EFFECTS OF PARTICIPATION IN CAMPUS LIFE PROGRAMMING, SPECIFICALLY WELCOME WEEK PROGRAMMING, CAMPUS-WIDE PROGRAMMING, AND CLUB/INTRAMURAL SPORTS ON FIRST-GENERATION STUDENT RETENTION AND ACHIEVEMENT

by

Jeffery Hooks

This dissertation is submitted in partial fulfillment of the
requirements for the degree of

Doctor of Education

Ferris State University

September 2023

© 2023 Jeffery Hooks
All Rights Reserved

EFFECTS OF PARTICIPATION IN CAMPUS LIFE PROGRAMMING, SPECIFICALLY WELCOME WEEK PROGRAMMING, CAMPUS-WIDE PROGRAMMING, AND CLUB/INTRAMURAL SPORTS ON FIRST-GENERATION STUDENT RETENTION AND ACHIEVEMENT

by

Jeffery Hooks

Has been approved

September 2023

APPROVED:

Joseph Odenwald, Ed.D.
Committee Chair

Megan Biller, Ed.D.
Committee Member

Tom Williams, Ed.D.
Committee Member

Dissertation Committee

ACCEPTED:

Sandra J Balkema, PhD, Dissertation Director
Community College Leadership Program

ABSTRACT

While research on student retention and achievement has predominately focused on four-year institutions, there is a growing recognition of the unique factors that influence community college students. Previous studies have demonstrated the importance of social integration for student success, particularly in four-year institutional environments. However, limited research on community college student success has indicated that academic integration holds greater importance than social integration. This quantitative study aimed to determine whether first-generation students in a residential community college setting exhibit similar student success patterns to their four-year peers. By enhancing our understanding of the impact of social integration on first-generation community college students, future research has the potential to inform strategies and interventions that can support the success of these students. Understanding community college students' unique needs and experiences and exploring how social integration can contribute to their overall success is essential.

Keywords: first-generation, social integration, retention, community college, persistence

DEDICATION

I would like to dedicate this work to, first and foremost, my wife, Haley, whose love and dedication have always made me strive to be a better person. I would also like to dedicate this work to my mother and father. You taught me the value of higher education from an early age, and I never forgot that lesson.

ACKNOWLEDGMENTS

I would like to thank the members of my dissertation committee for their hard work and support, without which none of the following work would have been possible. I would also like to thank all of the faculty and administrators for the DCCL program. Your dedication to this field and the hard work you put forth in the classroom made this journey go a lot faster than I could have imagined.

TABLE OF CONTENTS

Page

LIST OF TABLES vi

LIST OF FIGURES viii

CHAPTER ONE: INTRODUCTION 1
Introduction 1
Student Retention 3
Student Persistence 6
Purpose of the Research 6
Significance of the Study 7
Research Questions 7
Research Question 1 8
Research Question 2 8
Research Question 3 8
Research Question 4 9
Definition of Terms 9
Summary of Chapters 10

CHAPTER TWO: REVIEWING THE LITERATURE 11
Retention Models 11
Student Engagement 19
Social Integration 25
Academic Integration vs Social Integration 26
Student-Athletes and Retention 27
Campus Recreation and Student Success 33

CHAPTER THREE: METHODOLOGY 37
Introduction 37
Research Problem 38
Research Questions 38
Correlation Analysis 39
Research Design 40
Overview of the Study 40
Subjects 41
Data Collection Process and Protocols 43
Additional College Data 43

Limitations of the Study 44
Delimitations of the Study 44
Validity and Reliability 44
Data Analysis 45
Conclusion 47

CHAPTER FOUR: FINDINGS, RESULTS, AND ANALYSIS 49
Introduction 49
Research Questions 50
Correlation Analysis 50
Data Analysis Methodology 51
Descriptive Statistics 52
Student Participant Demographics 53
Research Study Findings 54
Research Question #1 54
Research Question #2 57
Research Question #3 60
Research Question #4 63
Analysis and Implications of the Results 67
Research Question #1 67
Research Question #2 67
Research Question #3 68
Research Question #4 68
Conclusion 69

CHAPTER FIVE: CONCLUSIONS AND RECOMMENDATIONS 70
Introduction 70
Contribution to the Research 71
Understanding of the Findings 72
Finding #1 73
Finding #2 74
Finding #3 74
Finding #4 75
Recommendations for Future Research 76
Conclusion 77

REFERENCES 79

APPENDIX A: FERRIS IRB APPROVAL 87

LIST OF TABLES

Page

Table 1. Study Population Groups by Age (Fall 2018 Cohort) 42

Table 2. Study Population Groups by Age (Fall 2021 Cohort) 42

Table 3. Pearson Chi-Square Test Between Participation in Welcome Week Programming, Campus-Wide Programming, and Club/Intramural Sports and Fall-to-spring Retention for 2018 Cohort 55

Table 4. Pearson Chi-Square Test Between Participation in Welcome Week Programming, Campus-Wide Programming, and Club/Intramural Sports and Fall-to-spring Retention for 2021 Cohort. 56

Table 5. Fall-to-spring Retention by Group 57

Table 6. Pearson Chi-Square Test Between Participation in Welcome Week Programming, Campus-Wide Programming, and Club/Intramural Sports and Fall-to-fall Retention for 2018 Cohort 58

Table 7. Pearson Chi-Square Test Between Participation in Welcome Week Programming, Campus-Wide Programming, and Club/Intramural Sports and Fall-to-fall Retention for 2021 Cohort 59

Table 8. Fall-to-fall Retention by Group 59

Table 9. Pearson Chi-Square Test Between Participation in Welcome Week Programming, Campus-Wide Programming, and Club/Intramural Sports and Fall-to-spring Achievement for 2018 Cohort 61

Table 10. Pearson Chi-Square Test Between Participation in Welcome Week Programming, Campus-Wide Programming, and Club/Intramural Sports and Fall-to-spring Achievement for 2021 Cohort 62

Table 11. Pearson Chi-Square Test Between Participation in Welcome Week Programming, Campus-Wide Programming, and Club/Intramural Sports and Fall-to-fall Achievement for 2018 Cohort 64

Table 12. Pearson Chi-Square Test Between Participation in Welcome Week Programming, Campus-Wide Programming, and Club/Intramural Sports and Fall-to-fall Achievement for 2021 Cohort 65

Table 13. Term GPAs and Cumulative Term GPAs by Group 68

Table 14. Next Term GPAs and Cumulative Next Term GPAs by Group 69

LIST OF FIGURES

Page

Figure 1. A longitudinal model of institutional departure 12

Figure 2. A psychological model of college student retention 14

Figure 3. Astin's Theory of Student Involvement 17

Figure 4. Race or Ethnicity 54

Figure 5. Term Cumulative GPAs by Cohort 62

Figure 6. Term GPAs by Race/Ethnicity 63

Figure 7. Next Term Cumulative GPAs by Cohort 66

Figure 8. Term Cumulative GPAs by Race/Ethnicity 66

CHAPTER ONE: INTRODUCTION

INTRODUCTION

Community colleges are a relatively new entrant in the field of higher education. A product of the early 20th century, community colleges were created in response to a growing need for higher education that is both accessible and affordable to the average American. While the first community college was established in Joliet, Illinois, in 1901, the federal government encouraged the expansion of community college efforts with the passage of the GI Bill in 1944 (Anderson, 2015; Kane & Rouse, 1999). The purpose of the GI Bill was to provide funding for education and training for veterans returning from World War II. This program has since funded the education of veterans of World War II through the Global War on Terror (Anderson, 2015).

Community colleges continued to expand through the mid-20th century, with the number of institutions increasing at the rate of one new institution per week during the 1960s (Trainor, 2015). The federal government continued to fund this expansion with the passage of the Higher Education Act of 1965. This act aimed to provide federal assistance to colleges and universities and expand access to higher education for low-income students (Anderson, 2015; "Higher Education Act," n.d.). Community colleges cemented their role in higher education by offering vocational and technical training, transfer programs, and adult education courses by the 1970s.

Community colleges have continued to play a crucial role in providing higher education opportunities that are both accessible and affordable well into the 21st century. The American Association of Community Colleges ("Fast Facts," n.d.) reports that as of 2022, there are 1,043 tribal, public, and private community colleges in the United States. Together, these institutions educate over 10.3 million credit-seeking and non-credit-seeking students ("Fast Facts," n.d.). Community colleges serve a diverse background of students and provide programs and services that include associate degrees, bachelor's degrees in select programs, transfer programs, workforce development, and continuing education courses.

The importance of physical activity and the positive benefits to both the physical and mental health of participants has long been known (Vasold et al., 2019). The physical and mental health benefits of intramural and club sports are that they provide students an opportunity to reduce stress and anxiety, improve their moods, and increase their self-esteem (Vasold et al., 2019). Campus life programming such as welcome week, provides an opportunity for students to become socially integrated to the institution. Previous researchers have found social integration to be an important factor in whether a student stays or leaves a particular institution (Fike & Fike, 2008; Tinto, 2012). Community colleges enroll 47% of first-generation students, which as a single group, makes them a large portion of the community college population overall (Monaghan & Sommers, 2021). Given that lack of experience that first-generation students have with higher education, they are also the group most in danger of not being successful.

STUDENT RETENTION

As community colleges expanded and more students began to attend, community colleges became a crucial connection for students accessing higher education. Student retention has been a significant issue for community colleges since their start in the early 20th century. Some retention issues stem from community colleges serving a large population of nontraditional students with competing life responsibilities and educational barriers (Tinto, 2012). Student retention and persistence are critical for both individual students and for the goals of workforce development and economic growth. Research has found that students who are retained and persist to graduation are more likely to achieve higher lifetime earnings than those who are not retained or persist (Dadgar & Trimble, 2015). With added focus on student retention, there has also been a growth in calls for accountability.

Numerous higher education stakeholders have focused on the idea of accountability, viewing it as a means of ensuring that taxpayer funds are spent wisely with the greatest return on investment (Monaghan & Sommers, 2021). Accountability as a measure of success is often examined through the lens of retention and completion rates. Unfortunately, community colleges often have retention and completion rates that are much lower than their four-year peer institutions (Monaghan & Sommers, 2021). In a recent national study, public four-year institutions retained 81% of students after one year, while 60% of their students completed within 150% of the normal time. Meanwhile, in the same study, community colleges only retained 62% of their students after year one, while 25% completed within 150% of the normal time (Monaghan & Sommers, 2021). Defining exactly what researchers mean when they write about retention is also helpful. Retention refers to students returning from one year to the next

at the same institution (Schneider, 2022). Persistence is a subset of retention and refers to academic achievement in courses. Academic achievement can be defined as either grade point average (GPA) or course grades (Schneider, 2022).

Wild and Ebbers (2002) found that it is vital for community colleges to redefine student retention for their institutions. Identifying the student's educational goals and persistence toward those goals would be a more accurate measure for community colleges. Graduation is not always the goal for a community college student, and assessing colleges based on this goal will likely have little impact on student retention and completion levels (Wild & Ebbers, 2002). Community colleges are most likely to positively influence student retention and completion rates by ensuring their students actively participate in the academic community. Current research found that 84% of college students do not participate in any additional activities outside of the classroom on their campuses (Windham et al., 2014).

Given the fact that community colleges are access institutions that enroll 39% of all undergraduates, low retention and completion rates impact higher education success as a whole, not just the community colleges themselves (Monaghan & Sommers, 2021). Many undergraduates choose to begin at community colleges because of the low cost, convenient locations, and open-access nature of community colleges (Karp et al., 2010). Compared to students who enter four-year institutions, baccalaureate aspirants who enter two-year institutions have lower levels of retention and completion (Borglum & Kubala, 2000). Borglum and Kubala (2000) also found that only one-third of community college students attained an associate degree or certificate.

Community colleges enroll many historically excluded student populations such as African-Americans (38%), Latinx (46%), first-generation students (47%), Pell recipients (34%), and undergraduate students over the age of 25 (46%) (Monaghan & Sommers, 2021). As community college leaders have looked to improve retention and completion rates, current theoretical models have not worked. Some potential reasons for this are that community colleges typically consist of part-time commuter students, and the dominant models tend to focus on direct, full-time enrollment at a residential campus (Monaghan & Sommers, 2021). As Monaghan and Sommers (2021) point out, student retention spending typically favors instruction versus student services at community college institutions. Student retention is also important for deciding which academic programs an institution should offer (Fike & Fike, 2008).

Research on student retention has increased dramatically in the last two decades (Halpin, 1990). Most of this research has centered on the traditional-age student in a residential, four-year college environment. This is ironic considering that during that same time, community colleges, not four-year institutions, have become the entry point for most undergraduate students (Halpin, 1990). When looking at why students exit college, researchers found that academic integration impacts students at commuter institutions the most. The opposite holds true for residential colleges, where social integration has the most impact (Halpin, 1990). The number of hours students work has also been shown to impact academic success negatively. Students over the age of 21 that work more than 30 hours a week are less likely to be retained or complete (Torres et al., 2010). This is essential information for community college administrators, as community colleges enroll many students over 21. With attrition rates over 50% for students entering community college, higher education

practitioners have tried to model which predictors of first-year student retention have the most significant impact (Mertes & Hoover, 2014).

STUDENT PERSISTENCE

Student persistence is an important statistic that should concern all institutions of higher education should be concerned with. This is especially true at community colleges. With their open-access mission, community colleges have played a major role in removing many barriers preventing students from enrolling in college (Nakajima et al., 2012). In 2004, American College Testing reported that 48% of public community college students dropped out of school before completing their degrees (Nakajima et al., 2012). Most research into student persistence has relied on studies at four-year institutions. The studies conducted using two-year institutions have found that goals and self-efficacy are the most important predictors of community college student persistence (Nakajima et al., 2012). Research by Nakajima et al. (2012) found that faculty interaction did not increase persistence rates for community college students, but that students' perceptions of faculty concern significantly impacted student persistence.

PURPOSE OF THE RESEARCH

This research study aims to investigate the potential correlation between participation in intramural and club sports, campus life programming, and first-generation students' retention and persistence rates. The study will comprise cohorts from the Fall 2019 and 2021 semesters at Southwestern Michigan College, a rural community college in southwest Michigan. The geographical setting of this study is noteworthy as it presents a unique context in which to examine the potential impact of extracurricular activities on student success. Much of the

current research has taken place in four-year residential settings. Southwestern Michigan College, while a two-year institution, does have a residential setting which may mean its students are impacted by academic and social integration the same as students at four-year institutions. Through a comprehensive exploration of the data collected, this research aims to contribute to the broader discourse on strategies to promote student retention and persistence within the community college setting.

SIGNIFICANCE OF THE STUDY

This study aims to contribute to the existing scholarship on student success and retention in community colleges by exploring the potential influence of social integration on the retention and persistence of first-generation students. While much of the current literature concentrates solely on the four-year institution level, this research aims to bridge the gap and expand knowledge on the role of social integration within the community college context. Should the findings demonstrate a positive correlation between social integration and student retention and persistence, increased funding may be allocated toward developing social integration initiatives, including campus life programming and intramural and club sports.

RESEARCH QUESTIONS

This research study focused on two cohorts of first-generation students: one in the Fall 2018 semester and one in the Fall 2021 semester. The participation history of each cohort was tracked for the fall semester, and the cohort was separated into either participation or non-participation subgroups. Retention from fall-to-fall and fall-to-spring was determined by examining whether students were retained. Achievement was determined by examining each

student's fall-to-fall and fall-to-spring grade point average (GPA) to determine if participation affected student GPA. The following research questions guided the research:

RESEARCH QUESTION 1

Does participation in campus life activities, specifically welcome week programming, campus-wide programming, and club/intramural sports, improve first-generation student retention from fall-to-spring at a small rural community college?

- ***Hypothesis:*** A significant, positive correlation exists between participation in campus life activities and first-generation student fall-to-spring retention.
- ***Null Hypothesis:*** There is no statistically significant correlation between participation in campus life activities and first-generation student fall-to-spring retention.

RESEARCH QUESTION 2

Does participation in campus life activities, specifically welcome week programming, campus-wide programming, and club/intramural sports, improve first-generation student retention from fall-to-fall at a small rural community college?

- ***Hypothesis:*** *A significant, positive correlation exists between participation in campus life activities and first-generation student fall-to-fall retention.*
- ***Null Hypothesis:*** *There is no statistically significant correlation between participation in campus life activities and first-generation student fall-to-fall retention.*

RESEARCH QUESTION 3

Does participation in campus life activities, specifically welcome week programming, campus-wide programming, and club/intramural sports, improve first-generation student achievement from fall-to-spring at a small rural community college?

- ***Hypothesis:*** A significant, positive correlation exists between participation in campus life activities and first-generation student fall-to-spring achievement.

- ***Null Hypothesis:*** There is no statistically significant correlation between participation in campus life activities and first-generation student fall-to-spring achievement.

RESEARCH QUESTION 4

Does participation in campus life activities, specifically welcome week programming, campus-wide programming, and club/intramural sports, improve first-generation student achievement from fall-to-fall at a small rural community college?

- ***Hypothesis:*** A significant, positive correlation exists between participation in campus life activities and first-generation student fall-to-fall achievement.

- ***Null Hypothesis:*** There is no statistically significant correlation between participation in campus life activities and first-generation student fall-to-fall achievement.

DEFINITION OF TERMS

The following definitions are used throughout this study:

- ***First-generation student*** – Refers to any student whose parents or guardians have not completed a bachelor's degree or higher as defined by the Higher Education Act of 1965 ("U.S.C. Title 20 - Education," n.d.).

- ***Student achievement*** – Refers to numerous factors encompassing various academic outcomes, including grades, test scores, graduation rates, and post-college success. For the purpose of this study, grades will be the focus. Achievement is considered one of the components needed for college student success (Braxton et al., 2000).

- ***Student persistence*** – Refers to the sustained effort and commitment by a student to achieve their academic goals and complete their educational programs regardless of what challenges and obstacles they may face along the way. Persistence includes factors such as motivation, self-efficacy, a sense of belonging, and the perceived value of the education the student receives (Tinto, 2017).

- ***Student retention*** – Refers to the percentage of students who remain enrolled and complete their degree or program within a specified period. Student retention rates are a key indicator of student success and are crucial for achieving institutional goals such as increasing graduation rates and promoting student learning and development (Tinto, 1975).

SUMMARY OF CHAPTERS

Chapter One of this study provides an overview of the purpose and rationale for the research, as well as a brief history of community colleges and an outline of the study's theoretical framework, research questions, and definitions of key terms. In Chapter Two, the theoretical basis for the research is explored through a thorough review of relevant literature related to the community college environment. Chapter Three presents a detailed description of the study's design and methodology, including the procedures used by the researcher. The research results are discussed in Chapter Four, with attention to any findings outside the scope of the study. Chapter Five offers an interpretation of the findings, implications for future research, and limitations of the study.

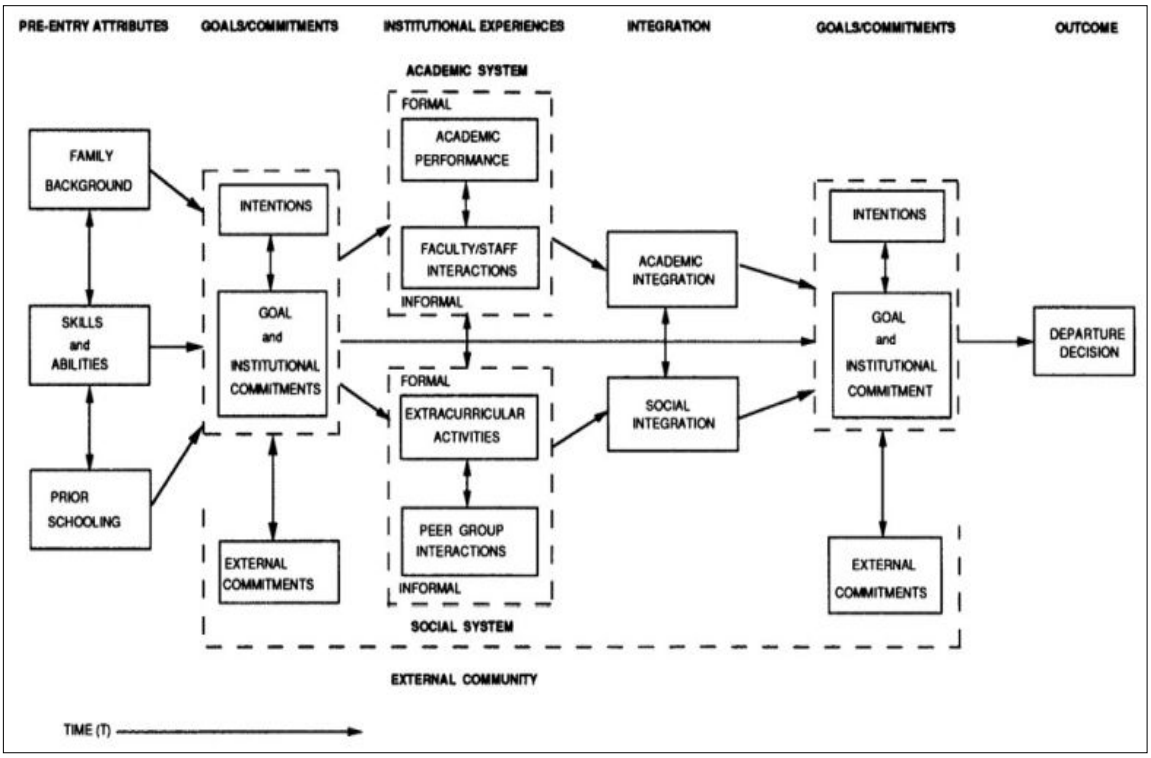
CHAPTER TWO: REVIEWING THE LITERATURE

RETENTION MODELS

Several student retention models exist. Tinto's (2012) model of student departure, Astin's model of student involvement, Bean and Eaton's (Bean & Eaton, 2001; Luke et al., 2014) psychological model of college student retention, St. John's financial-impact model, and Paulsen and St. John's choice-persistence nexus model are among the predominant student retention models (Lohfink & Paulsen, 2005). One of the most popular models is the student integration model, first attributed to Vincent Tinto. This theory states that students pass through a series of stages as they transition from first time at a college student to a mature student. These stages are affected by students' academic and social integration (Fike & Fike, 2008; Tinto, 2012). Figure 1 shows how this model works. Tinto's theory pulls inspiration from Van Gennep's rites of passage study and Durkheim's theory of why individuals contemplate suicide (Bers & Smith, 1991; Davidson & Wilson, 2013). While Tinto's theory is popular among higher education practitioners, some have argued that most community college students possess different characteristics than four-year students. Community college students are typically: older than their four-year peers; more likely to belong to a minority group; likely to be part-time versus full-time; and more likely to be academically underprepared than their four-year peers (Fike & Fike, 2008). Research by Pascarella et al. (1986) found that Tinto's model is

helpful in determining the long-term persistence of students that begin their academic careers at community colleges.

Figure 1. A longitudinal model of institutional departure (Tinto, 2012)



Hagedorn (2010) has argued that even with these differences, Tinto's (2012) model still holds value for community colleges. Hagedorn (2010) found that for many community college students, college is a small part of their lives. While the concepts of integration are applicable, the integration of community college students can have unique attributes. Specifically, Hagedorn (2010) found an interconnectedness between social and academic integration that researchers had previously not noted. Halpin (1990) reported a similar finding when examining the effectiveness of Tinto's (2012) model at community colleges. Halpin (1990) also concluded that academic integration held greater influence than social integration in transitioning from

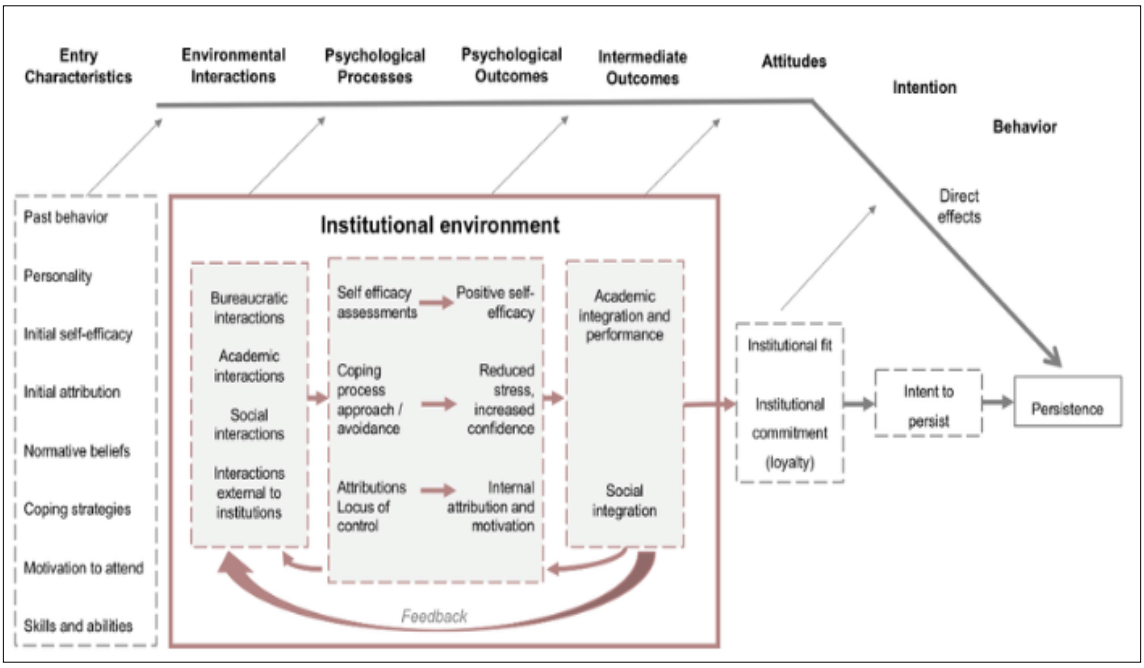
one stage to the next. Research conducted by Pascarella et al. (1986) found that academic and social integration impact a student's persistence as much as any other pre-college variable.

Critics of Tinto's (2012) theory of student development find that this theory is ill-suited for the study of community college retention because this theory relies so heavily on social integration (Karp et al., 2010). They point out that commuter students often live at home, have familial obligations that keep them away from campus, and tend to work full-time. These factors negatively impact a student's ability to socially integrate into the campus community (Karp et al., 2010). Tinto's (2012) theory states that students become integrated into the college community by participating in clubs, engaging in social and academic activities, and meeting and bonding with others (Karp et al., 2010). This social interaction leads to greater academic integration by creating information networks that students can rely on to increase their likelihood of academic success. A critical finding from Tinto's (2012) work is that information networks created through extracurricular activities are less effective than those made through academic settings (Karp et al., 2010).

Bean and Eaton's (Luke et al., 2014; Bean & Eaton, 2001) model of college student retention identified self-efficacy as the most powerful predictor of student retention. Bean's (Bean & Eaton, 2001) model views student retention as the result of many individual decisions. This model views retention through the lens of a psychological process. Figure 2 demonstrates the flow of the model. All students enter higher education with their own unique mix of life experiences, abilities, and self-understanding. These form the basis of each student's psychological attributes, the most important of which are self-efficacy, normative beliefs, and past behavior (Bean & Eaton, 2001). The student then interacts with the institution through

academic processes such as class and through social programming such as intramurals and clubs. All the while, they continue to interact with individuals from outside the institution. The result of these interactions forms the basis of a student's desire to be retained or not.

Figure 2. A psychological model of college student retention (Bean & Eaton, 2001)



However, Bean and Eaton's model does not work well for students lacking college work skills and abilities (Mertes & Hoover, 2014). Bean and Eaton (2001) found that self-efficacy is specific to a given task. As students gain confidence, they develop higher goals for achievement. Bean and Eaton (2001) found that as academic and social self-efficacy increases, a student's academic and social integration also increases. Given that many community college students are underprepared for college-level work, this would make Bean's model a poor choice for improving retention at the community college level. Research has also shown that for students to become academically and socially integrated, they need to believe that they are effective in

their academic and social pursuits (Bean & Eaton, 2001). Importantly, Bean and Eaton (2001) found that any factor in their model can affect a student's decision to stay or leave school.

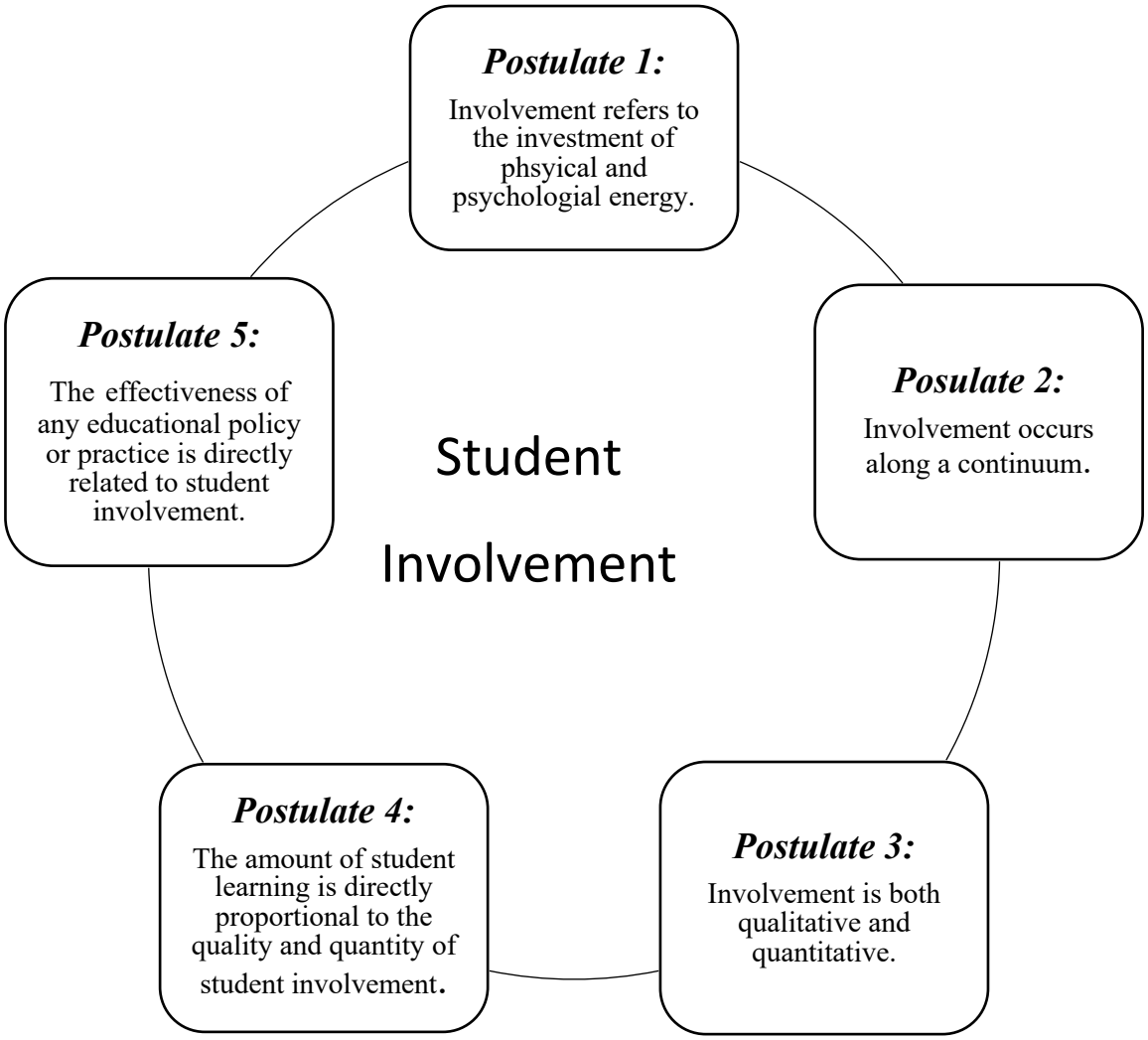
Mertes (2015) found that when applying Tinto's model to community college students, the social integration results were inconsistent with what was found at four-year institutions. Research by Mertes (2015) has shown that social integration does exist at community colleges but takes a different form than what is found at four-year institutions. Social integration at community colleges is focused more on academically related peer groups and interactions with faculty (Mertes, 2015). At four-year institutions, social interactions are more closely tied to purely social interactions. Mertes (2015) found that interventions designed to increase student retention at community colleges should look closely at in and out-of-class interactions. The research shows that community college students do not distinguish between these types of interactions. Mertes (2015) also suggests that encouraging faculty participation in retention strategies will increase the success of student retention strategies.

Another dominant model in the field of student retention is Astin's model of involvement. This model is mainly concerned with how students spend their time at college. Astin's model posits that students experience positive outcomes by spending time on campus, participating in student clubs, and interacting with faculty members (Kulp et al., 2019; Woods et al., 2019). Astin's work makes a strong connection between student involvement and student success. Another tenet of Astin's theory is that the types of involvement that most positively impact a student's success are those with academics, faculty members, and student peers (Berger & Milem, 1999).

Astin's model postulates that students learn from social and academic experiences on campus and that to be successful, students must be involved. Astin defines an involved student as someone who expends considerable energy on academic work, spends a lot of time on campus, interacts with their faculty, and actively participates in student clubs and organizations (Bergen-Cico & Viscomi, 2012; Astin, 1999). Successful student engagement requires engagement with the environment (Woods et al., 2019). Figure 3 shows how Astin postulates student involvement occurs. Astin's theory (Thomas et al., 2021) also emphasizes that the level of development is directly proportional to the quality and quantity of involvement a student engages in.

Given the large numbers of undergraduate students that begin at community colleges, it is difficult to reconcile the fact that research on student retention tends to focus more on four-year students (Schneider, 2022). Community colleges as a sector typically receive negative awareness due to their low retention and graduation rates. Community colleges are open-access institutions that provide academic opportunities for students that often lack a history of satisfactory academic performance (Schneider, 2022). Community colleges must remain focused on improving student retention and completion if they hope to remain a reasonable choice for incoming students and receive state funding. When examining community college attendance patterns, researchers found stop-out behavior levels to be high. Stop-outs occur when a student leaves an institution for one or more semesters but returns. Given the high stop-out levels researchers encounter, it is advisable to examine persistence and retention semester-to-semester instead of year-to-year (Bers & Smith, 1991).

Figure 3. Astin's Theory of Student Involvement (McCollum, 2018)



Institutions continue to make improvements in their retention and completion rates. Unfortunately, even with the amount of research conducted on this topic, the national student retention and completion rate has changed very little over the past decade (Tinto, 2006). Previous research has highlighted that student involvement and engagement positively affect student retention. This involvement and engagement have also been found to have the most impact during the first year of college (Tinto, 2006). Faculty involvement is one area that research has highlighted is important across higher education institutions. Mertes (2015)

suggested including faculty in student retention strategies. Nakajima et al. (2012) found that that students' perceptions of faculty concern significantly impacted student persistence. Even Astin found that interacting with faculty members was important for students to be successful (Berger & Milem, 1999; Kulp et al., 2019; Woods et al., 2019). Many faculty do not see it as a function of their jobs to improve student retention rates, even though student involvement with faculty is high on the list of factors that positively affect student retention and completion (Tinto, 2006).

Given the increased competition that community colleges now face from for-profit institutions, online education, and the increasing availability of technology, dedicating funding to student retention is critical (Phelan, 2014). Where will the funding come from? Current community college funding sources face many challenges. Calls for fiscal efficiency, accountability, and the changing needs of students and employers are all factors that community college administrators must juggle (Phelan, 2014). Over time, community college funding has shifted from state and local funding to a greater reliance on student tuition and fees. This is a problem for community college leaders as the public has demonstrated a growing concern about the rising cost of education. There are also the issues of poor job placement for community college graduates and low salaries for those that are placed. All these factors serve to question the value of a community college education (Phelan, 2014).

Stakeholders at the state level have tried numerous methods to control the cost of higher education at the community college level. One method used in as many as 30 states is performance funding (D'Amico et al., 2013). Performance funding allocates funding based on specific and measurable performance measures such as retention and persistence of students.

State-level stakeholders like this method because they believe it holds institutions of higher education accountable while at the same time removing focus from the decline in state revenue for higher education (D'Amico et al., 2013). When examined at four-year institutions, performance funding did not affect student persistence or retention (D'Amico et al., 2013).

STUDENT ENGAGEMENT

Student engagement can most simply be described as the amount of energy students invest in social interactions (Kuh et al., 2008). Student engagement also relies on institutions devoting energy and resources to educationally purposeful activities for students to engage in (Kuh et al., 2008). Studies have found that student engagement positively affects a student's grades in both the first and last year of college while also affecting a student's decision to persist from one year to the next (Kuh et al., 2008). Student engagement as a means of improving retention and completion is a valuable tool for community colleges because the positive effects of student engagement hold true across all demographics. In fact, the positive effects of student engagement are greater for students with lower academic abilities and students of color (Kuh et al., 2008). One reason researchers believe student engagement positively affects retention and completion is that activities that require daily decisions increase a student's investment and commitment to the college (Kuh et al., 2008).

One outcome of decades of research on student engagement has been that numerous terms have become synonymous with student engagement. Terms such as involvement, engagement, extracurricular activities, and co-curricular activities are used interchangeably by researchers and practitioners and essentially mean the same thing (Kulp et al., 2019). Given that terms have become synonymous, some research has been conducted to determine if

different types of engagement are more predictive of student success. Tinto, for example, discovered that involvement in student clubs and organizations such as athletics and student government has a positive relationship with academic success (Kulp et al., 2019). Krause and Coates (2008) define student engagement as the quality of effort students devote to educationally purposeful activities that contribute to some desired outcome, typically student success.

Research on student engagement often approaches engagement as encompassing both academic and non-academic aspects of the student experience (Krause & Coates, 2008). Research in this area has found that while it is possible to identify activities and conditions beneficial to students, it is more difficult to determine which of these are necessary and sufficient for learning (Krause & Coates, 2008). In the United States, the National Survey of Student Engagement (NSSE) has become the most established framework for studying student engagement. The NSSE classifies student engagement within five categories: level of student academic achievement, active and collaborative learning opportunities, student-faculty interaction levels, enriching educational experiences, and how supportive the campus environment is (Krause & Coates, 2008; Woods et al., 2019). This framework was the first of its kind and has been widely used by student affairs practitioners to guide their practices and policies around student engagement.

Even with the widespread use of the NSSE, some researchers find it important to differentiate between active and passive involvement. Involvement is considered active if students commit to joining a membership-driven club or organization. Active involvement requires the student to expend physical and psychological energy (Kulp et al., 2019). Intramural

teams, student government, and student clubs are examples of active involvement. Involvement is considered passive if a student attends a campus-sponsored activity that does not require membership or long-term commitment. These activities can provide fun and social activities for students to engage in but do not require any type of work on behalf of the student (Kulp et al., 2019). Good examples of passive involvement are spectating at an athletic event, attending a concert on campus, or listening to a guest speaker.

The importance of determining which types of student engagement are successful stems from pressure from multiple stakeholder groups that want administrators to justify the resources expended on student engagement. Colleges are expected to build a campus community and identity for both students and stakeholders. This must be done in a manner that continues to improve student retention and completion. Research has found a positive relationship between student involvement, retention, and completion (Kulp et al., 2019). It is less well-known what types of student involvement demonstrate these positive relationships.

Research suggests that colleges that involve students in active involvement are the best environment for student learning and development to take place. Students at these types of colleges are more likely to feel a sense of loyalty to the college and are more likely to be satisfied with the education that they are receiving (Berger & Milem, 1999). In conjunction with Tinto's (2012) framework, this study demonstrates that student involvement leads to higher levels of social and academic integration for the student (Berger & Milem, 1999). Involvement early in the fall semester has been shown to have positive effects on spring involvement as well as on social and academic integration for students (Berger & Milem, 1999). Persistence has also been shown to improve if students become involved early in the spring. Students that are not

involved tend to perceive both their peers and the institution as unsupportive, which can lead to them not being retained or completing their education (Berger & Milem, 1999).

Given the importance of student connection to campus and its potential effects on a student's completion and retention, additional research has been conducted to determine how to get students to better connect to the campus. It has been found that students from under-represented groups are less likely to be connected to the campus than students from over-represented groups (Baker, 2008). Extracurricular involvement has been found to have a positive correlation between academic success and college connection. Academic success has been identified as a positive indicator of how connected a student has become to the campus community (Baker, 2008). Athletic teams and events have been identified as positively impacting engagement and academic success for African-American students that are often over-represented in college athletics (Baker, 2008).

Research has also demonstrated that while the amount of time spent on extracurricular activities does not have a discernable impact on academic success for any student group, the type of activity that students choose to participate in does. Intramural and club sports have been found to positively impact African-American males, African-American females, and Latinos (Baker, 2008). Baker's (2008) study included 991 African-American students and 916 Latino students from 27 selective colleges. Students in this study were considered to be in the minority at their respective institutions.

There are numerous reasons why students may not be retained after their first year. Some of the reasons affecting this decision are financial hardships on the part of the student, a sense that they do not belong to the campus community, lack of a support network, and little

to no engagement with the institution (Dyk & Weese, 2019). Intramural activities have long been found to influence retention and student success positively. As a form of student engagement, intramural activities allow students to become more involved with their campus communities and enhance their own development (Dyk & Weese, 2019).

Precisely how colleges define student success varies from institution to institution. Across the field of student affairs, grade point average, persistence, and student retention are the most used metrics (Becker et al., 2009). For student affairs practitioners and researchers, student success is a cornerstone of their work. Research in the field has found that students who participate in student affairs programming are more successful than students who do not (Becker et al., 2009). For this study, 600 students were selected from a university in the southeastern United States. These students were followed up on by researchers throughout their time as undergraduate students and after they graduated to determine if student affairs involvement could improve student success (Becker et al., 2009). One of the most important findings from recent research has been that student affairs practitioners need to connect student affairs programming to the work being done in the classrooms (Becker et al., 2009). This type of programming has been termed co-curricular.

As important as work in the classroom, retention is highly connected to building social networks and engaging with the campus community (Bergen-Cico & Viscomi, 2012). Research has found that many students do not persist because of a lack of social connections with other students and low first-semester GPAs (Bergen-Cico & Viscomi, 2012). Colleges must provide engaging campuses for students to become involved with other students and the campus. Bergen-Cico and Viscomi (2012) define involved campuses as campuses with a clearly defined

institutional mission and purpose, a campus environment that facilitates that mission and purpose, promotion of student involvement opportunities, a campus culture of student involvement, and activities that provide opportunities for personal development. Higher education administrators need to realize that while it is crucial for student success for students to be involved on campus, there is a point where involvement begins to impact academic performance negatively. Research from Bergen-Cico and Viscomi (2012) found that students in their highest participation group also had the lowest GPAs of all study participants.

A key finding gleaned from all the research on student engagement is that student engagement does have a positive link to student success (Kuh, 2009). The critical takeaway for higher education administrators is that all students benefit from engaging in meaningful engagement opportunities. The various student groups (low-income, historically underserved populations, etc.) benefit at different levels, but all students benefit (Kuh, 2009). The practice of student engagement is often viewed as a proxy for successful student achievement and persistence and is considered a value-added quality for colleges (Kuh, 2009). Given the importance of student completion and retention rates as student success metrics, the return on investment for colleges is substantial.

During the last decade, student engagement has also become a digital and in-person activity (Gross & Meriwether, 2016). Digitally, student engagement generally takes the form of Facebook likes, Twitter retweets, Instagram comments, and Tik Tok views. Student affairs practitioners have long measured engagement by the amount of energy students spend on activities outside of the classroom that impact student success (Gross & Meriwether, 2016). The National Survey of Student Engagement (NSSE) initially only defined social media in its capacity

to help students complete coursework and connect with their peers regarding coursework. The NSSE has changed this definition to include responding to photos and creating or responding to campus events as engagement (Gross & Meriwether, 2016). This definition is congruent with the definition of student engagement used by both Tinto and Astin.

Determining how students respond to social and engagement opportunities within the first month has been shown to be a reliable short-term predictor of college retention (Bowman et al., 2019). This information is often gathered using surveys submitted by students. The challenge with surveys is that they require students to be introspective. This method is prone to error for this very reason. Surveys are also unlikely to be completed by students struggling to adjust (Bowman et al., 2019). Research by Bowman et al. (2019) found that a better way to gather data about social integration was to examine campus dining data. This data allows administrators to create an indicator of students' social networks. Social networks are important because social integration has positively affected retention and completion. The results of this study showed that social integration can predict retention as early as the first week of class (Bowman et al., 2019).

SOCIAL INTEGRATION

Research into why students do not persist has determined that social integration is directly related to how committed a student is to their institution (Braxton & McClendon, 2001). This social integration begins as early as the first week of the semester. Social integration has been shown to have positive effects even at institutions where integration is not strongly correlated with attrition (Chapman & Pascarella, 1983). Research by Chapman and Pascarella (1983) found that students at community colleges are the least socially integrated relative to

other types of institutions. The findings on what type of social integration methods work best at community colleges have been mixed (Deil-Amen, 2011). Pascarella et al. (1986) found that social integration positively affects the retention and persistence of both male and female students. This research found that for male students, knowing a faculty or administrator at the college had the greatest effect on persistence and retention. In contrast, for female students, leadership activities had the most significant impact (Pascarella et al., 1986). Living on campus has also been shown to improve the social integration of students (Bronkema & Bowman, 2017).

ACADEMIC INTEGRATION VS SOCIAL INTEGRATION

Given the popularity of the Tinto model, most studies on student retention and student success have focused more on social than academic integration. This is because Tinto believed that social integration was a more robust indicator of retention than academic retention. As the field has grown, more studies have been conducted that have focused on both residential and non-residential institutional settings (Davidson & Wilson, 2013). Many studies have found that community college students are more likely to socially integrate through classroom and academic interactions (Davidson & Wilson, 2013). A study by Strauss and Volkwein (2004) found that the main difference between community college students and students at four-year institutions is that commuter students are engaged in the classroom, while students at four-year institutions are engaged through social activities outside the classroom. For community college students, the classroom experience is a better predictor of retention (Strauss & Volkwein, 2004).

Many studies have shown that students at community colleges all share the common trait of having limited time to interact socially with their peers on campus outside of the classroom (Deil-Amen, 2011). Deil-Amen's (2011) study found academic integration to benefit community college students more than social integration. Most other studies, however, continue to espouse the benefits of outside-the-classroom social involvement to increase student retention and completion (Maxwell, 2000). Halpin (1990) found that Tinto's theses about academic and social integration hold true for community colleges. However, Halpin found that academic integration held more sway on a student's decision to persist and complete than social integration.

Research by Moss and Young (1995) examined the perceptions of underprepared students regarding their academic and social integration. This research is important for community colleges because research has shown that more than 50% of entering community college students are not prepared to do college-level work. These numbers go up to at least 75% for urban community colleges (Moss & Young, 1995). Moss and Young's (1995) research found that while students can accurately gauge their social integration, they are less likely to gauge their academic integration than administrators and faculty accurately reported.

STUDENT-ATHLETES AND RETENTION

Recreational sports are one of the many ways that students can become engaged with the campus and their peers. Forrester et al. (2018) conducted a cross-sectional study examining recreational sports participation and student satisfaction with their college experience. Two national studies were also conducted by the National Association of Student Personnel Administrators (NASPA) and the National Intramural and Recreational Sports Association

(NIRSA) that involved over 32,000 students to examine the importance of recreation programs and facilities in deciding to continue at their colleges/universities. These studies found that for 70% of these students, deciding whether to persist at their college was positively impacted by campus recreational programs and facilities (Forrester et al., 2018).

Participation in recreation programs and employment by recreation programs were found to positively impact student retention across the second, third, and fourth years. Increasing student participation in these activities can be accomplished through expanded recreational hours, reduced or no-cost participation, arranging leagues by skill level, and having options for individual and team sign-ups (Forrester et al., 2018). Another important finding of these studies is the importance of ensuring students are both aware of the recreational opportunities available and the importance of participating in them.

Many students have transition issues during the first year of college. This is often a result of managing more demands on their time than what they were used to in high school (Mayers et al., 2017). Engaging with the campus community has long been a means of helping first-year students with this transition. Engagement on campus has been found to be as important in student retention as academic performance and success (Mayers et al., 2017). Campus recreation participation improves student engagement, especially among students with lower GPAs. Additionally, campus recreation programming has been shown as an essential means for these same students to engage with the campus community (Mayers et al., 2017). Some of the benefits reported by first-year students were academic accountability, establishing collaborative relationships with their peers, and feelings of connection to their departments

(Mayers et al., 2017). The research has demonstrated that campus recreation has a positive effect on student success overall.

Athletics programs at higher education institutions have been shown to impact the types of students that enter certain institutions. Four-year universities with successful football programs, for example, have been shown to have higher SAT scores for incoming students than other peer institutions. Graduation and retention rates have also been shown to be higher at these institutions (Hickman & Meyer, 2016). Community colleges, however, do not share the benefits often associated with successful athletic teams. At the community college level, most institutions focus on opportunity over success (Horton, 2009). Some administrators see this as an expansion of the open-access mission of community colleges.

Given the strong connection that student-athletes have with their campus community, there has been little research on why these students choose to leave their teams and/or the college. Tinto's theory states that a major determining factor for students' retention is their academic and social connection to the campus (Weiss & Robinson, 2013). Additional research has found that student-athletes often have lower academic qualifications and preparation than students who are not athletes (Weiss & Robinson, 2013). In addition to these factors, disagreements with coaches and teammates can prevent student-athletes from being retained. Professors and administrators may hold negative perceptions about student-athletes, which can hamper the social connection that student-athletes may make with the college. Knowing that professors are attending and supporting teams has been shown to increase the likelihood of retention of student-athletes (Weiss & Robinson, 2013).

Athletics and academics are often only linked together by student-athletes as one is a requirement for the other. At community colleges, athletics is about providing an opportunity for the development and growth of student-athletes (Horton, 2009). For student-athletes to succeed at community colleges, community college leaders must focus on student academic achievement off the field. As a means of student engagement, athletics must be viewed as an extension of student learning opportunities (Horton, 2009). Another area where athletics impacts students' academic and social integration is fan identification. Research by Wann and Robinson (2002) found that students who were fans of their institution's athletic teams were more integrated into the university and had more positive perceptions of their college community. Similar research by Branscombe and Wann (1991) found that students are better able to handle feelings of depression and alienation when they can use team identification as a buffer. Clopton (2009) postulates that the increased campus community connections developed through watching and identifying with campus athletic teams will result in higher integration of those students into the campus community.

Recreational sports are a great opportunity to engage many of the former 8 million high school athletes that attend college each year (McElveen & Ibele, 2019). Recreational sports provide an engagement opportunity that helps ease these first-year students' transition to college. When examining the difference in student success rates for participants in varsity athletics and intramural sports, McElveen and Ibele (2019) reported no significant difference between the two groups. However, the students that participated in intramural sports had higher rates of retention than students who participated in varsity athletics.

Athletic programs are often a major motivation for many students to pursue higher education. This is especially true for students from low-income and underrepresented ethnic backgrounds (Mendoza et al., 2012). Research by Kanter and Lewis (1991) found that female student-athletes scored higher GPAs and earned more credits than their male-athlete counterparts. As a group, student-athletes earned more credits than non-athletes, although GPAs for student-athletes were slightly lower than the non-athlete group (Kanter & Lewis, 1991). Kanter and Lewis (1991) found that African-American and Hispanic male student-athletes also outperformed non-athletes from the same group academically in this study. In a separate study, Carr et al. (1992) attributed the success of African-American male student-athletes to the social and academic integration provided by sports participation as well as encouragement from coaches and other institutional members.

For students who choose to get involved with intramural sports, four factors increase their connection to the community: membership, peer influence, integration and fulfillment of their needs, and a shared emotional connection with others (Phipps et al., 2015). Connection with the campus community is sometimes referred to as a sense of community. This sense of community occurs when a student feels connected to others due to being a member of a larger group (Phipps et al., 2015). Membership is defined simply as a sense of belonging. There are no requirements that this membership follows any type of official process. Influence refers to the sense of importance a student feels. This is in addition to the ability to make a difference in a group. Integration and fulfillment result from the reinforcement of outcomes due to their involvement in activities or groups. A shared emotional connection stems from the belief that members of a group share a common set of beliefs (Phipps et al., 2015). For first-year students,

participation in intramural sports is often where they find and build their initial primary social networks.

Aside from the connection to the campus community and their peers, recreational sports also provide students with physical activity opportunities. This is important because physical activity allows students to reduce stress and anxiety, improve their moods, and increase their self-esteem, and it has been shown to enhance cognitive function (Vasold, 2019). Participation in recreational sports also correlates well with Astin's (Kulp et al., 2019; Woods et al., 2019) theory of student involvement because it requires both physical and psychological expenditure of energy on behalf of the student (Vasold et al., 2019).

In their research, Vasold et al. (2019) found that students who participated in club sports were twice as likely to be retained the following year when controlling for other variables that can affect retention. Their research also found that students who participated in club sports had a 6% higher retention rate than those who just participated in intramural sports. Previous research in this field has shown that this might occur because participants in club sports have more consistent and cohesive teams, increased leadership skills are required to keep teams together, GPA requirements for club sports are higher than for intramural sports, club sports have higher levels of competition, and greater time management skills are needed (Vasold et al., 2019).

According to research by the American College Health Association, 16.5% of college students reported participating in intramural activities on their campus (Vasold et al., 2017). Vasold et al. (2017) found that while participation in intramural sports had no discernible impact on GPA compared to non-participants, retention was positively affected. Specifically,

when compared to retention rates for non-participants, intramural participants had a fall-to-spring retention rate of 96.5% vs. 91.8% and a fall-to-fall retention rate of 79.8% vs. 73.9% (Vasold et al., 2017). Their research findings demonstrated that first-year students participating in intramural sports were more likely to be retained for a second year than non-participants.

CAMPUS RECREATION AND STUDENT SUCCESS

Persistence is affected by many different variables. Astin found that previous academic achievement, academic performance, campus residence, and co-curricular activities impacted persistence. At the same time, Tinto believed persistence was more affected by a commitment to the institution (Belch et al., 2001). Research has shown that persistence is more positively affected by what happens as a student integrates into the campus environment than any factors prior to the student coming to college (Belch et al., 2001). Of all the factors examined by Belch et al. (2001), participation in intramural activities and a connection with faculty members were shown to have the most positive influence on educational success.

In addition to the availability of intramural opportunities, campus recreation facilities have also been shown to impact retention. Students with lower GPAs who were retained were more likely to have utilized campus recreation facilities than students with lower GPAs who were not retained (Belch et al., 2001). The positive effect on first-year students was also positive in nature. Students utilizing the recreation facilities on campus were more likely to have higher GPAs and to have earned more credits at the end of their first year on campus (Belch et al., 2001). Recreation facilities are also important because they provide diverse programming opportunities for students and function as a community center for students and faculty. Intramural sports also allow students to establish social relationships with their peers.

These social relationships allow participants to find study partners and seek advice from their peers (Belch et al., 2001).

Recreation facilities have a long history on college campuses. The first recreation facilities were established in 1900. Intramural athletics followed shortly thereafter and were established in 1913 at the University of Michigan and Ohio State University (Blumenthal, 2009). NIRSA estimates that for every varsity student-athlete on a college campus, more than four students participate in intramural and club sports opportunities (Blumenthal, 2009). Research by Kerr and Downs found that 75% of students participate in intramural offerings regularly (Blumenthal, 2009). Their research found that students participating in intramurals were more likely to have improved emotional well-being, less stressed than non-participating students, more capable of handling their workloads, and happier overall (Blumenthal, 2009).

Huesman et al. (2009) conducted a study to determine what effect campus recreation facilities had on retention and graduation rates, if any. The researchers found that campus recreation facilities allow students to engage in physical recreation, providing stress relief, enhancing creativity, and reenergizing users (Huesman et al., 2009). Campus recreation facilities also work very well as a catalyst for social integration because of the communal nature of these facilities. As stated earlier, social integration has positively influenced retention and student completion. In the 2009 study by Huesman et al., campus recreation facilities significantly impacted retention and completion. The researchers found that using the recreation facility 25 times over the course of the semester increased the likelihood that a student would be retained by 1% and that they would graduate in five years by 2% (Huesman et al., 2009).

Research by Lindsey et al. (2009) found that campus recreation facilities and intramural programs aid the institution as well as students. These facilities serve as a recruiting enhancement for potential students and increase satisfaction with the college experience for current students. Students in this study reported several benefits from using the campus recreation facility on their campus: a reduction in stress, a sense of well-being, a feeling of accomplishment, health benefits like weight control, fitness, and physical strength, improvement in their sports abilities, and friendship with their peers (Lindsey et al., 2009). These findings bolster Astin's argument that participation in extracurricular activities and student organizations positively affects retention and completion (Lindsey et al., 2009).

The quality of a campus recreation facility has been shown to impact a potential student's decision to attend a specific college and whether current students are retained (Kampf & Teske, 2013). In a survey conducted by Henchy (2011), 31% of students indicated that the recreation facilities on campus influenced their decision on whether to return the following year. This same study found that 81% of students participating in recreational programming helped them integrate more into the college community (Henchy, 2011). Research by Watson et al. (2006) found that 64.4% of students felt more integrated into the campus community when using the campus recreation facility. This same study highlighted that 41.4% found it easier to make friends by using the campus recreation facility.

In most of the research that has been conducted on the benefits of campus recreation facilities, most students are defined as binary. This means that students are defined as either users or non-users. Studies involving intramural and club sports also define users in binary terms as either participants or non-participants (Zegre et al., 2022). Researchers have tried to

determine what level of use increases student retention and completion. This requires examining the number of times a student uses a recreation facility instead of just whether they used it. Research conducted by Zegre et al. (2022) found that students that used the recreation facilities nine times or more per month were more likely to be retained. Increased retention rates and higher GPAs were also found to occur with students that visited campus recreational facilities at least three times a week (Zegre et al., 2022). This research seems to indicate a correlation between higher usage levels and higher retention and completion rates for students.

CHAPTER THREE: METHODOLOGY

INTRODUCTION

Community colleges have played a crucial role in the higher education landscape since the early 20th century. Community colleges offer accessible and affordable education to students often overlooked by four-year institutions. However, despite their important contributions to higher education, community colleges, like institutions of all types, often struggle with student retention and persistence. This has led to an increasing focus on retention and persistence improvement for community college students.

The current study aims to explore the potential relationship between participation in intramural and club sports, as well as campus life programming and the retention and persistence rates of first-generation students at a rural community college. By examining this relationship, the study seeks to contribute to the existing knowledge on social integration's role in promoting student success in the community college setting. This research will focus on two cohorts of first-generation students in the Fall 2018 and Fall 2021 semesters at Southwestern Michigan College.

This chapter on methodology offers a comprehensive summary of the research framework and approaches used throughout this study. The foundation of this research is built upon reliable and clear procedures for the formulation of research questions, the creation of

research designs, the selection of methodologies, the gathering of data, and the analysis of collected data.

RESEARCH PROBLEM

This study seeks to address a gap in the current literature by investigating the potential impact of social integration on first-generation students' retention and persistence in a community college environment. There is a serious dearth of information related to social integration at a residential community college. Given community colleges' diverse student populations, understanding how social integration influences student outcomes could potentially lead to developing more effective strategies for improving retention and persistence rates within these institutions.

RESEARCH QUESTIONS

Four primary research questions have been established to guide the research, focusing on the relationship between participation in campus life activities and first-generation student retention and achievement from fall-to-spring and fall-to-fall. By examining these relationships, this study aims to determine whether participation in intramural and club sports and campus life programming positively impacts student retention and achievement. If a positive relationship is found, this could lead to a more significant investment into these types of activities going forward at similar institutions.

By examining the potential influence of intramural and club sports and campus life programming on student success and retention, this study aims to contribute to the ongoing conversation surrounding strategies to improve student success in community colleges. With a

better understanding of the factors that promote retention and persistence, community college administrators and educators can better tailor their approaches to ensure student success at the community college level. The four primary research questions are as follows:

Correlation Analysis

Research Question 1

Does participation in campus life activities, specifically welcome week programming, campus-wide programming, and club/intramural sports, improve first-generation student retention from fall-to-spring at a small rural community college?

- ***Hypothesis:*** A significant, positive correlation exists between participation in campus life activities and first-generation student fall-to-spring retention.
- ***Null Hypothesis:*** There is no statistically significant correlation between participation in campus life activities and first-generation student fall-to-spring retention.

Research Question 2

Does participation in campus life activities, specifically welcome week programming, campus-wide programming, and club/intramural sports, improve first-generation student retention from fall-to-fall at a small rural community college?

- ***Hypothesis:*** *A significant, positive correlation exists between participation in campus life activities and first-generation student fall-to-fall retention.*
- ***Null Hypothesis:*** *There is no statistically significant correlation between participation in campus life activities and first-generation student fall-to-fall retention.*

Research Question 3

Does participation in campus life activities, specifically welcome week programming, campus-wide programming, and club/intramural sports, improve first-generation student achievement from fall-to-spring at a small rural community college?

- ***Hypothesis:*** A significant, positive correlation exists between participation in campus life activities and first-generation student fall-to-spring achievement.
- ***Null Hypothesis:*** There is no statistically significant correlation between participation in campus life activities and first-generation student fall-to-spring achievement.

Research Question 4

Does participation in campus life activities, specifically welcome week programming, campus-wide programming, and club/intramural sports, improve first-generation student achievement from fall-to-fall at a small rural community college?

- ***Hypothesis:*** A significant, positive correlation exists between participation in campus life activities and first-generation student fall-to-fall achievement.
- ***Null Hypothesis:*** There is no statistically significant correlation between participation in campus life activities and first-generation student fall-to-fall achievement.

RESEARCH DESIGN

Overview of the Study

This study will use a quantitative research methodology. Quantitative research collects and analyzes numerical data to help draw conclusions that either support or reject a hypothesis (Albers, 2017). A correlational research study was conducted during the Spring 2023 semester at Southwestern Michigan College that explored the presence of a statistically significant relationship between participation in club and intramural sports and campus life programming and student retention and persistence rates of first-generation students. A correlational

analysis was chosen because correlational research can determine the prevalence and relationships among variables, which can then be used to make assumptions for entire groups (Curtis et al., 2016). In order to ensure that the findings of the study could be generalized to the broader student population, random samples of students were used with the hope that this approach would provide a more comprehensive understanding of the impact of these variables on student retention and persistence for first-generation students.

SUBJECTS

The population of this research study was first-generation students from the Fall 2018 and Fall 2021 cohorts at Southwestern Michigan College. The study population was limited to first-generation, degree-seeking, full-time students. The participation population was limited to students participating in at least one intramural or club sport or campus life program. A control group was created that contained students who had not participated in any intramural or club sports or campus life program. The study population excluded any students under the age of 18. Because this study is correlational, an effort was made to ensure that both the experimental group (participation group) and the control group (non-participation group) were matched in the demographic categories of age (see Tables 1 and 2). Student retention and persistence rates for each group were examined from fall-to-spring and fall-to-fall.

The Fall 2018 and Fall 2021 semesters were chosen due to their proximity to the COVID-19 pandemic. Fall 2018 was the last semester with no restrictions on student engagement and Fall 2021 was the first semester after the pandemic with no restrictions on student engagement. For the purpose of this study, it was determined that the most beneficial data

would come from semesters that most closely mirrored the normal student engagement levels found at Southwestern Michigan College. Restrictions during the COVID-19 pandemic restricted student engagement activities to mostly online environments or certain activities were canceled altogether.

Table 1. Study Population Groups by Age (Fall 2018 Cohort)

Age	Gender	Size of Cohort
18	Female	34
18	Male	15
19	Female	21
19	Male	13
20	Female	8
20	Male	3
21	Female	2
21	Male	2
22	Male	2

Table 2. Study Population Groups by Age (Fall 2021 Cohort)

Age	Gender	Size of Cohort
18	Female	27
18	Male	15
19	Female	23
19	Male	9
20	Female	9
20	Male	9
21	Female	3
21	Male	1
22	Male	3
23	Female	1

DATA COLLECTION PROCESS AND PROTOCOLS

After receiving approval from the Institutional Review Boards of Ferris State University (Appendix A) and Southwestern Michigan College (Appendix B), the researcher contacted Southwestern Michigan College's representative for Presence, a software tool used on campus to advertise campus programming and track attendance. The researcher asked Presence to provide a report of all students that had participated in an intramural or club sport for the Fall 2018 and Fall 2021 semesters. The researcher also asked for a report of all students that had attended a campus life program for the Fall 2018 and Fall 2021 semesters. This report was sent to Southwestern Michigan College's Department of Institutional Research to randomly sample 100 students for a participation group who met the criteria of being over 18 and a first-generation student. Data were then analyzed using Statistical Package for the Social Sciences (SPSS) to determine what, if any, relationships existed in the data.

Additional College Data

Southwestern Michigan College's Department of Institutional Research used the Presence report to create a control group (non-participators). To accomplish this, IR ran a report listing all active students for the 2018 and 2021 Fall semesters. The Presence data were used to eliminate any student that could be considered a participator from IRs institutional list. Additionally, all students under 18 and those not considered first-generation were removed. The remaining list of students was then randomly sampled to ensure they matched the experimental group's (participation group) age demographics as closely as possible for each fall semester. In all cases, each participation age group was the same sample size as the corresponding non-participation group.

LIMITATIONS OF THE STUDY

There are limitations within this research study that may prevent the generalization of the findings to other community colleges.

- This research study was conducted at an institution that has on-campus housing. Other researchers may find that the number of residential students involved in the study skews the results when accounting for the importance of social integration at institutions with no residential component.
- While the researcher made efforts to ensure age and ethnicity demographics correlated between the experimental group (participators) and the control group (non-participators), some groups did not have a corresponding member.
- Given the correlation between a residential environment and participation in campus life, residential students may be overrepresented in the experimental group (participators) compared to their percentage of the total student population.

DELIMITATIONS OF THE STUDY

The research study elements that the researcher delimited are as follows:

- The researcher limited the study to only the Fall 2018 and 2021 semesters.
- Persistence was determined by grade point average only.
- Data were collected from only one educational institution.
- Only campus life programming and club and intramural sports were used to determine social integration.

VALIDITY AND RELIABILITY

This study used a reliable tool to analyze the data that was collected. SPSS is a powerful software widely used by researchers to manage, analyze, and interpret complex data sets. When used correctly, SPSS significantly improves the validity and reliability of a study by providing a range of statistical tests and tools, which can help identify patterns, trends, and relationships among variables. In addition, to enhance the study's validity, the researcher

carefully designed the research methodology to align with the study's objectives and research questions. The study uses established measures for student engagement in campus life programming and intramural and club sports. To bolster reliability, the researcher implemented consistent data collection procedures and standardized instruments that demonstrated stability and consistency in previous research studies. In addition, the researcher performed thorough data checks for potential inconsistencies, including missing values, and systematically addressed them.

Threats to construct validity were mitigated using several different measures. First, the researcher clearly defined the constructs of interest, such as student retention, persistence, and involvement in campus life programming and club and intramural sports. Next, the researcher used well-established and validated software tools to track attendance and campus activity participation. A thorough literature review was also conducted to identify relevant research and theories that linked social integration and student outcomes. This allowed the researcher to establish convergent and discriminant validity by examining the correlations between this study's measures and those from similar previous studies. By carefully defining the constructs, employing validated instruments, and grounding the study in relevant theory and research, the researcher effectively mitigated potential threats to construct validity, thereby increasing the credibility and meaningfulness of the findings.

DATA ANALYSIS

The randomly selected students from each cohort were placed into a Microsoft Excel document before the information was transferred to SPSS for statistical data analysis. The mean, median, and mode of all data were then computed. The statistical analysis of this study

began with a correlation between each student's participation in intramural and club sports or campus activities and their retention from fall-to-spring and fall-to-fall. Next, the correlation between each student's participation in intramural and club sports or campus activities and their grade point average, both semester and cumulative, was computed. This correlation analysis helped to determine which had a positive or negative relationship to the mean. Pearson's correlation coefficient was also used to determine the strength level for each correlation. Additionally, a multiple regression analysis was used for each independent variable (participation in welcome week programming, campus programming and intramural and club sports) to summarize their impact on the dependent variables (retention and GPA).

Pearson's correlation coefficient was chosen because of the benefits of analyzing a data set to determine positive or negative relationships between variables. Specifically, Pearson's formula provides a standardized measure that quantifies the strength and direction of the relationship between two variables (Stewart, 2023). A positive correlation coefficient indicates a positive relationship. This occurs when as one variable increases, the other variable also increases. This study would exemplify this by GPAs rising as events are attended or as students participate in intramurals and club sports. A negative correlation coefficient indicates the inverse; as one variable increases, the other variable decreases (Laerd Statistics, 2020). Using Pearson's correlation coefficient, this study will easily identify the degree of association between variables such as participation in campus programming and intramural or club sports and a student's completion and retention.

Multiple regression analysis was chosen because it is a valuable and widely used tool to determine relationships between variables. A multiple regression analysis allows the researcher

to investigate how multiple independent variables collectively affect the variation in a dependent variable (Pederson, 2018). Multiple regression analysis helps to uncover nuanced relationships between variables and provides a more comprehensive understanding of how these relationships influence the dependent variable. Knowing the strength, direction, and significance of variable relationships will allow the researcher to develop predictive models and better understand and identify the key drivers behind patterns observed in the data (Laerd Statistics, n.d.). This is especially useful when predicting factors influencing students' retention and completion.

By using both Pearson's correlation coefficient and multiple regression analysis to interpret the data, the researcher will be able to assess the strength and direction of the linear relationships between two variables (Pearson's correlation coefficient) while also being able to analyze multiple independent variables simultaneously (multiple regression analysis). Used together, this will ensure a more comprehensive understanding of the data and the relationships that exist between variables. There is also the added benefit of more accurate predictive models due to a clearer understanding of the relationships between variables.

CONCLUSION

The research problem considered the importance that participation in campus programming and club and intramural sports has on first-generation student retention and achievement at a small, rural community college. The study explored if there was a statistically significant relationship between participation and retention, and achievement. Using a correlational research study, the researcher sought to answer how campus activities and programming efforts affect student retention and achievement. If a positive correlation exists

between participation in campus programming and intramural and club sports, an argument could be made that more institutional effort (i.e., money, time, and staff) should be devoted to this area. Chapter Four discusses the results, findings, and analysis of the data collected in this research study.

CHAPTER FOUR: FINDINGS, RESULTS, AND ANALYSIS

INTRODUCTION

This correlation analysis study aimed to determine if participation in welcome week programming, campus-wide programming, and club/intramural sports are related to first-generation student success and retention at a small, rural community college. The data retrieved through this study was analyzed using SPSS version 27. Results are provided using correlation measurements and multiple linear regression. The default settings in the SPSS statistical program establish alpha levels of .05 and .01 for bivariate correlations to determine statistical significance. When analyzing the data, the program indicates statistical significance using one asterisk for alpha = .05 and two asterisks for alpha = .01 alongside the analyzed output. This chapter will examine the insights from the study and offer a comprehensive examination of the collected and analyzed data.

This research study addressed if there were relationships between participation in welcome week programming, campus-wide programming, and club/intramural sports and first-generation students' success and retention. This study sought to add to the existing research on the importance of social integration and to determine if social integration is important at a community college with a residential component. If participation in welcome week programming, campus-wide programming, and club/intramural sports were shown to have a

positive relationship with either first-generation student success or retention, more resources should be devoted to growing these areas on community college campuses.

RESEARCH QUESTIONS

The following research questions guided the study in determining if participation in welcome week programming, campus-wide programming, and club/intramural sports was statistically significant when assessing first-generation student success and retention.

CORRELATION ANALYSIS

Research Question 1

Does participation in campus life activities, specifically welcome week programming, campus-wide programming, and club/intramural sports, improve first-generation student retention from fall-to-spring at a small rural community college?

- ***Hypothesis:*** A significant, positive correlation exists between participation in campus life activities and first-generation student fall-to-spring retention.
- ***Null Hypothesis:*** There is no statistically significant correlation between participation in campus life activities and first-generation student fall-to-spring retention.

Research Question 2

Does participation in campus life activities, specifically welcome week programming, campus-wide programming, and club/intramural sports, improve first-generation student retention from fall-to-fall at a small rural community college?

- ***Hypothesis:*** *A significant, positive correlation exists between participation in campus life activities and first-generation student fall-to-fall retention.*
- ***Null Hypothesis:*** *There is no statistically significant correlation between participation in campus life activities and first-generation student fall-to-fall retention.*

Research Question 3

Does participation in campus life activities, specifically welcome week programming, campus-wide programming, and club/intramural sports, improve first-generation student achievement from fall-to-spring at a small rural community college?

- ***Hypothesis:*** A significant, positive correlation exists between participation in campus life activities and first-generation student fall-to-spring achievement.
- ***Null Hypothesis:*** There is no statistically significant correlation between participation in campus life activities and first-generation student fall-to-spring achievement.

Research Question 4

Does participation in campus life activities, specifically welcome week programming, campus-wide programming, and club/intramural sports, improve first-generation student achievement from fall-to-fall at a small rural community college?

- ***Hypothesis:*** A significant, positive correlation exists between participation in campus life activities and first-generation student fall-to-fall achievement.
- ***Null Hypothesis:*** There is no statistically significant correlation between participation in campus life activities and first-generation student fall-to-fall achievement.

DATA ANALYSIS METHODOLOGY

Students in this study were first-generation students at Southwestern Michigan College in either the Fall 2018 or Fall 2021 semesters. Student participation in welcome week programming, campus-wide programming, and club/intramural sports was recorded and exported to Excel along with each student's ID number, housing status, gender, ethnicity, age, fall semester GPA, spring semester GPA, and whether they were enrolled the following fall. Similar data were recorded and exported to Excel for students who had not participated in any

of the activities in question. A cohort for Fall 2018 and Fall 2021 was then created using 100 random students from each cohort of participators and non-participators matching along gender and age.

The statistical data analysis was completed using IBM Statistical Package for the Social Sciences version 27 (SPSS). The mean, median, and mode of all data were computed. The statistical analysis of this research study began with a chi-square test to determine Pearson's correlation coefficient between an individual's participation in welcome week programming, campus-wide programming, and club/intramural sports and retention from fall-to-spring and fall-to-fall. A correlation analysis was then conducted to examine the relationship between the two variables. Next, a chi-square test was used to determine Pearson's correlation coefficient between an individual's participation in welcome week programming, campus-wide programming, and club/intramural sports and achievement from fall-to-spring and fall-to-fall. Finally, a correlation analysis was used to determine what, if any, relationship exists between an individual's participation in welcome week programming, campus-wide programming, and club/intramural sports and GPA (achievement).

DESCRIPTIVE STATISTICS

The variables analyzed in this research study were the dependent variables of retention from fall-to-spring and fall-to-fall and Fall 2018 GPA, Spring 2019 GPA, Fall 2021 GPA, and Spring 2022 GPA. The independent variables analyzed were participation in welcome week programming, campus-wide programming, and club/intramural sports. To further explore the data, GPAs by ethnicity were also examined. This bivariate correlation analysis was conducted

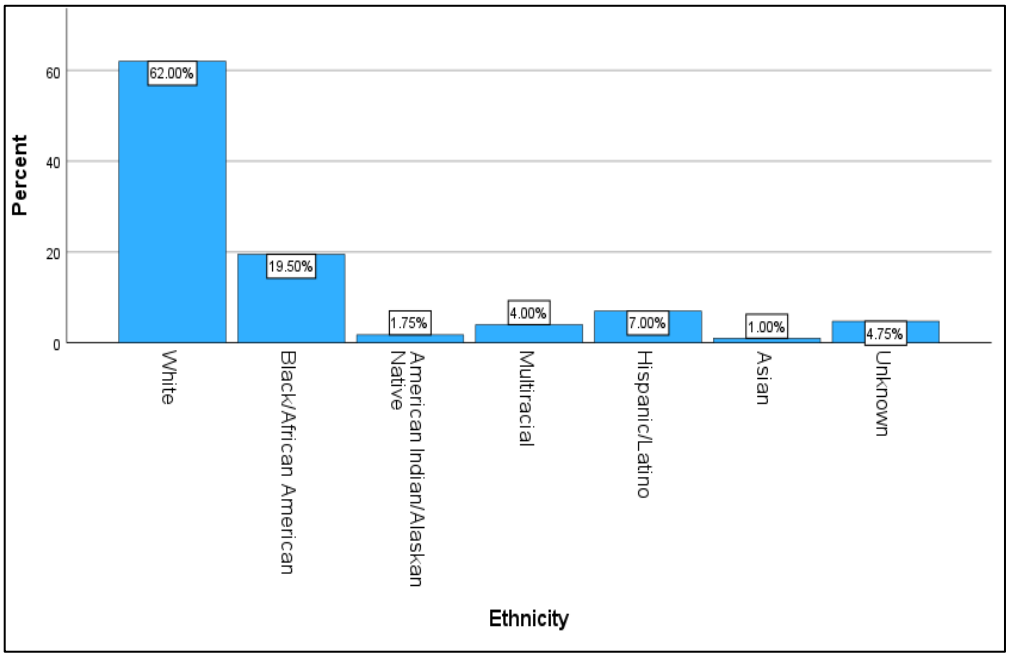
to measure the direction of the relationship between the variables. Pearson's correlation coefficient was also used to determine the strength level for each relationship.

STUDENT PARTICIPANT DEMOGRAPHICS

The student participants in this research study included first-generation, full-time, degree-seeking students enrolled at Southwestern Michigan College in the Fall 2018 and Fall 2021 semesters. Of the 400 individuals included in this study, 25% (n = 100) each were in the fall 2018 non-participant cohort, the fall 2018 participant cohort, the fall 2021 non-participant cohort, and the fall 2021 participant cohort. All students that were first-generation, full-time, and degree-seeking were categorized either as participators, meaning they participated in at least one welcome week program, campus program, or intramural or club sport for the Fall 2018 or Fall 2021 semester, or as non-participators, meaning they did not participate in any of these activities. Exactly 45% (n = 180) were housing residents, while 83% (n = 332) were either enrolled next spring or graduated, and 60% (n = 240) were either enrolled next fall or graduated. The mean age of the students was 18.86 (SD = 1.02) years, ranging from 18 to 23.

When accounting for gender, the Fall 2018 cohort comprised 65 female students (23% of the total female population) and 35 male students (20% of the total male population). The Fall 2021 cohort comprised 63 female students (28% of the total female population) and 37 male students (28% of the total male population). Of the 400 individuals included in this study, the majority, at 62% (n = 248), were white, while 19.5% (n = 78) were Black or African American, 1.8% (n = 7) were American Indian or Alaskan Native, 4% (n = 16) multiracial, 7% (n = 28) Hispanic or Latino, 1% (n = 4) Asian, and 4.8% (n = 19) were of an unknown race or ethnicity (Figure 4).

Figure 4. Race or Ethnicity



RESEARCH STUDY FINDINGS

This research study found results that supported the current literature regarding the importance of social integration at the community college level. The research findings provided no statistically significant insight into the correlations and predictability of participation in welcome week programming, campus-wide programming, and club/intramural sports and the success and retention of first-generation community college students.

RESEARCH QUESTION #1

Does participation in campus life activities, specifically welcome week programming, campus-wide programming, and club/intramural sports, improve first-generation student retention from fall-to-spring at a small rural community college?

- ***Hypothesis:*** A significant, positive correlation exists between participation in campus life activities and first-generation student fall-to-spring retention.

- ***Null Hypothesis:*** There is no statistically significant correlation between participation in campus life activities and first-generation student fall-to-spring retention.

When looking at the 2018 cohort, the researcher found a p-value of 0.617. The researcher failed to reject the null hypothesis and can conclude that no statistically significant correlation exists between participation in welcome week programming, campus-wide programming, and club/intramural sports and first-generation student fall-to-spring retention. As shown in Table 3, no association was found between participation in welcome week programming, campus-wide programming, and club/intramural sports and first-generation student fall-to-spring retention (X2(1)>=0.250, p=0.617).

Table 3. Pearson Chi-Square Test Between Participation in Welcome Week Programming, Campus-Wide Programming, and Club/Intramural Sports and Fall-to-spring Retention for 2018 Cohort

	Value	Df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.250**	1	.617		
Continuity Correction*	.111	1	.739		
Likelihood Ratio	.250	1	.617		
Fisher's Exact Test				.739	.369
Linear-by-Linear Association	.249	1	.618		
N of Valid Cases	200				

*Computed only for a 2x2 table

**0 cells (0.0% have an expected count of less than 5. The minimum expected count is 23.50.

When looking at the 2021 cohort, the researcher found a p-value of 0.024. The researcher can reject the null hypothesis and can conclude that there is a statistically significant correlation between participation in welcome week programming, campus-wide programming,

and club/intramural sports and first-generation fall-to-spring retention. Table 4 shows an association between participation in welcome week programming, campus-wide programming, and club/intramural sports and first-generation fall-to-spring retention. An association was found between participation in campus life activities and first-generation student fall-to-spring retention. (X2(1)> = 5.103, p = 0.024).

Table 4. Pearson Chi-Square Test Between Participation in Welcome Week Programming, Campus-Wide Programming, and Club/Intramural Sports and Fall-to-spring Retention for 2021 Cohort.

	Value	Df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	5.103**	1	.024		
Continuity Correction*	4.288	1	.038		
Likelihood Ratio	5.196	1	.023		
Fisher's Exact Test				.037	.019
Linear-by-Linear Association	5.077	1	.024		
N of Valid Cases	200				

*Computed only for a 2x2 table

**0 cells (0.0% have an expected count of less than 5. The minimum expected count is 17.00.

As shown in Table 5, non-participators in the 2018 cohort were retained at a fall-to-spring rate of 83% compared to only 77% for participators. When examining the 2021 cohort, participators were found to be retained at a higher fall-to-spring rate of 90% versus only 82% for the non-participation group.

Table 5. Fall-to-spring Retention by Group

Cohort	Enrolled Next Spring (n)	Enrolled Next Spring (%)
Fall 2018 Non-Participant	83	83%
Fall 2018 Participant	77	77%
Fall 2021 Non-Participant	82	82%
Fall 2021 Participant	90	90%

RESEARCH QUESTION #2

Does participation in campus life activities, specifically welcome week programming, campus-wide programming, and club/intramural sports, improve first-generation student retention from fall-to-fall at a small rural community college?

- ***Hypothesis:*** A significant, positive correlation exists between participation in campus life activities and first-generation student fall-to-fall retention.
- ***Null Hypothesis:*** There is no statistically significant correlation between participation in campus life activities and first-generation student fall-to-fall retention.

When looking at the 2018 cohort, the researcher found a p-value of 0.476. The researcher failed to reject the null hypothesis and can conclude that no statistically significant correlation exists between participation in welcome week programming, campus-wide programming, and club/intramural sports and first-generation student fall-to-fall retention. As shown in Table 6, no association was found between participation in welcome week programming, campus-wide programming, and club/intramural sports and first-generation student fall-to-fall retention ($X2(1)>=0.509$, $p=0.476$).

Table 6. Pearson Chi-Square Test Between Participation in Welcome Week Programming, Campus-Wide Programming, and Club/Intramural Sports and Fall-to-fall Retention for 2018 Cohort

	Value	Df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.509**	1	.476		
Continuity Correction*	.326	1	.568		
Likelihood Ratio	.509	1	.476		
Fisher's Exact Test				.568	.284
Linear-by-Linear Association	.506	1	.477		
N of Valid Cases	200				

*Computed only for a 2x2 table

**0 cells (0.0% have an expected count of less than 5. The minimum expected count is 43.50.

When looking at the 2021 cohort, the researcher found a p-value of 0.670. The researcher failed to reject the null hypothesis and can conclude that no statistically significant relationship exists between participation in welcome week programming, campus-wide programming, and club/intramural sports and first-generation student fall-to-fall retention. As shown in Table 7, no association was found between participation in campus life activities and first-generation student fall-to-fall retention (X2(1)> = 0.181, p = 0.670).

Table 7. Pearson Chi-Square Test Between Participation in Welcome Week Programming, Campus-Wide Programming, and Club/Intramural Sports and Fall-to-fall Retention for 2021 Cohort

	Value	Df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.181**	1	.670		
Continuity Correction*	.081	1	.776		
Likelihood Ratio	.181	1	.670		
Fisher's Exact Test				.777	.388
Linear-by-Linear Association	.181	1	.671		
N of Valid Cases	200				

*Computed only for a 2x2 table

**0 cells (0.0% have an expected count of less than 5. The minimum expected count is 45.50.

As shown in Table 8, non-participators in the 2018 cohort were retained at a fall-to-fall rate of 62% compared to only 52% for participators. When examining the 2021 cohort, participators and non-participators were found to be retained at the same rate of 63% for both groups.

Table 8. Fall-to-fall Retention by Group

Cohort	Enrolled Next Fall (n)	Enrolled Next Fall (%)
Fall 2018 Non-Participant	62	62%
Fall 2018 Participant	52	52%
Fall 2021 Non-Participant	63	63%
Fall 2021 Participant	63	63%

RESEARCH QUESTION #3

Does participation in campus life activities, specifically welcome week programming, campus-wide programming, and club/intramural sports, improve first-generation student achievement from fall-to-spring at a small rural community college?

- ***Hypothesis:*** A significant, positive correlation exists between participation in campus life activities and first-generation student fall-to-spring achievement.
- ***Null Hypothesis:*** There is no statistically significant correlation between participation in campus life activities and first-generation student fall-to-spring achievement.

When looking at the 2018 cohort, the researcher found a p-value of 0.248. The researcher failed to reject the null hypothesis and can conclude that no statistically significant relationship exists between participation in welcome week programming, campus-wide programming, and club/intramural sports and first-generation student fall-to-spring achievement. As shown in Table 9, no association was found between participation in welcome week programming, campus-life programming, and club/intramural sports and first-generation student fall-to-spring achievement ($X2(1)>=1.070$, $p=0.301$).

Table 9. Pearson Chi-Square Test Between Participation in Welcome Week Programming, Campus-Wide Programming, and Club/Intramural Sports and Fall-to-spring Achievement for 2018 Cohort

	Value	Df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	1.070**	1	.301		
Continuity Correction*	.685	1	.408		
Likelihood Ratio	1.076	1	.300		
Fisher's Exact Test				.408	.204
Linear-by-Linear Association	1.065	1	.302		
N of Valid Cases	200				

*Computed only for a 2x2 table

**0 cells (0.0% have an expected count of less than 5. The minimum expected count is 13.50.

When looking at the 2021 cohort, the researcher found a p-value of 0.160. The researcher failed to reject the null hypothesis and can conclude that no statistically significant relationship exists between participation in welcome week programming, campus-wide programming, and club/intramural sports and first-generation student fall-to-spring achievement. As shown in Table 11, no association was found between participation in campus life activities and first-generation student fall-to-spring achievement ($X2(1)> = 1.976$, $p = 0.160$).

Table 10. Pearson Chi-Square Test Between Participation in Welcome Week Programming, Campus-Wide Programming, and Club/Intramural Sports and Fall-to-spring Achievement for 2021 Cohort

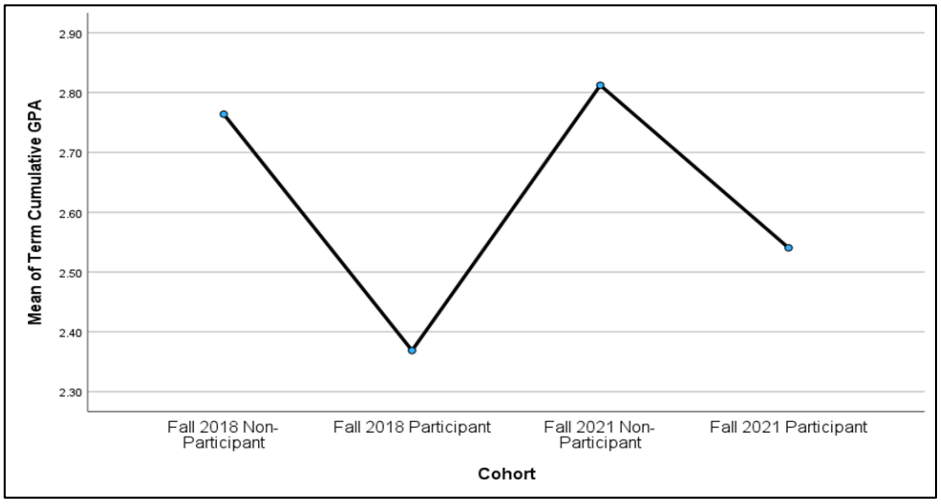
	Value	Df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	1.976**	1	.160		
Continuity Correction*	1.452	1	.228		
Likelihood Ratio	1.993	1	.158		
Fisher's Exact Test				.228	.114
Linear-by-Linear Association	1.966	1	.161		
N of Valid Cases	200				

*Computed only for a 2x2 table

**0 cells (0.0% have an expected count of less than 5. The minimum expected count is 14.50.

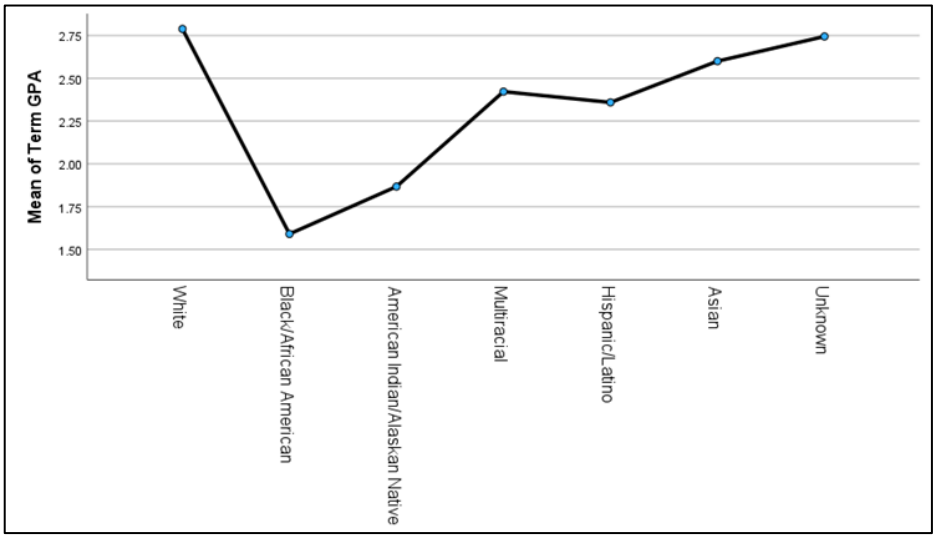
As shown in Figure 5, term Cumulative GPAs were highest for fall 2021 non-participants (M = 2.81, SD = 1.11), followed by fall 2018 non-participants (M = 2.76, SD = 1.25), fall 2021 participants (M = 2.54, SD = 1.16), and fall 2018 participants (M = 2.37, SD = 1.25), a statistically significant difference, F(6, 396) = 3.274, p = .021 (Image 9). There were no significant differences in term GPAs by cohort, p > .05.

Figure 5. Term Cumulative GPAs by Cohort



As shown in Figure 6, term cumulative GPAs were highest for white students (M = 2.87, SD = 1.03), followed by those of unknown race/ethnicity (M = 2.77, SD = 0.68), Hispanic or Latino students (M = 2.75, SD = 1.04), multiracial students (M = 2.63, SD = 1.11), Asian students (M = 2.57, SD = 1.74), American Indian or Alaska Native students (M = 2.48, SD = 1.14), and Black or African American students (M = 1.76, SD = 1.23), a statistically significant difference, $F(6, 393) = 10.179$, $p < .001$.

Figure 6. Term GPAs by Race/Ethnicity



RESEARCH QUESTION #4

Does participation in campus life activities, specifically welcome week programming, campus-wide programming, and club/intramural sports, improve first-generation student fall-to-fall achievement?

- ***Hypothesis:*** A significant, positive correlation exists between participation in campus life activities and first-generation student fall-to-fall achievement.
- ***Null Hypothesis:*** There is no statistically significant correlation between participation in campus life activities and first-generation student fall-to-fall achievement.

When looking at the Fall 2018 cohort, the researcher found a p-value of 0.248. The researcher failed to reject the null hypothesis and can conclude that no statistically significant relationship exists between participation in welcome week programming, campus-wide programming, and club/intramural sports and first-generation student fall-to-fall achievement. As shown in Table 11, no association was found between participation in welcome week programming, campus-wide programming, and club/intramural sports and first-generation student fall-to-fall achievement (X2(1)>=1.332, p=0.248).

Table 11. Pearson Chi-Square Test Between Participation in Welcome Week Programming, Campus-Wide Programming, and Club/Intramural Sports and Fall-to-fall Achievement for 2018 Cohort

	Value	Df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	1.332**	1	.248		
Continuity Correction*	.592	1	.442		
Likelihood Ratio	1.375	1	.241		
Fisher's Exact Test				.445	.222
Linear-by-Linear Association	1.326	1	.250		
N of Valid Cases	200				

*Computed only for a 2x2 table

**2 cells (50.0% have an expected count of less than 5. The minimum expected count is 3.50.

When looking at the Fall 2021 cohort, the researcher found a p-value of 0.473. The researcher failed to reject the null hypothesis and can conclude that no statistically significant relationship exists between participation in welcome week programming, campus-wide programming, and club/intramural sports and first-generation student fall-to-fall achievement.

As shown in Table 12, no association was found between participation in welcome week programming, campus-wide programming, and club/intramural sports and first-generation student fall-to-fall achievement (X2(1)> = 0.521, p = 0.470).

Table 12. Pearson Chi-Square Test Between Participation in Welcome Week Programming, Campus-Wide Programming, and Club/Intramural Sports and Fall-to-fall Achievement for 2021 Cohort

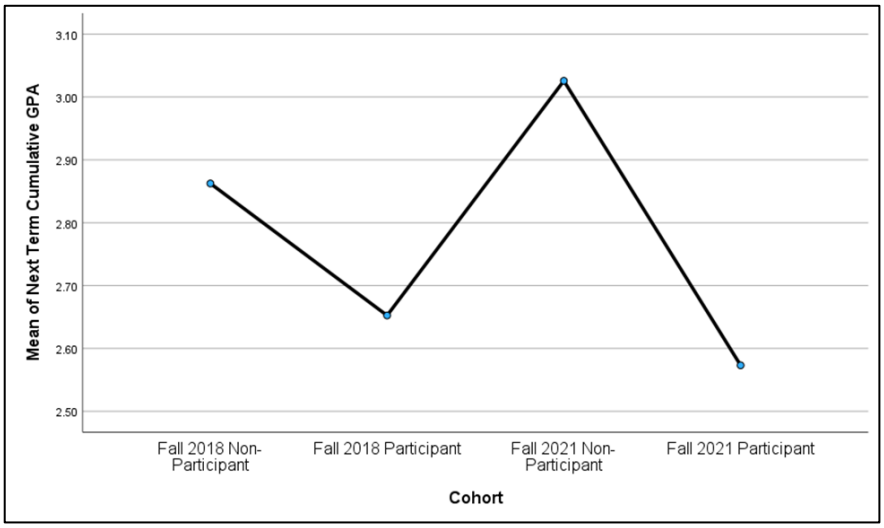
	Value	Df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.521**	1	.470		
Continuity Correction*	.130	1	.718		
Likelihood Ratio	.526	1	.468		
Fisher's Exact Test				.721	.360
Linear-by-Linear Association	.518	1	.472		
N of Valid Cases	200				

*Computed only for a 2x2 table

**2 cells (50.0% have an expected count of less than 5. The minimum expected count is 4.00.

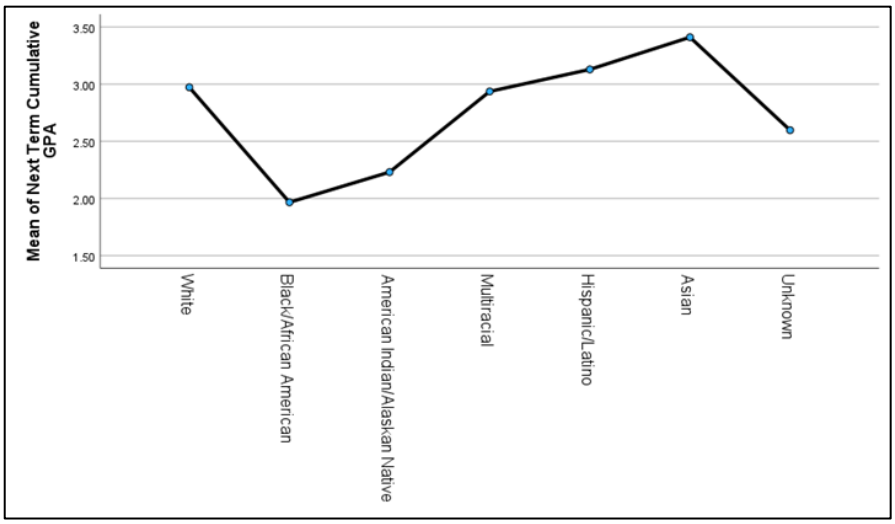
As shown in Figure 7, Next term cumulative GPAs were highest for fall 2021 non-participants (M = 3.03, SD = 0.78), followed by fall 2018 non-participants (M = 2.86, SD = 0.74), fall 2018 participants (M = 2.65, SD = 1.02), and fall 2021 participants (M = 2.57, SD = 1.15), a statistically significant difference, F(6, 315) = 3.805, p = .011. There were no significant differences in next -term GPAs by cohort, p > .05.

Figure 7. Next Term Cumulative GPAs by Cohort



As shown in Figure 8, next-term cumulative GPAs were highest for Asian students (M = 3.41, SD = 0.35), followed by Hispanic or Latino students (M = 3.13, SD = 0.55), white students (M = 2.97, SD = 0.84), multiracial students (M = 2.94, SD = 0.66), students of an unknown race or ethnicity (M = 2.60, SD = 0.83), American Indian or Alaskan Native students (M = 2.23, SD = 1.08), and Black or African American students (M = 1.97, SD = 1.10), a statistically significant difference, $F(6, 312) = 10.981$, $p < .001$.

Figure 8. Term Cumulative GPAs by Race/Ethnicity



ANALYSIS AND IMPLICATIONS OF THE RESULTS

RESEARCH QUESTION #1

Does participation in campus life activities, specifically welcome week programming, campus-wide programming, and club/intramural sports, improve first-generation student retention from fall-to-spring at a small rural community college?

The analysis of the 2018 and 2021 cohorts highlights the importance of considering specific cohort data when examining the relationships between participation in welcome week programming, campus-wide programming, club/intramural sports, and first-generation student retention. While the 2018 cohort showed no significant correlation, the 2021 cohort was found to have a significant association between participation and retention.

RESEARCH QUESTION #2

Does participation in campus life activities, specifically welcome week programming, campus-wide programming, and club/intramural sports, improve first-generation student retention from fall-to-fall at a small rural community college?

The analysis of the 2018 and 2021 cohorts implies no statistically significant relationship between participation in welcome week programming, campus-wide programming, and club/intramural sports and first-generation student fall-to-fall retention. The lack of a statistically significant relationship was demonstrated by p-value scores and correlation coefficients.

RESEARCH QUESTION #3

Does participation in campus life activities, specifically welcome week programming, campus-wide programming, and club/intramural sports, improve first-generation student achievement from fall-to-spring at a small rural community college?

The analysis of the 2018 and 2021 cohorts implies no statistically significant relationship between participation in welcome week programming, campus-wide programming, and club/intramural sports and first-generation student fall-to-spring achievement. Table 13 shows that the non-participation group in both cohorts was found to have higher mean GPAs for both the term and cumulative periods than the participation group.

Table 13. Term GPAs and Cumulative Term GPAs by Group

Cohort	Term GPA Mean	Standard Deviation	Term Cumulative GPA Mean	Standard Deviation
Fall 2018 Non-Participant	2.57	1.29	2.76	1.02
Fall 2018 Participant	2.22	2.37	2.37	2.25
Fall 2021 Non-Participant	2.70	2.81	2.81	1.11
Fall 2021 Participant	2.48	2.54	2.54	1.16

RESEARCH QUESTION #4

Does participation in campus life activities, specifically welcome week programming, campus-wide programming, and club/intramural sports, improve first-generation student achievement from fall-to-fall at a small rural community college?

The analysis of the 2018 and 2021 cohorts implies no statistically significant relationship between participation in welcome week programming, campus-wide programming, and club/intramural sports and first-generation student fall-to-fall achievement. Table 14 shows

that the non-participation group in both cohorts was found to have higher mean GPAs for both the term and cumulative periods than the participation group.

Table 14. Next Term GPAs and Cumulative Next Term GPAs by Group

Cohort	Term GPA Mean	Standard Deviation	Term Cumulative GPA Mean	Standard Deviation
Fall 2018 Non-Participant	2.58	1.18	2.86	.74
Fall 2018 Participant	2.47	1.24	2.65	1.02
Fall 2021 Non-Participant	2.63	1.28	3.03	.78
Fall 2021 Participant	2.36	1.44	2.57	1.15

CONCLUSION

The findings of this research study did not support the researcher's hypotheses that participation in welcome week programming, campus-wide programming, and club/intramural sports would increase first-generation student retention and achievement. Retention for the fall-to-spring non-participation group was higher than for participators, while in the 2021 cohort, this was reversed. However, for fall-to-fall retention, the 2018 cohort again demonstrated that non-participators have a higher retention rate than participators. The 2021 cohort was retained at the same rate for both groups.

Results were similar when looking at achievement for first-generation students. The non-participation group for each cohort had a higher mean GPA and cumulative GPA for both fall-to-spring and fall-to-fall. This information confirmed previous research studies that emphasized the importance of academic integration over social integration at community colleges (Hagedorn, 2010; Halpin, 1990; Pascarella et al., 1986).

CHAPTER FIVE: CONCLUSIONS AND RECOMMENDATIONS

INTRODUCTION

While community colleges are a relatively new fixture in higher education, having only existed since the early 20th century, they have demonstrated their importance in vocational and technical training, transfer programs, and adult education courses. The American Association of Community Colleges (n.d.) has reported that there are over 1,043 tribal, public, and private community colleges in the United States that enroll over 10.3 million credit-seeking and non-credit-seeking students ("Fast Facts," n.d.). Like their four-year peers, community colleges contend with pressure from external stakeholders to expend taxpayer funds wisely and ensure high retention and completion rates (Monaghan & Sommers, 2021).

Retention refers to students returning from one year to the next at the same institution (Schneider, 2022). Community colleges, when compared to their four-year peers, often retain only 62% of their first-year students, while four-year institutions retain 81% of first-year students (Monaghan & Sommers, 2021). Completion is often examined through the lens of persistence and refers to a student's academic achievement in courses (Schneider, 2022). Completion rates at community colleges also tend to be lower than their four-year peers. One study has shown that only 25% of community college students complete within 150% of the normal time compared to 60% of four-year students (Monaghan & Sommers, 2021).

Most studies on increasing retention have occurred in a four-year residential setting. These studies have found that social integration has the highest impact on whether a student is retained (Halpin, 1990). At commuter institutions, academic integration is the most significant factor in determining whether a student will be retained (Halpin, 1990). When examining student persistence, studies have found that for community college students, goals and self-efficacy are the most important predictors of success (Nakajima et al., 2012).

This research study aimed to investigate the potential correlation between participation in intramural and club sports, welcome week programming, and campus life programming and the retention and persistence rates of first-generation students. While much of the literature on the importance of social integration has shown this not to be a factor for community college students, the researcher in this study hoped to find that a community college with a residential setting similar to that found at four-year institutions would yield results similar to what previous studies have found to be true for four-year institutions.

The results outlined in Chapter Four showed no statistical significance of any correlations performed between the independent and dependent variables. In only one instance was social integration shown to correlate with participation and retention. The results from this study confirm previous research studies that emphasized the importance of academic integration over social integration at community colleges (Hagedorn, 2010; Halpin, 1990; Pascarella et al., 1986).

CONTRIBUTION TO THE RESEARCH

Chapter Two outlined the research literature on community college history, retention models, student engagement, social integration, student-athlete retention, and the impact of

campus recreation on student success. Throughout the literature, the importance of social integration, mainly in the four-year setting, on student retention and success was shown in various retention models and decades-long studies. Studies documented in the literature found that students at community colleges were the least socially integrated compared to other types of institutions (Chapman & Pascarella, 1983). For this study, students were grouped into either participator or non-participator groups. Those in the participator group had participated in at least one intramural or club sport or attended at least one welcome week or campus life program. Those in the non-participator group did not participate in intramural or club sports or attend a welcome week or campus life programming. Using the two cohorts, social integration through participation was shown to have no impact on either student retention or persistence.

This research study did not produce statistically significant correlations between first-year students' participation and retention or persistence. Only one instance of participation had a statistically significant correlation with retention. Expansion of the study to include other similar rural two year-year institutions with a residential setting would be valuable for future research as these types of two-year institutions come closest to approximating the setting at many four-year institutions.

UNDERSTANDING OF THE FINDINGS

This quantitative research study analyzed the relationship between intramural and club sports participation, welcome programming, and campus life programming on first-year student retention and persistence. The research aimed to consider whether social integration held the same importance for students at residential community colleges as at four-year institutions. The researcher wanted to add to the literature on social integration, student

retention, and persistence at the community college level. The findings of this research study did not support the hypotheses outlined in Chapter Three.

FINDING #1

In research question #1, the study examined correlations between participation in campus life activities, specifically welcome week programming, campus-wide programming, club/intramural sports, and first-generation student fall-to-spring retention.

In this study, 83 first-generation students in the non-participation group were retained from fall-to-spring for the 2018 cohort. This compares to 77 first-generation students retained from fall-to-spring for the same cohort considered participators. When looking at the 2021 cohort, 90 first-generation students in the participator group were retained compared to 82 first-generation students in the non-participator group.

The analysis of both the 2018 and 2021 cohorts reveals varying results concerning the relationship between participation in campus life activities, specifically welcome week programming, campus-wide programming, and club/intramural sports, and the fall-to-spring retention of first-generation students. While no significant correlation was observed for the 2018 cohort, the 2021 cohort was found to have a statistically significant relationship. These findings suggest the potential influence of other factors in determining retention outcomes for first-generation students and emphasize the importance of considering cohort-specific dynamics when interpreting relationships.

FINDING #2

In research question #2, the study looked for correlations between participation in campus life activities, specifically welcome week programming, campus-wide programming, club/intramural sports, and first-generation student fall-to-fall retention.

In this study, 62 first-generation students in the non-participation group were retained from fall-to-fall for the 2018 cohort. This compares to 52 first-generation students retained from fall-to-fall for the same cohort considered participators. When looking at the 2021 cohort, the participator and non-participator groups retained 63 first-generation students.

The statistical analyses conducted on the 2018 and 2021 cohorts revealed no significant relationship or correlation between participation in campus life activities, specifically welcome week programming, campus-wide programming, and club/intramural sports, and the fall-to-fall retention of first-generation students. The results suggest that other factors may be more influential in determining the retention outcomes for this student population.

FINDING #3

In research question #3, the study looked for correlations between participation in campus life activities, specifically welcome week programming, campus-wide programming, and club/intramural sports, and first-generation student achievement from fall-to-spring.

In this study, the non-participators for the 2021 cohort had the highest cumulative term GPA, with an average GPA of 2.81. Following this group, the non-participators for the 2018 cohort had an average cumulative term GPA of 2.76. The participator groups for both cohorts followed with an average cumulative term GPA of 2.54 for the 2021 cohort and an average cumulative term GPA of 2.37 for the 2018 cohort.

The statistical analyses conducted in the study indicate a statistically significant difference, denoted by a p-value of 0.021. This finding suggests that the variations in the cumulative term GPAs among the participator and non-participator groups are unlikely to have occurred by chance. However, when looking holistically at the cohorts, there were no specific differences between the groups, with p-values greater than 0.05.

FINDING #4

In research question #4, the study looked for correlations between participation in campus life activities, specifically welcome week programming, campus-wide programming, and club/intramural sports, and first-generation student achievement from fall-to-fall.

In this study, the non-participators for the 2021 cohort had the highest fall-to-fall cumulative GPA, with an average GPA of 3.03. Following this group, the non-participators for the 2018 cohort had an average fall-to-fall GPA of 2.86. The participator groups for both cohorts followed with an average fall-to-fall GPA of 2.65 for the 2018 cohort and an average fall-to-fall GPA of 2.65 for the 2021 cohort.

The statistical analyses conducted in the study indicate a statistically significant difference, denoted by a p-value of 0.011. This finding suggests that the variations in the fall-to-fall term GPAs among the participator and non-participator groups are unlikely to have occurred by chance. However, when looking at the cohorts as a whole, there were no specific differences between the groups, with p-values greater than 0.05.

RECOMMENDATIONS FOR FUTURE RESEARCH

This research study examined the relationships between participation in campus life activities, specifically welcome week programming, campus-wide programming, and club/intramural sports, and the retention and achievement of first-generation students from fall-to-spring and fall-to-fall. The primary purpose was to determine if social integration played as important a role in success for community college students as it does for students at four-year institutions. Considering the presence of a residential component at the institution utilized in the study, it was hypothesized that social integration would hold similar importance as observed in other studies of four-year institutions.

The study's findings have provided valuable insights, suggesting potential avenues for future research. It is worth noting that the current study focused on only two cohorts from a single institution. Therefore, there is room for future studies encompassing multiple institutions and cohorts. Future research studies should aim to examine the influence of social integration on the campus community and explore the impact that campus life activities, specifically welcome week programming, campus-wide programming, and club/intramural sports, have on the recruitment of first-generation students seeking a complete collegiate experience typically associated with four-year institutions.

There are numerous opportunities for further research. Studies comparing two-year institutions to four-year institutions that look at both first-year and second-year students could be valuable to determine what, if anything, changes from one year to the next for students. Is academic integration more important in the first year or the second year? Does social integration replace academic integration in importance the longer a student stays at an

institution? A study looking at whether the program of study impacts the importance of social vs. academic integration could also be valuable in determining which students benefit the most from campus engagement initiatives. This particular study also did not examine whether connection to campus was impacted by participation in campus programming and whether or not that connection to campus had any impact on student retention or persistence. Further research into why two-year institutions with a residential setting do not behave more like four-year institutions with a residential setting when it comes to the importance of social integration.

By conducting broader studies involving diverse institutions and cohorts, researchers can enhance their understanding of the role of social integration and the potential effects of specific campus life activities. This will contribute to a more comprehensive and nuanced understanding of how these factors impact the success of first-generation students in the community college setting. Further exploration of these aspects can guide the development of effective strategies and interventions to enhance the overall educational outcomes for this student population.

CONCLUSION

Community colleges have been an important part of the U.S. higher education system since their creation in the early 20th century. As more students seek higher education opportunities, community colleges remain crucial to the higher education landscape ("Fast Facts," n.d.). As community college enrollment has continued to expand, so has the need for accountability by higher education administrators (Monaghan & Sommers, 2021). Like their

four-year counterparts, community colleges typically view student retention and completion as the most accurate means of determining student success (Monaghan & Sommers, 2021).

Research on student retention has been ongoing since the 1970s but has typically focused on students in a four-year environment (Halpin, 1990). Much of that research has found that students who exit college early typically do so due to a lack of social integration. What few studies there have been on community college retention have found that academic integration plays a much more crucial role in student retention than social integration (Halpin, 1990). When looking at student achievement through the lens of persistence, again, much of the research has been conducted primarily at four-year institutions (Nakajima et al., 2012). Again, what happens in the classroom has been shown to have a greater impact on community college students than their four-year peers. It is important to note that students' perception of faculty concern has a greater impact on student persistence than actual faculty interaction (Nakajima et al., 2012).

This research study sought to determine if first-generation students in a residential college setting persisted more like their four-year peers. Despite the lack of statistically significant correlations between participation and student retention and completion in this study, future research on the value of social integration to community college student success remains to be determined. With an expanded research sample size, more information on connection to campus gathered through qualitative means, and a more extensive sampling of institutions, there is potential that social integration directly impacts first-generation community college student success.

REFERENCES

Albers, M. J. (2017). Quantitative Data Analysis—In the Graduate Curriculum. *Journal of Technical Writing and Communication*, 47(2), 215–233. https://doi.org/10.1177/0047281617692067

Anderson, D. L. (2015, December 1). Historical keys to open access in community colleges between 1940 and the mid-1970s. ACPA Developments. https://developments.myacpa.org/historical-keys-to-open-access-in-community-colleges-between-1940-and-the-mid-1970s/

Astin, A. W. (1999). Student involvement: A developmental theory for higher education. *Journal of College Student Development*, 40(5), 518–529. https://www.proquest.com/scholarly-journals/student-involvement-developmental-theory-higher/docview/195180247/se-2

Baker, C. N. (2008). Under-represented college students and extracurricular involvement: The effects of various student organizations on academic performance. *Social Psychology of Education*, 11(3), 273–298. https://doi.org/10.1007/s11218-007-9050-y

Bean, J., & Eaton, S. B. (2001). The psychology underlying successful retention practices. *Journal of College Student Retention: Research, Theory & Practice*, 3(1), 73–89. https://doi.org/10.2190/6r55-4b30-28xg-l8u0

Becker, C., Cooper, N., Atkins, K., & Martin, S. (2009). What helps students thrive? An investigation of student engagement and performance. *Recreational Sports Journal*, 33(2), 139–149. https://doi.org/10.1123/rsj.33.2.139

Belch, H. A., Gebel, M., & Maas, G. M. (2001). Relationship between student recreation complex use, academic performance, and persistence of first-time freshmen. *NASPA Journal*, *38*(2), 254-268. https://doi.org/10.2202/0027-6014.1138

Bergen-Cico, D., & Viscomi, J. (2012). Exploring the association between campus co-curricular involvement and academic achievement. *Journal of College Student Retention: Research, Theory & Practice,* 14(3), 329-343. https://doi.org/10.2190/cs.14.3.c

Berger, J. B., & Milem, J. F. (1999). The role of student involvement and perceptions of integration in a causal model of student persistence. *Research in Higher Education*, 40(6), 641-664. https://doi.org/10.1023/A:1018708813711

Bers, T. H., & Smith, K. E. (1991). Persistence of community college students: The influence of student intent and academic and social integration. *Research in Higher Education*, *32*(5), 539–556. https://doi.org/10.1007/bf00992627

Blumenthal, K. J. (2009). Collegiate recreational sports: Pivotal players in student success: the importance of a bona fide campus recreation sports/wellness program cannot be overstated. *Planning for Higher Education*, *37*(2).

Borglum, K., & Kubala, K. B. (2000). Academic and social integration of community college students: A case study. *Community College Journal of Research and Practice*, 24(7), 567–576. https://doi.org/10.1080/10668920050139712

Bowman, N. A., Jarratt, L., Polgreen, L. A., Kruckeberg, T., & Segre, A. M. (2019). Early identification of students' social networks: Predicting college retention and graduation via campus dining. *Journal of College Student Development*, 60(5), 617–622. https://doi.org/10.1353/csd.2019.0052

Branscombe, N. R., & Wann, D. L. (1991). The positive social and self-concept consequences of sports team identification. *Journal of Sport and Social Issues*, 15(2), 115–127. https://doi.org/10.1177/019372359101500202

Braxton, J. M., & McClendon, S. A. (2001). The fostering of social integration and retention through institutional practice. *Journal of College Student Retention: Research, Theory & Practice*, 3(1), 57–71. https://doi.org/10.2190/rgxj-u08c-06vb-jk7d

Braxton, J. M., Milem, J. F., & Sullivan, A. S. (2000). The influence of active learning on the college student departure process: Toward a revision of Tinto's theory. *The Journal of Higher Education*, 71(5), 569. https://doi.org/10.2307/2649260

Bronkema, R., & Bowman, N. A. (2017). A residential paradox?: Residence hall attributes and college student outcomes. *Journal of College Student Development*, 58(4), 624–630. https://doi.org/10.1353/csd.2017.0047

Carr, P., Kangas, J., & Anderson, D. (1992). College success and the Black male. San Jose City College. (ERIC Document Reproduction Service No. ED348100)

Chapman, D. W., & Pascarella, E. T. (1983). Predictors of academic and social integration of college students. *Research in Higher Education*, 19(3), 295–322. https://doi.org/10.1007/BF00976509

Clopton, A. (2009). Students as spectators: Their academic and social integration. *New Directions for Higher Education*, 2009(148), 83–89. https://doi.org/10.1002/he.371

Curtis, E. A., Comiskey, C., & Dempsey, O. (2016). Importance and use of correlational research. *Nurse Researcher*, 23(6), 20–25. https://doi.org/10.7748/nr.2016.e1382

D'Amico, M. M., Friedel, J. N., Katsinas, S. G., & Thornton, Z. M. (2013). Current developments in community college performance funding. *Community College Journal of Research and Practice*, 38(2-3), pp. 231–241. https://doi.org/10.1080/10668926.2014.851971

Dadgar, M., & Trimble, M. J. (2015). Labor market returns to sub-baccalaureate credentials. *Educational Evaluation and Policy Analysis*, 37(4), 399-418. https://doi.org/10.3102/0162373714553814

Davidson, C., & Wilson, K. (2013). Reassessing Tinto's concepts of social and academic integration in student retention. *Journal of College Student Retention: Research, Theory & Practice*, *15*(3), 329–346. https://doi.org/10.2190/cs.15.3.b

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*(1), 54-91. https://doi.org/10.1353/jhe.2011.0006

Dyk, C. V., & Weese, W. J. (2019). The undeniable role that campus recreation programs can play in increasing Indigenous student engagement and retention. *Recreational Sports Journal*, *43*(2), 126-136. https://doi.org/10.1177/1558866119885191

Fast Facts. (n.d.). American Association of Community Colleges. https://www.aacc.nche.edu/research-trends/fast-facts/

Fike, D. S., & Fike, R. (2008). Predictors of first-year student retention in the community college. *Community College Review*, *36*(2), 68-88. doi:10.1177/0091552108320222

Forrester, S. A., McAllister-Kenny, K., & Locker, M. (2018). Association between collegiate recreational sports involvement and undergraduate student retention. *Recreational Sports Journal*, *42*(1), 64–74. https://doi.org/10.1123/rsj.2017-0004

Gross, L., & Meriwether, J. L. (2016). Student engagement through digital data. New Directions for Student Services, 2016(155), 75–89. https://doi.org/10.1002/ss.20184

Hagedorn, L. S. (2010). Community college retention—An old problem exacerbated in a new economy. *Journal of College Student Retention: Research, Theory & Practice*, *12*(1), 1–5. https://10.2190/cs.12.1.a

Halpin, R. L. (1990). An application of the Tinto model to the analysis of freshman persistence in a community college. *Community College Review*, *17*(4), 22–32. https://doi.org/10.1177/009155219001700405

Henchy, A. (2011). The influence of campus recreation beyond the gym. Recreational Sports Journal, 35(2), 174–181. https://doi.org/10.1123/rsj.35.2.174

Hickman, D. C., & Meyer, A. G. (2016). Does athletic success influence persistence at higher education institutions? New evidence using panel data. *Contemporary Economic Policy*, *35*(4), 658-676. https://doi.org/10.1111/coep.12208

Higher Education Act. (n.d.). American Association of Collegiate Registrars and Admissions Officers. https://www.aacrao.org/advocacy/issues/higher-education-act

Horton, D. (2009). Class and cleats: Community college student athletes and academic success. *New Directions for Community Colleges*, *2009*(147), 15–27. https://doi.org/10.1002/cc.374

Huesman, R., Brown, A. K., Lee, G., Kellogg, J. P., & Radcliffe, P. M. (2009). Gym bags and mortarboards: Is use of campus recreation facilities related to student success? *NASPA Journal,* 46(1), 50-71. https://doi.org/10.2202/1949-6605.5005

Kampf, S., & Teske, E. J. (2013). Collegiate recreation participation and retention. *Recreational Sports Journal*, 37(2), 85-96. https://doi.org/10.1123/rsj.37.2.85

Kane, T. J., & Rouse, C. E. (1999). The community college: Educating students at the margin between college and work. *Journal of Economic Perspectives*, 13(1), 63–84. https://doi.org/10.1257/jep.13.1.63

Kanter, M. , & Lewis , M. (1991). A study of the academic performance of student-athletes in California's community colleges: California Community College Fund for Instructional Improvement. (ERIC Document Reproduction Service No. ED332763)

Karp, M. M., Hughes, K. L., & O'Gara, L. (2010). An exploration of Tinto's integration framework for community college students. *Journal of College Student Retention: Research, Theory & Practice*, *12*(1), 69–86. https://doi.org/10.2190/cs.12.1.e

Krause, K., & Coates, H. (2008). Students' engagement in first-year university. *Assessment & Evaluation in Higher Education*, 33(5), 493–505. https://doi.org/10.1080/02602930701698892

Kuh, G. D. (2009). What student affairs professionals need to know about student engagement. *Journal of College Student Development*, 50(6), 683–706. https://doi.org/10.1353/csd.0.0099

Kuh, G. D., Cruce, T. M., Shoup, R., Kinzie, J., & Gonyea, R. M. (2008). Unmasking the effects of student engagement on first-year college grades and persistence. *The Journal of Higher Education*, 79(5), 540–563. https://doi.org/10.1353/jhe.0.0019

Kulp, A. M., Pascale, A. B., & Grandstaff, M. (2019). Types of extracurricular campus activities and first-year students' academic success. *Journal of College Student Retention: Research, Theory & Practice*, 23(3), 747–767. https://doi.org/10.1177/1521025119876249

Laerd Statistics (n.d.). *Multiple regression analysis using SPSS statistics*. https://statistics.laerd.com/spss-tutorials/multiple-regression-using-spss-statistics.php

Laerd Statistics (2020). Pearson's product moment correlation. *Statistical tutorials and software guides*. https://statistics.laerd.com/statistical-guides/pearson-correlation-coefficient-statistical-guide.php

Lindsey, R., Sessoms, E., & Willis, G. (2009). Impact of campus recreational sports facilities and programs on recruitment and retention among African American students: A pilot study. *Recreational Sports Journal*, *33*(1), 25–34. https://doi.org/10.1123/rsj.33.1.25

Lohfink, M. M., & Paulsen, M. B. (2005). Comparing the determinants of persistence for first-generation and continuing-generation students. *Journal of College Student Development*, 46(4), 409-428. https://doi.org/10.1353/csd.2005.0040

Luke, C., Redekop, F., & Burgin, C. (2014). Psychological factors in community college student retention. *Community College Journal of Research and Practice*, *39*(3), 222-234. https://doi.org/10.1080/10668926.2013.803940

Mayers, R. F., Wilson, A. W., & Potwarka, L. R. (2017). Moderating effects of campus recreation participation in the relationship between grade point average and first-year student engagement: An exploratory study. *Recreational Sports Journal*, 41(2), 101–110. https://doi.org/10.1123/rsj.2016-0021

Maxwell, W. E. (2000). Student peer relations at a community college. *Community College Journal of Research and Practice*, *24*(3), 207–217. https://doi.org/10.1080/106689200264169

McCollum, G. (2018). *Collegiate recreation participation and student retention, progression, and graduation* [Doctoral dissertation] https://digitalcommons.georgiasouthern.edu/etd/1854/

McElveen, M., & Ibele, K. (2019). Retention and academic success of first-year student-athletes and intramural sports participants. *Recreational Sports Journal*, *43*(1), 5-11. https://doi.org/10.1177/1558866119840466

Mendoza, P., Horton, Jr., D., & Mendez, J. P. (2012). Retention among community college student-athletes. *Community College Journal of Research and Practice*, *36*(3), 201-219. https://doi.org/10.1080/10668921003677183

Mertes, S. J. (2015). Social integration in a community college environment. *Community College Journal of Research and Practice*, *39*(11), 1052-1064. https://doi.org/10.1080/10668926.2014.934973

Mertes, S. J., & Hoover, R. E. (2014). Predictors of first-year student retention in the community college. *Community College Journal of Research and Practice*, *38*(7), 651-660. DOI: 10.1080/10668926.2012.711143

Monaghan, D. B., & Sommers, O. K. (2021). And now for some good news: Trends in student retention at community colleges, 2004–2017. *Research in Higher Education*, *63*(3), 425–452. https://doi.org/10.1007/s11162-021-09656-6

Moss, R. L., & Young, R. B. (1995). Perceptions about the academic and social integration of underprepared students in an urban community college. *Community College Review*, 22(4), 47–61. https://doi.org/10.1177/009155219502200407

Nakajima, M. A., Dembo, M. H., & Mossler, R. (2012). Student persistence in community colleges. *Community College Journal of Research and Practice*, 36(8), 591–613. https://doi.org/10.1080/10668920903054931

Pascarella, E. T., Smart, J. C., & Ethington, C. A. (1986). Long-term persistence of two-year college students. *Research in Higher Education*, 24(1), 47–71. https://doi.org/10.1007/bf00973742

Pederson, J. R. (2018, December 19). *The SAGE encyclopedia of communication research methods*. Sage Research Methods. https://methods.sagepub.com/reference/the-sage-encyclopedia-of-communication-research-methods/i9174.xml

Phelan, D. J. (2014). The clear and present funding crisis in community colleges. *New Directions for Community Colleges,* 2014(168), 5–16. https://doi.org/10.1002/cc.20116

Phipps, C., Cooper, N., Shores, K., Williams, R., & Mize, N. (2015). Examining the relationship between intramural sports participation and sense of community among college students. *Recreational Sports Journal*, *39*(2), 105–120. https://doi.org/10.1123/rsj.2015-0041

Schneider, D. E. (2022). Understanding and improving community college student retention: A review with recommendations for developing institutional attachment. *Community College Enterprise*, *28*(1), 28-40. https://link.gale.com/apps/doc/A715769330/AONE?u=lom_ferrissu&sid=bookmark-AONE&xid=7a461a3d

Stewart, K. (2023, August 16). Pearson's correlation coefficient. Encyclopedia Britannica. https://www.britannica.com/topic/Pearsons-correlation-coefficient

Strauss, L. C., & Volkwein, J. F. (2004). Predictors of student commitment at two-year and four-year institutions. *The Journal of Higher Education*, *75*(2), 203-227. https://doi.org/10.1353/jhe.2004.0007

Thomas, N. S., Barr, P. B., Hottell, D. L., Adkins, A. E., & Dick, D. M. (2021). Longitudinal influence of behavioral health, emotional health, and student involvement on college student retention. *Journal of College Student Development*, 62(1), 2-18. https://doi.org/10.1353/csd.2021.0001

Tinto, V. (1975). Dropout from higher education: A theoretical synthesis of recent research. *Review of Educational Research*, 45(1), 89–125. https://doi.org/10.3102/00346543045001089

Tinto, V. (2017). Reflections on student persistence. *Student Success*, 8(2), 1–8. https://doi.org/10.5204/ssj.v8i2.376

Tinto, V. (2006). Research and practice of student retention: What next*? Journal of College Student Retention: Research, Theory & Practice*, 8(1), 1–19. https://doi.org/10.2190/4ynu-4tmb-22dj-an4w

Tinto, V. (2012). *Leaving college: Rethinking the causes and cures of student attrition*. University of Chicago Press.

Torres, V., Gross, J. P., & Dadashova, A. (2010). Traditional-age students becoming at-risk: Does working threaten college students' academic success? *Journal of College Student Retention*, *12*(1), 51-68. https://doi.org/10.2190/cs.12.1.d

Trainor, S. (2015, October 20). How community colleges changed the whole idea of education in America. *Time*. https://time.com/4078143/community-college-history/

U.S.C. Title 20 - Education. (n.d.). GovInfo | U.S. Government Publishing Office. https://www.govinfo.gov/content/pkg/USCODE-2010-title20/html/USCODE-2010-title20-chap28-subchapIV-partA-subpart2.htm

Vasold, K. L., Deere, S. J., & Pivarnik, J. M. (2019). Club and intramural sports participation and college student academic success. *Recreational Sports Journal*, *43*(1), 55-66. https://doi.org/10.1177/1558866119840085

Vasold, K. L., Kosowski, L. E., & Pivarnik, J. M. (2017). Academic success and one-year of intramural sports participation by freshmen students. *Medicine and Science in Sports and Exercise*, *49*(5S). https://doi.org/10.1249/01.mss.0000517335.89710.c8

Wann, D. L., & Robinson, T. N. (2002). The relationship between sport team identification and integration into and perceptions of a university. *International Sports Journal*, 6, 36-44.

Watson, J. C., Ayers, S. F., Zizzi, S., & Naoi, A. (2006). Student recreation centers: A comparison of users and non-users on psychosocial variables. *Recreational Sports Journal*, 30(1), 9–19. https://doi.org/10.1123/rsj.30.1.9

Weiss, S. M., & Robinson, T. L. (2013). An investigation of factors relating to retention of student–athletes participating in NCAA division II athletics. *Interchange*, *44*(1-2), pp. 83–104. https://doi.org/10.1007/s10780-013-9198-7

Wild, L., & Ebbers, L. (2002). Rethinking student retention in community colleges. *Community College Journal of Research and Practice*, *26*(6), 503-519. https://doi.org/10.1080/2776770290041864

Windham, M. H., Rehfuss, M. C., Williams, C. R., Pugh, J. V., & Tincher-Ladner, L. (2014). Retention of first-year community college students. *Community College Journal of Research and Practice*, *38*(5), 466–477. https://doi.org/10.1080/10668926.2012.743867

Woods, A. D., Price, T., & Crosby, G. (2019). The impact of the student-athlete's engagement strategies on learning, development, and retention: A literary study. *College Student Journal*, *53*(3), 285–292. https://link.gale.com/apps/doc/A603511046/CWI?u=lom_ferrissu&sid=bookmark-CWI&xid=6b360fc6

Zegre, S. J., Hughes, R. P., Darling, A. M., & Decker, C. R. (2022). A data-driven approach for facility use definitions in campus recreation. *Recreational Sports Journal*, 46(1), 115–127. https://doi.org/10.1177/15588661221077692

APPENDIX A: FERRIS IRB APPROVAL

FERRIS STATE UNIVERSITY

INSTITUTIONAL REVIEW BOARD
1010 Campus Drive FLITE 410 Big Rapids, MI 49307
www.ferris.edu/irb

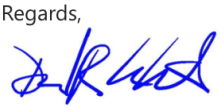
Date: January 18, 2023
To: Susan DeCamillis, EdD and Jeff Hooks
From: David R. White, Ph.D, IRB Chair
Re: IRB Application *IRB-FY22-23-81 Effects of participation in welcome week programming, campus-wide programming, and club/intramural sports on first-generation student retention and GPA*

The Ferris State University Institutional Review Board (IRB) has reviewed your application for using human subjects in the study, *Effects of participation in welcome week programming, campus-wide programming, and club/intramural sports on first-generation student retention and GPA(IRB-FY22-23-81)* and approved this project under Federal Regulations Exempt Category 2. (i). Research that only includes interactions involving educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior (including visual or auditory recording).
The information obtained is recorded by the investigator in such a manner that the identity of the human subjects cannot readily be ascertained, directly or through identifiers linked to the subjects.

Your protocol has been assigned project number IRB-FY22-23-81. Approval mandates that you follow all University policy and procedures, in addition to applicable governmental regulations. Approval applies only to the activities described in the protocol submission; should revisions need to be made, all materials must be approved by the IRB prior to initiation. In addition, the IRB must be made aware of any serious and unexpected and/or unanticipated adverse events as well as complaints and non-compliance issues.

This project has been granted a waiver of consent documentation; signatures of participants need not be collected. Although not documented, informed consent is a process beginning with a description of the study and participant rights, with the assurance of participant understanding. Informed consent must be provided, even when documentation is waived, and continue throughout the study. Ferris IRB requires submission of annual status reports during the life of the research project and a Final Report Form upon study completion. **The Annual Status Report for this project is due on or before January 17, 2024.** Thank you for your compliance with these guidelines and best wishes for a successful research endeavor. Please let us know if the IRB can be of any future assistance.

Regards,



David R. White, Ph.D, IRB Chair
Ferris State University Institutional Review Board

APPENDIX B: SOUTHWESTERN MICHIGAN COLLEGE IRB APPROVAL

November 14, 2022

Institutional Review Board

Ferris State University

To Whom it May Concern:

I am writing to verify that Jeff Hooks has approval from the Institutional Research Panel at Southwestern Michigan College to use student data for his dissertation titled, *Effects of participation in welcome week programming, campus-wide programming, and club/intramural sports on first-generation student retention and GPA*.

The Committee requests that a copy of Ferris State University's Institutional Review Board approval letter be sent to me (aevans14@swmich.edu) to keep on file.

If you have any questions, please feel free to contact me at aevans14@swmich.edu.

Thank you,

Dr. Angela Evans

Director of Institutional Research