semester of enrollment. Wibrowski, Matthews, and Kitsantas (2016) investigated bridge programs with 137 participants and 739 nonparticipants. They noted participants having a higher level of motivation as well as higher academic achievement during the freshman year.

The importance of these bridge programs for first-generation college students cannot be minimized. Kallison and Stader (2012) examined the importance of bridge programs and found they not only prepare students for enrollment, but also build a strong connection between staff, faculty, and peers at the institution. From the eight-bridge program they studied, 80% of first-generation college students felt the program helped prepare them for college and 88.5% felt motivated to graduate. The research showed that students in bridge programs are retained from first to second term at a 96% rate versus 87% for those that are not in the program. Additionally, a separate smaller study showed the GPA for bridge program participants is 2.84 versus 2.54 for nonparticipants after the first term (Evans, 2014).

Wathington, Prelow, and Barnett (2013) discussed the importance of early intervention programs to increase course completion, which increases overall persistence at the university. This study followed bridge program participants for two years at nine community colleges and discovered participants completed their first math course and their first writing course at higher rates than first-generation nonparticipants. This specific study showed the importance of early intervention to make significant impact on

performance for first-generation students rather than a reactive response once students are already struggling.

Tinto (2012) noted that bringing students to campus before the beginning of the first term allows for academic and social gain allowing for less support needed throughout the year. Tinto provided an example of a summer bridge program in San Diego where up to 150 incoming freshmen live together and take two credit-bearing courses while working with each other as well as advisors, tutors, and staff. By the end of this experience, they now have a friendship bond with their fellow incoming freshmen, and with faculty and staff to rely on in the years ahead. This extensive intervention allowed the student to leave the program with campus resources that will ease the transition to college life. For students participating in the program, 96% were retained to their sophomore year, as opposed to 92 % of nonparticipants. Eighty-one percent of participants graduated within five years as compared to 78% of nonparticipants.

TRIO Programs

TRIO received its name from the three laws combined to form this federally funded program which are the Education Opportunity Act of 1964, Higher Education Act of 1965, and Special Services for Disadvantaged Students Act of 1968. Since 1976, this federally funded program targets specific populations, such as first-generation college students, to ensure access and success in degree attainment. The goal of this program is to bridge the gap between high school and college while being located on a college campus (United States Department of Education, 2017). Perna (2015) credits the TRIO program

for assisting students in navigating the entrance to college as well as the pathway through college due to not having a parent to assist them with prior knowledge of the college experience, which increased college enrollment by 12%.

Wilson (2015) investigated TRIO programs across the Mid-West with 1,913 participants to discover themes for student success. He discovered the ties to success for these students were relationships, loyalty, trust, and transformation. Wilson saw this mixed methods research as a way for non-first generation scholars to see what this institutional group provides for its students in order to make them successful on top of the student success center. While this did not have statistical significance for first-generation and non-first-generation retention, it was noted that this program leveled the playing field, which was its primary goal.

Jehangir (2010) mentioned TRIO programs offered advising past academics, but also advising for financial aid, personal counseling, and study skills development. The Pell Institute (2009) credited TRIO programs for increased enrollment and retention of first-generation college students. According to the United Stated Department of Education (2016) TRIO participants since 2012 reached the highest persistence rate in the program's 50-year commitment by reaching a 90% graduation rate for the 204,756 participants.

In addition to retention, TRIO programs have assisted higher education institutions with enrollment. In 1997, 36.6% of students were non-white and in 2014, 50.3% of students were non-white. For the first time in history, minority students were

the majority and by 2020, the population of minority students is expected to rise to 54% (Patton, 2015). While TRIO focuses on assisting minority students in bridging the gap from high school to college, the population specifically targets low-income, first-generation, or veteran students (United States Department of Education, 2017).

Upward Bound Programs

While TRIO programs work to bridge the gap between high school and college, Upward Bound, also funded through TRIO, starts as early as middle school (United States Department of Education Office of Postsecondary Education, 2016). This federally funded program is an early intervention program to encourage enrollment into higher education from an early age. As a result of early intervention for first-generation students, 87% enrolled in higher education after high school (USDEOPE, 2016). Venezia and Jaegar (2013) reported 38% of high school graduates as being prepared for college based on meeting proficiency levels on the ACT or SAT. They credited Upward Bound programs for mentoring, social support, and academic support for first-generation college students as a means to assist these students earn a college degree.

Upward Bound programs have been researched over the last 50 years and have been noted to increase high school graduation as well as attainment of some college credential by 6% - 10% depending on population (Harris, Nathan & Marksteiner, 2014). According to the United States Department of Education Office of Postsecondary Education (2016), this program increases high school graduation and degree attainment by focusing on pre-college success. This is accomplished by counseling and tutoring, but

also includes education and financial literacy of students in order to inform students how college can be possible. By starting programs as early as middle schools, first-generation college students are able to see the importance of education.

In the program's 50 years of existence, the United Stated Department of Education (2017) has created a more specialized Upward Bound program under TRIO funding called Upward Bound Math and Science. Kelley, Randall and Barlow (2016) used this program to teach quantitative methods to high school students enrolled in an Upward Bound Math and Science program. This research proved that these students were capable of problem-based learning as well as higher-order cognitive processes. They saw some populations being considered as incapable of success, but used this curriculum to instill a sense of pride for this population. Participants in this high school were then partnered with college students acting as tutors and college instructors participated as mentors. From beginning to end, 67% of participants in the 2013-2014 school year completed the entire program and graduated. This can be compared to the 21% reaching completion in 2009-2010. Kelley, Randall, and Barlow credit the use of college students and college instructors for the increase of completion due to the power of mentorship.

Upward Bound is sometimes criticized as not making a difference when compared to non-minority or non-first-generation students, but the goal of the program is to level the playing field. Haskins and Rouse (2013) mentioned the lack of statistical difference between the populations when graduating high school or applying for college, but stress that this program has now made college access possible for many Upward

Bound participants. Haskins and Rouse also shared the importance of student participants interested in college in middle school versus after the program as well as the statistical significance of students graduating from college versus nonparticipants. Haskins and Rouse also investigated Upward Bound Math and Science programs and discovered participants were significantly more likely to apply for and to graduate from 4-year schools than nonparticipants. This program assisted by encouraging students to graduate high school and apply for college, as well as helping them be prepared once they enter college.

Talent Search Programs

While TRIO programs are mainly focused on bridging the gap between high school and college and Upward Bound is focused on partnering with schools to assist with high school graduation and college application, Talent Search is a different program under the larger TRIO umbrella. The goal of Talent Search is to contact first-generation or low-income students who are believed to be capable of completing a degree and to provide student support services to allow them to complete a college degree (United States Department of Education, 2017). Talent Search assistance resulted in 6,000 participants in Texas making up 68% of the state's first-time applicants for financial aid. They were also 38% more likely to enroll in college than nonparticipants (Haskins & Rouse, 2013).

While Bowden and Delfield (2015) argue this program is cost-effectiveness with a cost-benefit analysis, Hahn, Knopf, Wilson, Truman, Milstein, Johnson, Fielding,

Muntaner, Jones Fullilove, Moss, Ueffing, and Hunt (2015) researched 152 Talent Search programs from 1985-2010 and noted that each program was successful in increasing high school completion rates when compared with controls. Fifteen programs specifically targeted pregnant high school students who were believed to be capable of completing high school and all 15 programs were found to increase graduation rates for this population by offering class restructuring during their pregnancy. By increasing high school completion rates, these 152 programs were able to increase college enrollment (Hahn et.al.).

GEAR-UP Programs

While TRIO is a larger umbrella of programs such as Upward Bound and Talent Search, a separate federally funded bridge program Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR-UP). This program is a way for students to receive information about higher education while also receiving scholarships for participating in the program (United States Department of Education, 2017). Starting as early as middle school, this program differs from TRIO programs in that it stops once the student is accepted into an institution of higher education. Venezia and Jaegar (2013) researched GEAR-UP and concluded that it takes a more systemic approach by also working with participants' families to prepare for the changes ahead when the student enters college.

Bandura (2009) discussed the importance of self-efficacy for pursuing higher education. Hill (2014) researched 733 participants in a Louisiana GEAR-UP program and

discovered participants had statistically significant higher self-efficacy scores than nonparticipants, as well as higher GPAs. In this study, teachers' aspirations for students were higher than before participation and significant behavior changes occurred for these students. She credited the federally funded program for making an impact on both academics and psychological growth.

Pope (2015) noted the difference in college readiness for first-generation and non-first-generation students as being a factor impeding success. She feared this would lead to remedial course work if admitted to college, which causes first-generation college students to not only be enrolled full-time to receive financial aid, but to also take non-credit bearing courses at the same time. Pope investigated participants and nonparticipants of a GEAR-UP program and found participants as being more academically prepared for college and their experiences to be a model for other schools to follow for student support services at the high school level. Similarly, Fogg and Harrington (2015) analyzed 4,000 participants in a GEAR-UP program in Rhode Island and discovered these participants were not only more likely to graduate than nonparticipants, but also more likely to enroll in college due to the early academic support. Alongside academic enrichment, Fogg and Harrington noted social development techniques to be crucial to the program's success, but this aspect was not found to be statistically significant.

Other Programs

While TRIO, Upward Bound, and GEAR-UP are federally funded programs (United States Department of Education, 2017), some universities have created bridge programs to try to close the social-class achievement gap (Stephens et al., 2014). These programs seek to increase first-generation college student participation in student success services as well as to increase GPAs and retention for its participants. Stephens et al. (2014) showed an increase in these areas for their 168 participants at a private university and believe this type of early intervention assists students with other factors such as mental health and engagement. This one-day program's goal was to show students that similar students had been successful. The result was a statistically significant higher-GPA for first-generation participants than nonparticipants.

Covarrubias, Gallimore, and Okagaki (2016) studied a bridge program for first-generation college students who would have been denied admission. They used this early intervention to assist students on the cusp of being denied admission to prove these students are capable of being successful. The outcome, after intervention, was a group of students prepared for college expectations after completing remedial coursework. This study specifically showed the importance of early intervention programs for under-prepared students. By taking steps prior to the first day of class, Covarrubias, Gallimore, and Okagaki (2016) prepared students for college expectations, similar to the goal of the PREP experience.

First-generation students pushed towards a 2-year institution when on the cusp of not being accepted into a 4-year institution, only 16.2% ever complete a 4-year degree (Covarrubias, Gallimore, & Okagaki, 2016). The researchers investigated 32 students on the cusp after intervention and after the first year, 6% were on academic probation, 47% earned a GPA above 3.0, and 25% were on the Dean's List. These students earned better grades than that of the ones originally accepted due to their participation in a bridge program. Again, this is a similar goal of the PREP experience.

Douglas and Attewell (2014) investigated bridge programs at community colleges as well as public 4-year universities. These researchers concluded that the average institution increased the first-generation graduation rate by 10% having students complete remedial courses before enrollment through a bridge program over the summer. Douglas and Attewell also noted how this type of format allows students to take less courses when entering school rather than taking the minimum number of credits on top of the non-credit bearing remedial courses during the first semester. In this format, students are allowed to enhance skills prior to enrollment instead of taking remedial courses and college level courses simultaneously. Success can be determined by comparing the credits earned versus attempted for students using this method versus those taking remedial work at the same time. This comparison, however, was not stated in the literature, which is a reason it should be included in the investigation of PREP.

Weinstein (2014) however, found a conflicting result when investigating a summer bridge program at an elite Ivy League school. When looking at first-generation

student participants and comparing to nonparticipants as well as nonparticipants with a similar incoming academic background, the participants had a statistically lower GPA. She mentioned pre-college factors (such as social capital and need of remediation) as impediments for first-generation success but did not mention the structure of the program being investigated as it relates to removing those impediments.

Mitchell and Alozie (2015) completed a comprehensive study of four bridge programs at four different community colleges in Texas from 2007 to 2011. The programs included a six-hour intensive day of classes for six weeks. The goal was for entering participants to complete all necessary developmental work prior to the first semester of enrollment. The result, other than finishing the courses, was structured mentoring from the first day as well as participant knowledge of the campus as their peers are arriving for the first time. Participants were more likely to access institutional resources, such as tutoring and other student success offerings. This qualitative research shared the validation students felt by being in a session with their peers as 64% were first-generation college students and 100% were from a family requiring free or reduced lunch during high school.

While most bridge programs focus on first-generation students or other minorities entering undergraduate institutions, McCoy and Winkle-Wagner (2015) researched a bridge program to prepare minority students accepted into a doctoral program. This qualitative study found themes of increased confidence, cultivating a culture of scholarship, and identifying themselves as a scholar while still maintaining prior identity.

McCoy and Winkle-Wagner felt this program was crucial in the development of these scholars who participated in the program prior to enrollment of their first semester of graduate school.

Strengths and Weaknesses of Current Research

The research on bridge programs or early intervention programs focused on GPAs, course completion, or retention. Mostly missing from the literature concerning bridge programs is student satisfaction with the college and credits attempted versus earned. Student satisfaction is important since it is a significant contributor to student persistence. Schreiner and Nelson (2013) pointed out that student satisfaction is 35% of the reason why students leave an institution. Similarly, a study conducted by Martin, Goldwasser, and Galentino (2017) showed a statistical correlation between satisfaction and retention. This study highlighted the impact of a the size of a group on satisfaction as well as engagement at the university. Small groups had statistically significant higher satisfaction, engagement, and retention. Similarly, Jeffreys (2014) and Tran (2014) found small groups within the classroom assist in finding student strengths as well as cooperative learning for academic success.

Credits attempted versus earned is equally important since it indicates progress as well as keeping a student eligible for financial aid (Federal Student Aid, 2016). For federal financial aid, students must be enrolled in at least 12 college credits to receive the full amount of aid awarded, but developmental courses are not credit bearing and do not count towards this total. Participating in PREP negates a student's need for remediation

thus helping the student graduate in a timely manner. The coursework of PREP was predominately college success skills as well as the information from developmental reading courses. Since this material is covered and the university does not offer developmental writing or math, PREP participants do not need further remedial courses. Seidman (2012) noted the addition of remedial or developmental courses to overcome a deficiency while being enrolled in a full-time course load is not setting the student up for success. Researching credits earned versus attempted needs to be added as an indicator of success for bridge programs because this goes beyond progression and looks more closely at a student graduating on time as well as making Satisfactory Academic Progress (SAP) for financial aid.

According to the National Center for Education Statistics (2013), 28% of students entering college are enrolled in remedial courses alongside the full-time courses. When remedial courses were taken prior to enrollment, the Gateway to College Foundation (2016) reported 76% graduating with an average GPA of 2.29. Within the population taking these remedial courses prior to enrollment, 77% were first-generation college students. The research is clear that students taking remediation prior to enrollment complete degrees at a significantly higher rate than those who are enrolled in remedial courses while being enrolled as full-time college students. It can be concluded that taking remedial courses prior to enrollment is an early intervention step needed for degree attainment.

Additionally, there is strong support for living learning communities. Cambridge-Williams, Winsler, Kitsantas, and Bernard (2013) showed the impact on retention for participants (90%) and nonparticipants (78%) for freshman to sophomore year. This same study also showed a five-year graduation rate of participants being 70% when 56% of nonparticipants graduated. While this was conducted at a large public institution, some studies have focused on specific populations at private universities, such as Kalevitch, Maurer, Semich, Bernauer, Badger, Holden, and Sirinterlikci (2015) looking at the impact of a living learning community for low-income science majors. This study showed an increase of self-efficacy as well as self-regulated learning. The missing piece about living learning communities is literature on the impact for first-generation college students. PREP participants will be living together for the length of the program and then live within the same building once their first year of courses begin.

There is limited research for private nonprofit universities since most studies are geared to public colleges and universities (Padgett et al., 2012). The College Board (2013) identified 83% of high school students attend 4-year universities. Within those 4-year universities, 53% of first-generation college students attend public universities while 47% are enrolled in a private nonprofit university (Padgett et al., 2012). Similarly, the Counsel of Independent Colleges (2013) stated that 46% of students at independent colleges and universities identify as first-generation college students. Speiglar and Bednarak (2013) illustrated that first-generation students having a higher risk of attrition at private universities by 5-10%. With the number of first-generation college students

increasing (College Board) and limited research existing for private nonprofit universities (Padgett et al., 2012), further research is needed to investigate bridge programs within private nonprofit universities not only focusing on GPA and retention, but also student satisfaction with the college as well as credits attempted versus earned.

Wilkins and Balakrishnan (2013) used a satisfaction survey for 260 students at two universities to compare populations. The quality of lectures was the predominate predictor of satisfaction, but satisfaction was significantly correlated with retention. They saw student satisfaction as a way to also increase enrollment if future studies were conducted. Similarly, a study conducted by Martin, Goldwasser, and Galentino (2017) showed a statistical correlation between satisfaction and retention. This study highlighted the impact of a cohort versus a non-cohort on satisfaction as well as engagement at the university. Having small groups in cohorts developed into statistically significant higher satisfaction, engagement, and retention. Carroll (2015), not looking at the difference between first-generation and non-first-generation college students, demonstrated how student satisfaction with an institution caused one out of four college students in a private liberal arts university to leave without returning to another institution. Additionally, Carroll also demonstrated academic achievement as a key retention predictor along with student satisfaction.

Murphy, Gaughan, and Hume (2010) showed a strong correlation between low-income families and first-generation college student status. Although being from different groups, they are not mutually exclusive. Once enrolled, first-generation college students

are 22% more likely to drop-out than their peers with only 66% remaining after their sophomore year (Spieglar and Bednarek, 2013). However, the research showed that students in bridge programs are retained from first to second term at a 96% rate versus 87% for those that are not in the program (Evans, 2014).

Research exists on the value of bridge programs, especially when looking at retention from first to second term and GPA for first generation economically disadvantaged participants versus similar nonparticipants (Carthon, Nguyen, Chittams, Park, & Guevara, 2014; Pike, Hansen, & Childress, 2014; Stephens et al., 2014). The College Board (2013) showed the first-generation student population, as a whole, have lower GPAs than those students who have at least one parent with a bachelor's degree. However, GPA for bridge program participants is 2.84 versus 2.54 for nonparticipants after the first term (Evans, 2014).

When looking at research related to the research questions, the first research question asked if Pfeiffer Readiness Education Program (PREP) participants are significantly more satisfied with the university after the first and second terms than nonparticipants. Research around satisfaction has been conducted at various universities, but literature is limited on satisfaction for participants versus nonparticipants in bridge programs as well as early interventions. The importance of satisfaction towards retention was specifically pointed out by Schreiner and Nelson (2013) when they discovered 35% of students leave a university due to satisfaction. Similarly, Wilkins and Balakrishnan (2013) used a satisfaction survey for 260 students at two universities and showed

satisfaction was significantly correlated with retention. They saw student satisfaction as a way to also increase enrollment if future studies were conducted. Martin, Goldwasser, and Galentino (2017) showed a statistical correlation between satisfaction and retention when looking at small cohorts versus non-cohorts. Overall, satisfaction was a factor towards retention that needs further investigation for bridge programs as well as the first-generation student population.

The second research question asked if PREP participants are retained at a significantly higher rate than nonparticipants during the first to second term. Once enrolled, first-generation college students are 22% more likely to drop-out than their peers with only 66% remaining after their sophomore year (Spieglar & Bednarek, 2013). However, the research showed that students in bridge programs are retained from first to second term at a 96% rate versus 87% for those that are not in the program (Evans, 2014). With this significant change in retention through an early intervention program, further research needs to investigate first-generation college student retention with a similar program.

The third research question asked if PREP participants have a significantly higher GPA than nonparticipants' first to second term. Research exists on the value of bridge programs, especially when looking at retention from first to second term and GPA for first generation economically disadvantaged participants versus similar nonparticipants (Carthon, Nguyen, Chittams, Park, & Guevara, 2014; Pike, Hansen, & Childress, 2014; Stephens et al., 2014). The College Board (2013) showed the first-generation student

population, as a whole, have lower GPAs than those students who have at least one parent with a bachelor's degree.

The final research question asked if PREP participants have a significantly higher attempt and earn more credits after the first and second terms than nonparticipants. Credits attempted versus earned is equally important since it is an indicator of how long it will take a student to earn a degree as well as staying eligible for financial aid (Federal Student Aid, 2016). For federal financial aid, students must be enrolled in at least 12 credits to receive the full amount of aid awarded, but developmental courses are not credit bearing. Seidman (2012) states this as a reason behind developmental students being unsuccessful. Being enrolled full-time while taking remedial work in non-credit bearing courses only makes the first semester of college more difficult. Watching credits earned versus attempted needs to be added as an indicator of success for bridge programs in order to show the importance, but was not noted in any literature related to bridge programs.

Summary

When reviewing the literature regarding first-generation college students as well as early intervention programs, several themes emerge. It becomes clear that this population may need more remediation (College Board, 2013; Stanford University, 2012; and Ward, Siegal, & Davenport, 2012). First-generation college students would also benefit from having a peer and/or faculty/staff mentor (Petty, 2014; Schwartz, Kanchewa, Rhodes, & Cutler, 2016; Stephens et al., 2012; Tinto, 2012). These students may also

benefit from a living-learning community (Cambridge-Williams, Winsler, Kitsantas, & Bernard (2013); and Kalevitch, M., Maurer, C., Semich, G., Bernauer, J., Badger, P., Holdan, G., & Sirinterlikci, A. (2015)). While needs and potential benefits are known, first-generation college students are still known to graduate at a lower rate than their non-first-generation peers and researchers have tried various aspects to improve this achievement gap. Most research focused on the change of retention for first-generation college students. For example, Stanford University (2012) used positive affirmation to increase retention.

Pendakur (2016) changed orientation for first-generation college students to influence retention. Others made changes to mentoring (Schwartz, Kanchewa, Rhodes & Cutler, 2016), reducing hours worked outside of school (Hovdhaugen, 2013), celebrating differences during the first semester (DeRosa & Dolby, 2014), and showing first-generation college students how similar students have been successful (Stephens et al., 2014). Regardless of the change, each researcher or institution used an early intervention strategy to make a difference.

Finally, a theme within the research was the difference of GPAs for first-generation college students versus their non-first-generation peers. Some research focused on reasons behind lower GPAs, such as Chau (2012) blaming the lack of confidence, Hovdhaugen (2013) blaming excessive work hours, and Davis (2010) blaming the student for feeling the imposter phenomenon, other researchers sought solutions by using bridge programs. Evans (2014) and Covarrubias, Gallimore, and

Okagaki (2016) saw bridge programs make a significant impact on GPAs for participants and the Gateway to College Foundation (2016) proved the impact of taking remedial courses prior to enrollment as a means of increasing GPAs.

Research supports the need to identify the student upon admission, understand the skills needed, and the use of mentorship for academic achievement through early intervention, but none used the Seidman (2012) retention formula for first-generation college students and none looked at how early intervention programs can impact student satisfaction when comparing participants and nonparticipants. This retention formula was also not used with this population to study credits earned versus attempted as a means to show students graduation on time while research exists on possible impediments of academic progress. Finally, there is limited research on first-generation college students in the private nonprofit school setting (Padgett et al., 2012). This study started to fill the gap in literature surrounding first-generation student success with the use of a summer bridge program at a private nonprofit university. While investigating the theme of satisfaction, GPA, and retention, this program also used the Seidman (2012) retention formula to assess differences in participants versus nonparticipants' credits earned versus attempted. It is imperative to make a difference in the achievement gap within all forms of institutions because attrition remains a problem. By having an early, intensive, and "continuous" program, PREP participants were able to move forward with a solid academic foundation. The methodology of this study, discussed in chapter three, will elaborate on how this study will be conducted.

Chapter 3: Research Methods

Degree attainment for first-generation versus non-first-generation college students continues to differ by nearly 20% (NCES, 2011). The purpose of this study was to determine whether a bridge program at a small, private, nonprofit 4-year university affects student satisfaction, retention, GPA, and credits attempted versus earned. This study used the Seidman (2012) formula of early, intensive, and continuous intervention to study the PREP.

This chapter details the research design and the rationale for using a quantitative quasi-experimental approach. It also provides an in-depth discussion of the methodology of the study. This includes information about the population, the sample being studied, and procedures for recruitment of participants into the PREP program. Threats to validity, both internal and external, are discussed, along with the ethical procedures put in place for this study.

Research Design and Rationale

The quantitative quasi-experimental design was chosen due to the program being offered to all first-generation college students entering the university, with some selecting to participate and others deciding not to participate. This design was used by Wathington, Prelow, and Barnett (2013) when they explored the importance of early intervention programs to increase course completion as well as overall persistence at the university. Similarly, researchers use this design when comparing participants versus nonparticipants in terms of retention and GPA (Carthon, Nguyen, Chittams Park, &

Guevara, 2014; Pike, Hansen, & Childress, 2014; Stephens et al., 2014). In addition to GPA and retention, I looked at student satisfaction and credits earned versus attempted between first-generation participants and first-generation nonparticipants.

The independent variable studied was participation status in the PREP. The dependent variables being measured were satisfaction, retention from first to second year, GPA, and credits earned versus attempted. At this university, major declaration happens at the very end of freshman year to allow students to take general education courses first.

Methodology

Population

The population for this study consisted of first-generation college students attending private nonprofit universities as incoming freshmen. At the small, private, nonprofit 4-year university used in this study, there were 39 first-generation participants in the PREP program sample and an estimated 35 first-generation nonparticipants used as a comparison control group. The freshman class consisted of 231 students for the 2016-2017 academic year at this private nonprofit institution. The number of nonparticipants was projected based on trends for the past five academic years.

Sampling and Sampling Procedures

Individuals selecting to participate in the early intervention bridge program, PREP, were placed in one group, while those selecting not to participate were placed in the control group. Only students who indicated that they were first-generation college students on the college application received a PREP invitation. At no point did I know the

names or contact information for these students. According to Creative Research Systems (2012), with a population estimated to be 70 first-generation college students, the sample size needs to be 35 students participating in the early intervention program to maintain a 95% confidence level.

Procedures for Recruitment, Participation, and Data Collection

Each student who self-identifies as first generation on the college application receives information for PREP. In 2016-2017, this pertained to 124 admitted and deposited students. In 2017-2018, this pertained to 130 admitted and deposited students. If fewer than 50 students have registered for the program, the Office of Admissions sends a repeat mailing to encourage participation in this program.

The following timeline summarizes the study's processes.

1. In the summer of 2016, before participation in the program, packets were mailed to participants with forms to complete and return to the university. One of these forms was a request for consent to participate in the early intervention program.
2. In the summer of 2016, PREP occurred between July 14 and July 22. All 43 participants were in one section together, representing the sample for the study.
3. During the school year, each student had support meetings after the first few weeks of class, after midterm grades, and after final grades to provide an intervention as necessary. Additional meetings occurred if the student was

identified by the early alert system, received conduct sanctions, or academically withdrew from a course due to absences.

4. At the end of Fall 2016, the data regarding GPA, retention, and credits earned versus attempted were retrieved from the Office of the Registrar. This office had a list of program participants and nonparticipants.
5. At the end of Spring 2017, toward the end of students' freshman year, data for student satisfaction were obtained by administering the Noel-Levitz (2012) SSI during all freshman seminar groups. At the top, students indicated whether they participated in the PREP program and whether they had first-generation college student status. This allowed me to separate the two groups without knowing names and/or student identification numbers. It is a university policy to not have names on satisfaction surveys in order to promote honesty, so this specific piece provided an average for the sample and the control group.
6. At the end of the 2016-2017 academic year, the Office of Student Development offered a ceremony to congratulate PREP participants for completion of the first year. This marked the conclusion of the study. Each participant met with a PREP employee to state whether he or she planned to return. Retention was determined once the student returned for the Fall 2017 semester after the add/drop date had passed.

To follow up, the Office of Institutional Research continues to evaluate retention from freshman to sophomore year, sophomore to junior year, and junior year to graduation for participants in order to prove to the Board of Trustees that this program brings a return on investment.

Intervention

The PREP program is provided by the university to offer first-generation college students the opportunity to connect with faculty and staff while learning how to be successful college students. I created the program contents and schedule, but a program director administers the program. Faculty and staff members are hired to assist in facilitating class sessions. For example, the director of financial aid provides a seminar on how to find additional funds through scholarships and grants while still mentioning the different types of loans available. The director of general education discusses which courses are required to be taken by all students while mentioning the importance of deciding a major through the liberal arts journey. The director of learning assistance provides multiple sessions throughout the week-long program regarding study skills, notetaking strategies, citation styles, and best-known practices when studying for a test. This entire program is an intervention to offer first-generation participants the opportunity to be successful from the first day of their freshman year. At no point was I in contact with the students. An itinerary in Appendix A lists lectures, requirements for student participants, as well as fun activities held to build a sense of community.

Instrumentation and Operationalization of Constructs

The Noel Levitz (2012) Student Satisfaction Inventory (SSI) was used to assess student satisfaction for first-generation participants and nonparticipants. This survey has been used by over 5,500,000 students at nearly 3,000 universities (Noel Levitz, 2016). When using this survey, a researcher can see a national comparison for the 40-question Likert-scale assessment (Noel Levitz, 2016). Responses to this paper survey were compared between first-generation participants and nonparticipants in a variety of areas. According to Noel Levitz, the variables for enrollment are financial aid, academic reputation, cost, personalized attention before enrollment, geographic setting, campus appearance, size of institution, recommendations from family/friends, as well as the opportunity to play sports. The student then rates variables such as tuition being worth what is received, the amount of financial aid awarded, academic advising, campus climate, campus engagement, and being an overall enjoyable experience.

For GPA, retention, and credits attempted versus earned, data were collected from the Institutional Research (IR) office. Data were provided with the names of participants redacted, and data were drawn to determine the mean GPA for those students as well as the mean GPA for those who self-identified as first generation on the college application. This same process occurred to obtain means for both populations for retention as well as credits attempted versus earned. I received all raw data with redacted names and determined the mean for participants and nonparticipants. Race and gender were

provided, but anonymity was protected. A *t* test was conducted to determine whether the difference was significant ($p < .05$).

Intervention Studies

The PREP is an early intervention program for first-generation college students selecting to participate during the summer before entering the university. In this study, the first-generation students who selected to participate were compared to first-generation students not selecting to participate but in the same cohort. During this program, all presenters regularly teach college success strategies to participants. This program was altered to include continuous intervention throughout the term, based on the framework of Seidman (2012) and the retention equation of Retention = Early Identification + (Early + Intensive + Continuous) Intervention. The basis for developing college success strategy presentations was research from the College Board (2013) showing first-generation college students entering college less academically prepared than their peers, as well as from the National Center for Postsecondary Research (2012) encouraging universities to offer a bridge program to teach academic success skills. In addition to these workshops, a secondary benefit was based on the research of Kallison and Stader (2012), who examined the importance of bridge programs and found that they not only prepare students for enrollment, but also help students build strong connections with staff, faculty, and peers at the institution.

As a part of the bridge program and Seidman's (2012) retention formula, the *continuous* aspect indicates that students were required to meet with academic counselors

(PREP employees) after the first few weeks of class, when midterm grades were released, and when final grades were released in order to suggest academic success options offered by the institution. The director of the program also monitored the early alert system at the university to intervene when a PREP student was mentioned as a concern by a faculty or staff member. This ensured that the program went past the intensive week and was continuous through the freshman year.

Operationalization

The variables considered for this study were GPA, retention, satisfaction, and credits earned versus attempted.

- The mean GPA was compared for statistical significance between first-generation participants and first-generation nonparticipants within the entering class.
- Retention data for Fall 2016 to Fall 2017 for the groups were also compared for statistical significance.
- The ratio of credits earned versus attempted was compared between first-generation participants and first-generation nonparticipants to determine whether the group, overall, was on track to complete the degree on time. Individual ratios were created and then summarized to determine statistical significance.
- For retention, GPA, and the ratio of credits earned versus attempted, gender and race were also be tested to ascertain whether there was a relationship.

- The SSI was used to determine student satisfaction, and the results were averaged to determine a mean on the Likert scale for each of the 40 questions to determine whether statistical significance existed between the first-generation participants and first-generation nonparticipants. Standard deviation of responses to answers was also analyzed.

Data Analysis Plan

For each variable, a mean for each group was determined and entered into SPSS. To clean and screen the data, only first-generation students were entered into the software. Those marked as participants were compared to those marked as nonparticipants. Below are the research questions:

1. Is there a difference in first-year satisfaction with the university between PREP participants and those who qualified but did not attend?
    a. Null hypothesis: There is no significant difference in satisfaction with the university between PREP participants and those who qualified but did not attend.
    b. Alternate hypothesis: There is a significant difference in satisfaction with the university between PREP participants and those who qualified but did not attend.

The Noel-Levitz (2012) SSI was used to determine the mean value of satisfaction for participants, and it was compared using an independent *t* test with the mean value of satisfaction for first-generation nonparticipants. A *p*-value greater than .05 determined

significance. For this questionnaire, all freshmen completed this within their first-year seminar course and stated whether they participated in PREP and whether they were first-generation college students or non-first-generation college students.

2. Is there a difference in first-year retention between PREP participants and those who qualified but did not attend?
    a. Null hypothesis: There is no significant difference in first-year retention between PREP participants and those who qualified but did not attend.
    b. Alternate hypothesis: There is significant difference in first-year retention between PREP participants and those who qualified but did not attend.

When comparing the averages between first-generation participants and first-generation nonparticipants for this research question, I used SPSS to perform an independent *t* test to test the hypothesis for statistical significance. A *p*-value less than .05 determined statistical significance.

3. Is there a difference in first-year GPA between PREP participants and those who qualified but did not attend?
    a. Null hypothesis: There is no significant difference in first-year GPA between PREP participants and those who qualified but did not attend.
    b. Alternate hypothesis: There is a significant difference in first-year GPA between PREP participants and those who qualified but did not attend.

When comparing the averages between first generation participants and first-generation nonparticipants for this research question, SPSS was used to perform an

independent *t* test in order to test the hypothesis for statistical significance. A *p*-value less than .05 will determine statistical significance.

4. Is there a difference in first-year ratio of credits attempted versus earned between PREP participants and those who qualified but did not attend?
    a. Null hypothesis: There is no significant difference in first-year ratio of credits attempted versus earned between PREP participants and those who qualified but did not attend.
    b. Alternative hypothesis: There is a significant difference in first-year ratio of credits attempted versus earned between PREP participants and those who qualified but did not attend.

When comparing the averages between first generation participants and first-generation nonparticipants for this research question, SPSS was used to perform an independent *t* test in order to test the hypothesis for statistical significance. A *p*-value less than .05 will determine statistical significance.

Threats to Validity

External Validity

A threat to external validity in this quasi-experimental design is the threat of selection bias. This research study will only send information about the PREP program to those who have self-selected themselves as first-generation college students on the admissions application. Those who select to participate will be compared to those who do not participate. Historically, this institution has had 100-125 first-generation college

students in the freshmen class. To address this threat to external validity, students will be asked at check-in for the PREP program if he/she is a first-generation college student.

This study cannot account for every effect inside and outside of the classroom regarding interaction effects. This quasi-experimental research occurred the summer before the participants' freshman year began, and the variables measured (GPA, retention, satisfaction, and credits earned versus attempted) do not involve a pre/post assessment. The threat of external validity regarding multiple treatment interference does not exist. The PREP participants are on campus for one week to learn necessary skills through an early intervention bridge program and then compared to their first-generation peers who did not complete the program.

To control for experimenter bias, the researcher did not knowingly interact with the students participating in the program. The researcher developed learning materials for the program, and developed the data collection processes from various offices, but limiting this interaction will prevent experimenter bias to allow for other researchers to come to similar conclusions about this population in similar institutions. Interacting with the instructors and program director are examples of experimenter bias, but the researcher must be aware of these interactions and ensure there is no interference with decisions or process already in place.

Internal Validity

This research deals with student persistence, but it is possible that students will drop out of the program over the course of the first year. Those participants remaining at

the end of the first term will be compared to those remaining of the control group at the end of the first term. Those who did not matriculate for the following term will not have their averages counted in the research to avoid a threat to internal validity.

To control for experimenter bias, the researcher was not aware of participants and nonparticipants. The researcher may have created the materials for the early intervention, but the researcher was responsible for assisting any student struggling through the semester in order to keep the sustained intervention through the first year. Any student reported to the early alert system at the university will meet with the researcher to decide a plan of action to improve academically, but this will be for participants and nonparticipants (double blind).

The researcher works within the Office of Academic Affairs to assist all students, so there was threat to having a conflict of interest. To control for this threat to internal validity, the researcher refrained from asking students about PREP. The researcher continued assisting students with their academic performance, assigning tutors when necessary, and mentor the student academically with advising without asking about PREP.

Statistical Validity

This quasi-experimental design required the use of independent *t* tests to compare the two groups of first-generation college students. To eliminate threats to validity, it was important that all assumptions of *t* tests are met (Fields, 2013). This means that we explore the data before the test to check of outliers, normality, and homogeneity. If an

assumption is not met, bootstrapping will correct the issue and the effect size can be calculated. Bootstrapping is when larger numbers in a small sample are repeatedly drawn from the original sample. The Levene's test, with a value above .05, will show homogeneity of variances. If this value is over .05, the line of "equal variance assumed" is read in the test statistics. If the value is under .05, the line of "equal variance not assumed is read in the test statistics. A value for the *t* test under .05 means that there is a statistical significance between the means.

Ethical Procedures

The provost and president of the university granted access to participant and nonparticipant data by allowing access to records within the Office of the Registrar for GPAs, retention, credits earned, and credits versus attempted for Fall 2016. Names and student identification numbers were retracted, but gender and race will be provided. The only treatment to human participants is by means of the PREP early intervention program. The program staff have never researched credits earned versus attempted or satisfaction differences between first-generation participants and nonparticipants. Satisfaction will also be assessed by having students complete a survey during their first-year seminar course. All surveys will be completed in person at the same time to allow students to ask for clarification if needed.

The IRB approval of both this institution (approval 1617-024) and Walden University (approval 09-27-17-0416675) was obtained. All recruitment materials were created by the university about the program, so there are no ethical concerns about these

mailings to all students self-selecting as being first-generation college students. There are no ethical concerns about data collection being that most will be done by collecting information that the university is already collecting, but not analyzing.

All data collected went through the office of institutional research, which removed names, identification numbers, and any other identifying information before allowing the researcher to complete any form of statistical analysis. All data were anonymous and the only individuals with access to the data was the researcher, the director of the intervention program, and the provost's office overseeing this research. Once analyzed and saved on a university computer with no shared access, the paper documents were shredded.

Summary

This quantitative quasi-experimental design investigated first-generation college students within a small private liberal arts institution to evaluate outcomes from an intense, early intervention bridge program. Student self-select being first-generation college students, and those who participate were compared to a similar group who did not participate. Independent *t* tests will be completed to determine relationships between the variables. This early intervention program has been in existence for six years. Variables such as satisfaction and credits earned versus attempted were not compared in the past between the treatment and control group. It is hoped that this project will provide useful information to this small private nonprofit 4-year university and to other institutions with similar early intervention programs for first generation students.

The following chapter will determine if there is statistical significance between first-generation students attending PREP and first-generation students electing to not participate. This study will use *t* tests to determine significance ($p<.05$) in regards to student satisfaction using the Noel Levitz (2012) SSI, retention, GPA, and credits attempted versus earned. By answering these research questions, this early intervention program using the Seidman Retention Model (2012) will allow the researcher to accept the null or alternative hypothesis.

Chapter 4: Results

Introduction

The purpose of this study was to determine whether an early intervention bridge program for first-generation students at a private nonprofit 4-year university increased first-year-to-second-year student retention, GPA, satisfaction with the institution, and credits attempted versus earned compared to similar nonparticipating students. This program, PREP, was advertised by the admissions office to all students self-selecting first-generation student status on their college application. For this study, the experimental group consisted of the 39 first-generation incoming freshman students electing to participate in the bridge program. The control group consisted of the 35 first-generation incoming freshman students electing to not participate in the program. If the difference between these two groups had statistical significance, future programs could be developed at other private universities for first-generation student success.

The first research question asked whether there was a difference in first-year satisfaction with the university between PREP participants and those who qualified for but did not opt for the program. The second research question asked whether there was a difference in first-year retention between PREP participants and those who qualified but did not attend. The third research question asked whether there was a difference in first-year GPA between PREP participants and those who qualified but did not attend. The fourth research question asked whether there was a difference in first-year ratio of credits attempted versus earned between PREP participants and those who qualified but did not

attend. For the alternative hypothesis to be accepted for any research question, the *p*-value would need to be less than .05 for the *t* test.

In this chapter, I discuss the data collection process, the results for each research question, and whether the null or alternative hypothesis was accepted. A *t* test is shown to compare the sample (participants) and the control group (nonparticipants) for student satisfaction with the university, retention from first to second semester, retention for the entire first year, GPA for the first semester, GPA for the second semester, cumulative GPA for the first year, credits earned, credits attempted, and the ratio of credits attempted versus earned.

Data Collection

Archival data were collected on students who participated in the PREP bridge program from 2016-2017. Data included student attendance from Fall 2016 to Fall 2017, thus providing data that measured student satisfaction, student retention for the first semester, student retention for the first year, GPA for the first semester, GPA for the second semester, cumulative GPA for the first year, amount of credits earned, amount of credits attempted, and ratio of credits attempted versus earned. Of the 43 students who participated in the experimental group, 39 were included in the data. While 35 elected to not participate, all 35 were included in the data for the control group. The four removed from the experimental group were removed based on transfer credits that altered the ratio, as well as because they were not true first-semester freshmen. Retention to the second year was calculated after the add/drop period in October 2017. First-to-second-year

retention, GPA, and credits attempted versus earned ratios were determined based on the transcripts provided by the Office of Academic Affairs as approved by the provost and president of the university. Student satisfaction data were provided by the director of the first year experience.

The experimental group was composed of 39 students. Of those 39, 23 were Caucasian (59%), 12 were African American (31%), three were Latino (8%), and one was biracial (2%). Within this same sample of first-generation participants, the sample had 19 males (49%) and 20 females (51%), with no transgendered individuals. The control group consisted of 17 Caucasians (49%), 14 African Americans (40%), three Latinos (9%), and one biracial individual (2%). The control group had 22 males (63%) and 13 females (37%), with no transgendered individuals.

When comparing the sample of participants with the Fact Book (2017), the entering class was 56% Caucasian, 28% African American, 5% Latino, 8% biracial, and 3% unknown. The entering class was also 50.29% female, 49.7% male, and .01% transgendered. This indicates that both the experimental group and the control group were proportional to the larger population of all entering freshmen from the 2016-2017 class.

Results

When comparing the two samples, race and gender needed to be tested to ascertain whether there was a significant difference between the participants and nonparticipants. In the data set, Caucasians were given the value of 0, African Americans

were given the value of 1, Latinos were given the value of 2, and individuals grouped as "Other" were given the value of 3. Noted in Table 1, the mean for participants was .54, while the mean for nonparticipants was .66. The *p*-value for variance in race was .972, which supports that the difference in race between groups was not significant.

Table 1

Results of t Test and Descriptive Statistics for Race by Participants and Nonparticipants

	Participants			Nonparticipants					
	M	*SD*	*n*	*M*	*SD*	*n*	*p*	*t*	*df*
Race	.54	.76	39	.66	.77	35	.972	.671	72

Similarly, the two groups needed to be compared based on gender. Males were given the value of 0 while females were given the value of 1. According to Table 2, the mean for participants was .51 while the mean for nonparticipants was .37. The *p*-value for variance in gender was .111, which proved that the difference in gender between participants and nonparticipants was not significant. Based on Tables 1 and 2, the difference of race and gender between the two groups was not enough to be significant.

Table 2

Results of t Test and Descriptive Statistics for Gender by Participants and Nonparticipants

	Participants			Non-Participants					
	M	*SD*	*n*	*M*	*SD*	*n*	*p*	*t*	*df*
Gender	.51	.51	39	.37	.49	35	.111	1.2	72

Student Satisfaction

Because the participant and nonparticipant groups did not have significant differences in terms of race or gender, the two groups were compared on their response to the Noel-Levitz (2016) SSI. The entire survey added up to a total of 315 points, so the response total was divided by 315 to obtain a percentage of satisfaction. The participants had an average satisfaction of 258.4 (82%), and the nonparticipant group had an average of 229.2 (72.8%). Table 3 indicates a *t* value of 2.54. The *t* test resulted in a *p*-value of .014, which is statistically significant. Therefore, the alternative hypothesis for the first research question could be accepted, which stated that there was a significant difference in satisfaction with the university between PREP participants and those who qualified for the program but did not attend.

Table 3

Results of t Test and Descriptive Statistics for Satisfaction by Participants and Nonparticipants

	Participants			Nonparticipants					
	M	*SD*	*n*	*M*	*SD*	*n*	*p*	*t*	*df*
Satisfaction	258.4	45.5	39	229.7	46.6	35	.014	2.54*	72

* $p < .05$.

Retention

The participant and nonparticipant groups were compared for retention from Fall 2016 to Spring 2017 and from Fall 2016 to Fall 2017. Those retained received a value of 1, while those not retained received a value of 0. According to Table 4, the mean retention for Fall 2016 to Spring 2017 for participants was .97, while the mean for nonparticipants was .74. The *p*-value of .003 for these two populations is statistically significant. The alternative hypothesis for Research Question 2 stating that there was significant difference in GPA between PREP participants and those who qualified for the program but did not attend must be accepted due to this test finding that participants had significantly higher retention from Fall 2016 to Spring 2017.

Table 4

Results of t Test and Descriptive Statistics for Retention by Participants and Nonparticipants

	Participants			Nonparticipants					
	M	*SD*	*n*	*M*	*SD*	*n*	*p*	*t*	*df*
Retention Fall 2016 to Spring 2017	.97	.16	39	.74	.443	35	.003	3.0*	72

* $p < .05$.

Because retention for one semester proved to be statistically significant between the participants and nonparticipants, retention from Fall 2016 to Fall 2017 was compared using a *t* test. Those retained were given the value of 1, and those not retained were given the value of 0. According to Table 5, the mean for participants was .85, while the mean for nonparticipants was .49. The *t* test proved a *p*-value of .001 for the groups, so the difference between these two groups was statistically significant. This means that the alternative hypothesis for Research Question 2 was also accepted for this academic term, which stated that there was a significant difference in first-year retention between PREP participants and those who qualified for the program but did not attend.

Table 5

Results of t Test and Descriptive Statistics for Retention by Participants and Nonparticipants

	Participants			Nonparticipants					
	M	*SD*	*n*	*M*	*SD*	*n*	*p*	*t*	*df*
Retention Fall 2016 to Fall 2017	.85	.366	39	.49	.51	35	.001	3.5*	72

* $p < .05$.

Grade Point Average

While the participant group was retained at a higher rate than the nonparticipant group, GPA for the two groups was also compared. Table 6 shows that the average GPA for the participant group for Fall 2016 was 2.76, while the average GPA for the nonparticipant group in Fall 2016 was 1.76. Those who were not retained were given the GPA value of 0.0. The *t* test showed a *p*-value of .000, which proved that the difference between the average GPAs was statistically significant. Participants in the summer bridge program had a significantly higher GPA than those who elected to not participate in the program. This means that the alternative hypothesis for Research Question 3 was accepted for the first semester. The alternative hypothesis stated that there was a significant difference in GPA between PREP participants and those who qualified but did not attend.

Table 6

Results of t Test and Descriptive Statistics for GPA by Participants and Nonparticipants

	Participants			Nonparticipants					
	M	*SD*	*n*	*M*	*SD*	*n*	*p*	*t*	*df*
GPA Fall 2016	2.76	.902	39	1.76	1.1	35	.000	4.2*	72

* $p < .05$.

The GPAs of participants and nonparticipants were then compared for Spring 2017. Table 7 shows that the average GPA for the experimental group was 2.62, while the average for the control group was 1.50. Those who were not retained were given a value of 0.0 for semester GPA. The *t* test resulted in a *p*-value of .000, which means that the difference between the two averages was statistically significant. The average GPA in Spring 2016 was statistically significantly higher for the participants than for the nonparticipant group. This means that the alternative hypothesis for Research Question 3 was accepted for this academic term, which stated that there was a significant difference in GPA between PREP participants and those who qualified but did not attend.

Table 7

Results of t Test and Descriptive Statistics for GPA by Participants and Nonparticipants

	Participants			Nonparticipants					
	M	*SD*	*n*	*M*	*SD*	*n*	*p*	*t*	*df*
GPA Spring 2017	2.62	.1.01	39	1.5	1.25	35	.000	4.2*	72

* $p < .05$.

While the single-semester GPAs were significantly different between the participants and nonparticipants, the cumulative GPA was also compared for Fall 2016 through Fall 2017. According to Table 8, the cumulative GPA for the participant group for Fall 2016 through Fall 2017 was 2.73, while the cumulative GPA for the nonparticipant group during the same time was 1.70. Individuals in both groups who did not complete a single semester were given a value of 0.0 for cumulative GPA due to no courses being completed. The *t* test resulted in a *p*-value of .000. This proved that the two groups' cumulative GPAs were significantly different. Those who participated in the summer bridge program had statistically significant higher GPAs than those who elected to not participate, so the alternative hypothesis for Research Question 3 was accepted for the entire 2016-2017 academic year. This hypothesis stated that there was a significant difference in first-year GPA between PREP participants and those who qualified but did not attend.

Table 8

Results of t Test and Descriptive Statistics for GPA by Participants and Nonparticipants

	Participants			Nonparticipants					
	M	*SD*	*n*	*M*	*SD*	*n*	*p*	*t*	*df*
GPA Fall 2016 to Fall 2017	2.73	.88	39	1.7	1.06	35	.000	4.51*	72

* $p < .05$.

Credits Earned Versus Attempted

Regarding degree completion on time, the amount of credits earned versus the amount of credits attempted is critical due to the limit of financial aid allowed to be dispersed for an undergraduate student. Table 9 shows that the amount of credits attempted during the 2016-2017 year for program participants averaged to 32.3 credits, while the amount of credits attempted for the nonparticipant group during the same period was 26.9 credits. Those attempting zero credits were given a value of 0.0. The *t* test resulted in a *p*-value of .000, which means that the difference between the two averages is statistically significant. The experimental group attempted a statistically significant higher amount of credits than the control group.

Table 9

Results of t Test and Descriptive Statistics for Credits Attempted by Participants and Nonparticipants

	Participants			Nonparticipants					
	M	*SD*	*n*	*M*	*SD*	*n*	*p*	*t*	*df*
Credits attempted	32.3	4.3	39	26.9	6.6	35	.000	4.2*	72

* $p < .05$.

According to Table 10, the amount of credits earned for the participant group from Fall 2016 to Fall 2017 averaged 31.5 credits while the amount of credits earned for the nonparticipant group averaged 22.3 credits. Those earning zero credits were given the

value of 0.0. The *t* test resulted in a *p*-value of .000. This proved the credits earned by the participant group was statistically different than the nonparticipant group. Those who participated in the summer bridge program earned statistically significant more credits in a year than those who did not participate in the program.

Table 10

Results of t Test and Descriptive Statistics for Credits Earned by Participants and Nonparticipants

	Participants			Nonparticipants					
	M	*SD*	*n*	*M*	*SD*	*n*	*p*	*t*	*df*
Credits earned	31.5	7.6	39	22.3	12.2	35	.000	3.9*	72

* $p < .05$.

The ratio of credits earned versus attempted was then compared for the participant and nonparticipant groups for Fall 2016 through Fall 2017. Table 11 shows when placing the amount of credits earned over the amount of credits attempted, the average ratio for the participants was .97 while the average ratio for the nonparticipants was .78. The *t* test resulted in a *p*-value of .006, which is statistically significant. The participants had a statistically significant amount of credits completed out of those attempted when compared to nonparticipants. Therefore, the alternative hypothesis must be accepted for Research Question 4, which stated there was significant difference in first year ratio of credits attempted versus earned between PREP participants and those who qualified, but did not attend.

Table 11

Results of t Test and Descriptive Statistics for Credit Ratio by Participants and Nonparticipants

	Participants			Nonparticipants					
	M	*SD*	*n*	*M*	*SD*	*n*	*p*	*t*	*df*
Earned/attempted ratio	.97	.221	39	.78	.345	35	.006	2.9*	72

* $p < .05$.

Summary

By using *t* tests to determine if there were statistically significant differences between the participants and nonparticipants, the alternative hypotheses were accepted for all research questions. The first research question asked if there was a difference in first year satisfaction with the university between PREP participants and those who qualified, but did not attend. The alternate hypothesis stated there was significant difference in satisfaction with the university between PREP participants and those who qualified, but did not attend. This alternative hypothesis was accepted due to a *t* test resulting in a *p*-value of .014

The second research question asked if there was a difference in first year retention between PREP participants and those who qualified, but did not attend. The alternate hypothesis stated there was significant difference in first year retention between PREP participants and those who qualified, but did not attend. This alternative hypothesis was accepted due to a *t* test resulting in a *p*-value of .001

The third research question asked if there was a difference in first year GPA between PREP participants and those who qualified, but did not attend. The alternate hypothesis stated there was significant difference in first year GPA between PREP participants and those who qualified, but did not attend. This alternative hypothesis was accepted due to a *t* test resulting in a *p*-value of .000.

The fourth research question asked if there was a difference in first year ratio of credits attempted versus earned between PREP participants and those who qualified, but did not attend. The alternative hypothesis stated there was significant difference in first year ratio of credits attempted versus earned between PREP participants and those who qualified, but did not attend. This alternative hypothesis was accepted due to a *t* test resulting in a *p*-value of .006. For the alternative hypothesis to be accepted for any research question, the *p*-value would need to be less than .05 for the *t* test.

Chapter five will look further into how this data relates to the theoretical framework of Seidman (2012), discuss any limitations of this study, as well as make recommendations for the future. With the alternative hypothesis being accepted in all four research questions and proving the statistical difference between the experimental group of first-generation students participating in the bridge program and the control group of first-generation students who elected to not participate, more universities will see the value of early intervention programs and services.

Chapter 5: Findings

Introduction

The PREP provides an early intervention program for first-generation college students. The PREP is based on the assumption that Retention = Early Identification + Early, Intensive, and Continuous Intervention (Seidman, 2012). The purpose of this study was to determine whether this early intervention program created a statistically significant difference in student satisfaction with the university, retention from Fall 2016 term to Fall 2017 term, GPA, and credits attempted versus credits earned between first-generation college students who participated in PREP and those who did not participate.

This study was conducted because there is a disparity between the graduation rates of first-generation college students and those of their non-first-generation peers. Specifically, the 6-year graduation rate for first-generation college students is 39%, whereas the 6-year graduation rate for non-first-generation college students is 57.5% (NCES, 2011).

There is limited research on private nonprofit universities regarding first-generation college students (Padgett et al., 2012). This study is of importance due to its focus on first-generation college students in a rural private 4-year university. Equally important, this study looked at credits earned versus attempted, which indicates whether students are making satisfactory academic progress toward degree completion on time.

The study found that the PREP early intervention program for first-generation students, following the Seidman formula of Retention = Early Identification + Early,

Intensive, and Continuous Intervention, created a statistically significant difference between participants and nonparticipants. Using the Noel Levitz (2012) SSI, this study showed that there was a statistical significance at $p < .05$ for student satisfaction with the university. Additionally, retention from Fall 2016 to Spring 2017 and retention from Fall 2016 to Fall 2017 showed a statistically significant difference, as did GPA for Fall 2016, GPA for Spring 2017, and cumulative GPA for Fall 2016 to Fall 2017. Additionally, the amount of credits attempted, amount of credits earned, and ratio of credits earned versus attempted also showed a significant difference.

Interpretation of the Findings

This study concluded that the PREP created a statistically significant difference between participants and nonparticipants in regard to student satisfaction using the Noel Levitz (2012) SSI. Although satisfaction rates have not been well researched in participants versus nonparticipants of first-generation programs, Schreiner and Nelson (2013) noted that 35% of students leave an institution due to not being satisfied. A study conducted by Martin, Goldwasser, and Galentino (2017) showed a correlation between satisfaction and retention for first-generation college students. This study supports those findings.

In this study, 85% of participants and 49% of nonparticipants were retained to their sophomore year. Kallison and Stader (2012) studied eight bridge programs for first-generation college students and found a higher rate of retention between participants and nonparticipants from the first to second semester. Their study emphasized the importance

of students making a connection with faculty, staff, and the institution throughout the program, which leads to retention. Tinto (2012) also found a higher rate of retention for the entire first year for participants in an early intervention program focused on completing developmental courses prior to the start of the freshman year. This study supports the findings of these researchers, in that there was statistical significance ($p <$ .01) between first-generation participants (85%) and nonparticipants (49%) for retention for the first semester as well as retention to the sophomore year.

In this study, participants had an average 2.76 GPA, whereas nonparticipants had an average GPA of 1.76 during their first term (Fall 2016). The average cumulative GPA from Fall 2016 to Fall 2017 for participants was 2.73, whereas the average for nonparticipants was 1.7. Covobarius, Gallimore, and Okagaki (2016) studied students for expectations of college prior to the first day of class. Their research demonstrated a higher GPA average of 2.79, as well as a higher number of students on the dean's list—25%—for first-generation participants versus nonparticipants, with the latter group earning an average GPA of 2.30. Evans (2014) looked at first-generation bridge program participants versus nonparticipants and found a statistically significant difference for first-term GPA. Participants had an average first-semester GPA of 2.85, whereas nonparticipants had an average of 2.54. Evans also looked at cumulative GPA for the entire first year. Participants had an average of 2.63, whereas nonparticipants had an average of 2.54. This study supports this finding, as statistical significance was found for not only first-term GPA, but also cumulative GPA for the entire first year.

In this study, PREP participants completed an average of 31.5 credits, while nonparticipants completed an average of 22.3 credits for Fall 2016 to Fall 2017. Wathington, Prelow, and Barnett (2013) discussed the importance of early intervention programs for course completion. Their study looked at nine programs over 2 years (1,318 students) and discovered that participants were more likely to complete a course, which increased overall persistence at the universities studied. In the first math class, 32% of participants passed, while 28% of nonparticipants passed ($p < .05$). This study supports their findings, in that I found a statistical difference between credits earned by participants versus nonparticipants.

This study extends the knowledge of first-generation college students by specifically comparing participants and nonparticipants of an early intervention program at a private university. Unlike other studies, this research was conducted at a small private university, but it investigated satisfaction between the two groups as well as the ratio of credits earned versus attempted. For satisfaction, amount of credits attempted, amount of credits earned, and ratio of credits earned versus attempted, there was statistical significance between the two groups ($p < .05$).

The PREP early intervention program followed the Seidman (2012) retention model and formula as its theoretical framework. The formula is as follows: R= Early ID + (E+IN+C) IV. This stands for Retention = Early Identification + Early, Intensive, and Continuous Intervention. Students were identified as soon as they submitted an application indicating first-generation college student status, and participants were

assigned to an early, intensive, and continuous intervention program prior to starting their freshman year. While this was offered to all first-generation students, those who elected to participate were compared to those who did not participate. In this study, there was a statistically significant difference in retention from Fall 2016 to Spring 2017 as well as from Fall 2016 to Fall 2017. This study supports the Seidman retention model and formula for retention.

Limitations of the Study

This study was conducted at a small private nonprofit university in the rural Southeast, so the results cannot be generalized to all types of institutions. Participation in the bridge program was not mandatory, so those electing to be in the PREP program self-selected and may have had different academic abilities than those who did not participate. It is unknown whether the two groups were equal in their application data points, test scores, types of high schools, or class rank that may have contributed to differences.

Additionally, the student must have identified truthfully as a first-generation college student on the admissions application and on the Noel-Levitz (2012) satisfaction inventory. Finally, the satisfaction inventory was given through a first-year experience course rather than through the PREP program, and total satisfaction results were given to me. It would have been interesting to see if there were differences in each of the 56 questions in the survey.

Recommendations

The Seidman (2012) retention model and formula were used to create an early intervention program at a private university, with significant results. All results of this study show statistically significant results. College administrators should consider using this model and formula when developing programs and services for students. In addition, future studies should investigate other private universities with similar programs for comparison. Future studies should also look at first-generation participants versus nonparticipants from the first day of class through graduation to determine if satisfaction, retention, GPA, and/or credits earned versus attempted remain statistically significantly different.

To address the limitations of this study, future research should be done with larger samples. When using the Noel Levitz (2012) satisfaction inventory, data for each question should be investigated to determine if a certain area of satisfaction is statistically significant. Additionally, this study looked at the areas of satisfaction, retention, GPA, and credits earned versus attempted for only the 2016-2017 year without comparable data. Additionally, credits earned versus attempted is a critical piece of retention to determine if students are making satisfactory academic progress towards a degree for the purpose of maintaining financial aid. It is imperative for researchers conducting future studies to include this aspect when looking at retention to compare populations within a university and between multiple universities. Finally, researchers should look at the same

program over several years to determine if the data remain statistically significant for the first year for several years.

Implications

I researched first-generation college students at a small private university in rural North Carolina. Comparison of participants in the PREP early intervention program and first-generation nonparticipants indicated statistically significant differences in the areas of satisfaction, retention, GPA, and credits earned versus attempted. For the 39 participants, the program had an impact for individual social change. When participants became more satisfied and made satisfactory academic progress towards a degree, there was also the potential for social change within each participant's family. This early intervention program helped students become prepared for the college experience and gave them, as well as their parents, contact points with the university.

At an organizational level, this program kept participants satisfied, enrolled in the university, earning higher GPAs, and moving toward degree completion. From a financial perspective, this particular program has a high return on investment, which is important for private universities. At an institution with a mission statement geared toward lifelong learning and graduates contributing to society, this program helps to fulfill that mission. With such positive data, this study also provides further research to support this program's existence as well as its replication at other small private universities.

By using a theoretical framework geared toward students, this private nonprofit university was able to increase its retention rate. This, along with the improved

satisfaction rates among participants, should lead future institutions to use this formula as a means to retain students. With early identification and an intervention that is early, intensive, and continuous, colleges and universities would be able to make significant positive social change for all attendees.

Within higher education, the practice of using satisfaction surveys and using them to guide the practices of the institution is rare. This study further validates the importance of determining whether a program contributes to the satisfaction of students, leading to retention. Similar studies should be done for other programs, which would help to guide practices on campus to meet the needs of students. If this practice were applied across the organization, there would be a greater impact toward positive social change within the organization, the community, and society.

Conclusion

With first-generation college students not graduating at the same rate as their non-first-generation peers and a lack of research on this population in private institutions, this study shed light on the effectiveness of early intervention programs. By following the Seidman (2012) model, this study not only increased retention, but also made a statistically significant difference in student satisfaction, GPA for the first term, GPA for the second term, cumulative GPA, amount of credits attempted, amount of credits earned, and ratio of credits earned versus attempted for participants. This program positively impacted the success of these students and assisted them in attaining their goals while making progress toward degree completion. With more students graduating and

contributing to society, this study made positive social change a reality for program participants.

While future studies should look at the same program over several years and in comparison to similar institutions, this study investigated areas where research was weak. As institutions plan to move forward with early intervention programs, it is imperative to identify students early based on application documents and ensure that the intervention is early, intensive, and continuous. Results from satisfaction surveys and the progress of the participants should shape how institutions move forward in order to make the greatest impact for success. Practitioners working within the field of higher education with populations such as first-generation college students have to meet students where they are at the time of enrollment and prepare them for the road ahead. Without these tools, the institution is simply setting students up to fail and to become one of the many students who not make it to graduation day.

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