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TRIO program: How community college TRIO participation can enhance academic success for university transfer students

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TRIO program: How community college TRIO participation can enhance academic success for
university transfer students

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A Dissertation
Submitted to the Faculty of
Mississippi State University
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy
in Community College Leadership
in the Department of Educational Leadership

Mississippi State, Mississippi

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Title of Study: TRIO program: How community college TRIO participation can enhance academic success for university transfer students

Pages in Study 82

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The purpose of the current study was to determine if participation in a TRIO program at the community college would lead to academic success for transfer students at the 4-year university. Specifically, the researcher collected data for students who participated in a TRIO program at a community college from 2010-2020 to see if they had higher rates of graduation, higher rates of enrollment and completion, and higher GPAs as compared to similar students who were not involved in TRIO at a community college. The independent variables were TRIO participation, gender, first-generation status, Pell status, transfer GPA, and transfer credit hours earned. A total of 2193 transfer students from two community colleges in the southeastern region of the United States were included in this study. There were 77 transfer students who were involved in a TRIO program at a community college and 2116 transfer students who were not involved in a TRIO program. There were 8 students who were involved in a TRIO program at both institutions.

A binary logistic regression was run to determine how TRIO participation affected graduation, enrollment and completion, and GPA for transfer students at the 4-year university. Transfer TRIO participation, gender, and Pell status were not significant predictors of

graduation. First-generation status, although research has shown that continuing-generation students graduate at higher rates than first-generation students, was significant in terms of graduation for transfer students. Transfer GPA, and transfer credit hours earned were also found to be significant predictors of graduation for transfer students at the 4-year university. Transfer TRIO participation and Pell status were not significant predictors of enrollment and completion. Gender, in terms of females when compared to males, was a significant factor for whether a student was still enrolled or completed their degree. First-generation status, transfer GPA, and transfer credit hours earned were also significant predictors of enrollment and completion. Transfer TRIO participation, gender, Pell status, and first-generation status were found to be significant for GPA.

DEDICATION

This dissertation is dedicated to a number of people in my life. First and foremost, it is dedicated to my parents Mike White and Betsy Storms. My mother has, in particular, for lack of better words, worried me to death about finishing my dissertation. There were times when I never thought I would, but encouragement from my family and friends helped me to reach the final stages of this journey. To my children Avery and Sam, whom I promised I would get a dog when I finished my Ph. D., thank you for sacrificing time while I was working on this, but all y'all care about is the dog, I am sure. Finally, this is dedicated to Dr. Stephanie King. I could have never done this without your understanding and patience.

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INTRODUCTION

CHAPTER I **Background**

One of the main areas of focus at institutions of higher education, including 4-year universities and community colleges, is increasing student enrollment and increasing retention and graduation rates. According to Sanford and Hunter (2011), enrollment is increasing across the nation at universities and community colleges. According to the National Center for Education Statistics (2020), in fall 2018, total enrollment in degree-seeking postsecondary colleges and universities increased by 26% from the year 2000. Many institutions rely heavily on student enrollment and retention for funding, so it makes sense that administrators at these institutions focus highly on ways to increase enrollment and retention, which, in turn, will likely increase graduation rates. State and local funding was 81 billion dollars in 1992, compared to 94 billion in 2017, and increase in 17%. However, in terms of the increase in college and university enrollment, appropriations per student have decreased by 8% (Tandberg & Laderman, 2018). Many state appropriations allocated to educational institutions are moving away from enrollment-based funding to performance-based funding, meaning that fund allocation is based on outcomes in the areas of retention and graduation rates, rather than solely based on enrollment (Sanford & Hunter, 2011). In many universities and community colleges, enrollment is not the issue; the issue is retaining students from semester to semester and keeping them moving forward toward completion of their degree. One of the main populations that college

administrators need to focus their attention on for retention and graduation rates is first-generation college students (Frogge & Woods, 2018).

First-Generation Students

A first-generation student is a student whose parents have not received a 4-year college degree. Many of the parents of first-generation students may have attended a college at some point, or even received an associate degree from a community college, but never completed a degree at a 4-year institution. Various research studies, including Pelco et al. (2014), Riehl (1994), and York-Anderson and Bowman (1991), have found that first-generation students have a hard time succeeding in college, mainly because many of these students enroll at universities and community colleges unprepared emotionally and academically. Choy (2001) found that first-generation students are twice as likely to drop out of college during their second year. Engle and Tinto (2008) also found that lower income first-generation students are four times as likely to drop out of college after their first year. The number of first-generation students entering universities and community colleges in the United States is on the rise. First-generation students comprise around 21% of the population of college students (Pryor et al., 2010), and Engle and Tinto (2008) found that approximately 11% of first-generation college students complete their bachelor's degree within six years compared to 55% of non-first-generation students. In a more recent study, Ives and Castillo-Montoya (2020) found that first-generation students are statistically more likely to be lower socioeconomic status, racially minoritized identities, and nonnative English speakers, which can lead to negative outcomes in performance in college. Additionally, first-generation students often come from rural areas and attend lower resourced K-12 schools, which will lead to a greater need for financial and academic assistance while in college.

Motivation and self-efficacy are strong contributors to success in the college setting (Frogge & Woods, 2018). Parents are a strong force that aids in the development of motivation and self-efficacy in college students. Students whose parents did go to college and obtained their degree are more likely to have the tools to help motivate and build self-efficacy in their children so that when they enroll in a university or community college, they feel confident in their ability to succeed. On the other hand, many first-generation students do not possess this social force to aid in their motivation and self-efficacy. Bandura (1996) found that first-generation students have significantly lower levels of self-efficacy and motivation than their counterparts have. Mehta et al. (2011), in their research on first-generation students, discovered that first-generation students are less likely to live in college residence halls and are less likely to develop meaningful relationships with faculty and administrators at their chosen institution. These researchers also learned that first-generation students feel that faculty members are not concerned about their academic development. Terenzini et al. (1996) found that many first-generation students have off-campus jobs and have to work more hours in order to pay for their expenses, making acclimation to college more difficult, which can negatively affect the student's ability to study outside of class, which in turn can have a negative effect on GPA and enrollment status. Mehta et al. (2011) also learned that first-generation students are less likely to participate in workshops or be involved in academic clubs or organizations and have more difficulty adjusting to the college culture.

Tinto's Student Integration Model

Tinto's Student Integration Model (1975) defines elements that forecast persistence and performance of university students, including low-income and first-generation students. In Tinto's Model (1975), he predicts that individual characteristics, such as pre-university

experience and first-generation status, can influence student attrition, and these individual characteristics influence the degree to which students are incorporated into the culture of the college. These individual characteristics, which set the stage for commitment to degree completion, start to interact with the college culture once students arrive on campus. In Tinto's Model (1975), there are two main components of integration into the college culture: academic integration and social integration. Academic integration includes student and faculty interactions on class material, use of campus tutoring services, research opportunities, etc. Social integration includes student peer relationships, student organization participation, faculty/staff mentorships, etc. Intervention efforts for first-generation students by institutions must emphasize academic integration and social integration for this population of students in order for them to stay in school and matriculate toward degree completion (Tinto, 2004).

There are several criticisms of Tinto's Student Integration Model (1975). Tierney (1992) felt that Tinto's Model did not individualize the results from specific data, that he only generalized his findings, as well as he only focused on traditional-age college students. Tierney (1992) also pointed out that Tinto's use of Van Gennep's (1960) rites of passage theory was misinterpreted and could potentially cause harmful consequences for underrepresented students. He also felt that Tinto's Model was too broad in that his view of social integration did not address specific examples related to the non-traditional and cultural aspects of higher education institutions (Metz, 2004).

Tinto's theory of student retention (Tinto, 1975) has mostly been used to study a student's first year of college, whether at the community college level or at the 4-year university. It makes sense that Tinto's theory has primarily been used to analyze the first year of college since student attrition is greatest during the first year (Townsend & Wilson, 2009). However,

little research has been conducted on long-term persistence for students after they transfer from the community college to a 4-year university.

Academic Integration

Academic integration is extremely important for first-generation students. First-generation students are less likely to take college credit classes in high school and have lower average scores on critical thinking assessments, as well as standardized test requirements for college entry such as the ACT or SAT (Balemian & Feng, 2013). When first-generation students enter college, many of them are more likely to enroll in remedial coursework. This student population shows to be less confident in their academic abilities compared to non-first-generation students and are less likely to ask for help from their professors (Jenkins et al., 2009). Stebleton and Soria (2012) contend that first-generation students have lower grade point averages (GPAs) than their counterparts, and self-report weakness in the area of math. Dika and D'Amico (2016) assess that first-generation students must overcome academic hurdles because first-semester GPA and self-reported confidence in academics, specifically mathematics, are predictors of educational persistence in this population. Laanan et al. (2010) found that community colleges played a vital role in the academic success for first-generation college students and became a gateway toward their degree at a 4-year university. The researcher cited the low cost and flexible scheduling of community colleges as well as being closer to home and having smaller class sizes. Additionally, students could have more meaningful relationships with faculty because faculty focused more on teaching rather than research (Laanan et al., 2010).

Social Integration

Along with institutional efforts to increase academic integration for first-generation students, institutions must also increase efforts on social integration for this disadvantaged population. Stebleton et al. (2014) revealed that first-generation students have difficulty navigating the social environment of the college setting. Engle and Tinto (2008) stated that first-generation students are less likely to participate in college social functions and are less likely to interact with faculty. Jenkins et al. (2009) found that first-generation students would typically rely on their peer group for academic advice. Stebleton and Soria (2012) reported that first-generation students have less social support outlets than non-first-generation students since their parents often do not understand the culture of the college environment, and as a result, first-generation students are more likely to report being more depressed, upset, and stressed than their counterparts. Again, educational institutions need to put strong focus on academic and social integration regarding first-generation college students. All students face academic and social pressures in college, but first-generation students are less likely to have anyone to turn to for support, and the pressure they face can become too overwhelming, often leading to these students dropping out of school (Katreovich & Aruguete, 2017). McKinney et al. (2015) found that the community college was a helpful first-step for first-generation students entering higher education due to the convenience and open-access aspects of the community college. The researchers went on to note that once the first-generation student earned their associate's degree, it built a confidence that they were one step closer to earning their bachelor's degree at the 4-year university.

TRIO Program

There are various educational programs to help disadvantaged or at-risk students prepare for college. This research focused on TRIO programs. TRIO programs started in 1964. President Lyndon Johnson signed the Educational Opportunity Act into law, which paved the way for TRIO programs to help at-risk students prepare for college and guide them toward completion of a college degree (Graham, 2011). TRIO programs include Talent Search, Educational Opportunity Centers, Upward Bound, and Student Support Services. These TRIO programs help disadvantaged students get into undergraduate colleges and universities. There is also the Ronald E. McNair Post-baccalaureate program, better known as the McNair program, which prepares underrepresented students, particularly first-generation students, for graduate-level education (McElroy & Armesto, 1998).

LaKresha Graham is an Assistant Professor of Communication at Rockhurst University. Dr. Graham's research includes social class, gender, and intercultural communication in connection to race. Dr. Graham wrote an article reflecting on her experience in participating in TRIO programs. The opportunity presented by TRIO programs guided her to enroll in college and helped her along the way toward completion of her degree. Dr. Graham is a first-generation student and during her senior year in high school, she participated in the Upward Bound College Prep program. This type of TRIO program helps underrepresented students prepare for college through intensive on-campus classes and experiences. According to Graham (2011), this program is somewhat like a Summer Bridge program, which helps at-risk students through a 2- to 4-week intensive summer program where students live in the residence halls, enroll in college classes (particularly English and math), learn about helpful services offered by the college, and develop time-management and organizational strategies. The Upward Bound College Prep

program allowed Dr. Graham to enroll in college prep courses in English, science, and math at Saint Louis University during her senior year of high school. This program offered tutoring services to help Dr. Graham learn the material and keep up her high school GPA. There was also a summer component of the program in which she took classes and lived in the residence hall. Dr. Graham was exposed to people from various backgrounds and was able to participate in many activities offered by the college. Participating in the Upward Bound Prep program allowed Dr. Graham to prepare for what college was going to be like so that when she enrolled in Saint Louis University as a freshman, she knew exactly what to expect. She knew how the college coursework was going to be, and she knew how much time she needed to dedicate to studying in order to maintain a good GPA. The experience of participating in this TRIO program carried Dr. Graham through her undergraduate degree, and the McNair program offered through TRIO prepared her for success in a master's degree and a doctorate degree. Dr. Graham's experience with TRIO programs is just one example of how TRIO can help first-generation students stay in college and obtain their degree (Graham, 2011).

TRIO programs are an example of a positive resource available to educators in preparing underrepresented populations for postsecondary education. Pitre and Pitre (2009) noted that for school leaders and educators, TRIO programs are basically a cost-free resource to support first-generation and low-income students' college preparedness and readiness. The researchers went on to say that TRIO programs are considered college transition programs designed to bridge the gap between high school and college whether a student is entering the community college or a 4-year university. TRIO programs are designed to increase college enrollment for students from disadvantaged backgrounds (Pitre & Pitre, 2009).

Statement of the Problem

Various researchers have focused on experiences first-generation students have prior to entering college and how these experiences differ from continuing-generation students, specifically in terms of their decision to go to college and their goals for attending college. Colleges and universities have tried many ways to improve the success for first-generation and underrepresented minorities, such as a first-year college experience course, programs implemented in order to provide underrepresented students with more direct contact with faculty and mentoring opportunities, and federally funded TRIO programs that provide assistance in advising, financial literacy, mentoring, and emotional support (Kezar & Kitchen, 2019). Despite these efforts, colleges and universities have made small progress in transition, retention, and academic success for first-generation and underrepresented students. Saenz and Barrera (2007) found that first-generation students do not receive as much support from family and friends about the decision to attend college as do continuing-generation students and that the parents of these disadvantage students had low expectations about degree completion, which could possibly be linked to higher attrition rates. In contrast, Fischer (2007) reported that both first-generation students and continuing-generation students say that support from family and high school counselors are influential factors for their decision to attend postsecondary institutions.

Another background element researched for first-generation students was academic factors, specifically preparation, motivation, and self-efficacy and how those factors affect students' academic performance (Woosley & Shepler, 2012). Prior research, such as Riehl (1994), has found that first-generation students have lower grade expectations than do continuing-generation students and have less degree aspirations. Duggan (2001) found that lower grade expectations of first-generation students come from their uncertainty about their academic

skills. Prospero (2007) has suggested that first-generation students are less internally motivated than are continuing-generation students, although in previous research, Naumann et al. (2003) found that students who believe that they can achieve academically were more likely to get involved in learning strategies that can lead to academic achievement. Engle et al. (2006) noted that first-generation students feel overwhelmed and have a sense of self-doubt for the work it takes to achieve a bachelor's degree due to their less-than-demanding high school curricula.

The third first-generation student background experience researched was social concerns. Cushman (2007) found that first-generation students feel like they are on the outside looking in when compared to continuing-generation students and that their social environment experience can have a significant impact on these at-risk students' ability to obtain support, integrate socially, and achieve academically at the college. In addition, Fischer (2007) suggested that first-generation students, when compared to continuing-generation students, have lower social integration, are less involved in student activities, and have fewer out-of-classroom social interactions. Saenz and Barrera (2007) reported that first-generation students expected to live off-campus rather than on-campus during their freshman year, although in previous research, Pascarella et al. (2004) found that first-generation students have more positive academic outcomes when they are more integrated into the campus culture.

Purpose of the Study

A first-generation student, defined as a student who comes to college with neither of his or her parents having a college degree, comes to college with many disadvantages when compared to students whose parents did receive a college degree (Stebbleton & Soria, 2012). According to Frogge and Woods (2018), these students often have little support from their parents and relatives and have little resources for answers to questions they have about the

college process. Additionally, first-generation students often come from low-income households and have concerns about whether they can even afford to go to college. There are more and more first-generation students entering colleges and community colleges each year, and institutions of higher education must meet the challenge of providing the encouragement and support to meet these students' needs and help them achieve their ultimate dream of completing a college degree.

The purpose of this quantitative study was to determine if participation in a TRIO program at the community college helped first-generation community college transfer students succeed academically as measured by graduation, enrollment and completion, and GPA. The study took place at a large, public university located in the southeastern part of the United States and include existing data from 2010–2020. The data were housed at the university in its database system and were made available to the researcher. Statistical analysis included binary logistic regression. The software SPSS Version # 24 was used to conduct the analysis.

Tinto's (1993) Model of Student Retention was the theoretical framework of this research study. Tinto's model suggests that students enter college with a variety of attributes that influence college success. These attributes can include educational achievements, educational experiences, and family and community background, which contribute to academic and social integration. For first-generation students, academic integration and social integration work together and influence their commitment to their goal of degree completion or can lead to their decision to leave college. For this research study, it was expected that participation in TRIO would encourage and support first-generation students academically and socially, which would lead to college completion.

Research Questions

This study sought to answer the following research questions:

1. What effect does TRIO participation have on graduation at the 4-year university?
2. What effect does TRIO participation have in terms of enrollment and completion at the 4-year university?
3. What are the effects of TRIO participation on GPA for transfer students?

Definition of Key Terms

1. First-generation student – student with neither parent having a 4-year college degree (Frogge & Woods, 2018).
2. Continuing-generation student – student with at least one parent who has a 4-year college degree (Saenz & Barrera, 2007).
3. Retention – when a student continues or stays in school from semester to semester or year to year (Sanford & Hunter, 2011).
4. Transfer student – a student who starts at a community college or a different 4-year university and “transfers” to a different university (Smith et al., 2009).
5. TRIO participant – for purposes of this study, a student who participated in student support services at a community college. The student may or may not have participated in programs in high school or in other TRIO programs.

Overview of Method

The researched compared community college transfer students who participated in a TRIO program at the community college to transfer students who did not participate in a TRIO program at the community college from 2010-2020. To determine TRIO program participants and non-TRIO program participants, the data were obtained from the Office of Institutional Research and Effectiveness. Predictor variables used to determine what effect they have on

graduation, enrollment and completion, and GPA were TRIO status, gender, Pell status, first-generation status, transfer GPA, and transfer credit hours earned.

The outcomes noted in the research questions were collected using the university’s database system. Data were analyzed using the SPSS Version 24 software to determine if the TRIO program was beneficial to those who participated. Table 1 shows the data that were gathered and the methods of analyses that were used for this study.

Table 1

Research Questions and Method of Analysis

Research Question	Data	Method of Analysis
1. What effect does TRIO participation have on graduation at the 4-year university?	Student completed their degree	Binary Logistic Regression to assess if graduation is or is not dependent on TRIO participation
2. What effect does TRIO participation have in terms of enrollment and completion at the 4-year university?	Student is still enrolled or completed their degree	Binary Logistic Regression to assess if enrollment or completion is or is not dependent on TRIO participation
3. What effect does TRIO participation have on GPA for transfer students?	TRIO participation has an effect on GPA	Multiple Linear Regression to assess whether TRIO participation had a positive or negative effect on GPA

Delimitations of the Study

- The study only took place at one land-grant university in the southeastern part of the United States.

- The study only collected data from 2010-2020.
- Data were only collected from community college transfer students.
- The study only focused on TRIO participants and similar non-participants.
- Demographic data only included gender, Pell status, first-generation status, transfer GPA, and transfer credit-hours earned.
- This study only included TRIO participants' college graduation, enrollment or completion, and GPA in comparison to similar non-participants.

Significance of the Study

This study was significant for many reasons. According to Checkoway (2018), first-generation students are coming to universities and community colleges at a rapid rate, and these institutions must be prepared to support these students in their success. First-generation students are marginally prepared for college, have little support from family, have no one to turn to for answers, and must work more hours than continuing students in order to afford to be in college (Frogge & Woods, 2018). In addition, many first-generation students accrue debt through educational loans. TRIO programs at universities and community colleges provide positive encouragement and support systems for these students to help them achieve their ultimate goals.

This research study was significant because TRIO programs can support and encourage students who need it now more than ever and can get them through the academic and social hurdles they encounter in the college culture. Since the research results from this study showed positive results for GPA for community college transfer students based on participation in TRIO, universities and community colleges can use the results to strengthen their programs that serve

first-generation students and be a supportive influence in helping this disadvantaged group of students become productive citizens of society.

Organization of the Dissertation

This chapter provided insight into the struggles and challenges faced by first-generation students entering the college setting. Many first-generation students have pre-entry characteristics that have a negative effect on their motivation and self-efficacy. The theoretical framework for this study is Tinto's (1993) Student Retention Model. In Tinto's model, students enter college with certain ingrained characteristics, such as positive or negative educational experiences, supportive or non-supportive family and community backgrounds, etc. Many first-generation students are unprepared academically, which can make them feel that they do not fit in or belong in the college setting. First-generation students also have a hard time connecting or building relationships with faculty in order to get help. These students also have trouble blending in with the college culture (Woosley & Shepler, 2012).

The overall focus of this study is to examine the effect of TRIO participation for community college transfer students in order to see if TRIO participation leads to graduation, enrollment and completion, and positive GPA. The reason this study was important is because first-generation students comprise approximately 21% of the population of college students (Pryor et al., 2010), and approximately 11% of first-generation college students complete their bachelor's degree within six years compared to 55% of non-first-generation students (Engle & Tinto, 2008).

The dissertation is organized as follows. Chapter I provides an introduction and background for the study. Chapter II includes a review of the literature on first-generation students and barriers to their success. Chapter III discusses the general research method and

design of the study. Chapter IV present the results following the statistical analysis. Chapter V concludes the dissertation with a discussion of the findings and conclusions.

LITERATURE REVIEW

CHAPTER II **Introduction**

Low-income, first-generation college students face several challenges while enrolled in postsecondary education. According to Chechoway (2018), first-generation students face various challenges when entering the gates of higher education, including lower income levels, academic unpreparedness, low social capital, social inequality, cultural shock, guilt about leaving family, and self-doubt. Student success programs including TRIO are designed to help these students face these challenges. These programs have been shown to provide benefits including counseling, mentoring, success workshops, advising, financial aid instruction, money management, and, particularly, learning how to be successful in college (Graham, 2001). This review of the literature will include research about student success programs, with specific emphasis on the TRIO programs. It will also review research about academic achievement, student retention, and graduation, including barriers to graduation, contributing factors to graduation, graduation rates for at-risk students coming from the community college versus native students starting at a university, and demographic factors for first-generation/low-income students. Various academic databases were used in the search for relevant literature, with the primary search terms being “student success programs,” “TRIO,” “academic achievement,” “retention,” and “graduation.” The search was limited to research from the years 2000 to the present.

Student Success Programs

First-generation students face increased challenges when attending either a community college or a 4-year institution. Ramos-Sanchez and Nichols (2007) conducted a research project on the relationship between self-efficacy and academic performance and college adjustment and found that first-generation students experience difficulties prior to and during their college experience that can make them vulnerable to lower academic performance. There were 192 freshman participants involved in the study, with 64 first-generation students. The participants were given a survey at the beginning of the year, as well as a survey at the end of the semester, in order to determine how self-efficacy played a role in their success. They also learned that the parents of first-generation students who did not attend college were unable to give their children the guidance and mentoring needed in the college admissions process. In addition, they found that non-first-generation college students had a higher level of self-efficacy than did first-generation students, meaning that non-first-generation students had a more positive attitude and confidence level about their ability to perform academically in college (Ramos-Sanchez & Nichols, 2007).

There have been studies on the relationship between self-efficacy and academic outcomes for college students. Majer and Daley (2009) performed a longitudinal study to investigate the relationship between educational outcomes and self-efficacy for a diverse group of first-generation students enrolled in a community college. They compared baseline levels of self-efficacy for education and sociodemographic characteristics of first-generation students with educational outcomes at 4-month and 12-month follow-up intervals. For the purpose of their study, Majer and Daley (2009) hypothesized that levels of self-efficacy for education and sociodemographic characteristics would forecast educational outcomes for first-generation

students. Participants were 96 first-generation college students with an average age of 24.4 years old who were enrolled in an introductory undergraduate Psychology course at the community college. The Beliefs in Educational Success Test (BEST; Majer, 2006) was administered to the students at baseline and at the end of the semester to assess the student's self-efficacy, or confidence in their ability to effectively engage in behaviors related to higher education. The BEST is based on Bandura's (1997) cognitive behavioral self-efficacy theory that involves an individual's self-confidence that he or she can achieve a particular goal, with high scores related to higher levels of confidence. The participants were also given Scheier et al.'s (1994) revised Live Orientation Test (LOT-R) to test their tendency to expect an optimistic outcome in a given situation. The students were also given Pearlin and Schooler's (1978) Self-Mastery Scale in order to measure the student's level of self-mastery, which in turn, measures the student's control over life outcomes. The researchers found a positive relationship between levels of self-efficacy in the area of education and GPA at the end of the academic year, which suggests that a higher level of self-efficacy is influential in encouraging educational gains with a diverse group of first-generation college students. Their finding is also consistent with Chemers et al.'s (2001) research on self-efficacy that has shown increased academic performance among predominantly European American university students. The researchers in this study found that there were significant positive relationships between self-efficacy, optimism, and self-mastery in general, but only self-efficacy for education predicted higher GPAs.

Barriers to College Success

There are many barriers at-risk students, such as first-generation/low-income students, face in preparation for reaching their goal of degree completion. Many of these students are underprepared academically and have no one to turn to for answers to the questions they have

about college. Most of these students will rely heavily on financial aid and work more hours, meaning less time to be able to focus on academics. Many also feel they cannot relate to traditional college peers. Brock (2010) discussed various barriers and breakthroughs to success for college students, particularly focusing on minorities and non-traditional students. The researcher looked at services or programs that can help alleviate some of the barriers at-risk students will face.

Brock (2010) (as cited by MDRC and the MacArthur Network on Transitions to Adulthood, n.d.) evaluated a random assignment study of an enhanced student services program at a community college in California conducted by Manpower Demonstration Research Corporation (MDRC) and the MacArthur Network on Transitions to Adulthood. Chaffey College in California was the community college used in this research, and the students who were targeted were either traditional students who were on probation because of bad grades or students with many class withdrawals. The enhanced student services program was comprised of a College Success course that addressed topics such as personal motivation, college expectations, time management, and note-taking skills. An additional feature of the program involved additional counseling and advising students to make use of services offered by the community college where they could get help from instructors and make use of the tutoring services in reading, writing, and math.

The college recruited 900 students for the evaluation of the first year of the program and approximately 450 students for the second year of the program. The students selected for the program were traditional age; three out of five were female; and Hispanic students made up the majority. The students were randomly assigned to program and control groups, with the main difference in that the control group did not have access to the College Success course. The

control group could make use of the success services offered by the college. The first year of the program was not a success. Word spread that participation in the study was voluntary, and only about half of the program group enrolled in the College Success class. In addition, the counselors involved in the study did not do all they could to encourage students in both groups to make good use of the success services offered by the college. There was no measurable effect after evaluation of the first year of the program (Brock, 2010).

The second year of the program turned out to be a much better success. The program administrators came together and addressed many of the pitfalls of the first year, such as informing the students that participation in the program group was mandatory; therefore, participation in the course went from 50% in the first year to 75% in the second year. In addition, the counselors involved in the study made a more concerted effort to enforce visits to the various success services. There was a significant effect for the second year of the program. Students in the program group earned an average of 8.3 college credits compared to 5.6 credits for the students in the control group. In addition, approximately twice as many students in the program group returned to good academic standing than did those in the control group. The limitation in this study was the length of the program, meaning longer follow-up was needed to determine whether the students in the program group graduated at a significantly higher rate compared to the control group students (Brock, 2010).

Stebbleton and Soria (2012) specifically targeted first-generation college students and the barriers these students face in the college setting compared to non-first-generation students. The researchers found that typical barriers first-generation college students face compared to their counterparts were academic preparation, less likely to complete AP credits in high school, lower self-efficacy in their abilities which often leads to depression and loneliness, need more remedial

work, and less likely to seek help from faculty. The specific purpose of their study was to determine the self-perceived barriers for first-generation college students compared to non-first-generation students.

Stebbleton and Soria (2012) used the Student Experience in the Research University (SERU) survey as their instrument for the study. The variables for the study were drawn from demographic items as well as items from the survey that related to a student's self-perceived obstacles to academic success. The survey was administered in the spring of 2009 to 145,500 students across six research universities classified by the Carnegie Foundation as high-level research universities. They had an overall response rate of 39.7%, or 58,017 students. Approximately 12,100 students completed the module in the survey related to student's self-perceived obstacles to academic success. Demographics of the participants were as follows: 58.2% female, 60.1% White, 17.9% Asian, 7.7% Latino, 5.8% African American, 5.1% race unknown, and 2.9% International. Of the respondents, 26% were first-generation students.

The researchers found that there was a statistically significant difference between first-generation college students and non-first-generation students on several factors. First-generation college students reported that competing job responsibilities, family responsibilities, weak math and English skills, inadequate study skills, and feeling depressed were statistically significantly high reasons as obstacles to self-perceived academic success as compared to non-first-generation students. The researcher's overall results suggest that first-generation college students encounter more obstacles to academic success than non-first-generation students. The findings suggest, as Arendale (2010) noted, university staff and faculty must try to reach out to first-generation college students to help them reach their potential because sometimes that is exactly the push they need to get there. Limitations to this study included the generalizability in the fact that it

only explored first-generation and non-first-generation college students at a single institutional type, a large public research university. The researchers discussed how to address the unique needs of first-generation students, and one of the points they made based on the findings was that additional programs are needed to help these students minimize the obstacles they have to face, which will turn into an added support, and they will gain a greater sense of control during their matriculation through college (Stebbleton & Soria, 2012). The purpose of TRIO programs is to help minimize the obstacles first-generation college students face during their transition through college.

Summer Bridge

Summer Bridge programs are designed to help at-risk students get a jump-start in their transition to college (Cabrera et al., 2013). Many community colleges and universities have these types of programs to help students gain skills in order to navigate the college environment. Cabrera et al. (2013) conducted a longitudinal study in order to understand the impact of a Summer Bridge program held by the University of Arizona, called The New Start Summer program (NSSP), on new students' first year GPA as well as retention. NSSP is open to all new full-time freshman, but the students who generally participate are students from traditionally underserved backgrounds. The NSSP is a 6-week program designed to give students experiences such as enrolling in academic courses, living in the residence halls, participating in social activities, and learning about all the college's support networks available to students.

Cabrera et al. (2013) found that there was not a strong foundation of research on the effects of the Summer Bridge program, including the long-term effects a Summer Bridge program has on a student's retention and GPA. Kuk and Banning (2009) found in their study about Student Affairs professional's assessment practices that Student Affairs professionals are

typically not trained on how to conduct a longitudinal assessment of the impact of this type of program; therefore, there is a need for this type of research. Cabera et al. (2013) wanted to find out what type of impact the NSSP has on student retention and GPA. Many researchers argue that there is little research on the impact of Summer Bridge programs (Garcia & Paz, 2009); therefore, the study aimed to understand the impact of the NSSP longitudinally in the areas of retention and GPA for the participants. Some of the main concerns the researchers focused on were the adverse circumstances faced by at-risk students that can hinder his/her personal and academic growth, as well as the opportunities a Summer Bridge type of program can have to strengthen these weaknesses (Cabera et al., 2013).

Data for Cabrera et al.'s (2013) study were collected from the Office of Institutional Research Planning and Support (OIRPS) at the University of Arizona as well as a longitudinal survey developed by the researchers. Records were kept by NSSP program coordinators from 1993-2009 for participants who completed the program, as well as records of students who did not participate, but were eligible. There were 6,570 students who met either of these criteria from 1993-2009. Demographics (race, gender, Pell Grant eligibility, etc.) were kept on these students as well. The OIRPS data helped the researchers observe the impact the NSSP had on the participants' GPA and retention because those numbers were kept as well. The researchers found that the data were good to have but gave an incomplete view because the data did not consider the college environment in which the students were grounded. In order to address this issue, the researchers administered two surveys: one survey was given before the incoming freshmen's first fall semester and the second given during the spring semester of their first year. The survey focused on areas such as demographic characteristics, high school activities, collegiate involvement, college goals, and perceptions of campus climate (Cabera et al., 2013).

The first survey was administered during orientation activities, along with an email sent by the researchers to the general student population in order to have a comparison group. The survey was administered using DatStat Illume software. The follow-up survey was administered during the spring semester to students who participated in NSSP along with students who did not participate in NSSP. The total number of students who completed the first and second survey was 544 first-time freshman students. There was a total of 154 NSSP participants in the sample and a total of 390 non-NSSP participants. The researchers narrowed down the number of non-NSSP participants by race, first-generation status, socioeconomic status, and gender to have a demographically similar comparison group with the NSSP participants, coming to a total sample of 157 non-NSSP students. In the end, the researchers found that participation in NSSP was a significant and positive predictor of retention and GPA when controlled with student characteristics. They found that high school GPA was the strongest student characteristic that predicted better retention and first year GPA in college. This research study was limited in that it was done at a single institution, so the results are somewhat unrepresentative of the diversity of summer bridge programs in other parts of the United States, as a large majority of Latino students made up the participants in the program (Cabera et al., 2013). This study gives positive evidence that participation in programs designed to help and support at-risk students can be used as a strong predictor for success for these students. TRIO programs take this type of support a step further in that first-generation college students keep this type of supportive relationship throughout their chosen undergraduate institution.

An example of a study of the success of Summer Bridge programs, one that is referenced in various research, is one by Douglas and Attewell (2014). The researchers reference a longitudinal study by Radford et al. (2010) who found that 26% of degree-seeking

undergraduates who started at a community college completed his/her degree within six years, and that 63% of students who started at a 4-year institution completed his/her degree within six years. Douglas and Attewell (2014) wanted to examine if Summer Bridge programs truly have a positive impact on retention and degree completion. The researchers used two types of data to determine if Summer Bridge programs improve retention rates and increase chances of graduation within six years. In all the research they reviewed, the outcomes of the positive impact of Summer Bridge programs were mixed, and relatively little research has been done on long-term effects, meaning the impact of graduation rates, which is the most important potential benefit of these types of programs. The first data used were transcript data from a nationally representative survey of undergraduates that followed about 15,000 undergraduate students from 2004-2009. The data were tracked for a long period of time, and graduation outcomes were available. The second type of data used were from a multi-campus community college system that followed around 10,000 undergraduates from 2010-2012. The data can track students toward an associate degree or potential transfer to a 4-year institution (Douglas & Attewell, 2014).

The main independent variable (treatment) use by Douglas and Attewell (2014) was whether a student participated in a Summer Bridge program. They were able to find this out by examining the transcript dates because the Summer Bridge program appears on the entering freshman student's transcript as courses with grades given, even if they are remedial courses that bear no actual college credit. The dependent variable (outcome) was the academic progress, such as reenrolling for the second semester of the freshman year or the following fall semester. The researchers also kept a record of any student who failed to enroll or withdrew at any time during the six years. The third outcome variable the study looked at was if a student graduated within the 6-year period with either an associate degree or bachelor's degree. The longitudinal study by

Radford et al. (2010) used a Beginning Post-Secondary Student Longitudinal Survey (BPS) which follows students through transfer so they could see if a student received a degree from any institution (Douglas & Attewell, 2014).

The community college data consisted of student tracking data that came from six different community colleges that were part of a single institution (Douglas & Attewell, 2014). All the community colleges in this system provide a Summer Bridge program for students who have low placement scores on reading, writing, or math. This Summer Bridge program focuses heavily on teaching these students reading, writing, and math skills. After a 4-6-week immersion of these teachings, students who failed in these subjects at the beginning are able to re-take the placement test in either reading, writing, or math, and if they pass the second time around, they are able to enroll in for-credit courses in these areas at the beginning of the fall semester. This allows the students to stay on track toward a degree and not have to take courses that do not bear credit toward a degree. Those at-risk students who choose not to partake in the Summer Bridge program will have to take these remedial courses during their first or second semester, which ultimately puts them at a disadvantage. The researchers followed a cohort of approximately 10,000 freshmen who entered one of the six community colleges in this institution, and ultimately narrowed it down to students who failed a placement test and who chose to participate in a Summer Bridge program to see if they had better academic performance compared to similar students who chose not to participate (Douglas & Attewell, 2014).

In the national sample, Douglas and Attewell (2014) found that approximately 5,600 students who attended a community college from 2004-2009 attended a Summer Bridge program. Nothing was found to be statistically significant concerning demographic controls. They did find that older students were significantly more likely to attend a Summer Bridge

program. In the area of academic controls, those who had high GPA's in high school were less likely to attend these programs, so it can be assumed that having a low high school GPA creates a greater likelihood of attending a Summer Bridge program. The researchers looked at graduation rates among students who did attend a Summer Bridge program versus similar students who did not attend and found that Summer Bridge attendees graduated at significantly higher rates among all racial groups, and that the difference was higher among African American and Hispanic students. Both men and women who attended these programs showed a 10% higher graduation rate than similar students who did not attend programs, and the highest rate was among women. They also found that first-generation college students as well as non-first-generation college students who attend Summer Bridge programs had a significantly higher graduation rate, but the effect size was greater for first-generation students. In the analysis of the six community colleges, the researchers found that Summer Bridge participants were more likely to enroll in a coursework during the following summer and were more likely to be retained in their second year compared to students who did not attend, which turned out to be a 5% difference. There was also a small but significant difference in that Summer Bridge students took fewer remedial courses than the control group, and Summer Bridge participants also earned more credits and passed a larger proportion of their attempted credits than students who did not participate in a Summer Bridge program (Douglas & Attewell, 2014).

Douglas and Attewell (2014) found that attending a Summer Bridge program, both in the national study from 2004-2009 as well as the 2010-2012 study of six different community colleges, showed a strong and positive impact for students in retention and graduation. It also showed positive impact on remedial students in that these students had an advantage in academic momentum over similar at-risk students who chose not to attend a Summer Bridge program.

Other research findings show limitations in this study. Washington et al. (2011) found a null result in students who attend Summer Bridge programs versus similar students who did not attend programs, but the sample size was small and lasted for only two years and was not long enough to determine whether or not these students graduated within six years. The researchers feel that qualitative research would give a better picture of the efficacy of Summer Bridge programs because it would provide personal experiences of students who attend these programs (Douglas & Attewell, 2014). Summer Bridge programs proved a positive framework for first-generation college students who are not academically or socially prepared for the college setting. Many of these students are coming from a poor educational background, and sometimes the college campus is bigger than the hometown they grew up in. They sometimes feel socially and mentally unprepared for college, whether they start at a community college or at a 4-year institution. Summer Bridge programs can alleviate many of the concerns at-risk students are going through and help them prepare for their goal of completing a college degree.

Persistence

Retention is a crucial issue for community colleges and 4-year institutions alike, for both types of institutions rely heavily on tuition revenue in order to manage their resources, such as student services, academic programs, and physical plants. Previous research has shown attrition rates to be over 50% at community colleges as well as 28% at 4-year institutions, and research shows that the largest portion of those who are not retained leave after their first year of enrollment. Due to these issues, research has focused on reasons why students do not persist. Tinto's (1975) interactionalist model of student persistence shows that students who enroll in community colleges or 4-year institutions come to college with certain characteristics that can have a strong impact on their persistence in college, such as socioeconomic background, gender,

race, academic aptitude, and parental educational level. In Tinto's model, there are three stages: the separation stage where they leave behind the only support groups they have had such as family and friends; then the transition stage, where they are distanced from their previous support group but are not really connected with the new environment of the college; and the final stage is the incorporation stage, where they have finally incorporated themselves with the academic and support systems of the college of their choice. As a student matriculates through these three stages, these background characteristics will influence their persistence toward their goal of a college degree. The amount these factors affect the student's successful transition through them will ultimately define the student's commitment to the college and will either get them to their ultimate goal of graduation or find them leaving college before they get where they want to go (Mertes & Hoover, 2014).

A study by Mertes and Hoover (2014) was an attempt to predict retention variables identified by three previous research studies. Voorhees (1987) found gender, purpose of enrolling, and intent to return as the main factors of persistence. Feldman (1993) found that high school GPA, age, and full-time/part-time status were the best predictors of persistence. Fike and Fike (2008) found that successfully completing remedial coursework in reading and math, participation in Student Support Services (TRIO), age, taking online courses, hours enrolled in the first semester, and receiving financial aid were positive predictors of retention. In other words, the study by Mertes and Hoover (2014) aims to confirm or deny what previous research has suggested. These researchers sought to separate populations of students, which are students enrolling in the fall of 2007 and students enrolling in the fall of 2010, to see if persistence variables change over time (Mertes & Hoover, 2014).

Mertes and Hoover (2014) analyzed first-time students at a rural Midwestern community college with an enrollment of approximately 5000 students. There were two separate community college campuses that served a significantly different student population. There was an in-district campus and an out-district campus. The main campus was in a high poverty area, and the district campus was in a town that was shared with a larger 4-year institution. The in-district campus mainly served non-traditional students with a mean age of 26, many of whom were there to obtain an occupational degree. The out-district campus mainly served traditional-age college students with a mean age of 22 who were there with the hopes of transferring to a larger 4-year institution. The out-district campus was in one of the highest poverty levels in the whole state. Data were obtained after the last day to add/drop a class for students starting in 2007 and for students starting in 2010. The researchers wanted to find out why, from both sets of subjects, they did not return the following fall. Dual-enrollment students, students who transferred to a larger university, and students taking a class at the community college but were enrolled at the neighboring 4-year institution were excluded from the study. Once these populations were excluded, the researchers had full data on 569 students for the fall 2007 group, and full data on 841 students from the 2010 group (Mertes & Hoover, 2014).

The dependent variable for both groups was fall-to-fall retention. The independent variables were the predictors of student persistence from previous research, such as age, financial aid, successful completion of remedial courses, credit hours enrolled, high school GPA, gender, etc. Since there were two separate districts being analyzed, the current researchers added residency status and program of study as additional independent variables. Additionally, Mertes and Hoover (2014) added the level of education for the mother and father, and the completion of an Introductory to Information Technology course (CIS 100) because Sherry and Sherry (1996)

found that a student's confidence in using computer software was a predictor of persistence. The data were analyzed using SPSS version 20 in order to determine the relationship with the independent variables mentioned so they could make the determination of the influenced fall-to-fall retention (Mertes & Hoover, 2014). Once the data were analyzed for the fall 2007 group using SPSS, the scores showed that retention rates were higher in female students, students enrolled in occupational degree programs, a grade of C or better in the Introductory to Information Technology course, and students under the age of 18. Retention rates were lower for both age groups (mean 22 and mean 26), undecided (major) students, and students who did not take the Information Technology course. A Pearson Correlation Coefficient was used to see how high school GPA came into play; this was used because high school GPA is a continuous variable and was found to be a significant predictor of persistence. Ethnicity, enrolled credit hours, reason for enrolling, remedial English and Math, residency status, and receipt of financial aid were found insignificant predictors of persistence (Mertes & Hoover, 2014).

After analysis of the 2010 group using SPSS, Mertes and Hoover (2014) found that retention rates were also higher for students under the age of 18. The results were also similar in that students who did not take the Information Technology course, undecided majors, and students in both the mean 22 and mean 26 age groups showed lower significance to persistence. One thing that was different was that students who were enrolled in occupational degree programs showed low levels of persistence, while the 2007 group showed significant levels of persistence in that area. Additional levels of significance were found in the 2010 group; Caucasian students, students enrolled full-time, students taking for credit English and math, and students who receive financial aid had higher levels of retention rates from fall to fall. Students who had the lowest level of retention from fall to fall were African American students, Hispanic

students, students who took remedial courses in English and Math, and students enrolled part-time. Just like the 2007 group, the Pearson Correlation Coefficient showed that a strong high school GPA was a good predictor of fall-to-fall retention. The researchers used a logistical regression to find a combination of the strongest predictor variables for each group. For the fall 2007 group, after analysis, the three independent variables that significantly related to fall-to-fall retention, in order, were a C or better in the Information Technology course, age, and selected major. For the fall 2010 group, after analysis, in order of importance, were a grade of C or better in the Information Technology course and age. There were missing data for parental education level, English and math placement, and high school GPA; therefore, these independent variables were removed from the logistical regression analysis (Mertes & Hoover, 2014).

After all the results were analyzed, Mertes and Hoover (2014) found that gender, age, selected major, and a C or better in the Information Technology course were all significant predictors of fall-to-fall retention for both the 2007 group and the 2010 group. These findings are somewhat consistent with the previous research of Voorhees (1987), Feldman (1993) and Fike and Fike (2008) who found that age and gender were predictors of retention. The previous researchers found that educational goal and intent were factors of retention, but the current researchers did not. One thing the Mertes and Hoover (2014) found puzzling was that for the 2007 group, one of the highest predictors of retention were those in occupational degree programs, but for the 2010 group, occupational majors was one of the lowest predictors of retention. They suggest that the unemployment rate in 2010 was up to 18% as opposed to only 11% in 2007 (US Department of Labor, 2012), which could be a reason for the difference. Limitations in this study are the fact that there were much missing data in the area of high school GPA and parental level of education, which they feel could have strongly affected the analysis.

Another limitation is that a student's intent and program of study often changes as they matriculate through college, which could also have an effect of the analysis (Mertes & Hoover, 2014). This type of research study can have a strong impact on support programs such as TRIO in that it identifies areas of weaknesses and areas of strong retention predictors for students who may be at-risk or marginally prepared for college work.

African American and Hispanic males trail their White counterparts in retention and graduation rates. Harper (2013) found that African American and Hispanic males are least likely to be retained and graduate when compared to White males as well as females of their same race at all levels of degree programs. Hall (2017) feels that this statistic has a strong impact on higher education in that graduation rates are essential to institutions and influences their funding; therefore, more attention is necessary for this at-risk population. Hall (2017) focused his attention on African American and Hispanic males who attend predominantly White institutions and referenced previous work by Fleming (1984) and Harper (2013) in their findings that predominantly White institutions show to be less supportive and inviting, and especially less sympathetic to the needs of males who are not of the predominate race. The researcher finds that in many campuses, the culture of these institutions sometimes overshadows the institution's mission of inclusiveness, which can have a negative effect on at-risk male's persistence toward graduation. Hall (2017) references the Bureau of Labor and Statistics findings that 60% of all jobs by 2018 will demand more formal education credentials. What this can mean for African American and Hispanic males is that they can have diminished long-term wealth accumulation and larger income disparity among race and educational level, which can lead to a negative effect on the nation's intellectual capital and global competitiveness (Hall, 2017).

Hall (2017) saw this research study through the lens of critical race theory, which seeks to analyze laws, policies, and systems that are supposed to be impartial, but continue to result in racial inequality. Hall (2017) conducted a phenomenological study in order to investigate whether non-cognitive factors or academic factors served as supportive or obstructive devices to retention and graduation rates of African American and Hispanic males. He questions if there are academic factors that support or negatively affect retention and graduation rates for African American and Hispanic males and if there are non-academic factors that support or hinder retention and graduation rates for African American males. Hall (2017) collected his data by leading two focus group interviews. The qualitative nature of the study allowed the researcher to look deeper into the strategies for success and some of the obstacles faced by African American and Hispanic males (Hall, 2017)

Hall (2017) obtained his data using focus groups and purposive sampling of students who identified as African American and Hispanic males. He identified a combination of 10 students for the study in order to investigate experiences and characteristics these successful students had that aided in their effort to be retained through their senior academic year. The students had to have at least a 2.25 GPA and had to be within two semesters of graduation. The first focus group was conducted during the fall 2013 semester, and the second was conducted during the spring 2014 semester. The characteristics of the predominantly White university where the study took place had an enrollment of approximately 8,900 undergraduate students, with 13% of the students who identify as Hispanic. Female Hispanic students made up 8% of the Hispanic population; therefore, male Hispanic students accounted for 5% of the Hispanic population. African American students accounted for 7% of the student population, with female African American students accounting for 4% of the African American population and 3% of the African

American population being male. White students accounted for 74% of the total student population, and 30% of that population were White males (Hall, 2017).

The data collected through the focus group interviews involved 10 open-ended questions which allowed the participants to freely talk about successful strategies that helped them get where they are today as well as obstacles along the way. Hall (2017) found through the focus group interview that racial micro aggressions are prevalent at predominately White institutions and have the potential of negatively affecting marginalized groups of students. The researcher hopes that predominately White institutions will create sound strategies to eliminate micro aggressive behavior because these behaviors act as invisible hurdles for the success of at-risk male students. He feels that these groups will continue to struggle; therefore, plans must be made to enroll and engage these students and help to create a welcoming campus culture that they can thrive in. He longs for African American and Hispanic males to feel like they can participate in student organizations and feel a connection to the university, much like their White counterparts. Faculty and staff cannot continue to enforce negative perceptions of these students' academic abilities just because they are different from the norm. Hall (2017) understands that further research is needed in order to compare his results with other universities across the nation to see if other African American and Hispanic males see the same obstacles. This is a critical issue for institutions of higher education, an issue that needs more and more research to find strategies to help this underserved population (Hall, 2017).

Transfer Shock

According to Townsend and Wilson (2009), research has been focused for many years about the performance and time to earning a degree after a student transfers from the community college. Additionally, these researchers noted that an abundance of documentation states that

many students transferring from the community college to a 4-year university experience what is known as transfer shock. According to Maliszewski et al. (2020), transfer shock is “the initial maladjustment that students experience upon enrolling in a 4-year institution; typically, this maladjustment (or *shock*) is illustrated through a lower GPA that recovers after the shock has passed” (p. 33).

Recent studies focused on community college transfer students have focused on transfer student adjustment to understand the transfer student’s long-term persistence at 4-year university (Lester et al., 2013). Deil-Amen (2011) conducted research on the significance of socioacademic integration for community college transfer students. She noted that community college transfer students’ academic goals and social goals will likely look different from native students’ goals at the 4-year university. Transfer student’s previous college experience as well as their varied background characteristics will influence how these students will perceive academic and social goals (Deil-Amen, 2011).

Lester et al. (2013) looked further into the social and academic goals of community college transfer students and found that these students develop confidence and a sense of engagement from interactions with faculty outside the classroom, which formed a more meaningful interaction. The researcher found that when faculty members paid special attention to the transfer student’s progress, it helped alleviate the sense of transfer shock the student may be experiencing. Maliszewski et al. (2020) also noted that pre-transfer advising can have a positive impact on transfer shock for transfer students and said that focus groups with transfer students indicated that pre-transfer advising was critical to their adjustment to the 4-year university.

Choosing the Community College

There are many aspiring individuals looking to obtain a college degree who are choosing to start their higher education endeavors at the community college. Laanan et al. (2010) found that reasons students are choosing to start their education at the community college is because of the low cost, flexible scheduling, location, smaller class size, and that the faculty are focused on teaching as opposed to focusing on research. Laanan et al. (2010) also noted that for many students, the community college is chosen because of their open access philosophy, diverse student population, and diverse curriculum opportunities. The researchers further went on to explain that community colleges play a vital role for many ethnic minorities, low-income, and first-generation college students as an entryway to obtaining a baccalaureate degree.

First-generation, low-income, and minority students make up a large percentage of students who choose to enroll in a community college as their first step in their academic quest. Jabbar et al. (2020) noted that community colleges are a cost-effective and convenient first step for this underrepresented population in pursuit of a baccalaureate degree. Jabbar et al. (2020) also acknowledged that 44% of African Americans as well as 56% of Hispanic students attend community colleges as their first academic endeavor. The researchers went on to estimate that this number accounts for 42% of first-time freshman who enter institutions of higher education. McKinney et al. (2015) observed that the community college's goal is to provide an affordable and open-access road to higher education for students seeking an associate's degree or those who want to further their education at a 4-year university. McKinney et al. (2015) further went on to assess that the average cost of attending a community college is one-third of the cost of choosing to attend a 4-year university. The benefits of attending a community college as the first choice

for students entering higher education is becoming a common trend, especially for middle-class and lower socioeconomic students (Cohen et al., 2013).

Summary and How Literature Relates to Present Study

The purpose of the literature review was to examine factors related to student academic achievement, retention, and ultimately college graduation. These variables are related to the questions in the present study including the effect participation in TRIO has on graduation, enrollment and completion, and GPA for community college transfer students. Predictor variables included in the present study included TRIO status, gender, Pell status, first-generation status, transfer GPA, and transfer credit hours earned. Research has shown that transfer students struggle with various barriers to college completion and that student success programs can help students to overcome these barriers (Douglas & Atwell, 2014).

METHOD

CHAPTER III **Overview of How the Chapter is Organized**

This chapter included the following sections: the description of the research design and the general method, the research questions for the current study, the research site and context, the participants involved in the current study, the statistical instruments used, the data collection procedure and the data analysis procedure. The overall emphasis of the sections discussed in this chapter looked to determine if community college transfer students' participation in a TRIO program helped them succeed academically as measured by graduation, enrollment and completion, and GPA.

Description of the Research Design and the General Method

For the current study, the researcher conducted and analyzed data from a large, public university located in the southeastern part of the United States. The reason this institution was chosen as the focus of the current study was due to convenience. The researcher applied a quantitative research method for the current study. According to Creswell and Creswell (2018), a quantitative research approach involves testing a theory by analyzing the relationship among certain variables. Further, these variables can be tested and measured using statistical software and can be analyzed by using the appropriate statistical approach to answer the researcher's theory or questions. Creswell and Creswell (2018) also explained that researchers who use a quantitative research approach can protect against bias, control for alternative explanations, be

able to generalize their findings to similar groups, and replicate their findings. The current research study meets the description of a quantitative research approach according to Creswell and Cresswell (2018) in that the researcher assumed that participation in a TRIO program will help community college transfer students succeed academically, using internal data analysis of graduation, enrollment and completion, and GPA. The researcher analyzed data in comparison to similar non-participants and hoped to find that TRIO participation is a program that all universities and community colleges will either enhance or add to their institution in the effort to help first-generation/low-income students succeed academically.

This quantitative research design involved the use of computational, statistical, and mathematical tools in order to determine if community college transfer student participation in a TRIO program helped him or her succeed academically in terms of graduation, enrollment and completion, and GPA. In addition to the quantitative nature of this research design, the current study was correlational, in that the researcher measured different variables in order to understand and assess the relationship between them (Gravetter & Walluau, 2013). The researcher worked to determine if community college transfer students who participated in TRIO programs at the community college completed their college degree from a 4-year university at higher rates than community college transfer students who did not participate in TRIO programs at the community college.

The current research design was a longitudinal study and used observations of the same variables over a certain period. The researcher examined a set of community college transfer students enrolled in college at a certain point in time. The researcher examined participants in a TRIO program in order to determine if they succeeded at higher rates academically in terms of graduation, enrollment and completion, and GPA as compared to a similar set of students who

were not involved in TRIO programs. The independent variables in the current research design were TRIO participation, gender, first-generation status, Pell status, transfer GPA, and transfer credit hours earned at the community college. The researcher looked to determine if the independent variables TRIO participation, gender, first-generation status, Pell status, transfer GPA, and transfer credit hours earned influenced whether a community college transfer student graduated, was enrolled or completed, or had a higher GPA at the 4-year university. The research also examined these dependent variables in relation to similar students who did not participate in TRIO programs at the community colleges.

This research study was quantitative, correlational, and longitudinal because the researcher believed this design could determine the results desired. The current design was correlational in that the researcher measured first-generation students' dependent variables of enrollment, graduation, and GPA, with the independent variables TRIO participation, gender, first-generation status, Pell status, transfer GPA, and transfer credit hours earned, against transfer students who were not TRIO participants at the community colleges. The design was quantitative in that the researcher collected existing data on community college transfer students at a large, public southeastern university.

Research Questions

This study sought to answer the following research questions:

1. What effect does TRIO participation have on graduation at the 4-year university?
2. What effect does TRIO participation have in terms of enrollment and completion at the 4-year university?
3. What are the effects of TRIO participation on GPA for transfer students?

Research Site

The research site for the current study was located at a large, public university located in the southeastern part of the United States. The research site used in this study was chosen because it has a well-established TRIO program. Most of the students enrolled in the TRIO program at the beginning of each fall semester are first-time freshman, but there are transfer students from community colleges enrolled in the TRIO program as well. This large, public university located in the southeastern part of the United States has an enrollment of approximately 22,000 students. The university is a land-grant, doctoral-degree-granting university focused on research and service. Data were collected on transfer students from two community colleges with established TRIO programs located in the southeastern region of the United States. The two community colleges were rural, public 2-year institutions granting associate degrees and certificates.

Participants

The researcher selected participants for this study which included community college transfer students enrolled at the research site. Community college transfer students who were participants in the TRIO program at the community college were examined, as were similar transfer students from the community colleges who were not participants in the TRIO program at the community college. Not all of the non-TRIO participants were first-generation students, but the number of first-generation students outweighed the number of non-TRIO participants. The researcher worked with the Director of the TRIO program at the research site to obtain participant information on community college students who transferred to the research site from the years 2010-2020. The Director of the TRIO program at the research site reached out to the five community colleges in the state with established TRIO programs to obtain information on

TRIO students who had transferred to the research site from the years 2010-2020. Only two community colleges were able to send information on TRIO students who transferred to the research site. The researcher used all the transfer students who transferred to the research site (2193) from the two community colleges for the purpose of this study.

The researcher collected cohort data on community college transfer students from 2010-2020. Data were collected over a 10-year period so that the sample would be large enough to determine if participation in a TRIO program at the community colleges was a significant factor in academic success. The researcher selected community college transfer students who were involved in TRIO at the community colleges. The comparative sample of similar students was community college transfer students who were not participants in TRIO at the community college. The researcher chose to include all transfer students from the two community colleges located in the southern part of the United States. The researcher chose to examine data for community college transfer students from the years 2010-2020. With this timeframe, the researcher was able to acquire information on graduation and retention. This large, public university located in the southeastern part of the United States was used in order to determine whether community college transfer students who were TRIO program participants succeeded academically at higher rates than similar non-participants.

Specifically, the researcher examined three areas of concern. First, the researcher looked to see if factors, including TRIO participation at the community college, were predictors of graduation from the 4-year university. Second, the researcher looked to see if factors, including TRIO participation, were predictors of current enrollment or degree completion at the 4-year university. Third, the researcher looked to see if factors, including TRIO participation, predicted GPA at the 4-year university. All students were analyzed using the independent variables TRIO

participation, gender, Pell status, first-generation status, transfer GPA, and transfer credit hours earned.

Instruments and Materials Used

Once participant data were collected for community college transfer students from the years 2010-2020, the researcher obtained academic indicator factors from the university in the study through the Office of Institutional Research & Effectiveness. The researcher conducted a quantitative study using existing data; therefore, no specific instrument was used. The dataset for TRIO participants and similar non-TRIO participants were collected through approval from the Director of Institutional Research & Effectiveness.

Data Collection Procedures

The researcher obtained permission from the university Institutional Review Board (IRB) and the Director of Institutional Research & Effectiveness prior to data collection. The researcher did not use the names of the students in the dataset. The student information was obtained from the Office of Institutional Research & Effectiveness, and from there the researcher was able to gather information about the student's graduation status from the cohort years 2010-2020. The data collection happened during the spring 2021 semester to ensure that the researcher was able to utilize the academic factors obtained using the dataset, meaning enough time had passed to tell whether participation in a TRIO program at the community college led to academic success for TRIO participants when compared to similar non-TRIO participants.

Data Analysis Procedure

The purpose of this study was to determine if participation in a TRIO program at the community college was an academic success indicator in terms of graduation, enrollment and

completion, and GPA when compared to transfer students who were not TRIO participants at the community college. Data were analyzed using a binary logistic regression.

The researcher chose a binary logistic regression because he wanted to determine whether there was a statistically significant difference in graduation, enrollment and completion, and GPA when comparing TRIO participants to non-participants. A binary logistic regression was used to explain and test a hypothesis about the relationship between categorical outcome variables and predictor variables (Peng & So, 2002). A binary logistic regression was used to determine the factors that make a person more or less likely to complete their degree. In this particular study, the dependent variable was 0 or 1 for whether they completed their degree. The independent variable was a binary variable for whether they participated in TRIO at the community college or not. The independent variables included TRIO participation, gender, Pell status, first-generation status, transfer GPA, and transfer credit hours earned.

Research question one focused on the effect of TRIO participation, gender, first-generation status, Pell status, transfer GPA, and transfer credit hours earned on graduation for transfer students at the 4-year university. Research question two focused on the effect of TRIO participation, gender, first-generation status, Pell status, transfer GPA, and credit hours earned on enrollment and completion for transfer students at the 4-year university. The third research question focused on the effect of TRIO participation, gender, first-generation status, Pell status, transfer GPA, and transfer credit hours earned on GPA for transfer students at the 4-year university.

Summary of Method

The current research study was conducted in the spring of 2021 at a large, public university located in the southeastern part of the United States. The researcher examined the

effect of participation in a TRIO program for community college transfer students on graduation, enrollment and completion, and GPA when compared to community college transfer students who were not TRIO participants at the community college. The researcher gathered the dataset from the Office on Institutional Research & Effectiveness. The dataset consisted of transfer TRIO participants and transfer non-TRIO participants from the years 2010-2020. In order to find the effect of TRIO participation on college completion, the researcher conducted a binary logistic regression for the statistical analysis.

RESULTS AND DISCUSSIONS

The purpose of this study ^{CHAPTER IV} was to determine if TRIO participation at the community college had a positive effect on transfer students at the 4-year university. TRIO programs started in 1964 when President Lyndon Johnson signed the Educational Opportunity Act into law. This initiative helped pave the way for TRIO programs to help at-risk students prepare for college and guide them toward completion of a college degree (Graham, 2011). TRIO programs include Talent Search, Educational Opportunity Centers, Upward Bound, and Student Support Services. These TRIO programs help disadvantaged students get into undergraduate colleges and universities. TRIO acts as a “home away from home” for first-generation/low-income students to help them navigate their way through college and provide services to help them successfully complete their degree.

The statistical method used in this study was a binary logistic regression model. A binary logistic regression model was used to determine the effect TRIO participation at the community college had on graduation, enrollment and completion, and GPA at a 4-year university. A total of 2193 transfer students from two community colleges in the southeastern region of the United States were used in this study. The total of 2193 included all students from these two community colleges who transferred to the research site; only 77 students were TRIO participants at the community college (3.9%). The following chapter includes a description of the results of the binary logistic regressions and answers the following research questions:

1. What effect does TRIO participation have on graduation at the 4-year university?
2. What effect does TRIO participation have in terms of enrollment and completion at the 4-year university?
3. What are the effects of TRIO participation on GPA for transfer students?

Analysis of the Data

All transfer students from the two community colleges from 2010–2020 were included in the study. Of the 2193 students, 2108 did not participate in TRIO at the community college or university, 73 participated in TRIO at the community college but not at the university, 8 participated in TRIO at the university but not at the community college, and only 4 participated in TRIO at both institutions, as shown in Table 2.

Table 2

TRIO Participation at the University and Community College

		Not TRIO at University	TRIO at University	Total
Transfer TRIO	Not TRIO at CC	2108	8	2116
	TRIO at CC	73	4	77
Total		2181	12	2193

Of the 2193 participants in this study, 992 were female and 1201 were male. Of the 77 TRIO participants, 47 (61.0%) were female, as compared to 945 (44.7%) of the 2116 non-participants. Of the 77 TRIO participants, 30 (45.2%) were male, as compared to 1171 (54.8%) of the 2116 non-participants. The results are presented in Table 3.

Table 3

TRIO Participation by Gender

		Not TRIO at CC	TRIO at CC	Total
Gender	Female	945	47	992
	Male	1171	30	1201
Total		2116	77	2193

A descriptive analysis was performed to identify the transfer students' respective community colleges located in the southeastern region of the United States where the data were collected. In community college A, there was a total of 1702 students. There were 1652 (47.1%) who were not participants in a TRIO program, and 50 (2.9%) students who were participants in a TRIO program. In community college B, there was a total of 491 students. There were 464 (94.5%) students who were not involved in a TRIO program, and 27 (5.5%) students who were involved with a TRIO program. Of the 2193 students involved in the study, 77 (3.5%) total students were enrolled in a TRIO program at the community college. Results are presented in Table 4.

Table 4

TRIO Participation by Community College

		Not TRIO at CC	TRIO at CC	Total
CC A		1652	50	1702
CC B		464	27	491
Total		2116	77	2193

A descriptive analysis was also performed on first-generation status for participants. For the 2193 total students involved in the study, 1351 (61.6%) students were classified as first-generation students, and a total of 60 (4.4%) of these students were participants of a TRIO program. Continuing-generation students was a total of 842 (38.4%), and 17 (2.0%) of these students were involved in a TRIO program at the community college. Of the 77 TRIO participants, 60 (77.9%) were first-generation students, as compared to 1291 (61.0%) of the 2116 non-participants. Results are shown in Table 5.

Table 5

TRIO Participation by First-Generation Status

	Not TRIO at CC	TRIO at CC	Total
Continuing- Gen	825	17	995
First-Gen	1291	60	1351
Total	2116	77	2193

A descriptive analysis was performed for students who received Pell grant funding, defined as a student whose family income is less than \$30,000 per year, which is another qualification for participation in a TRIO program. Of the total number of students involved in the study, 1198 (54.6%) did receive Pell grant, and 62 (5.2%) of these students were participants in a TRIO program. There were 995 (45.3%) students who were not eligible for a Pell grant, and 15 (1.5%) of these students were involved in a TRIO program. Of the 77 TRIO participants, 62 (80.5%) received Pell grants, as compared to 1136 (53.7%) of the 2116 non-participants. Results are shown in Table 6.

Table 6

TRIO Participation by Pell Grant Recipient

	Not TRIO at CC	TRIO at CC	Total
No Pell	980	15	995
Yes Pell	1136	62	1198
Total	2116	77	2193

A descriptive analysis was also performed for students who were either currently enrolled in the 4-year university or not currently enrolled in the 4-year university. Of the 2193 participants, 1713 (78.1%) were not currently enrolled, and 480 (21.9%) were. There were 460 (95.8%) transfer students who were not participants of a TRIO program at the community college and 20 (4.2%) transfer students who were TRIO participants at the community college who were still enrolled at the 4-year university. There were 1656 (96.7%) transfer students who were not TRIO participants at the community college and 57 (3.3%) transfer students who were TRIO participants at the community college were currently not enrolled at the 4-year university. Of the 77 TRIO participants, 20 (26.0%) were currently enrolled, as compared to 460 (21.7%) of the non-participants, as shown in Table 7.

Table 7

TRIO Participation by Enrollment

	Not TRIO at CC	TRIO at CC	Total
Not Enrolled	1656	57	1713
Enrolled	460	20	480
Total	2116	77	2193

There was also a descriptive analysis performed to show the persistence of transfer students at the 4-year university. Of the 2193 participants, 684 (31.2%) were not enrolled and had not graduated, and 1509 (68.8%) were either still enrolled or had graduated. There were 663 (96.9%) transfer students who were not TRIO participants at the community college and 21 (3.1%) transfer students who were TRIO participants at the community who were not enrolled and had not graduated from the 4-year university. There were 1453 (96.3%) transfer students who were not TRIO participants at the community college and 56 (3.7%) transfer students who were TRIO participants at the community college who either were still enrolled or had graduated from the 4-year university. Of the 77 TRIO participants, 56 (72.7%) were either still enrolled or had graduated, as compared to 1453 (68.7%) of the 2116 non-participants, as shown in Table 8.

Table 8

TRIO Participation by Enrollment or Graduation

	Not TRIO at CC	TRIO at CC	Total
Not Enrolled and Has Not Graduated	663	21	684
Is Either Still Enrolled or Has Graduated	1453	56	1509
Total	2116	77	2193

The final descriptive analysis was performed to determine whether or not transfer students had graduated from the 4-year university. There were 1084 (96.4%) transfer students who were not TRIO participants and 41 (3.6%) transfer students who were TRIO participants at the community college who did not graduate. There were 1032 (96.6%) transfer students who were not TRIO participants and 36 (3.4%) transfer students who were TRIO participants at the community college who did graduate from the 4-year university. Of the 77 TRIO participants, 36 (46.8%) graduated, as compared to 1032 (48.8%) of the 2116 non-participants, as shown in Table 9.

Table 9

TRIO Participation by Graduation

	Not TRIO at CC	TRIO at CC	Total
Did Not Graduate	1084	41	1125
Has Graduated	1032	36	1068
Total	2116	77	2193

A descriptive analysis was conducted using the variables transfer GPA, transfer credit hours earned, terms, current enrollment, completion, persist, 4-year university GPA, and overall GPA. These variables were analyzed for transfer students who were TRIO participants at the community college and for those who were not. Transfer GPA is defined as the GPA the student transferred to the 4-year university based on the grades they made at the community college. Transfer credit hours earned were the number of hours the transfer student brought in to the 4-year university based on the classes they took at the community college. Terms is the number of semesters completed at the 4-year university. Current enrollment tells whether the student is currently enrolled at the 4-year university or not. Completion is defined as whether the student graduated from the 4-year university or not. Persist is whether the student is currently not enrolled and did not graduate, or the student is currently enrolled or graduated from the 4-year university. Four-year university GPA is the GPA the student had at the 4-year university excluding the transfer GPA that was transferred in. Overall GPA is the 4-year university GPA with the transfer GPA factored in, giving the student an overall GPA from both institutions. A

positive outcome of this was that transfer GPA and overall GPA was higher for students who were TRIO participants at the community college compared to students who were not. Transfer GPA for TRIO participants was 3.2 compared to 3.0, and overall GPA was 3.0 compared to 2.89. Results are shown in Table 10.

Table 10

TRIO Participation by GPA

		TR GPA	TR Credit Hours Earned	Term Semester	Currently Enrolled	Completed	Persist	University GPA	Overall GPA
Not TRIO at CC	Mean	3.04	58.59	5.93	.22	.49	.69	2.59	2.89
	N	2116	2114	2116	2116	2116	2116	2116	2116
	Std. Dev.	.60	20.46	3.19	.41	.50	.46	.98	.59
TRIO at CC	Mean	3.21	66.96	6.30	.26	.47	.73	2.66	3.00
	N	77	77	77	77	77	77		
	Std. Dev.	.51	14.53	2.70	.44	.50	.45	.88	.53
Total	Mean	3.0	58.9	5.94	.22	.49	.69	2.59	2.90
	N	2193	2191	2193	2193	2193	2193	2193	2193
	Std. Dev.	.60	20.33	3.17	.41	.50	.46	.98	.59

Details of the Analysis and Results

The current study used three logistic regression analyses in the statistical analysis. One thing of note is that during the Case Processing Summary, two cases were missing from the collection of data (1%).

Research Question 1

What effect does TRIO participation have on graduation at the 4-year university?

The Cox & Snell R^2 and the Nagelkerke R^2 values are an indication of the amount of variation in the dependent variable, which in the case of the current study is graduation. Nagelkerke's R^2 tells how well the Binary Logistic Regression model predicts scores on the dependent variable. In the case of the current study, Nagelkerke's R^2 showed a weak relationship (.080) between the predictors and dependent variables. Dependent variables included whether a student was still enrolled, graduated, or has a higher GPA than non-participants, as shown in Table 11.

Table 11

Regression 1: Graduation Regression Model

Step	-2 Log Likelihood	Cox & Snell R^2	Nagelkerke R^2
1	2900.51	.06	.08

The researcher assessed the effect of the individual predictors by using the Wald χ^2 to determine whether the predictors were significant or not. In the current study, gender was not found to be significant in terms of graduation ($p = .475$). Pell grant status was also not found to

be a significant predictor graduation ($p = .827$). Transfer TRIO participation was also not found to be significant in terms of graduation. First-generation status ($p = .001$) was found to be a significant predictor of graduation for transfer students at the 4-year university. Engle and Tinto (2008) found that approximately 11% of first-generation students complete their bachelor's degree within six years compared to 55% of non-first-generation students. In the case for this study, first-generation status was a positive factor for graduation for transfer students. Transfer GPA ($p = .000$), and transfer credit hours earned ($p = .000$) were also found to be significant predictors of graduation for transfer students at a 4-year university. In summary, gender, Pell status, nor TRIO participation was a predictor of graduation; first-generation status, transfer GPA, and transfer credit hours earned were, as shown in Table 12.

Table 12

Regression 1: Retention and Graduation Based on Dependent Variables

	B	S.E.	Wald	df	Sig.	Exp (B)
Step 1 ^a						
Gender (1)	-.07	.09	.51	1	.48	.94
Pell Grant	.02	.09	.05	1	.83	1.02
First-Gen	-.31	.09	11.00	1	.00	.73
Transfer GPA	.74	.08	84.22	1	.00	1.01
Transfer Credit Hours Earned	.01	.00	18.56	1	.00	1.01
Transfer TRIO	.33	.24	1.86	1	.17	1.39
Constant	-3.09	.36	71.89	1	.000	.05

a. Variable(s) entered on step 1: gender, Pell grant, first-gen, transfer GPA, transfer credit hours earned, transfer TRIO

Research Question 2

What effect does TRIO participation have in terms of enrollment and completion at the 4-year university?

A binary logistic regression was performed to determine whether or not transfer students who were not TRIO participants and transfer students who were TRIO participants at the community college were still enrolled at the 4-year university or had completed their degree. Participants who were only TRIO at the 4-year university were also included.

The outcomes of the Cox & Snell R^2 (.098) and Nagelkerke R^2 (.139) exhibited a weak relationship between the predictors of current enrollment or degree completion as shown in Table 13.

Table 13

Regression 2: Enrollment and Completion

Step	-2 Log Likelihood	Cox & Snell R^2	Nagelkerke R^2
1	2493.35	1.00	.14

The independent variable, whether or not transfer students were TRIO participants at the community college, was analyzed by the control variables: gender, Pell status, first-generation status, transfer GPA, and transfer credit hours earned. Pell status ($p = .307$) was not statistically significant on whether the transfer student was still enrolled or completed their degree at the 4-year university. Transfer TRIO participation ($p = .900$) at the community college was also not statistically significant on whether the transfer student was still enrolled or completed their degree from the 4-year university. Gender ($p = .006$) was found to be a significant factor as to

whether the transfer student was still enrolled or had completed their degree. The regression showed that $B = -.27$, therefore female transfer students were still enrolled or had completed their degree compared to male transfer students. First-generation status ($p = .009$), transfer GPA ($p = .000$), and transfer credit hours earned ($p = .000$) were also statistically significant factors that determined whether the transfer student was still enrolled or had completed their degree at the 4-year university as shown in Table 14.

Table 14

Regression 2: Enrollment and Completion Based on Dependent Variables

		B	S.E.	Wald	df	Sig.	Exp (B)
Step 1 ^a	Gender (1)	-.27	.10	7.46	1	.01	.76
	Pell Grant	-.10	.10	1.04	1	.31	.90
	First-Gen	.27	.10	6.76	1	.01	1.31
	Transfer GPA	1.01	.09	142.43	1	.00	2.94
	Transfer Credit Hours Earned	.01	.00	21.53	1	.00	2.94
	Transfer TRIO	.03	.27	.02	1	.90	1.04
	Constant	-3.07	.40	58.02	1	.00	.05

a. Variable(s) entered on step 1: gender, Pell grant, first-gen, transfer GPA, transfer credit hours earned, transfer TRIO

Research Question 3

What are the effects of TRIO participation on GPA for transfer students?

A multiple linear regression was performed to compare the influence of TRIO participation on GPA from 2010 – 2020 when controlling for transfer TRIO participant status,

gender, Pell status, and first-generation status. In the Model Summary, the R²'s value is .029 and the Adjusted R²'s value is .027. The R² and Adjusted R² tells us the amount of variance gender, Pell status, and first-generation status effects GPA. In other words, the controlling variables gender, Pell status, and first-generation status only account for 3% of GPA as shown in Table 15.

Table 15

Regression 3: GPA Regression Model

Model	R	R ²	Adjusted R ²	Std. Error of the Estimate
1	.171 ^a	.03	.03	.59

a. Predictors: (Constant), transfer TRIO, gender, first-gen status, Pell grant status

Although the Adjusted R² value is only 3%, the controlling variables transfer TRIO participant status, gender, Pell status, and first-generation status were found to be statistically significant. Transfer TRIO participant status ($p = .002$), gender ($p = .000$), Pell status ($p = .000$), and first-generation status ($p = .001$) were all found to be statistically significant predictors GPA, as shown in table 16.

Table 16

Regression 3: GPA Based on Dependent Variable

Model		Unstandardized Coefficients		Standardized Coefficients		Sig.
		B	Std. Error	Beta	t	
1	(Constant)	3.23	.03		112.13	.00
	Gender	-.11	.03	-.09	-4.31	.00
	Pell Grant	-.15	.03	-.12	-5.54	.00
	First-Gen	-.09	.03	-.07	-3.22	.00
	Transfer TRIO	.21	.07	.07	3.06	.00

a. Dependent Variable: TRIO GPA

Summary

This study examined the effect of transfer student TRIO participation at the community college in terms of graduation, still enrolled or completed their degree, and GPA from a 4-year university. The researcher conducted a Binary Logistic Regression Model. The researcher used gender, Pell status, first-generation status, transfer GPA, transfer credit hours earned, and transfer TRIO participant status as predictor variables for graduation, enrollment and completion, and GPA from a 4-year university. Pell status and transfer TRIO participant status was found to have no significance for graduation, still enrolled or completed their degree, and GPA from a 4-year university. Gender, first-generation status, transfer GPA, and transfer credit hours earned showed statistically significant results for graduation from a 4-year university.

An important factor that the researcher discovered is that community college transfer TRIO participants had higher GPA's entering the 4-year university and had a higher overall GPA while at the 4-year university than community college transfer students who were not TRIO participants. Gershenfeld et al. (2016) noted that GPA is an essential predictor of graduation for

underrepresented students. TRIO participants entered the 4-year university with a 3.21 GPA, compared to a 3.01 GPA for non-TRIO participants. Also, transfer students who were TRIO participants at the community college had higher overall GPA's at the 4-year university than transfer students who were not TRIO participants at the community college. TRIO participants overall GPA was 3.00, compared to non-TRIO participants at 2.89.

SUMMARY, LIMITATIONS, AND FUTURE RESEARCH

CHAPTER V

This chapter provides a summary of the results of the binary logistic regression performed by the researcher to determine if TRIO participation at the community college had a positive impact on transfer students who continued their education at a large, public university in the southeastern part of the United States. It also provides conclusions, limitations, and recommendations for practitioners and for future research. The study examined the impact of TRIO participation, gender, Pell status, first-generation status, transfer credit hours earned, and transfer GPA on transfer TRIO participants and transfer non-TRIO participants from two community colleges in the southeastern part of the United States. The research questions were as follows:

1. What effect does TRIO participation have on graduation at the 4-year university?
2. What effect does TRIO participation have in terms of enrollment and completion at the 4-year university?
3. What are the effects of TRIO participation on GPA for transfer students?

The current study used a binary logistic regression model to determine the effect of TRIO participation on graduation, enrollment and completion, and GPA for community college transfer students. A total of 2193 students were examined from two community colleges in the southeastern region of the United States from 2010-2020. The students used in this study all transferred to the research site, which is the large, public university located in the southeastern

part of the United States. Of the 2193 students, 77 were TRIO participants. Predictor variables used in the study were TRIO participation, gender, Pell status, first-generation status, transfer GPA, and transfer credit-hours earned.

In research question one, the control variables were used to analyze graduation. The variables gender, Pell status, and transfer TRIO participation were not statistically significant toward graduation. The variables first-generation status, transfer GPA, and transfer credit hours earned were found to be significant predictors of graduation for transfer students at the 4-year university. Although research has shown that continuing-generation students graduate at much higher rates than first-generation students, this study showed that first-generation status was a significant predictor of graduation for transfer students. Nagelkerke's R^2 determined a weak relationship about the percentage of the model that can be explained by the included variables. In the case of the current study, 94% of why a student completes college or not can be explained by other factors not included in this study. The conclusion is that the binary logistic regression was a poor predictor of the effect of TRIO participation on graduation.

In research question two, the researcher analyzed whether or not transfer students were still enrolled or had completed their degree from the 4-year university. Once again, Nagelkerke's R^2 indicated a weak relationship between the predictors of current enrollment or degree completion. The control variables used in this analysis were TRIO participation, gender, Pell status, first-generation status, transfer GPA, and transfer credit hours earned. Pell status was not significant to whether or not transfer students were still enrolled or had completed their degree. The independent variable TRIO participation at the community college was also not significant as to whether or not transfer students were still enrolled or had completed their degree. Gender, most significant for female transfer students compared to male

transfer students, was found to be a significant factor whether the transfer student was still enrolled or completed their degree. First-generation status, transfer GPA, and transfer credit hours earned were also found to be significant as to whether or not transfer students were still enrolled or completed their degree.

In research question three, the researcher found that transfer students who were TRIO participants at the community college entered the 4-year university with a 3.2 GPA, compared to a 3.0 GPA for transfer students who were not TRIO participants. Also, the overall GPA for transfer students once enrolled in the 4-year university was higher for TRIO participants compared to non-participants, 3.0 to 2.8 respectively. This was a positive outcome for TRIO participation at the community college. This could be due to GPA being a more immediate indicator; that is, GPA is present at the start of the university work as opposed to future enrollment and graduation which occur later. GPA may be a better indicator of the value of TRIO since it is present immediately following the student's participation in the program at a community college. According to Gershenfeld et al. (2016), GPA is a strong predictor of graduation for underrepresented students.

Conclusions

Gender, Pell status, and transfer TRIO status were not significant factors related to graduation, enrollment and completion, and GPA. In terms of gender, females make up a large percentage of TRIO participants. When we looked at gender and graduation, females graduate college at higher rates compared to male students, especially when considering low-income, first-generation college students eligible for TRIO participation. The beta analysis in the first binary regression shows that females completed their degree at a higher rate than male students. This did not come as a surprise to the researcher, due to the fact that the majority of TRIO

participants are female. This result agrees with prior research on gender when it comes to degree completion. Horton (2015) found that low-income African American males earned 67% of credit hours attempted and lower GPA's than all other students identified as low income. This prior study also found that 14% of African American males earned a degree, compared to African American females who earned degrees were twice as high at 29.5%.

Pell Grant status having no significance in terms of graduation, enrollment, and completion and GPA did not come as a surprise to the researcher. Students who receive federally funded Pell Grants come from low-income households and are historically less prepared socially and academically. This result agrees with prior research on low-income students. Engle and Tinto (2008) found that lower-income first-generation students are four times as likely to drop out of college than students of a higher economic status. These researchers also found that 11% of low-income first-generation students complete their bachelor's degree within six years compared to 55% of continuing-generation students.

Transfer TRIO status was not a significant factor for graduation, enrollment and completion, and GPA at the 4-year university. This result came as a surprise. Although the researcher was only analyzing transfer students who were TRIO participants at the community college level, one would think that the skills learned through participation in TRIO would provide the necessary tools needed to be successful at the university level. This result did lean toward Siegel and Davenport's (2015) finding that "although TRIO programs can be very effective, alone they do not transcend the need for colleges and universities to develop their own institution-specific interventions for first-generation students" (p. 83).

The researcher analyzed whether or not transfer students who were TRIO participants and who were not TRIO participants at the community college were still enrolled or had completed

their degree at the 4-year university. This analysis was similar to the first logistic regression about whether or not the transfer student had graduated but went a little deeper to see if students were still enrolled at the 4-year university, which could possibly have a positive outcome for graduation. Pell status and transfer TRIO status, just like in the first analysis, were found to be insignificant in terms of whether the student was still enrolled or had completed their degree. First-generation status, transfer GPA, and transfer credit hours earned were found to be significant factors related to if the student was still enrolled or had completed their degree. What was different this time was that gender was found to be a significant variable in whether or not a student was still enrolled or had completed their degree.

The most positive outcome of the current study was the impact TRIO participation at the community college had on GPA. Transfer GPA for TRIO participants was two points higher than non-TRIO participants. Once enrolled at the 4-year university, community college TRIO participants were, again, two points higher than non-TRIO participants. One of the main goals of TRIO is to give underrepresented students a sense of purpose and a connection to the university. TRIO in some ways represents a “home away from home” for students who have nowhere else to turn to for answers or just someone to bounce ideas off of.

Engle and Tinto (2008) have found that first-generation students are less likely to attend college social functions and are less likely to have meaningful interactions with university faculty. TRIO can help bridge the gap for students who may be unsure about navigating the campus culture by inviting them to various functions across campus, as well as having faculty come to speak on various topics. TRIO will help students realize faculty are there to help, and there is no reason not to have positive interactions with faculty because it can only lead to a stronger connection to the university. Prior research has shown that students finding a sense of

purpose has a positive effect on GPA (Yukhymenko-Lescroart & Sharma, 2020). TRIO can be an influential component for low-income/first-generation students to find their sense of purpose.

Limitations of the Study

For the current study, the sample size was fairly large with 2193 total students, but only 77 students were involved in TRIO programs at the two community colleges used in the study. The sample size of TRIO participants from the community college could be a possible limitation, although TRIO participation numbers are low throughout the nation due to restrictions and government funding. For example, the research site used in the current study has approximately 22,000 students enrolled, and the population for TRIO students is 160. The following are limitations for the current study:

- The researcher was only able to obtain data from two community colleges which may or may not reveal the effectiveness of participating in a TRIO program.
- The researcher assumed transfer students who were TRIO participants at the community college would get involved with TRIO at the 4-year university, but they did not.
- The researcher assumed that students who were involved in TRIO at the community college would have learned the skills needed to successfully transition to the 4-year university and have an added advantage over transfer students who did not have the support of TRIO.

The above factors could have possibly led to the outcome of the study. TRIO provides an abundance of positive resources for low-income/first-generation students, such as free tutoring, workshops, counseling, career exploration, and financial aid instruction, just to name a few. The fact that transfer students from two community colleges were analyzed could have affected the

validity of the study. Obtaining more participants from more community colleges in the region might have resulted in a different outcome.

Recommendations for Practitioners and Policy Makers

Recommendations for practitioners and policy makers can benefit administrators at the community college level as well as the university level who oversee TRIO programs. According to Wilber and Roscigno (2016), only 70% of first-generation students are likely to even enroll in a 4-year university, and for those who do enroll, they are 60% less likely to graduate than their peers. TRIO participation can help low-income/first-generation transfer students receive the tools needed to make it to degree completion. Faculty, administrators, and advisors need to take notice that more and more first-generation students are entering community colleges and universities and be aware of support programs that are available which can lead to success.

Recommendations for Future Research

The researcher would make the following suggestions for future research after conducting this research study:

- Obtain data from several community colleges about transfer TRIO participants to get a more valid outlook of the effect of TRIO participation and how college completion is impacted.
- Conduct a qualitative study to see how students feel TRIO has impacted them while at the community college or 4-year university.
- Complete a formal program evaluation at community colleges and universities to identify the effectiveness of TRIO and provide continued improvement.
- Develop an assessment tool to properly determine the effectiveness of TRIO programs.

- Identify existing support programs for underrepresented minorities that students can participate in to offer more robust support offerings.
- Examine whether or not financial issues, such as account holds, or loss of scholarships and financial aid could be preventing transfer students from graduating.

Summary

This chapter summarized the findings of the current study and introduced a discussion of the conclusions based upon the result of the effectiveness of TRIO participation for transfer students completing their degree at the 4-year university. A discussion of the effect of transfer GPA, first-generation status, and transfer credit hours earned was found to be significant predictors of graduation, enrollment and completion, and GPA for transfer students was also provided. Limitations were discussed along with recommendations for policymakers and practitioners. Finally, a discussion for future research on strengthening strategies was provided.

The researcher for the current study had a first-hand view of the effectiveness of a TRIO program at the university level. In spring 2020, 87% of TRIO participants completed their college degree. The current study did not show that TRIO participation at the community college had much of an effect on college completion for transfer students. There were actually more transfer students who did not complete their degree than those who did. The researcher feels that there are several factors that could have led to this result.

One reason could be that only a small number of transfer students participated in TRIO at the university. The added support of TRIO could have made a difference. Engle and Tinto (2008) found that first-generation students are less likely to participate in college social functions and are less likely to interact with faculty. Many of the transfer students may have felt that they did

not fit in with the college culture or that faculty members were more concerned with research and tenure than about their well-being. It also could be transfer shock and the student never felt that he or she could adjust to the fast pace of the university. Finances are an issue for all people, especially for students who come from low-income families. Motivation and self-efficacy could have been the reason some transfer students dropped out and never finished. Another possibility could be that many of the transfer students transferred to a different university where they felt they would have fit in better, or maybe some of them simply had to return home to help with the family. There are several reasons underrepresented transfer students fail to complete their degree that the current study cannot account for.

The overall outlook for this study is graduation, enrollment and completion, and GPA at a 4-year university for community college transfer students who were TRIO participants. While gender, first-generation status, transfer GPA, and transfer credit hours earned played a positive role in graduation, enrollment and completion, and GPA, it was a surprise to the researcher that transfer TRIO participation was found to be not statistically significant. It was also surprising that of the 77 transfer student TRIO participants, only 12 transfer students from the two community colleges used in this study were TRIO participants at the 4-year university. The most surprising was that only 8 transfer students were TRIO participants at both institutions.

The most positive outcome the researcher found in this study was the effect TRIO participation at the community college was the transfer GPA entering the 4-year university as well as the overall GPA for transfer students while enrolled at the 4-year university. As said earlier, research indicates that GPA is a strong predictor for retention and graduation from college for underrepresented students (Gershenfeld et al., 2016).

REFERENCES

- Arendale, D. R. (2010). *Access at the crossroads: Learning assistance in higher education*. (Vol. 35). San Francisco, CA: Josey Bass.
- Balemian, K., & Feng, J. (2013). First-generation students: College aspirations, preparedness and challenges. *College Board*, 1-60.
- Bandura, A. (1997). *Self-efficacy: The exercise of control* (pp. 357-368). New York, NY: Macmillan Publishing.
- Brock, T. (2010). Young adults and higher education: Barriers and breakthroughs to success. *Future of Children*, 20(1), 109-132.
- Cabrera, N., Miner, D., & Milem, J. (2013). Can a summer bridge program impact first-year persistence and performance?: A case study of the new start summer program. *Research in Higher Education*, 54(5), 481-498.
- Chemers, M. M., Hu, L., & Garcia, B. F. (2001). Academic self-efficacy and first-year college student performance and adjustment. *Journal of Educational Psychology*, 93, 55-64.
- Choy, S. (2001). Students whose parents did not go to college: Postsecondary access, persistence, and attainment. Washington, D.C.: National Center for Education Statistics.
- Cohen, A. M., Brawer, F. B., & Kisker, C. B. (2013). *The American Community College* (6th ed.) San Francisco, CA: Jossey-Bass.
- Deil-Amen, R. (2011). Socio-academic integrative moments: Rethinking academic and social integration among two-year college students in career-related programs. *The Journal of Higher Education*, 82, 54-91.

- Dika, S. L., & D'Amico, M. M. (2016). Early experiences and integration in the persistence of first-generation college students in STEM and non-STEM majors. *Journal of Research in Science Teaching*, 53(3), 368-383.
- Douglas, D., & Attewell, P. (2014). The Bridge and the Troll Underneath: Summer Bridge programs and Degree Completion. *American Journal of Education*, 121(1), 87-109.
- Duggan, M. (2001). Factors influencing first-year persistence of first-generation college students. ERIC (ED459673). 1-39.
- Engle, J., Bermeo, A., O'Brian, C., & Pell Institute for the Study of Opportunity in Higher Education. (2006). Straight from the source: What works for first generation college students. *Pell Institute for the Study of Opportunity in Higher Education*.
- Engle, J., & Tinto, V. (2008). Moving beyond access: College success for low-income, first-generation students. Washington D. C.: The Pell Institute for the Study of Opportunity in Education.
- Feldman, M. (1993). Factors associated with one-year retention in a community college. *Research in Higher Education*, 34(4), 503-512. doi:10.1007/BF00991857
- Fike, D. S., & Fike, R. (2008). Predictors of first-year student retention in the community college. *Community College Review*, 36(2), 68-88.
- Fischer, M. J. (2007). Settling into campus life: Differences by race/ethnicity in college involvement and outcomes. *Journal of Higher Education*, 78(2), 125-161.
- Garcia, L. D., & Paz, C. C. (2009). Evaluation of summer bridge programs. *About Campus*, 14(4), 30-32.
- Graham, L. (2011). Learning a new world: Reflections on being a first-generation college student and the influence of TRIO programs. *New Directions for Teaching and Learning*, (127),

33-38.

Gravetter, F. J. & Wallnau, L. B. (2013). *Statistics for the behavioral sciences*. New York, NY: Wadsworth.

Hall, R. R. (2017). Factors contributing to the persistence of african american and hispanic undergraduate males enrolled at a regional predominantly white institution. *Administrative Issues Journal: Connecting Education, Practice, And Research*, 7(1), 51-65.

Harper, S. R. (2013). Five things student affairs administrators can do to improve success among college men of color. Washington, DC: NASPA.

Havlik, S., Pulliam, N., Malott, K., & Steen, S. (2020). Strengths and struggles: First-generation college goers persisting at one predominately white institution. *Journal of College Student Retention*, 22(1), 118-140.

Horton Jr., D. (2015). Between a ball and a harsh place: A study of black male community college student-athletes and academic progress. *Community College Review*, 43(3), 287-305.

Ives, J. & Castillo-Montoya, M. (2020). First-generation college students as academic learners: A systematic review. *Review of Educational Research*, 90(2) 139-178.

Jabber, H., Epstein, E., Sanchez, J., & Hartman, C. (2020). Thinking through transfer: Examining how community college students make transfer decisions. *Community College Review*, 1-27.

Jenkins, A. L., Miyazaki, Y., & Janosik, S. M. (2009). Predictors that distinguish first-generation college students from non-first-generation college students. *Journal of Multicultural, Gender, and Minorities*, 3(1), 1-9.

- Kezar, A. J. (2000). Summer bridge programs: supporting all students. Washington, DC : ERIC Clearinghouse on Higher Education, Institute for Education Policy Studies, Graduate School of Education and Human Development, the George Washington University, 2000.
- Kezar, A., & Kitchen, J. A. (2020). Supporting first-generation, low-income, and underrepresented students' transitions to college through comprehensive and integrated programs. *American Behavioral Scientist*, 64(3), 223-229.
- Kuk, L., & Banning, J. (2009). Student affairs preparation programs: A competency-based approach to success and outcomes. *College Student Journal*, 43(2), 492-502.
- Laanan, F. S., Starobin, S. S., & Eggleston, L. E. (2010). Adjustment of community college students at a four-year university: Role and relevance of transfer student capitol for student retention. *Journal of College Student Retention*, 12(2), 175-209.
- Lester, J., Leonard, J. B., & Mathias, D. (2013). Transfer student engagement: Blurring of social and academic engagement. *Community College Review*, 41, 202-222.
- Lukszo, C. M., & Hayes, S. (2020). Facilitating transfer student success: Exploring sources of transfer student capitol. *Community College Review*, 48(1), 31-54.
- Majer, J. M., & Daley, R. J. (2009). Self-efficacy and academic success among ethnically diverse first-generation community college students. *Journal of Diversity in Higher Education*, 2(4), 243-250.
- McKinney, L., Mukherjee, M., Wade, J., Shefman, P., & Breed, R. (2015). Community college students' assessments of the costs and benefits of borrowing to finance higher education. *Community College Review*, 43(4) 329-354.
- Mehta, Sanjay, S., Newbold, John, J., O'Rourke, M. A. (2011). Why do first-generation students fail? *College Student Journal*, 45(1), 20-35.

- Mertes, S. J., & Hoover, R. E. (2014). Predictors of First-Year Retention in a Community College. *Community College Journal of Research and Practice*, 38(7), 651-660.
- Metz, G. W. (2004). Challenge and changes to tinto's persistence theory: A historical review. *Journal of College Student Retention*, 6(2), 191-207.
- Naumann, W. C., Debora, B., & Gutkin, T. B. (2003). Identifying variables that predict college success for first-generation college students. *Journal of College Admission*, 181, 4-9.
- Pascarella, E. T., Pierson, C. T., Wolniak, G. C., & Terenzini, P. T. (2004). First-generation college students: Additional evidence on college experiences and outcomes. *The Journal of Higher Education*, 75(3), 249-284.
- Pelco, L. E., Ball, C. T., & Lockeman, K. S. (2014). Student growth from service-learning: A comparison of first-generation and non-first-generation college students. *Journal of Education Outreach and Engagement*, 18(2), 49-66.
- Peng, C.Y. J., & So, T.S. H. (2002). Logistic regression analysis and reporting: A primer. *Understanding Statistics*, 1(1), 31-70.
- Pitre, C. C., & Pitre, P. (2009). Increasing underrepresented high school students' college transitions and achievements. *Nassp Bulletin*, 93(2) 96-110.
- Prospero, M. (2007). First-generation college students: Motivation, integration, and academic achievement. *Community College Journal of Research and Practice*, 31, 963-965.
- Pryor, J. H., DeAngelo, L., Blake, P. L., & Tran, S. (2010). The american freshman: National national norms fall 2010. *Los Angeles: Higher Education Research Institute*.
- Radford, A., Lutz, B., Wheelless, S. C., & Shepard, B. (2010). Persistence and attainment of 2003-2004 beginning postsecondary students: After six years. National Center for Educational Statistics, Washington, DC.

- Ramos-Sanchez, L. & Nichols, L. (2007). Self-efficacy of first-generation and non-first-generation college students: The relationship with academic performance and college adjustment. *Journal of College Counseling*, 10, 6-18.
- Riehl, R. J. (1994). The academic preparation, aspirations, and first-year performance of first generation students. *College and University*, 70, 14-19.
- Saenz, V., & Barrera, D. (2007). What we can learn from UCLA's "first in my family" data. *Retention in Higher Education*, 21(9), 1-3.
- Sanford, T., & Hunter, J. M. (2011). Impact of performance-funding on retention and graduation rates. *Education Policy Analysis Archives*, 19(33), 1-30.
- Scheier, M. F., Carver, C. S., & Bridges, M. W. (1994). Distinguishing optimism from neuroticism (and trait anxiety, self-mastery, and self-esteem): A revelation of the life orientation test. *Journal of Personality and Social Psychology*, 67, 1063-1078.
- Schmidke, K., & Eimers, M. (2004). Source and destination: Transfer success at a multi-campus university system. Paper presented at the Association for International Research Forum, Boston, MA.
- Seigel, W. L., & Davenport, Z. (2015). First-generation college students: Understanding and improving the experience from recruitment to commencement. *Journal of college student retention*, 17(3), 381-385.
- Smith, C. T., Miller, A., & Bermeo, C. A. (2009). Bridging the gap to success. *The Pell Institute for the Study of Opportunity in Higher Education*, 1-56.

- Stebleton, M. J., & Soria, K. M. (2012). Breaking down Barriers: Academic Obstacles of First-generation college students at Research Universities. *Learning Assistance Review*, 17(2), 7-20.
- Stebleton, M. J., Soria, K. M., & Huesman Jr., R. L. (2014). First-generation students' sense of belonging, mental health, and use of counseling services at public research Universities. *Journal of College Counseling*, 17(1), 6-20.
- Strayhorn, T. (2011). Bridging the pipeline: Increasing underrepresented students' preparation for college through a summer bridge program. *American Behavioral Scientist*, 55(2), 142-159.
- Tandberg, D. A., & Laderman, S. A. (2018). Evaluating state funding effort for higher education. *MHEC Policy Brief*, 1-16.
- Terenzini, P. T., Springer, L., Yaeger, P. M., Pascarella, E. T., & Nora, A. (1996). First-generation college students: Characteristics, experiences, and cognitive development. *Research in Higher Education*, 37, 1-22.
- Tierney, W. J. (1992). An anthropological analysis of student participation in college. *Journal of Higher Education*, 63(6), 603-618.
- Tinto, V. (1975). Dropout from higher education: A theoretical synthesis of recent research. *Review of Educational Research*, 45(1), 89-125.
- Tinto, V. (1993). Limits of theory and practice and on, *The Journal of Higher Education*, 53 (6), 687-700.
- Tinto, V. (2004). Student retention and graduation: Facing the truth, living with the consequences. Washington D.C.: The Pell Institute. 1-20.

- Townsend, B. K., & Wilson, K. B. (2009). The academic and social integration of persisting community college transfer students. *Journal of College Student Retention, 10*(4), 405-423.
- U. S. Department of Labor, Bureau of Labor Statistics. (2012). Unemployment rate-not seasonally adjusted.
- Van Gennep, A. (1960). *The rites of passage*. Chicago: University of Chicago Press.
- Voorhees, R. (1987). Toward building models of community college persistence: A logit analysis. *Research in Higher Education, 26*(2), 115-129.
- Wathington, H., Pretlow, J., Mitchell, C., (2011). The impact of developmental summer bridge programs on students' success. *Society for Research on Educational Effectiveness, 1*-10.
- Wilbur, T. G., & Roscigno, V. J. (2016). First-generation disadvantage and college enrollment/completion. *Socius Sociological Research for a Dynamic World, 2*, 1-11.
- Woosley, S. A., & Shepler, D. K. (2011). Understanding the early integration experiences of first-generation college students. *College Student Journal, 45*(4), 700-714.
- Wright-Kim, J., Perna, L. W., & Ruiz, R. (2019). Institutional characteristics and bachelor's degree of pell grant recipients. *Journal of College Student Retention, 0*(0), 1-36.
- Yukhymenko-Lescroart, M. A., & Sharma, G. (2020). Sense of purpose and progress towards degree in freshman college students. *Journal of College Student Retention, 0*(0), 1-21.

APPENDIX A

IRB APPROVAL FORM

Protocol ID: IRB-19-214
Review Type: EXEMPT
Principal Investigator: Stephanie King

You are receiving this inactivation notification for one of the two following reasons:

1) Exempt Determinations:

This protocol is has been granted an exemption determination. Based on this exemption, and in accordance with Federal Regulations which can also be found in the MSU HRPP Operations Manual, your research does not require futher oversight by the HRPP.

Therefore, this study has been inactivated in our system. This means that recruitment, enrollment, data collection, and/or data analysis can continue, yet personnel and procedural amendments to this study are no longer required. If at any point, however, the risk to participants increases, you must contact the HRPP immediately.

2) Non-Exempt Approvals (Expedited or Full Board):

A request to inactivate (with the submission of a final report) your non-Exempt protocol was submitted and approved. If this is the case, there should be no further data collection or data analysis conducted under this protocol.

For additional questions pertaining to this study, please contact the HRPP at irb@research.msstate.edu.