Understanding Which College Academic and Social Integration Factors Are Important in Predicting First-Generation College Students' Retention in the First Year

by

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Submitted in partial fulfillment of the
Requirements for the Degree of Doctor of Philosophy
Department of Education Leadership, Management, and Policy
Seton Hall University
March 2022

SETON HALL UNIVERSITY
1 8 5 6

COLLEGE OF EDUCATION & HUMAN SERVICES
DEPARTMENT OF EDUCATION LEADERSHIP MANAGEMENT & POLICY

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Abstract

Retention concerns remain high for postsecondary institutions and even more so when focusing on populations such as those who are the first in the family to attend college, first-generation college students. First-generation students account for 34% of the collegiate population, yet 40% of first-generation students do not return for their sophomore year. While prior theoretical frameworks and research points to academic and social integration as key indicators of retention, first-generation students are less likely to integrate into their institution. First-generation students are about 30% less likely compared to their continuing generation peers to be integrated at all on campus.

Utilizing data from the National Survey of Student Engagement (NSSE), the purpose of this quantitative study was to understand which academic and social integration factors are important in predicting first-generation students' intentions to return after their first year in college. Employing Astin's theory of student involvement, Tinto's theory of student departure, social and cultural capital frameworks, the study examined which academic and social integration factors are significantly related to retention among first-generation students. Additionally, control variables included demographic and institutional characteristics to understand what other factors are important in predicting first-generation student retention.

The findings of this study indicate that academic and social integration variables related to institutional support, peers, and participation in extracurricular activities are influential in first-generation student retention. Race/ethnicity, academic major, grades, institutional size, and type were also factors related to retention. Recommendations for practice, policy, and implications for future research included increased funding for support services and co-curricular activities,

increased financial aid, and updated frameworks to reflect the cultural differences of first-generation students.

Keywords: first-generation college student, first-year, academic integration, social integration, cultural capital, social capital

Dedication

To my late grandfather, Louis Battaglia. Thank you for teaching me that family is what is most important in life and for always believing in me. For without your love, I would not be who I am today. Thank you for always being and continuing to be a guiding light.

Acknowledgments

I am a first-generation college graduate, and it has been a privilege exploring the relationship between first-generation status and student retention. My hope is that I have given a voice to the first-generation students and provided a better understanding of the experiences of this population to ensure their future success. I have received an incredible amount of support from my family, friends, colleagues, faculty, and students. I would like to thank them for all they have done.

First, I would like to thank my incredible family for their endless support and guidance. To my parents, Joanne and Louis Battaglia, you have always been my anchors throughout every journey in life. Thank you for teaching me how to love fiercely, to never give up, and to always do what is right. To my husband, Michael LaCapria, thank you for your endless love, unwavering support, and for calming every fear and doubt I may have had along the way. You all have made this dream seem possible, and I cannot thank you enough. To my in-laws, Roseann and Peter LaCapria, thank you for your constant encouragement and prayers. To my brothers (Louis & AJ), sisters (Elyse & Nicole), grandmother (Alice), aunts, uncles, and cousins, thank you as you have helped me in more ways than these words can express. To my grandparents, Joseph and Josephine, thank you for shining your light on me from above.

Thank you to my mentor, Dr. Chen, for all that she has done to help me through this dissertation. Your patience, kindness, knowledge, and support has meant so much to me, and I am so thankful for your guidance. To my committee members, Dr. Robert Kelchen and Dr. Mary Meehan, you are such wonderful role models, and I appreciate all your guidance and feedback.

To my Freshman Studies/SHU colleagues who turned into family, Robin, Marisa, Maggie, Jackie, Nicole, Brittany, Hezal, and Wendiann, thank you for teaching me how to be a strong female leader and for your sisterhood. To all my current colleagues and fellow classmates, thank you for your friendship and guidance. And finally, to my first-generation students, thank you for giving me the motivation and courage to finish. May we never forget to be proud of being first-generation and to lift each other up every chance we can.

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Chapter 1

Introduction

Higher education institutions have a growing concern regarding the retention of their students and the likelihood they will persist and obtain a higher education degree. The concern is that persistence/retention rates have barely changed in recent years (National Student Clearinghouse, 2018) meaning there are still a significant number of students who enroll in college but not return. In more recent years the struggles college students experience intensified during the COVID-19 pandemic and are still impacting students and colleges today. The COVID-19 pandemic exacerbated students' mental health risks, which can negatively impact academic outcomes, and dismantled their interpersonal, institutional, and community networks, which raise further concerns about college student retention (Lederer et al., 2021).

When looking at student retention, the overall national retention rates of first-time, full-time students for students who started in fall 2016 at a public, private, or for-profit institution and returned to the same institution is 61.6% (National Student Clearinghouse, 2018). When looking at the difference between retention rates of four-year and two-year institutions, there is a significant gap in student retention. For students who started at four-year public institutions in fall 2016, the retention rate was 83%, while students who started at two-year public institutions, was 62.2% (National Clearinghouse, 2018). When examining the retention rates at private institutions, four-year institutions had 85% retention (National Clearinghouse, 2018), which is slightly higher than the four-year public institution sector.

Universities continue to be scrutinized regarding rising costs, student access, and the production of measurable outcomes, which has led to retention and graduation rates being key metrics for student progress and success (Millea et al., 2018). While retention and persistence are

different, they are both focused on students returning to college and therefore are often used interchangeably. For context, college persistence rates measure the percentage of students who return to college at any institution, and college retention rates measure the percentage of institutions who returned to the same institution (National Clearinghouse, 2018). Retention and persistence variables are varied and complex, leaving institutions pressured to attempt to serve many different and often competing ends (Tinto, 2001). Additionally, the success of the students and the university are intertwined (Millea et al., 2018). Therefore, student retention remains a significant issue for the higher education field and is frequently used as a benchmark of institutional success or failure.

Students may leave a university for any one or combination of the following reasons: "intentions, institutional fit and institutional commitment, psychological processes and key attitudes, academic, social factors, bureaucratic factors, external environment, student background, and money and finance" (Seidman, 2005, p. 216). While this is already an extensive list of factors that influence a student's decision, it demonstrates how complex and comprehensive retention issues are and how more needs to be considered when looking specifically at the academic and social integration of first-generation students. First-generation students account for 34% of the collegiate population (Lederer et al., 2021), yet 40% of first-generation students do not return for their sophomore year (Hanson, 2021). The retention concerns around this population of students remain high, and policymakers, researchers, and institutions must do more to support these students to increase their college retention.

Colleges want to increase student retention to contribute to the personal success of students, which will, in turn, help the nation have a stronger and more educated workforce (Martin, 2017). College is a crucial factor in aiding a student's ability to gain economic growth,

as the higher the degree the more likely a person will have a greater capacity to earn (National Center for Education Statistics, 2018). Currently, there is an ever-widening disparity in the earnings gap between Americans who have earned a college degree and those who finished their education with a high school diploma (Rugaber, 2017). Gaining access to postsecondary education and earning a degree provides people the opportunity to improve their socioeconomic status, and college graduates on average tend to earn 56% more than high school graduates (Rugaber, 2017). Even with this important understanding, college attainment is unequally distributed among students (Redford & Mulvaney Hoyer, 2017). Focusing on first-generation student success ensures there is more education equity amongst all populations of students.

The long-term benefits of a college education positively impact both the individual and society. On average those with bachelor's degrees are 47% more likely to have health insurance through employment; the likelihood of having a retirement plan through employment is 72% greater, and retirement income is 2.4 times higher (Trostel, 2015). Personal benefits include better health, reduced risks of disability and mortality, reduced risk of imprisonment, better marriages, and increased life satisfaction (Trostel, 2015). Earning a college degree provides more access to the systems that can ensure a good quality of life like health insurance, retirement plans, as well as the personal benefits of successful relationships and overall general happiness.

Additionally, with college attainment comes a reduction in crime, increased philanthropy and volunteerism, increased civic participation such as higher rates in voting, increased community involvement, and increased social capital (Trostel, 2015). Given the significance of earning a degree, first-generation retention is critical in helping this significant portion of students enrolling in college earn a degree to increase their socioeconomic status and gain the personal benefits that follow college attainment, which, in turn, will positively impact society.

This is essential for higher education to provide equitable experiences for students and to close the gap between first-generation students and their continuing generation peers.

The institutional impact of failing to retain students can negatively affect college and university budgets, effectiveness, and institutional rankings (Martin, 2017). Moreover, and it is important to note, student retention significantly impacts the financial stability of the institution. Raisman (2013) conducted an analysis of private, public, and for-profit 4-year institutions and found that nearly $16.5 billion in lost revenue is due to student attrition (student dropout). The loss in revenue can be catastrophic for colleges and institutions, leaving many institutions with difficult choices of how to stay open and how to provide students with a quality education.

Academic and social integration are important factors when examining what factors may be related to student retention. Academic and social integration is often the center of many retention studies and derives from Tinto's institutional departure model (Tinto, 1975, 1993). Tinto's model focuses on individual characteristics such as prior experiences, and commitments and integration into the academic and social systems of college are directly related to student retention (Tinto, 1975). Severiens and Wolff (2008) found that students who feel at home, who are well connected to fellow-students and teachers, and who take part in extracurricular activities are more likely to graduate.

Given that student retention has not increased in recent years, further research related to retention and graduation is imperative (DeAngelo & Franke, 2016; National Student Clearinghouse, 2013). Since successful extensive reform efforts and research helped increase access to higher education, the retention of first-generation students and other previously marginalized groups has become critical (DeAngelo & Franke, 2016). While access to higher education has increased, degree attainment has not significantly increased, and social inequality

has grown (Alon et al., 2010; DeAngelo & Franke, 2016; Dwyer, 2013; Grusky et al., 2011; McCall, 2001; Roska, 2010). The increase in social inequality can be seen through many of the financial aid policies put in place that tend to reward the few academically ready, lower income, first-generation students (DeAngelo & Franke; 2016). This leaves out many students who are first-generation and need the financial assistance to attend college so they can reap the academic, social, and economic benefits of a college degree. Focusing on the retention of first-generation students is not only imperative to their economic and social mobility but also in strengthening the economy and overall national retention rates.

Problem Statement

Nearly 30% of first-year college students do not return for their sophomore year. When focusing on sub-populations such as first-generation students, the retention is even lower at 40% (Hanson, 2021). First-generation is often defined as students whose parents have not attended college and account for one third of the current students enrolling at postsecondary institutions (National Center for Education Statistics, 2018). In 2016, approximately 18.8% of incoming college students identified as first-generation (Eagan et al., 2017). Lauff and Ingels (2013) found that among 2002 high school sophomores, 46% of students who had a parent with a bachelor's degree and 59% who had a parent with a master's degree or higher had obtained a bachelor's degree or higher by 2012, compared to 17% of students who had parents with no postsecondary education experience (or first-generation college students). This significant gap indicates that first-generation students are significantly less likely to persist compared to their continuing generation peers.

Research has shown that, on average, students who whose parents did not attend college are not only less likely to enroll in college but also less likely to graduate even if they do enroll

(Toutkoushian et al., 2019). Other research has shown that first-generation students often have other characteristics associated with lower rates of college enrollment and graduation such as coming from lower income homes and beginning college with less academic preparation (Toutkoushian et al., 2019). Furthermore, first-generation students are disproportionately non-White, low-income, and female and often experience oppression based on race, class, and gender (Lohfink & Paulsen, 2005). While much of the retention factors that have been developed include family background, race, socioeconomic status, there is a disconnect in the research of first-generation students.

Although there have been many studies regarding first-generation students and their retention, surprisingly little is known about first-generation students' college experiences (Soria & Stebleton, 2013). The gap in first-generation students' college experiences is in how first they integrate to their institutions. Exploring if it is their first-generation status that impacts their retention or if other factors such as demographics, institutional characteristics, and how they academically and socially integrate to college may also be influencing their retention is critical to providing a richer understanding of this population.

According to the National Center for Education Statistics (2018), first-generation students often have other characteristics such as low socioeconomic status and lower enrollment intensity, among others that are associated with dropping out of college. Additionally, first-generation students struggle with their academic adjustment to college. First-generation students are less confident in their academic ability and readiness for college-level work and are more likely to avoid asking questions or seeking help from faculty (Jenkins et al., 2009). Given first-generation students face significant barriers persisting in higher education and often include

some of the most vulnerable factors in addition to family background (first-generation status), more needs to be done to understand how to increase the retention of these students.

Purpose Statement

The purpose of this study was to understand which academic and social integration factors are important in predicting first-generation students' intention to return after their first year in college. While retention issues have existed for decades, it has only been in recent years that the focus on populations such as first-generation students has emerged in efforts to increase overall student retention.

In analyzing data from the 2018 National Student Engagement Survey (NSSE, 2018), the purpose of this study was to determine to what extent academic and social integration factors are important in predicting first-generation student retention, controlling for gender, race/ethnicity, financial responsibility, academic grades, major, and institutional characteristics. Prior research has shown that first-generation students are more likely to come from families with lower socioeconomic status, to have lower educational aspirations, lower levels of engagement in high school, tend to have lower SAT scores and high school grade point averages, and are less likely to receive support from their families regarding college attendance (Soria & Stebleton, 2013). By using a national data set such as NSSE, my study sought to understand the relationship between these identified retention variables and first-generation students' intention to return/persist.

Research Questions

To better understand the extent to which academic and social integration relate to first-generation students' retention, two research questions were developed:

1. What academic and social integration factors are significantly related to first-year retention among first-generation students?

2. What other factors are important in predicting first-year retention for first-generation college students?

There are several theories that are used to answer these research questions. Tinto's student departure theory (1975, 1993), Astin's (1984) student involvement theory, cultural capital theory (Bourdieu, 1986), and social capital theory (Bourdieu; 1986; Coleman, 1988; Portes, 1998; Wells, 2008-2009). These theories highlighted past frameworks of why student's dropout, the relationship between student involvement and retention, and the significance of cultural, human, and social capital within the college experience. This study analyzed data from the National Survey of Student Engagement (NSSE). A binary logistic regression model was used to further understand the relationship between first-generation status, academic and social integration and first-year retention.

Significance of Study

The departure of students from institutions remains a significant problem for the management of the enrollments of colleges and universities (Braxton & McClendon, 2001-02). Additionally, even though some situations of departure may be in the best interest of the student, institutions can help prevent voluntary departure through institutional practices grounded in college student departure research (Braxton & McClendon, 2001-02). The greater the sense of belonging, the more likely it is that the student will remain in college, and for many first-generation students they do not report that sense of belonging as often as their continuing generation peers (Costello et al., 2018). Academic and social integration are an important component of a student's sense of belonging. Greater social and academic integration lead to greater commitment to educational goals and to institutions, which can decrease a student's desire to depart from their institution (Beil et al., 1999).

The evidence is clear that first-generation students as a group have a more difficult transition from secondary school to college than their peers (Pascarella et al., 2004). Not only do first-generation students confront all the anxieties, dislocations, and difficulties of any college student, their experience often involves substantial cultural as well as social and academic transitions (Pascarella et al., 2004). All of these barriers can often impede a first-generation student's ability to find a sense of belonging, making it less likely they are integrating academically or socially to their campus.

While much of the retention factors that have been developed include family background, race, and socioeconomic status, there is a disconnect in the research of first-generation students. The literature often provides little understanding of how first-generation students experience college and whether it is their first-generation status that impacts retention, or the many other factors related to student retention, or some variation of both.

This indicates the need for more research exploring how higher education institutions can begin to reduce the number of barriers these students face or what programs and/or policies can be implemented to better serve first-generation students. While there have been policies created to increase access to higher education such as the GI Bill and Higher Education Act of 1965 (Strach, 2009), minimal polices have been enacted to ensure student retention and persistence. Because higher education institutions have not been able to move the needle on these issues, more needs to be done to close the current gaps in retention for first-generation students.

Summary

College persistence and retention rates are important indicators of institutional success and lead to increased graduation rates. Attaining a college degree is important for the individual, the institution, and society. Individuals who attain a postsecondary education often have better

health, reduced risks of disability and mortality, reduced risk of imprisonment, better marriages, and increased life satisfaction (Trostel, 2015). Institutional failure to retain students can negatively affect college and university budgets, effectiveness, and institutional rankings (Martin, 2017). Additionally, they are more likely to be involved in their communities and gain increased social capital (Trostel, 2015).

When looking at the disparities between first-generation students and their continuing generation peers, it is apparent that there continues to be a gap in their retention. First-generation students are twice as likely not to persist compared to their continuing generation peers (Lauff & Ingels, 2013). It is vital to further study this population of students to ensure educational equity amongst all students.

This study comprehensively examined the relationship between academic and social integration factors among first-generation students and their intention to persist while controlling for other factors that could be related to student persistence. Additionally, this study examined first-generation students' academic and social integration and intention to persist using national data from the 2018 National Survey of Student Engagement (NSSE, 2018).

This study is divided into several chapters. In Chapter 1, I provide an introduction, problem statement, purpose statement, research questions, define key terms, and significance of study. Chapter 2 includes the theoretical and conceptual framework on first-generation students, student retention, and academic and social integration. Chapter 3 outlines the methodology. Chapter 4 will include my analysis and findings. Chapter 5 will provide a conclusion to my study, implications for policy-making, and future research.

Chapter 2

Literature Review

To understand the relationship between first-generation status, academic and social integration and first-year student retention, this chapter focuses on examining current literature on first-generation students and providing a conceptual framework. First, I identify important terms and definitions related to student persistence and retention, first-generation status, and academic and social integration. Second, I explain the significant variables and predictors in the prior literature related to student retention theories and student integration theories for first-generation students. Third, I examine gaps in prior research studies related to first-generation students. Lastly, I synthesize existing literature that attempts to explain first-generation status and academic and social integration used to create conceptual framework model for this study.

Retention and Persistence Definition

Retention and graduation rates have become key metrics for assessing progress and success for colleges and universities, often using first-time freshmen as a subject of study (Millea et al., 2018). Both student persistence and retention will be included in this literature review and used interchangeably. Persistence is an indicator measuring students returning to college at any institution for the next year (National Student Clearinghouse, 2015). Retention indicates students returning to the same institution for the next year (National Student Clearinghouse, 2015). For the purpose of this study, I will focus on first-year student retention, which includes the terms for both retention and persistence for first-time, first-generation students.

First-Generation Definition

While there is no universal definition of first-generation, for the purpose of this study, the most widely recognized definition will be used. First-generation is often defined as students

whose parents have not attended college (National Center for Education Statistics, 2018). Prior researchers have defined first-generation as neither parent having earned a bachelor's degree, which is consistent with the language in the U.S. government's Higher Education Act (Auclair et al., 2008; Spiegler & Bednarek, 2013; U.S. Department of Education, 1998). While there are other studies that have categorized first-generation as only students whose parents never attended college (Auclair et al. 2008; Spiegler & Bednarek, 2013), for the purpose of this study I will focus on the previous definition as it is more widely used and most consistent with the U.S. government's Higher Education Act.

Academic Integration and Social Integration

According to Tinto (1975, 1993) students not only need to persist in their study in order to graduate (i.e., academic integration), but they also need to participate in the student culture, both within and outside the immediate contexts of the learning environment (i.e., social integration). Academic integration is the level to which a student believes he or she is meeting the explicit academic standards of the college or university as well as that individual's identification with the beliefs, values, and norms inherent in the academic system (Tinto, 1975). Academic integration captures a student's satisfaction with his or her experiences with the academic systems at the university and his or her perceived intellectual development and growth (DaDeppo, 2009). Academic experiences include interaction with staff and faculty both inside and outside the classroom as well as classroom learning experiences (Townsend & Wilson, 2009).

Social integration was defined by Tinto (1975) as the degree of congruency between a student and the social system of a college or university (Jones, 2010). Through social integration, students receive important social rewards such as collective affiliation and social support from

peers and faculty (Tinto, 1975). Social interactions include both "formal or institutionally provided co-curricular or student-life activities" (Kuh et al., 2001, p. 3).

Student Retention Theories and Conceptual Frameworks

Although attendance rates to college have increased among populations such as low-income, minority, first-generation, and students identifying with disabilities, there are still large gaps of these populations of students persisting after the first year of college. Researchers have focused on the development of theories to better understand factors related to why students stay at their postsecondary institutions and why some depart and/or drop out. More specifically, these theories will help to explore the factors related to student retention. A comprehensive review of theories and conceptual frameworks is essential to understand what variables may be influencing student retention. While there are many theories related to retention, I focused on the following: Tinto's student departure, Astin's student involvement theory, cultural capital theory, and social capital theory. These theories have been most widely used in retention studies and have included variables most significant in studying first-generation students.

Tinto's theory of student departure explained that the process of dropout from college can be viewed as a

> longitudinal process of interactions between the individual and the academic and social systems of the college during which a person's experiences in those systems (measured by his normative and structural integration) continually modify his goal and institutional commitments in ways which lead to persistence and/or to varying forms of dropout. (Tinto, 1975, p. 103)

This theory built from Spady's (1971) dropout model in that it included family background, individual attributes, pre-college characteristics, peer support, faculty interaction, academic

integration, and social integration; however, goal commitment and institution commitment were additional variables added to explain student retention.

The authors argued that the lower the commitment of the individual to the goal of college completion, the more likely the student is to drop out of college (Tinto, 1975). The theory focused on the individual characteristics of students that influence student retention. The most important characteristics are the students' sense of self, family, pre-college experience, and expectations for college degree attainment (Tinto, 1975). This study highlighted the importance of family background as a predictor of student retention. Students from lower socioeconomic status families had higher rates of dropout compared to more affluent families, and students whose parents were more educated were more likely to persist (Tinto, 1975).

The author went on to explain that socioeconomic status alone in not a determinant of college retention, but other factors such as family support, quality of familial relationships, and parental expectations are also important factors when considering family background. While family background was found to be a significant variable, what was found to be most important was the student's own ability. Measures of ability include performance on standardized tests, high school grade performance, and individual competence (Tinto, 1975). High school grade performance appeared as the more significant predictor of student retention. This study also examined the difference between voluntary dropouts and those who dropped out due to academic failures. Tinto noted there was an important distinction between the two groups, and when examining retention this should be included.

Astin's student involvement theory defined student involvement as "the amount of physical and psychological energy that the student devotes to the academic experience" (Astin, 1984, p. 518). As higher education policy makers focused on providing more access to

postsecondary education, the higher education field also expanded and provided students more resources for success. Therefore, there were more opportunities for students to be involved within their institution.

The student involvement theory was derived from Astin's longitudinal study of college dropout rates conducted in 1975 (Astin, 1984). After further dissecting research related to why students drop out of college, Astin identified factors that indicated why students persist. This theory was designed to help college administrators understand that the decisions and policies created for students can impact student involvement, which, in turn, can impact retention rates. All of these factors related to student involvement have a positive and significant effect on the student experience, making it more likely that these students will return. Meanwhile, less student involvement contributed significantly to the chances of a student dropping out (Astin, 1984). In knowing the significant role student involvement has on student retention rates, this theory will guide the understanding of how students identify with their educational experience and the impact it has on their retention.

Many researchers have since revised Tinto's theory of student departure to better understand the growing number of students attending postsecondary education and not returning after the first year. Braxton et al. (1997) empirically and conceptually assessed Tinto's 1975 foundational theory by focusing on the degree of support for the 13 primary propositions originally hypothesized. Their findings support only 5 of the 13 primary propositions, with four being closely interrelated. The four propositions were related to student entry characteristics, which "impact the level of initial commitment to the institution, family background (i.e., socioeconomic status, parental level of education), individual attributes (i.e., academic ability,

race, and gender), and pre-college experiences (i.e., high-school academic achievement)" (Braxton et al., 2000, p. 570).

These findings suggest that the students who have a greater commitment to the institution are more likely to return to college after the first year. However, these particular findings lack the connection to social integration and the impact this may have on student retention. Braxton et al. (2000) revised this theory to better support the explanation of how social integration may impact student departure. In utilizing this theory, the authors borrowed new concepts from other theoretical perspectives to understand both social integration and student departure decisions by conducting a longitudinal study (Braxton et al., 2000). The concepts included institutional type, organization attributes, motivations for attending college, financial aid, fulfillment of expectations, sense of community in residence halls, student involvement, life task predominance and self-efficacy (Braxton et al., 2000, p. 582).

In more recent years, social and cultural capital theories have been used in understanding the retention of first-generation students. Social capital includes the social and personal networks people use for interpersonal assistance, which can be developed not just in schools but at home as well (Bourdieu; 1986; Coleman, 1988; Portes, 1998; Wells, 2008-2009). Cultural capital includes the "cultural factors and forms of symbolic wealth," which define social class and are often inherited from one's family and therefore may help to sustain upper- and middle-class status groups (Wells, 2008-2009 p. 104).

The author went on to explain that cultural capital may help to explain the discrepancies in the scholastic achievement of children in different social and economic classes. This is now used in understanding first-generation students, as the research has indicated that these students come into college with lower cultural and social capital, which results in their decreased

academic engagement (Soria & Stebleton, 2013). Social capital is privileged knowledge, resources and information attained through social networks and is important within the postsecondary education system because it can be used to make important decisions related to the selection of college and what kind of academic and social choices to make while enrolled in college (Pascarella et al., 2004).

Social and cultural capital is important for students pursuing higher education because it provides a framework for students to understand the college process and what to expect once enrolled. First-generation students often lack cultural and social capital as their parents cannot provide them with the same framework for success as students whose parents earned a degree (Pascarella et al., 2004). Research has shown that low-income and first-generation students are less likely to be engaged in the academic and social experiences that foster success in college such as "studying in groups, interacting with faculty and other students, participating in extracurricular activities, and using support services" (Engle & Tinto, 2008, p. 3). Given the importance of social and cultural capital within the context of higher education, these frameworks are often used in combination with the previous academic and social integration theories to understand how first-generation students experience college.

Conceptual Model

For the purpose of this study, my conceptual framework is guided by Astin's theory of student involvement, Tinto's theory of student departure, and social and cultural capital theory. Tinto's theory of student departure explained that the process of dropout from college can be viewed as a

> longitudinal process of interactions between the individual and the academic and social systems of the college during which a person's experiences in those systems (measured

> by his normative and structural integration) continually modify his goal and institutional commitments in ways which lead to persistence and/or to varying forms of dropout. (Tinto, 1975, p. 94)

This theory was built from Spady's (1971) dropout model in that it included family background, individual attributes, pre-college characteristics, peer support, faculty interaction, academic integration, and social integration; however, goal commitment and institution commitment were additional variables added to explain student retention. I included the theory because of the pre-college variables like family background, individual attributes, and pre-college characteristics but also included peer and family interaction.

Astin's student involvement theory defined student involvement as "the amount of physical and psychological energy that the student devotes to the academic experience" (Astin, 1984, p. 519). Additionally, involvement included the "amount of time spent studying, time spent on campus, participation in clubs or organizations, and how frequently a student interacts with faculty members or other students" (Astin, 1984, p. 518). Student involvement is important in a student's educational experience as it can impact a student's decision to return. I chose this theory because it focused on participation in clubs and organization as well as faculty interaction.

Social capital theory is often used to explain the struggles first-generation students have when they enter college with a lack of strong social network. Coleman's (1988) social capital theory is a concept that "accepts the principle of rational or purposive action and attempts to show how that principle, in conjunction with particular social contexts, can account for not only the actions of individuals in particular contexts but also for the development of social organization's" (as cited in Morton et al., 2018, p. S96). Social capital is particularly relevant to the experience of first-generation students when it comes to the information channels.

Information channels are a product of social relations between the individual and the parties giving information (Morton et al., 2018). The authors went on to explain that teachers, parents, and counselors can all be considered information channels. This must be considered in modern conceptual framework for first-generation students.

Cultural capital theory "includes the 'cultural' factors and forms of symbolic wealth that help and define a person's class, which are often inherited from one's family and therefore may help to sustain upper-and middle-class status groups" (Wells, 2008-2009 p. 104). Cultural capital theory applies to college students as they come to school with the knowledge and resources from their parents and families, which can help or hinder their success. By including social and cultural capital in my model, it helps to further understand the mechanisms whereby social class affects student retention (Wells, 2008-2009), and what variables associated with social and cultural capital influence student retention.

My model is adapted from Tinto's interactionalist model of student departure, which can be seen in Figure 1.

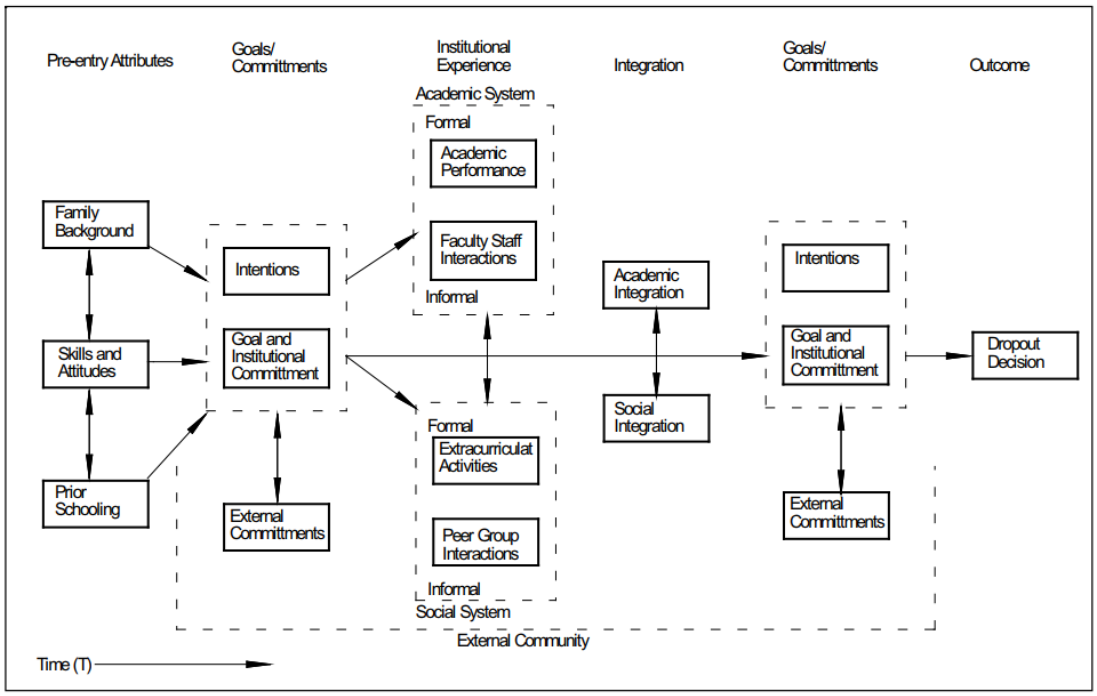

Figure 1. Tinto's (1993) interactionalist model of student departure.

Adapted from Tinto (2010). "Pre-Entry Attributes and Freshman Satisfaction, Grades, and Engagement as Predictors of Six-Year College Graduation," by Shoulders et al., 2020, *College Student Journal*, p. 330. Copyright 2022 by Project Innovation, Inc. Adapted/Reprinted with permission.

Figure 2: Adapted model of Tinto's interactionalist model of student departure.

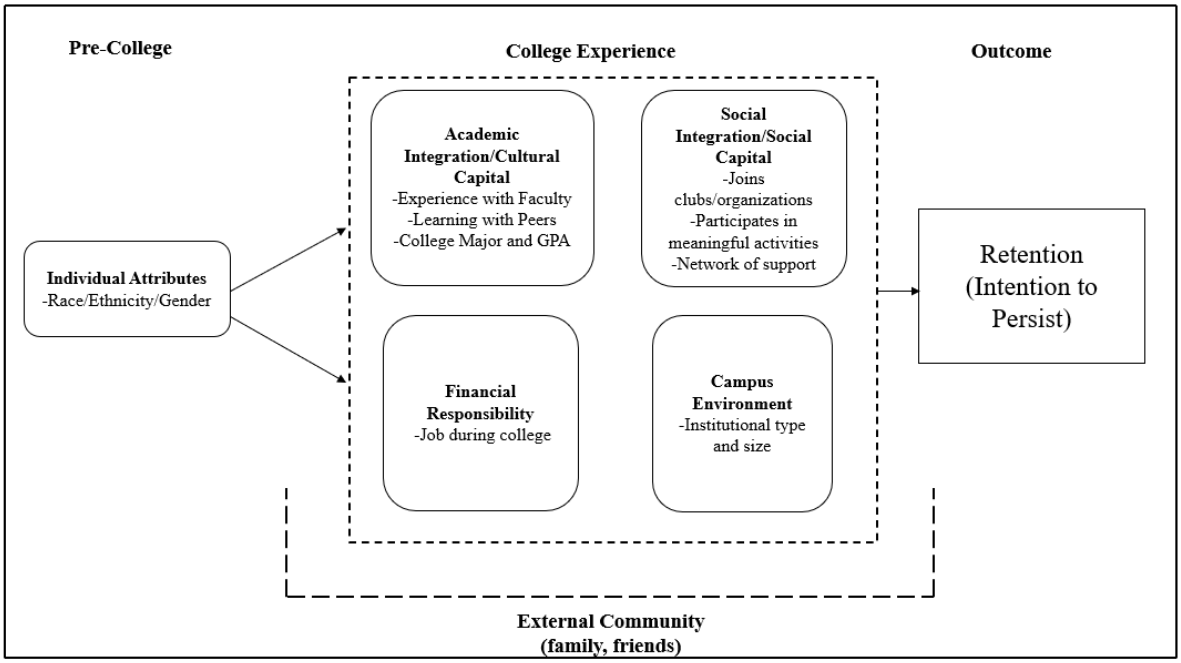

Figure 2: Adapted model of Tinto's interactionalist model of student departure.

Note. Adapted from (Tinto, 2010).

My adapted model combines academic and social integration, pre-college background, social and cultural capital, along with academic and social integration variables, which research has shown are important predictors of student retention.

Pre-College Factors

Gender. Gender differences in educational attainment exist at each education level (Espinosa et al., 2019). Women are obtaining associate degrees or higher at a higher rate compared to males (Espinosa et al., 2019). The gender gap between Black men and women are the widest of any group; in 2016, 62.2% of Black undergraduates were women (Espinosa et al., 2019).

There are many gender differences amongst academic and social expectations of college. Women have higher expectations regarding college and attaining a more qualified job then men (Diniz et al., 2018; Mau & Bikos, 2000; Mello, 2008). Additional studies indicate women are more attached to and emotionally dependent on their families and friends during their first year of college (Diniz et al., 2018). This increased dependency and desire to satisfy parental expectations may lead women to attend institutions closer to home to better balance their familial and educational responsibilities (Diniz et al., 2018). Other studies have shown that women are more committed to attain their degree and dedicate more time to studying compared to men (Diniz et al., 2018; Dwyer et al., 2013; Wells et al., 2013).

Men appear to benefit more from social interactions in the social and political spheres and are more active in political and student association activities due to their more positive self-evaluations of leadership skills and competitiveness (Diniz et al., 2018; Sax et al., 2005; Sax & Harper, 2007). However, women engage in more frequent and positive social interactions than men and more often develop higher levels of social commitment and participate in volunteer activities that benefit others more frequently (Diniz et al., 2018; Dwyer et al., 2013; Hu & Wolniak 2013; Sax & Harper, 2007).

Race/Ethnicity. In the last 20 years the United States has seen a dramatic increase in the racial and ethnic makeup since the country was first founded (Espinosa et al., 2019). Within the near future, over 50% of students from communities of color currently in the K–12 public education system will be the majority of the adult population (Espinosa et al., 2019). The racial and ethnic group to experience the most growth was the Hispanic population, followed by those of Asian descent (Espinosa et al., 2019). This trend will also increase the diversity of students enrolling in postsecondary education. Even though there has been progress with college

enrollment, retention/persistence, and completion, there are still disparities amongst racial and ethnic communities.

When looking at secondary education attainment in the U.S., in 2017 more than four in 10 adults ages 25 and older had attained an associate degree or higher (44.4%), 28.8% students completed only a high school degree, 16.3% who had some college but no degree, and 10.4% who had less than a high school education (Espinosa et al., 2019). However, when examining secondary education attainment by race and ethnicity, there are still large differences in college enrollment, retention/persistence, and degree attainment.

Black students enrolled in bachelor's degree programs had lower rates of first-year retention and higher rates of dropping out when compared to any other racial/ethnic group (Espinosa et al., 2019). In 2016, high school graduates of American Indian or Alaska Native and Native Hawaiian or other Pacific Islander descent enrolled in college at less than half the average rate and were less likely than other groups to attend a four-year institution (Espinosa et al., 2019). Asians had the highest levels of degree attainment for bachelor's degrees while Hispanics had the lowest (Espinosa et al., 2019).

Academic and Social Integration Factors Influencing Student Retention

While much literature has been written on college access and attainment (Miller et al., 2014; Morton et al., 2018); Ross et al., 2012) the most investigated demographics are those based on race (Carter, Locks, &Winkle-Wagner, 2013; Freeman, 1997; Welton & Martinez, 2014), culture (Gonzalez, Stein & Huq, 2012; Phinney, Dennis & Osorio, 2006), sex and gender (DiPrete & Buchmann, 2013) and socioeconomic status (Dyce, Abold, & Long, 2013; Palardy, 2013). In addition to investigating demographic variables, my study also included engagement indicators associated with academic and social integration. Academic integration variables

included student–faculty interaction, learning with peers, and institutional support. Social integration variables included social integration at the institution (participation in extracurriculars) and their social involvement outside the institution. Campus environment (institutional size and type), academic major, GPA, and financial responsibility were also used in my conceptual model, and I justify all the variables in the next section.

Integrating into college can often be a challenging transition for first-year students, which requires both an academic and social assimilation. For students to transition successfully and continue their studies to their second year, a student needs to experience academic success and confirmation they selected the right institution, which is critical during this transitional period (Ishitani, 2016). As a student's time in college increases, students with higher levels of academic and social integration develop a strong commitment to returning for their education and completing their degree (Ishitani, 2016).

Student–Faculty Interactions and Retention. Student–faculty interaction both in and out of classroom plays a big role in a student's sense of belonging on campus. Student satisfaction with academic programs and feelings of belonging strongly influence student retention from the first year to graduation (Shoulders et al., 2020). Students who have more frequent quality contact with faculty members have greater likelihood of retention (Pascarella & Terenzini, 2005; cited in Shoulders et al., 2020). Additionally, students who felt that they had quality interactions within the classroom space are more likely to feel a sense of belonging (Elliot & Healy, 2001; cited in Shoulders et al., 2020). The role a faculty member has within engaging the student by providing quality interactions is paramount to students feeling like they belong at college.

In addition to the interaction faculty members have with students, connections to the institution are influenced by when students develop positive relationships with faculty and staff (Peterson et al., 2001, cited in Shoulders et al., 2020). It is critical that students not only have positive interactions with students but also form relationships with their faculty. When students develop a sense of well-being through these connections and relationships, it helps to foster a deeper institutional commitment, which increases likelihood of retention (Shoulders et al., 2020).

In a study by Shoulders et al. (2020), 486 first-time, full-time students completed the NSSE survey in which they examined if university pre-entry admissions data, satisfaction, self-reported grades, or student engagement could be used to predict graduation. The researchers looked at the matched admissions data (which included demographic information such as gender, ethnicity, first-generation status, Pell grant eligibility amongst others), selected NSSE variable responses, and composite NSSE scale scores for academic challenge, student–faculty interaction, enriching educational experiences, and supportive campus environment. The results found that 72.1% of first-time full-time students graduated within 6 years and verified that self-reported freshman grades, high school GPA, and student satisfaction with college were all positive predictors of graduation and retention (Shoulders et al., 2020). Additionally, gender, ethnicity, first-generation student status, college of enrollment, ACT score and the NSSE engagement indicators did not improve the likelihood of student retention (Shoulders et al., 2020).

In a study conducted by Nelson et al. (2008), the authors focused on comparing institutions that were doing better than expected with their student retention and those that were doing as expected who participated in the NSSE survey. There were 744 institutions in total, and 570 were identified as doing as expected while 174 were doing better than expected (Nelson et al., 2008). While student–faculty interaction was slightly higher at institutions with better-than-

expected retention, it was not statistically significant. This study not only looked at it from the student perspective but the faculty perspective as well. They also looked at the data from the institutions whose faculty members participated in the Faculty Survey of Student Engagement (FSSE). Their sample size did decrease to 66 institutions with better-than-expected retention and 224 with as-expected retention (Nelson et al., 2008). The findings suggested that faculty members at better-than-expected retention institutions used more active classroom practices on average over a quarter higher than faculty members at as-expected retention institutions.

Learning With Peers and Retention. Collaborative learning or learning together to achieve shared learning goals has been studied extensively (Barkley, Cross, & Major, 2014; Prince, 2004; Loes et al., 2017) and even more research exists on peer learning activities compared to any other instructional approach (Johnson, Johnson, & Smith, 1991; Loes et al., 2017). Collaborative learning relates to students working together to acquire and/or construct new knowledge (Brufee, 1993; Saltiel, 1998; cited in Loes et al., 2017). Giving students the opportunity to learn with their peers is not only an effective instruction design but provides a space to build peer networks and a sense of belonging on campus.

While learning with peers has been widely studied at the K–12 level, a smaller but substantial amount of research has been done at the collegiate level, but little is known about the influence of collaborative learning on persistence in college (Loes et al., 2017). Learning with their peers helps students with their personal development, understanding of science and technology, openness to diversity (Cabrera et al., 2002), linked to better interpersonal group skills and occupational awareness (Cabrera et al., 2001), and a greater ability to solve problems in new and creative ways (Johnson et al., 1991, cited in Loes at al., 2017). There are many factors indicating learning with peers has positive effects in many ways on students.

Loes et al., (2017) conducted a study of incoming freshmen (n = 1, 455) at 19 institutions throughout the United States that participated in the Wabash National Study of Liberal Arts Education (WNSLAE) and the National Survey of Student Engagement (NSSE). Both surveys were utilized to determine the extent to which students were exposed to good practices in college (i.e., collaborative learning, diversity experiences, etc.) and other college experiences such as working for pay, engagement in co-curricular activities, and so forth (Loes et al., 2017). The researchers used regressions to conduct models exploring the relationship between variables. The results indicated students with high levels of collaborative learning were more likely to return after the first year compared to students with low levels of collaborative learning (Loes et al., 2017).

When adding in peer interactions to the model, the probability of returning increased by 5 percentage points. The probability of students returning continued even controlling for race, gender, or pre-college academic ability. This was not in line with previous research that indicated demographic characteristics may moderate the influence of collaborative learning (Barkley et al., 2014; Hooper & Hannahfin, 1998; Slavin & Oikle, 1981; Swing & Peterson, 1989; cited in Loes et al., 2017. Additional research on how collaborative learning and peer interactions influence students from low-income and first-generation backgrounds is important in developing pathway to degree completion (Loes et al., 2017). Collaborative learning may provide first-generation students with an increase in social capital, which can influence student retention.

Other College Experience: Financial Aid and Student Employment, Time Spent Outside Classroom, College Major and GPA. There is a myriad of additional variables that may influence a student to continue at their institution. The cost of attendance and financial aid are among other factors related to student retention. The cost of higher education has increased

significantly, which may be prohibiting students from attending college and, in turn, securing higher paying jobs (Britt et al., 2017). Even though the overall amount of federal and state financial aid awarded to students has generally increased over the years (Britt et al., 2017; College Board, 2015), tuition has far outpaced the growth in increased financial aid support, and benefits per full-time equivalent have declined (Britt et al., 2017; Dynarski & Scott-Clayton, 2013).

Compared to the early 1990s where grants accounted for 65% of total aid given to undergraduate students, it has declined to 52% and federal and private loans account for 39% (Chen & Wiederspan, 2014; College Board, 2013). While federal and private loans are helpful, they are not always attainable for low-income first-generation students. Chen and Wiederspan found that when examining zero debt burden (or zero debt), graduates from low-income family backgrounds or first-generation students tend to be more likely to accumulate debt burden compared to their peers. Given first-generation students tend to be more likely to accrue debt, financial aid is an important component of their college experience.

Even with policy initiatives such as the design of financial aid to increase college affordability and completion, rising costs of college and shifts from grant aid to loans and from need-based aid to merit-based scholarships have exacerbated the gaps in college affordability particularly amongst social groups (Britt et al., 2017; Chen & DesJardins 2008, 2010; Hearn & Holdsworth, 2004). The stress of financial aid and affordable postsecondary education can influence student retention. Financial stress on students can be exhibited in terms of less campus and social engagement, which contributes to lower retention (Britt et al., 2017; Engle & Tinto, 2008). It can be challenging for students to participate in extracurricular activities when the concern for finances is significant. Students with higher financial stress are more likely to drop

out whether by choice or institutional dismissal (Britt et al., 2017; Hogan et al., 2013). Additionally, the negative stressors of finances often affect college GPA in a negative capacity (Britt et al., 2017; Britt et al., 2016), can lead to reduced course loads, or taking temporary time off from school (Britt et al., 2017; Joo et al., 2008).

Tessema et al. (2014) reviewed prior studies and found there is an increase in students working while in college, which can affect the amount of time spent outside of class studying. There are myriad reasons for the increase in student employment (Tessema et al., 2014), such as earning money to cover basic needs (Callender, 2008), assisting financially to lessen parental burden (Hall, 2010), building a network and meeting people (Curtis, 2007), and gaining work experience or practical skills (Wang et al., 2010). Since many first-generation students often come from lower income families, having to juggle the responsibilities of working to cover the cost of college can be an added stress and deterrent of student success.

Historically students are coming less prepared for college-level work and spending less time on studying once they do get to college (Nonis & Hudson, 2006). Examining how students are spending their time outside of the classroom and the influence that has on student retention is critical. While the research shows that one of the trends is that students are spending more time working than studying (Nonis & Hudson, 2006), understanding how else students spend their time can be important to retention efforts. Additional time spent outside the classroom may include taking care of dependents or family responsibilities, self-care such as relaxing and socializing, and serving others. However, little empirical research exists looking at how the competing needs of time spent outside class unrelated to social integration at the institution can influence student retention.

Additional variables related to college experience are major selection and academic performance (GPA). The decision a student makes regarding choice of major can be one of the most important decisions (Porter & Umbach, 2006; Soria & Stebleton, 2013). The academic major has significant impact on career opportunities and salaries (Pascarella & Terenzini, 1991; Soria & Stebleton, 2013). Students' experiences in their academic major influence their overall satisfaction with their institution. Students take a large percentage of their credit-bearing courses within their selected major and their relationships with faculty members and peers within their major can enhance students' retention and increase their affinity within their chosen career field (Soria & Stebleton, 2013). Given the amount of time spent within a student's academic major, it is an important variable to consider when looking at a student's academic and social integration to their college.

Prior research indicates students' academic achievement (GPA) to be directly related to student persistence (Elliott & Healy, 2001; Pascarella & Terenzini, 2005; Schreiner, 2009; Tessema et al., 2014). Additionally, GPA is often taken as the best predictor of a student's ability to graduate and future educational attainment (Mortenson, 2005; Pascarella & Terenzini, 1991). In addition to GPA, student satisfaction is another important factor in student retention. Student satisfaction refers to a short-term attitude based on an evaluation of their experience with the education service supplied and college experience in general (Elliott & Healy, 2001).

Campus Environment: Institutional Characteristics, Institutional Control, and College Selectivity. Institutional type (public, private, private for profit) and institutional selectivity are important variables given the resources available at each institution dedicated toward student success, retention, and graduation. There is much debate in the literature

regarding the number of expenditures and organizational structures in place and student retention (Gansemer-Topf & Schuh, 2006).

Institutional selectivity is a measure of admissions competitiveness (Barron's, 2000), and selectivity scores provide information on the general qualities needed for admittance to the institution (Gansemer-Topf & Schuh, 2006). There are several reasons institutional selectivity is an important factor for student retention. Institutions with high selectivity ratings enroll students with higher standardized test scores, high school grade point averages, and high school rank than those colleges with lower selectivity rates and, as a result, may have higher retention and graduation rates (Astin et al., 1987, Barron's, 2000; Gansemer-Topf & Schuh, 2006).

One of the determinants of the gaps in retention rates is institutional characteristics, such as sector and selectivity (Elliot, 2015). There are varying retention rates when looking at two-year institutions and four-year institutions. Additionally, there are even varying persistence rates among four-year institutions based on selectivity (Elliot, 2015).

Gaps in Prior Research

The greatest gap in the current literature regarding student retention can be attributed to a significant lack of any substantial updates to the theories and conceptual frameworks in almost 30 years. As the historical and demographic section of this paper highlighted, higher education looks drastically different than when these theories were created in the 1970s and 1980s. Not only do theories and frameworks need to be updated to better reflect the change in demographics, but there also needs to be further research to reflect modern experiences in college.

Given the lack of updated frameworks, the retention initiatives are not reflecting of modern student demographics. Many of the studies do not consider the cultural differences amongst first-generation students and the impact these differences may have on student retention. Considering that the theory discusses that separation from one's native culture is a

precondition for retention, it does not consider that separation is unfathomable in some cultures (Lohfink & Paulsen, 2005). For some students, their deep roots and familial bonds will not allow this separation to occur. This separation is problematic for minority students because it suggests that they would need to disconnect from their past patterns and cultural norms in order for them to "turn their loyalty to the conventions and practices of the academy which may have little or nothing to do with the realties from which [these] students come" (Rendón et al., 1993, p. 3). This lack of connection to cultural differences is hindering us from understanding the student retention of this vulnerable population. A large portion of first-generation students identify as minority students. Cultural separation may not, and perhaps should not, occur for these students. Certainly, this implicates that further research must consider the differences in academic and social integration to better serve this population of students.

Considering the current demographics and complexities of retaining these students, one of the gaps is understanding which social and academic integration factors are important to student retention, which is why this study focused on integration factors specifically. Prior research has shown that student integration is critical to first-year retention. Additionally, exposure to effective educational practices that promote student integration and engagement generally benefits all students, but the effects are even greater for lower ability students and students of color compared with White students (Kuh et al., 2008). It is critical for students who start college with two or more "risk" factors—being academically underprepared or first in their families to go to college or from low-income backgrounds—to be at institutions that provide educationally effective activities to increase likelihood of retention (Kuh et al., 2008, p. 555). Given this study specifically looked at integration for first-generation students when controlling for many variables considered at-risk will provide institutions and policy makers with critical

updated information regarding this population of students' experiences in relation to increasing their overall retention.

Even with a substantial amount of research on students from underrepresented groups or disadvantaged backgrounds (Mishra, 2020), less attention has been focused on factors that contribute to their success (Dika et al., 2018; Nasgasawa & Wong, 1999; as cited in Mishra, 2020). What is missing from current research is what variables are contributing to the success of first-generation students and how those variables interact with one another. While many previous models include pre-college characteristics, institution size, and integration factors, my study focused on a specific underrepresented population and how these factors influence their retention. Additionally, my study also focused on additional variables like financial responsibility (working a job) and social and cultural capital, which has not previously been included in these persistence and retention models but are significant factors to include for first-generation students.

To identify the causes and consequences of student success in college, more must be uncovered about how these factors interact when controlling for gender, race, and ethnicity in first-generation students' persistence (Allen, 1999; Gather, 2005; Person & Christensen, 1996; as cited in Kuh et al., 2008). My study sought to better understand the extent to which academic and social integration is related to first-generation students' intent to persist after controlling other important factors identified in the literature.

Summary

Historically, student integration has been an important part of understanding the student experience, and research has shown that subpopulations often experience college differently (Wolf-Wendel et al., 2009). When exploring the influence student pre-entry data, satisfaction,

and engagement have on students' likelihood of persistence will assist institutions in creating programs and policies that can reduce attrition and increase retention and, in turn, graduation (Shoulders et al., 2020).

When investigating first-generation students' engagement and academic and social integration, the literature shows first-generation students were generally less engaged in their overall education compared to continuing generation peers and often did not understand the need to get involved in activities inside and outside of the classroom (Pike & Kuh, 2005). Furthermore, first-generation students often have competing responsibilities that require their time be more divided amongst those responsibilities and schoolwork. Given first-generation students spend more time working-off campus, time with family responsibilities, their social involvement did correlate positively with retention for this group (Lohfink & Paulsen, 2005).

Given the need to better understand the first-year student persistence phenomena, it is more important than ever institutions seek ways to retain students and identify the factors that lead students to depart (Harvey & Luckman, 2014; cited in Shoulders et al., 2020). It is especially important to better understand the unique experiences of first-generation students and what integration factors may influence their experience positively and, in turn, increase the likelihood of retention.

My study focused on which academic and social integration may be related to first-year, first-generation students. By using the National Student Engagement Survey (NSSE) data set, I examined first-generation status and integration factors. The academic integration factors included academic integration with faculty (student–faculty interaction), academic integration with institutional support (emphasis on support services and academic success), and academic integration with peers (peer learning). The social integration variables included social integration

at the institution (joining clubs/organizations) and social integration outside the institution with time spent caring for dependents, parents, and so forth, time spent volunteering, and time spent relaxing (hanging out with friends, video games, etc.). Additionally, this study included controlling for other important factors such as demographic variables, financial responsibility, major, grades, and institutional characteristics. Controlling for these variables explored what other factors are most influential to first-generation status, which provided a deeper view of these students' experiences, which is often not included in previous literature.

Chapter 3

Research Design and Methodology

This chapter focused on the research and design of the study. The data source, population, sample size, and limitations of the study will also be included. I have also included the problem and purpose statement along with my research questions to reiterate the importance of this study.

Purpose Statement

The purpose of this study was to understand which academic and social integration factors are important in predicting first-generation students' intentions to return after their first year in college. While retention issues have existed for decades, it has only been in recent years that the focus on populations such as first-generation students has emerged in efforts to increase overall student retention.

In analyzing data from the 2018 National Student Engagement Survey (NSSE, 2018), the purpose of this study was to determine to which extent academic and social integration factors are important in predicting first-generation student retention, controlling for gender, race/ethnicity, financial responsibility, academic grades, major, and institutional characteristics. Prior research has shown that first-generation students are more likely to come from families with lower socioeconomic status, have lower educational aspirations, lower levels of engagement in high school, tend to have lower SAT scores and high school grade point averages, and are less likely to receive support from their families regarding college attendance (Soria & Stebleton, 2013). By using a national data set such as NSSE, my study sought to understand the relationship between these identified retention variables and first-generation students' intentions to persist.

Research Questions

To better understand this population, my research sought to answer two questions.

1. What academic and social integration factors are significantly related to first-year retention among first-generation students?
2. What other factors are important in predicting first-year retention for first-generation college students?

Conceptual Model

In reviewing previous literature regarding student engagement, integration, social and cultural capital theory, and first-year retention, the following conceptual model (Figure 2) guided this study. This model includes variables such as pre-college characteristics (individual attributes such as race/ethnicity and gender), college experience, academic integration/cultural (experience with faculty, learning with peers, and college major and GPA), social integration/social capital (joins clubs/organizations, participates in a meaningful activities, and network of support), and external community involvement (time spent outside institution) to understand how they may be related to first-year, first-generation students' intentions to return to their institution.

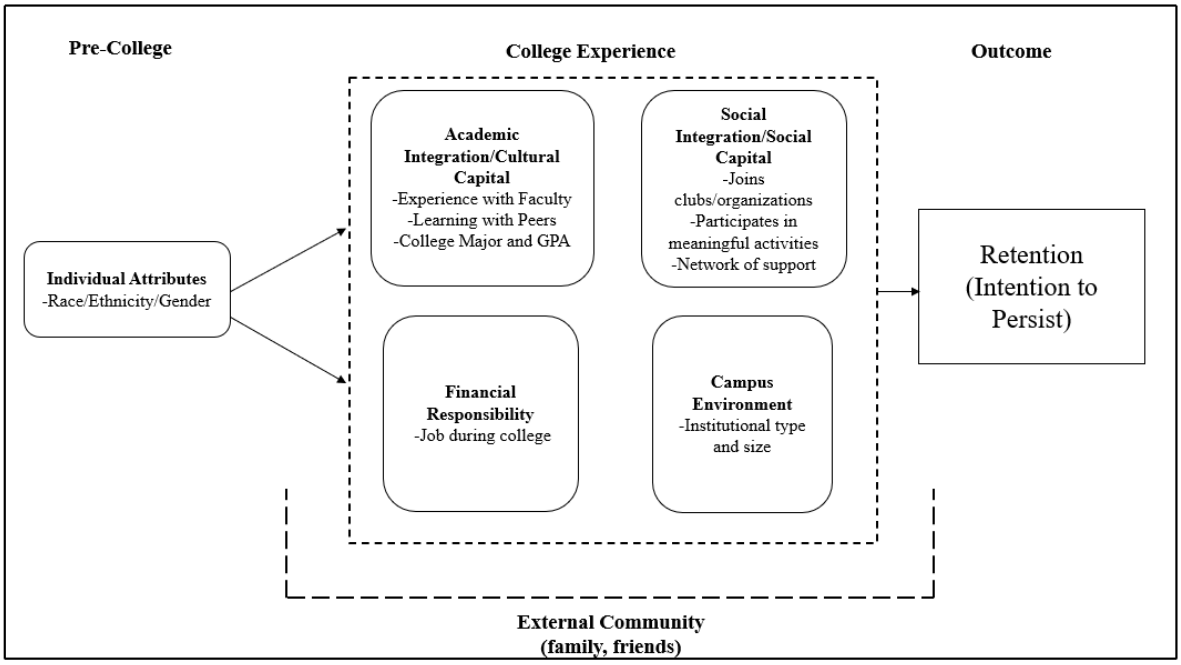

Figure 2: Adapted model of Tinto's interactionalist model of student departure.

Data Source

For my study, I utilized data from the 2018 National Survey of Student Engagement (NSSE, 2018) to understand the extent to which academic and social integration and factors may be related to first-year, first-generation students' intent to return. The next section will further explain the National Survey of Student Engagement.

National Survey of Student Engagement (NSSE)

National Survey of Student Engagement (NSSE). The National Survey of Student Engagement provides data regarding students' participation in programs and activities that institutions provide for their learning and personal development (Center for Postsecondary Research, 2021a). The survey helped to further understand first-generation student experiences related to student engagement and retention.

NSSE was first used in 1998 and designed to gather new information about collegiate quality (Center for Postsecondary Research, 2021b). In 2013, the questionnaire was updated to

reflect more modern terminology, create new measures, and improve existing measures that would provide a more current representation of student experiences (Center for Postsecondary Research, 2020c). The questionnaire provides the landscape on what students experienced outside of the classroom in college. Since 2000, Over 601 colleges have participated in the NSSE survey, and 6 million students have completed the survey (Center for Postsecondary Research, 2021d).

In 2001, "NSSE introduced 5 benchmarks of effective educational practice: level of academic challenge, active and collaborative learning, student–faculty interaction, and supportive campus environment" (Pike, 2013, p. 152). These benchmarks were created with theoretical constructs in mind to further understand student behaviors and institutional actions that exemplified good educational practices (Kuh 2001; Kuh et al., 2001; cited by Pike, 2013). These specific benchmarks are important when looking at the experiences of first-generation students as my previous literature review indicated the importance of academic and social integration for this particular group of students, and NSSE was able to capture those experiences.

NSSE includes both behavioral and perceptual components to the questions students must answer. Students are asked questions related to their behavior such as how they spend their time in and outside of the class (e.g., asking questions, peer learning activities, interacting with faculty) as well as how faculty conduct instruction and provide feedback on their work (Center for Postsecondary Research, 2021e). The perceptual elements inquire about students' judgments about relationships with peers, faculty, staff as well their beliefs that faculty members have high expectations of students, and their institution supports and encourages student success (Center for Postsecondary Research, 2021e). By asking both behavioral and perceptual questions, it

provides a holistic understanding of what students do and what they believe their institutions provide them.

Rationale for Data Source

The National Survey of Student Engagement (NSSE) is one of the most widely used surveys completed by undergraduates (National Survey of Student Engagement, 2011; cited by Pike, 2013). Many institutions have also indicated using NSSE data has helped them make improvements to their undergraduate educational program (Banta et al., 2009; Pike, 2006; cited by Pike, 2013). This was important in deciding to use this data set in hopes this study will further inform institutions as to what are the academic engagement indicators, integration variables, and experiences that are most influential in first-generation students' intent to return.

There are two significant factors as to why NSSE is the best data source to be utilized; first is NSSE provides richer data on integration, and the second is that it contains a larger sample size for first-generation students. Compared to other national datasets such as Beginning Postsecondary Students Longitudinal Study (BPS), NSSE was a better fit for this study. BPS collects data on student retention and completion, their transition to employment, demographic characteristics, income and debt, amongst other variables, as well as why students leave school (National Center for Education Statistics, 2022) but had limited information on student integration.

NSSE provided greater data on first-generation status related to academic and social integration and their intent to persist such as faculty–student interactions, participation in extracurricular activities, institutional support, and involvement outside of campus such as caring for dependents. These were all important variables to capture that aligned with the previous

research on first-generation students and integration factors that could best answer the intended research questions.

The most recent BPS study contains information from a sample of 22,500 students (National Center for Education Statistics, 2022a). According to the BPS codebook, 17.92% of students identified as first-generation, which would roughly be a weighted estimate of 4,050 (National Center for Education Statistics, 2022b). NSSE provided a sample of 31,243 first-time, full-time, first-generation students. According to the BPS codebook, 17.92% of student identified as first-generation, which would roughly be a weighted estimate of 4,050 (National Center for Education Statistics PowerStats, 2022). Considering the sample size was larger and more could be captured about students' academic and social integration experiences, NSSE was the best fit for this study.

Validity and Reliability

NSSE's engagement indicators are derived from a blend of theories and empirical analysis in which items were thoroughly tested over multiple years using both quantitative and qualitative methods (Center for Postsecondary Education, 2020a). The engagement indicators were examined through exploratory and confirmatory factor analysis and found that they demonstrate sufficiently strong construct validity evidence to support their use for college and university assessment efforts Center for Postsecondary Education, 2020a). The survey questions' responses provide rich data for institutions to utilize when making critical decisions to enhance student engagement and, in turn, student retention.

When looking at the three engagement indicators: student–faculty interactions, learning with peers, and supportive campus environment, the construct validity met the cutoff criteria. Previous literature has also focused on whether NSSE's benchmarking approach is reliable.

Generalizability studies have shown that NSSE's measures are, in fact, reliable measurements of group means (Center for Postsecondary Research, 2021e; Fosnacht & Gonyea, 2012; Pike, 2006a, 2006b). NSSE is a strong instrument for reporting student engagement in postsecondary education institutions.

A correlation test was conducted for the academic and social integration variables. All academic integration variables and social integration at institution were moderately correlated. The social integration outside institutions indicated that two of those three variables, caring for dependents and relaxing and socializing with friends were found to be negatively related to each other (-0.035) and therefore should remain as separate variables. After verifying that the variables of social integration were moderately correlated, the reliability of the scale using three questions related to social integration was measured by Cronbach's alpha of 0.52.

Data Collection

In June 2021, I submitted a data sharing agreement and was granted access after submitting a fee for use. I received the dataset through an encrypted secured file, which did not include any unique student or institutional identifiers. All student records are confidential, and no information on the data set would be linked to an individual or institution. To accept the terms of the agreement, I obtained signatures from all appropriate representatives such as from the University Assessment Office and the faculty members on who serve on the dissertation committee from the Department of Education Leadership, Management, and Policy. In addition to the data share agreement, I also was approved through the Institutional Review Board (IRB) and adhered to all guidelines such as storing data set on a secured encrypted USB memory key.

Variables for Model

Dependent Variable

Intent to persist. College retention rates measure the percentage of students who returned to the same institution, and college persistence rates measure the percentage of students who return to college at any institution and (National Student Clearinghouse, 2018). NSSE captures students' intent to return for the following year. Table 1 explains the definition and students' options for their response (NSSE Codebook, 2018).

Table 1

Dependent Variable Definition

Variable	Definition
Intent to return	This dichotomous variable is measured in NSSE by the student's response to the question "Do you intend to return to this institution next year?" [returnexp] The variable will be recoded to intent to return. An answer of "yes" was coded as 1 and an answer of "no" or "not sure" to 0.

Note. (NSSE Codebook 2018) https://nsse.indiana.edu/nsse/working-with-nsse-data/data-codebooks/index.html

Independent Variables

Integration/Engagement. Student engagement is influenced by several theories of student success. Student engagement origins come from Pace's (1980) work on quality of effort measures, Astin's theory of involvement, and Chickering and Gamson's (1987) indicators of "good practice" in undergraduate education (Wolf-Wendel et al., 2009). Engagement focuses on two concepts: what the student does and what the institution does (Wolf-Wendel et al., 2009). It is particularly important to look at what the institution does to promote and support student success given many first-generation students come from disadvantaged backgrounds.

When a student participates in educationally purposeful activities, it can influence the quality of a student's learning and overall education (Wolf-Wendel et al., 2009), and high levels of engagement are necessary for student success and retention (Kuh et al., 2005; 2007; cited in Wolf-Wendel et al., 2009). Academic and social integration variables were included separately, as they are not interchangeable with student engagement or involvement. Tinto (2010) explained involvement and engagement refer to observable behaviors while integration is the "value interaction such as arises when one perceives oneself as a valued member of a community (Tinto, 2010, p. 78). Including student–faculty interaction, learning with peers, supportive campus environment, and academic and social integration is critical to understand what first-generation students gain from their collegiate experiences and what factors influence their intent to persist.

Previously I discussed the importance social and cultural capital play in first-generation student experiences. Considering first-generation students are disproportionately non-White, low income, and female (Lohfink & Paulsen, 2005), less likely to be engaged in the academic and social experiences, and utilize support services (Engle & Tinto, 2008), it is important to include variables that can provide a deeper understanding of first-generation students' experiences. Bourdieu & Passeron (1977) explained that a form of capital valuable to a hierarchical society assumes that one could access the knowledge of the middle and upper class and possibly increase social mobility through formal schooling (Yosso, 2005). Yosso (2005) further explained that based off Bourdieu's theory:

> People of Color lack the social and cultural capital required for social mobility, and as a result schools most often work from this assumption in 'structuring ways to help

'disadvantaged' students whose race and class background has left them lacking necessary knowledge, social skills, abilities and cultural capital. (p. 70)

The variables included captured whether first-generation students believe their institutions emphasize important factors of student success and provide support to ensure they graduate, increasing their chances of social mobility. Table 2 explains the variables and definitions (NSSE Codebook, 2018).

Table 2

Summary of Independent Variables

Variable	Definition
Academic Integration with faculty (cultural capital)	The NSSE variable was measured by students' responses to questions related to student faculty interaction such as "How often students had meaningful, substantive interactions with faculty members and advisors, such as talking about career plans, working on committees or student groups, discussing course material outside of class, or discussing their academic performance." Reponses were measured on a Likert Scale 1–4 (1 = never, 2 = sometimes, 3 =often, 4 = very often).
Academic integration with peers (cultural capital)	The NSSE variable was measured by students' responses to questions related to academic work with peers such as "How often students collaborated with others in mastering difficult material by asking for help, explaining material to others, preparing for exams, and working on group projects." Reponses were measured on a Likert Scale 1–4 1 = never, 2 = sometimes, 3 =often, 4 = very often).
Academic integration with institution (cultural capital)	The NSSE variable was measured by students' responses to institutional academic support such as "How much does your institution emphasize the following? Providing support to help students succeed academically. Using learning support services (tutoring services, writing center, etc.) Responses were coded as 0 = academic integration, 1 = academic integration with institution.
Social integration at institution (social capital)	The NSSE variable was measured by students' responses to whether they have done or plan to do the following before graduation: "hold a formal leadership role in a student organization, participate in a learning community or some other formal program where groups of students take two or more classes together, participating in co-curricular activities (organization, campus publications, student government, fraternity or sorority, intercollegiate or intramural sports, etc.)." Reponses were measured on a Likert Scale 1–4 (1 = never, 2 = Sometimes", 3 = often, 4 = very often).
Social integration outside institution with community service) (social capital)	The NSSE variable was measured by students' responses to whether they participated in community service or volunteer work. Responses were coded as 0 = no social integration with service, 1 = social integration with service.
Social integration outside institution with self) (social capital)	The NSSE variable was measured by students' responses to whether they "spent time relaxing and socializing time (time with friends, video games, TV or videos, keep up

	with friends online, etc.) Responses were coded as 0 = no social integration with self, 1 = social integration with self.
Social integration outside institution with others (social capital)	The NSSE variable was measured by students' responses to whether they "spent time caring for dependents (children, parents, etc.)." Responses were coded as 0 = no social integration with others, 1 = social integration with others.

Note. (NSSE Codebook, 2018) https://nsse.indiana.edu/nsse/working-with-nsse-data/data-codebooks/index.html

Control Variables (gender, race/ethnicity, college major, institutional type and finances)

Pre-College Factors. Students will enter college with pre-college background and sociodemographic characteristics (gender, race/ethnicity, age, parents' education, family income), will have varying levels of academic preparation, and personal, academic, and occupational goals (Reason, 2009). These sociodemographic characteristics remain important because retention varies amongst these groups (Reason, 2009). There is still much to understand about how these characteristics interact with student experiences once they enter college. Pascarella and Terenzini (2005) found that relatively little is known about how student characteristics interacted with college experience and students' intent to persist (Reason, 2009).

College Major and Institutional Type. A student's selected major in college and type of institution they attend is important to examine when looking at student retention. One of the most important decisions a student can make is on their choice of major, and the academic major has significant impact on career opportunities and salaries (Pascarella & Terenzini, 1991; Porter & Umbach, 2006; Soria & Stebleton, 2013). Prior research shows that major choice can be influenced by gender, socioeconomic background, career aspirations, and family background. Green (1992) found that male business majors come from wealthier families compared to their female peers and are more likely to be motivated by money and status in their choice of careers (Leppel, 2001). Women from less affluent backgrounds are more often to be motivated by money and job security (Leppel, 2001); however, women who place a higher priority on future

family and personal life are less likely to major in the sciences (Leppel, 2001; Ware & Lee, 1988). Students from lower socioeconomic status are more likely to choose majors in fields they deem lucrative (Davies & Guppy, 1997; cited by Leppel, 2001).

Institutional type (public, private, private for profit) and selectivity are also important factors related to student retention. Educational research has shown that revenues, staffing, and recourse allocation patterns affect student outcomes like retention and graduation (Gansemer-Topf et al., 2018). Institution type and selectivity can impact the number of resources and support available to students. Institutions with high selectivity ratings enroll students with higher standardized test scores, high school GPAs, and high school rank compared to lower selectivity ratings and as a result tend to have higher retention and graduation rates (Astin et al., 1987; Barron's 2000; cited by Gansemer-Topf & Schuh, 2006). Bowen et al. (2009) found that in many cases, institutional selectivity was more important than demographic characteristics. Examining the institution type/selectivity of the first-generation students will be significant because previous research has highlighted the importance of first-generation students receiving adequate resources and support for success.

Financial Responsibilities. While financial aid information was not available through this dataset, it could capture the students' financial responsibilities. Considering that the hours spent working a job can hinder students from participating in extracurricular activities and fully integrating into the institution (Mcdossi et al., 2022), including whether a student held a job was important in this model. Table 3 explains the summary of control variables (NSSE Codebook, 2018).

Table 3

Summary of Control Variables

Variable	Definition
Gender	This categorical variable on NSSE measured gender identification by the institution as either female or male (reference group). The following codes were used male = 0, female = 1.
Race/Ethnicity	This categorical variable on NSSE measured racial identification into 6 ethnic groups (White, Black or African American, Asian, Hispanic or Latino, Native American or Alaska Native, Native Hawaiian or Other Pacific Islander) and had the choice to select Other, Multiracial, or Prefer Not to Respond. White was used as the reference group.
Financial responsibility (worked a job)	This variable was measured by the student's response to the question "About how many hours do you spend in a typical 7-day week doing the following? - Working for pay on campus, working for pay off campus". The following codes were used 0 = did not work a job, 1 = worked a job.
Academic major	This variable was measured by the student's response to enter the following information "Write in your major or expected major". Responses were recoded to 5 major categories: Major 1: Investigative – 0 = not investigative, 1 investigative major, Major 2: Artistic – 0 = not artistic major, 1 = artistic major, Major 3: Social Majors – 0 = not social major, 1 = social major, Major 4: enterprising major – 0 = not enterprising major, 1 = enterprising major, Major 5: Other or Undeclared – 0 = not other or undeclared, 1 = other or undeclared. Investigative major was used as the reference group.
Academic grades	This categorical variable was measured by the student's response to the question "What have most of your grades been up to now at this institution?" Responses were coded as 1 = C+ or below (reference group), 2 = B- to B+, 3 = A- to A+.
Institutional characteristics-private/public	This variable on NSSE was measured by Institutional type. Responses were coded as 0 = public, 1 = private (reference group)
Institutional characteristics-size	This variable on NSSE was measured by institutional size into 5 categories (Very Small, Small, Medium, Large, and Very Large) and recoded into 3 (Large, Medium, Small). The following codes were used 1 = large (5,000 to 10,000 or more), 2 = Medium (2,500-4,999), 3 = small (fewer than a 1,000- 2-500). Small institution was used as reference group.
Institutional characteristics-Carnegie Class	The variable on NSSE was measured by the Institution's Carnegie classification of 9 categories (Doc/Highest, Doc/Higher, Doc/Moderate, Master-L, Master-M, Master-S, Bacc- A&S, Bacc-DIV, and Other Carn Categories) recoded into 3 categories, Doctoral, Masters, Bachelors. The following codes were used for each variable: Doctoral- 0 = not Doctoral, 1 = Doctoral, Masters- 0 = not Masters, 1 = Masters, Bachelors- 0 = not bachelors, 1 = bachelors (reference group).

Note. (NSSE Codebook, 2018). https://nsse.indiana.edu/nsse/working-with-nsse-data/data-codebooks/index.html

Population and Sample Size

The dataset included an 80% random sample of all eligible first-time, first-year, first-generation respondents from U.S. institutions who completed NSSE in 2018. The total sample size for the study was 31,243 before accounting for missing data. The final sample size was 27,044. The following section will review the descriptive statistics of the sample.

Independent Variables

Table 4 shows the means and standard deviations of the independent variables, or the NSSE academic and social integration indicators. The independent variables for academic integration included academic integration with faculty, academic integration with peers, academic integration with institutional support. The academic integration with faculty included whether or not students reported they discussed academic performance with a faculty, discussed course topics, ideas, or concepts, with a faculty outside of class, worked with a faculty member on activities other than coursework, or talked about career plans with a faculty member.

Academic integration with peers consisted of whether or not students asked another student to help understand course material, explained course material to one or more students, prepared for exams by discussing or working through course material with other students, and worked with other students on course projects or assignments. Academic integration with institutional support included whether or not their institution emphasized the following: providing support to help students succeed academically and using learning support services (tutoring services, writing center, etc.). The scales for each of the variables created for academic integration with faculty were on a Likert scale of 1–4. One (1) being that students *never* participated to four (4) being they *very often* participated. Academic integration with institutional support was on a Likert scale of 1–4 and included how often the institution emphasized support.

One (1) was *very little* and 4 was *very much*. Academic integration with peers was also on a Likert scale of 1–4 and included how often students worked with their peers. One (1) was *never* and four (4) was *very often*.

Among the academic integration variables, the descriptive statistics showed that the highest levels of integration occurred with institutional support (M = 3.31, SD = .762). Academic integration with institutional support indicated that the institution emphasized using learning support services such as tutoring services, writing center, and so on and provided support to help students success academically. The second highest was academic integration with peers (M = 2.62, SD = .741). Academic integration with peers included: asked another student for help, explained course material to another student, and prepared for exams or worked on projects together. The lowest reported factors were academic integration with faculty members (M = 2.11, SD = .742). Academic integration with faculty included talked with faculty member about career plans, worked with faculty on activities other than coursework, discussed course topics outside class, and discussed academic performance with faculty member. Students in the sample were less likely to engage or interact with their faculty members.

For the social integration at the institution variable, I combined the following variables listed by NSSE as leader (held formal leadership role in a student organization), learncom (participated in a learning community or other formal program where groups of students took two or more classes together) and tmoccurr (participated in co-curricular activities). The scales for this variable were also a Likert scale and ranged from one (1) *never* participated in an extracurricular to four (4) *very often*.

The variables that captured how students socially integrated outside the institution were caring for dependents, time spent relaxing, and time spent serving others. All three variables

were recoded to 0 (they did not spend hours caring for dependents, relaxing or community service) or 1 (they did hours caring for dependents, relaxing or community service). Given the research showed that first-generation students had more outside responsibilities, the social integration outside the institution variables allowed for more understanding of how first-generation students spend tine outside their institutional responsibilities.

Among the social integration variables, the descriptive statistics showed that the students were less likely to report social integration at institution (M = 1.83, SD = .745). This population of students were less likely to be involved in co-curricular activities. The students were less likely to report social integration outside this institution with others (caring for dependents, etc.) (M = .30, SD = .457). Students were more likely to report social integration with self (relaxing, etc.; M = .98, SD = .150). Students were less likely to report social integration with service to others (M = .42, SD = .494). This was not consistent with prior literature, as most research shows first-generation students report more familial or personal responsibilities.

Table 4

Descriptive Statistics- Means and Standard Deviations of the Sample

	M	*SD*
Independent variables		
Academic integration with faculty support	2.11	.742
Academic integration with peers	2.62	.723
Academic integration with institutional support	3.31	.762
Social integration at institution	1.83	.745
Social Integration outside with community service	.42	.494
Social Integration outside with self (relaxing, socializing with friends etc.)	.98	.150
Social integration Outside with others (caring for dependents, parents etc.)	.30	.457

Note. n = 27,044.

Descriptive Statistics

Dependent and Control Variables

The total sample size of the NSSE dataset is 27,044 first-generation students in their first year of college. Of the sample, 87% of students indicated they intended to persist to their institution, while 13% indicated they did not know if they intended to persist. This is higher than the reported national retention rate of 73.9% (National Student Clearinghouse, 2018). It is important to note that while the number is higher, this study was only looking at a student's intention to return and the extent to which academic and social integration factors are significantly related to first-generation retention.

A significant portion of the sample reported they are female, which is consistent with research that women respond to surveys at a higher rate than male students (Underwood et al., 2000). Seventy-three percent identified as female, and 27% identified as male. Additionally, NSSE reported that on average female students account for about 71% of respondents (National Survey of Student Engagement, 2018), so the sample is representative of current trends.

Of the sample, 57% identified as White, 23% identified as Hispanic or Latino, 16% identified as Black or African American, 9% identified as Asian, and 6% identified as Other race. Other race was categorized as students who identified as Native American or Alaska Native, Native Hawaiian or other Pacific Islander, Other or unknown, or Multiracial. Regarding academic performance, 43.8% of students reported they were earning an A- to A, 45.6% of students reported a B- to a B+, and 10.6% of students reported earning a C+ or below. The financial responsibility variable included whether a student held a job or not during college. Of the sample, 53% of students reported holding a job, while 47% reported they did not hold a job.

The majors were divided using Holland's theory and were created into 5 categories (Smart & Umback, 2007). Investigative majors included: biological sciences, agricultural & natural resources, physical sciences, mathematics & computer science, engineering, health professionals. Artistic majors included: arts & humanities, communications, media & public relations. Social majors included: education social sciences and social service professions. Enterprising included business. Following prior studies, the additional two majors, convention and realistic were left out because they are largely not represented in 4-year institutions and often left out because of low sample sizes (Smart & Umback, 2007). Majority of the students reported they were investigative majors at 40%, followed by social (28%), enterprising (14%), artistic (10%), and other or undeclared (7%).

The last of the control variables consisted of institutional characteristics, which included institutional size, type (private or public), and Carnegie class (bachelor's, master's, doctoral), which is important in understanding the campus environment of the institutions. Of the sample, 57% reported they attended a public institution, and 43% attended a private institution. In terms of school size, 61.2% attended a small school (fewer than 1,000–2,500 students), 19.6% attended a medium-sized school (2,500–4,999), and 19.2% attended a large school (5,000 to 10,000 or more). Thirty-nine percent attended a doctoral institution, 48% attended a master's institution, and 13% attended a bachelor's institution.

Table 5

Percentage & Standard Deviations of Dependent & Control Variables

	Percentage	*SD*
Dependent variable		
Intends to persist	87	.338
Does not intend to persist	13	.338
Control variables		
Gender		
Male	27	.446
Female	73	.446
Race/Ethnicity		
White	57	.496
Asian	9	.280
Black or African American	16	.363
Hispanic or Latino	23	.420

	Percentage	*SD*
Other race	6	.240
Financial Responsibility		
Worked a job	53	.499
Did not work a job	47	.499
Academic Major		
Major 1: Investigative	40	.490
Major 2: Artistic	10	.306
Major 3: Social	28	.450
Major 4: Enterprising	14	.350
Major 5: Other or Undeclared	7	.254
Academic Grades		
Grades A- to A	43.8	.658
Grades: B- to B+	45.6	.658
Grades: C- to C+	10.6	.658
Institutional characteristics – Private/Public		
Private Institution	43	.494
Public institution	57	.494
Institutional characteristics – Size		
Small size school	61.2	.793
Medium size school	19.6	.793
Large size school	19.2	.793
Institutional characteristics – Carnegie Class		
Carnegie class - Doctoral	39	.488

	Percentage	*SD*
Carnegie class- Master's	48	.500
Carnegie class- Bachelor's	13	.336

Note. $n = 27, 044$.

Research Design

I conducted a binary logistic regression to determine which academic and social integration factors are influencing, if at all, first-generation student retention. Given the number of variables in the model, I created composite variables for academic and social integration variables. I also controlled for race/ethnicity, gender, college major, college GPA, and financial responsibilities. This was a quantitative study, focused on understanding the relationships between first-generation status and intention to persist. I also ran descriptive statistics to better understand the population of students whose responses were analyzed.

Based on the previous literature I created three academic integration variables: academic integration with faculty, academic integration with peers, and academic integration with institution. I created four social integration variables: social integration at the institution and social integration outside the institution with community service, self, and others. Prior research indicates students who are more involved are more likely to socially integrate. Research also shows that first-generation students are more likely to have outside responsibilities that do not allow them to get involved socially. Given the prior research I created those four social integration variables to capture how students socially integrate at the institution and time they spent outside their institution.

Analytic Plan

Missing data can affect the validity and the reliability of findings (McKnight et al., 2007; cited in Manly & Wells, 2015). To account for any missing data, I used listwise deletion. Listwise deletion has often been used in higher education research to account for missing data, but newer techniques may be appropriate (Schafer & Graham, 2002; cited in Manly & Wells, 2015). After accounting for missing data, the original sample size went from 31,243 participants to 27,044. I also conducted a missing data analysis and found that the variables fell within the range of .2% to 1.2%; therefore that indicates that the percentage of missing cases is very small and listwise deletion is an appropriate method to deal with data missingness.

Additionally, I ran descriptive statistics to the understand the breakdown of gender, race/ethnicity, and other variables. I conducted a binary logistic regression with the outcome variable intention to persist and the independent variables academic and social integration.

Limitations

One limitation with using the NSSE questionnaire is that the first-generation status variable is a self-reported question and toward the end of the survey, which meant they had more time to abandon this question before completing the survey. However, after conducting a missing data analysis, I found that the range of missing data was within an appropriate range and did not negatively impact the sample size. Previous studies have criticized the accuracy of students' self-reports and structure of the NSSE benchmarks being relevant to the educational outcomes of retention and graduation (Pike, 2013). However, Pike (2006a) reported that the institutional benchmark scores were significantly and positively related to self-reported gains in general education and practical skills (Pike, 2013). Additionally, Pascarella et al. (2010) concluded "NSSE results regarding education practices and student experiences are good proxy measures

for growth in educational outcomes" (p. 21). Even though criticisms remain, NSSE is a proven successful tool in looking at self-reported student experiences and benchmarking and intent to persist.

Another limitation is that NSSE is not nationally representative (Flynn, 2014). Much of the previous literature indicated that first-generation students often can be non-traditional students, but the focus of this study was on first-time, full-time first-generation students. This limitation means there is more to be understood about the experience non-traditional first-generation students may have as they academically and socially integrate into their institutions. The outcome variable was also a limitation as it only measured students' intent to return/persist instead of their actual retention/persistence. According to Her and Thompson (2021), "A student's intention to finish college is a type of process-oriented educational goal" (p. 42). This is related to Tinto's (1993) theory that focuses on students' intentions to persist, signifying their commitment to graduate (Her & Thompson, 2021); therefore, it is still a strong indicator of student retention/persistence.

Additional studies have found little relationship between students' scores and retention and graduation with NSSE data (Pike, 2013). Nevertheless, NSSE benchmarks are appropriate for assessment and evaluation but cannot predict the academic success of individual students (Pike, 2013). Considering my study aimed to understand the population of first-year, first-generation students, this data set was appropriate to further understand the extent to which academic engagement and academic and social integration may be related to first-generation students' intent to persist.

The timing of the questionnaire also posed another limitation. The survey was completed by first-year students only 2 months into their collegiate experience. Given that students had

limited experience in college when completing this survey, it provides only a snapshot of their academic and social integration. Lastly, financial aid data were not available with this dataset, and the only financial variable available for use was whether a student held a job or not. While financial responsibility was an important variable to include, financial aid information would have strengthened the study. The number of respondents who held a job in this sample were also lower than expected compared to existing literature. It is likely this connected to the other limitations such as not nationally representative and the timing of the survey. The variable for residential living on campus was not included as it usually is a self-selection issue, which may lead to bias in the results. This data set was not able to capture the experiences of non-traditional students and was completed very early in students' college journey.

Chapter 4

Presentation of the Findings

As aforementioned, the purpose of this quantitative study was to find the extent to which academic and social integration factors relate to first-year, first-generation students' intentions to persist. The academic and social integration factors consist of interaction with faculty, peers, and institutional supports as well as social integration within and outside the institution. The control variables consist of gender, race/ethnicity, financial support, academic grades, major, and institutional characteristics. I used the 2018 National Survey of Student Engagement (NSSE) dataset, which included only first-generation student responses (n = 27,044).

In this chapter, I present the findings of my study and explain the answers to my research questions based on results of the data. The findings answer both research questions through a quantitative approach and review of theoretical and conceptual frameworks. I first provide descriptive statistics of the sample and then present the results of a logistic regression analysis through charts, tables, and figures. Lastly, I provide of summary of significant and key findings of my study on what academic and social integration factors are important in predicting first-generation college students' retention in the first year.

Data Analysis

I conducted a binary logistic regression to answer my research questions. The first question was: What academic and social integration factors are significantly related to first-year retention among first-generation students? The second question was: What other factors are important in predicting first-year retention for first-generation students?

Table 6 provides the binary logistic regression results. The significance levels and odd ratios indicate whether intend to return and the independent and control variables had any significant relationships. To determine which academic and social integration factors were significant, controlling for other factors in predicting first-year retention for first-generation students, I conducted a binary logistic regression, which showed the variables' relationships with the dependent variable, intention to return.

Independent Variables

In this model, two of the three academic integration variables—academic integration with peers and academic integration with institutional support— showed evidence of a statistically significant relationship with intention to persist. Academic integration with institutional support was found to be highly significant. Students who reported academic integration with institutional support (tutoring services, writing center, etc.), tended to have 77.5% higher odds of intention to return (OR = 1.775, $p < 0.001$). Academic integration with peers was also significant. Students who reported talking with their peers regarding course material, worked on course projects, and studied for exams with peers, tended to have 7.9% higher odds of intention to return (OR = 1.079, $p < 0.01$).

Of the social integration variables, three of the four variables showed evidence of a statistically significant relationship with intention to return. Social integration at institution was found to be highly significant. Students who reported they participated in co-curricular activities, tended to have 10.5% higher odds of intention to return (OR = 1.105, $p < 0.001$). Social integration outside institution with self (relaxing, time with friends, video games, watching TV, etc.) and social integration outside institution with others (caring for dependents) were also found to be statistically significant. Students who reported they spent time with self (relaxing, with

friends, playing videos games, watching TV, etc.) tended to have 46.2% higher odds of intention to return (OR = 1.462, $p < 0.001$). Students who reported they provided care for dependents (children, parents, etc.), tended to have 28.7% lower odds of intention to return (OR = .713, $p < 0.001$).

Control Variables

There were eight control variables used to understand the relationship between first-generation status and intention to return. The variables that showed a significant effect on students' intention to return were race/ethnicity, students who selected artistic major and social major, grades, institutional type and size.

As shown in Table 6, there is evidence of a significant relationship between race/ethnicity and intention to return for students who identified as Asian and Black or African American. Compared to White students, students who identified as Asian tended to have 16.7% lower odds of intention to return (OR = .833, $p < 0.01$). The students who identified as Black or African American tended to have 32.7% lower odds of intention to return (OR = .673, $p < 0.001$).

As shown in Table 6, there is evidence of a highly significant relationship between grades and intention to return. Students who reported grades of a B- to B+ tended to have 52.8% higher odds of intention to return (OR = 1.528, $p < 0.001$) compared to students in C- to C+ range. Students who reported grades of A- to A tended to have 88.4% higher odds of intention to return (OR = 1.884, $p < 0.001$) compared to students in C- to C+ range. The higher the reported grade, the more likely a student was to report intention to return.

As shown in Table 6, major was shown to have a statistically significant relationship with intention to return. For students who reported they were in an artistic major, they tended to have

18.7% higher odds of intention to return (OR = 1.187, $p < 0.01$) compared to students who reported they were in an investigative major. For students who reported they were in a social major, they tended to have 13% higher odds of intention to return (OR = 1.130, $p < 0.01$). Institutional type also showed evidence of a highly significant relationship with intention to return. Students in private institutions had lower odds of intention to return. Compared to students who attend public institutions, those who attended private institutions tended to have 14.1% lower odds of intention to return (OR = .859, $p < 0.001$). Institutional size also showed evidence of a highly significant relationship with intention to return. As institutional size gets smaller (fewer than a 1,000–2,500 students), participants tended to have 21.1% lower odds of intention to return (OR = .789, $p < 0.001$).

Table 6

Logistic Regression Model

Variables in the equation			
	Odds Ratio (OR)	**Standard error**	**Significance**
Control variables			
Female	1.063	.042	
Asian	.833	.066	**
Black or African American	.673	.048	***
Hispanic or Latino	1.116	.048	
Other race	.981	.074	
Worked a job	.954	.038	
Major 2: Artistic	1.187	.067	**
Major 3: Social	1.130	.047	**
Major 4: Enterprising	1.028	.057	
Major 5: Other or undeclared	.868	.071	
Grades (A- to A)	1.884	.058	***
Grades (B- to B+)	1.528	.055	***
Private Institution	.859	.045	***
Institutional size	.789	.033	***
Carnegie class - Doctoral	1.005	.075	
Carnegie class- Master's	.934	.061	
Independent variables			
Academic integration with faculty	1.068	.030	
Academic integration with peers	1.079	.030	**
Academic integration with institutional support	1.775	.024	***
Social integration at institution	1.105	.029	***
Social integration outside with community service	.979	.041	
Social integration outside with self (relaxing, friends etc.)	1.462	.105	***
Social integration outside with others (care for dependents, parents etc.)	.713	.041	***

Note. *p < 0.05. **p < 0.01. ***p < 0.001.

Multicollinearity Test

Given the number of variables in the model, a multicollinearity test was conducted in order to ensure all of the variables were not strongly correlated. Preferably, predictor variables will be strongly related to dependent variables but not strongly related to each other (Pallant, 2002). The multicollinearity was checked for all variables. The VIF statistics were less than 2.213, and all the tolerance statistics were greater than .45; therefore, no evidence of multicollinearity was found among the variables. The only exception to this was the institutional characteristics of Carnegie classification, which was found not to be a significant variable.

Table 7

Multicollinearity Test Results

	B	Std. Error	Significance	Tolerance	VIF
Control variables					
Female	.007	.005	.150	.956	1.046
Asian	-.019	.007	.009	.937	1.067
Black or African American	-.051	.006	<.001	.926	1.080
Hispanic or Latino	.011	.005	.027	.915	1.093
Other race	-.003	.008	.701	.991	1.009
Worked a job	-.004	.004	.280	.949	1.054
Major 2: Artistic	.018	.007	.012	.871	1.149
Major 3: Social	.011	.005	.019	.788	1.269
Major 4: Enterprising	.001	.006	.826	.841	1.189
Major 5: Other or Undeclared	-.020	.008	.019	.898	1.114

	B	Std. Error	Significance	Tolerance	VIF
Grades	.034	.003	<.001	.936	1.068
Private Institution	-.014	.005	.003	.687	1.456
Institutional size	-0.29	.004	<.001	.452	2.213
Carnegie class - Doctoral	.002	.008	.834	.238	4.196
Carnegie class- Master's	-.009	.007	.225	.319	3.136
Independent variables					
Academic Integration with Faculty	.007	.003	.032	.723	1.382
Academic Integration with Peers	.009	.003	.006	.753	1.329
Academic Integration with Institutional Support	.068	.003	<.001	.940	1.064
Social Integration at Institution	.010	.003	<.001	.808	1.238
Social Integration Outside with community service	-.002	.004	.583	.857	1.167
Social Integration Outside with self	.057	.013	<.001	.993	1.007
Social Integration Outside with others	-.039	.005	<.001	.902	1.109

Summary

The purpose of my quantitative study was to find the extent to which academic and social integration factors relate to first-time, first-generation students' retention. My study analyzed the binary logistic regression results to examine the relationships between the academic and social integration variables (independent variables) and intention to return (dependent variables) while controlling for other factors. The control variables in my study included gender, race/ethnicity, financial responsibility, academic grades, major, and institutional characteristics.

The binary logistic regression model found that among the academic integration variables two of the three variable were found to have a significant relationship with intention to return. Academic integration with institutional support and academic integration with peers were found to be strongly related to intention to return. For students who connected and engaged with their peers, they were much more likely to report intention to return, compared to their peers. Another important relationship was intention to return and the extent to which their institutions emphasized utilizing support services. Emphasis of utilizing all support services can make a tremendous difference in intention to return. While literature indicates the importance of students connecting with faculty members, since the *p*-value was not significant ($p > 0.05$) within academic integration with faculty, I concluded there was no evidence of a significant relationship with intention to return.

Social integration variables were found to have a significant relationship with intention to return. First-generation students who were able to join clubs, organizations, and/or participate in other co-curricular activities were more likely to return compared to their peers who did not participate in such activities. Students who reported time spent with self-care (relaxing, socializing with friends, etc.) tended to be more likely to report intention to return. Students who had social commitments outside of the institution, such as caring for dependents, were less likely to intend to return. For first-generation students who have more outside familial responsibility it can be harder for them to connect to the social commitments within an institution. However, first-generation students who are spending time relaxing and socializing with friends tended to be more likely to return. This indicates how social integration outside the institution and how that time is being spent can be important in relation to intention to return.

The binary logistic regression model indicated significant relationships between intention to return and many of the control variables. Asian and Black or African American first-generation were found to have a negative relationship with intention to return. Students who identified as either of those races/ethnicities were less likely to intend to return compared to White students. The sample of students identifying as Asian were a very small sample, and prior research indicated Asian students are more likely to have parents who graduated from college. While Hispanic/Latino, and Other race were not found to be significant in relation to intention to return compared to White students, it is important to include this factor in the model as the intersectionality of race/ethnicity and first-generation status is an important predictor of persistence.

Other themes that emerged in examining what other factors are related to first-generation student persistence: Grades, academic major, institutional size, and institutional type were significantly related to intention to return. Students who reported grades of A- to A or B- to B+ were substantially more likely to report intention to return in comparison to their peers earning C- to C+. Major choice was also found to be a significant factor, as students who selected artistic major or social major were all more likely to intend to return, indicating major is an important choice for first-generation students. Surprisingly, students who were enrolled in smaller institutions were less likely to intend to return compared to those attending larger institutions. Additionally, students who attended private school were less likely to return compared to those enrolled in public institutions.

Chapter 4 presented the findings of my study and reported the answers to my research questions supported by the data. The findings addressed both research questions through

descriptive statistics and the binary logistic results regression analysis. Chapter 5 discusses conclusions, recommendations, and suggestions for future research.

Chapter 5

Summary, Conclusions, and Recommendations

In Chapter 5, I summarize the study on the academic and social integration of first-time, full-time, first-generation students and intention to return. I will provide a summary of the findings and discuss the conclusions based off the evidence presented that will answer each research question. My discussion will demonstrate how the study adds to first-generation and academic and social integration literature. I also provide recommendations for practice, policy, and implications for future research.

Summary of Findings

My study included a binary logistic regression to explore the extent to which factors affect first-year, first-generation students' intentions to return (dependent variable) and the predictor (independent) variables of academic and social integration. The control variables in my study included gender, race/ethnicity, financial responsibility, grades, major, and institutional characteristics. I used the 2018 National Survey of Student Engagement (NSSE) dataset, which included 27,044 first-generation student responses.

I used descriptive statistics to better understand my sample and potential relationships between variables.

Academic and Social Integration

Among the academic and social integration variables, the descriptive statistics showed differences in mean scores. The students reported the highest academic integration with institutional support. Institutional support included that the college emphasized using learning support services such as tutoring services, writing center, and provided encouragement to help students succeed academically. The second highest reported variable was academic integration

with peers, which meant students asked their peers for help, explained course material to another student, and prepared for exams/projects together. Among the social integration variables, social integration at the institution was low, as many students did not indicate they had yet participated, or planned to, in extracurriculars. Social integration outside of the institution with self (relaxing etc.) was high, as most students indicated they did some form of relaxing or hanging out with friends. Caring for dependents, parents, and so forth was low, considering previous research indicated that first-generation students have more familial responsibilities (Diniz et al., 2018). This could also be attributed to the limitation of the sample being first-time, full-time students so they may not be fully representative of first-generation students' social integration outside the institution.

I used the binary logistic regression model to answer my research questions: What academic and social integration factors are significantly related to first-year retention among first-generation students? and What other factors are important in predicting first-year retention for first-generation college students?

Academic and Social Integration and Intention to Return

To answer my first research question, I utilized the combined academic and social integration factors in the binary logistic regression model. The results indicated there were both positive and negative relationships with these variables. Academic integration had two integration variables that were significant in relation to intention to return. Academic integration with peers was found to be highly significant with intention to return. Students who reported academic integration with peers tended to have 7.9% higher odds of intention to return. The second academic integration variable that was found to be highly significant was academic integration with institutional support. Students who indicated they attended a university that

emphasized institutional support tended to have 77.5% higher odds of intention to return. The last variable, academic integration with faculty, was not found to be a significant factor in relation to intention to return.

Social integration was also found to be statistically significant in relation to intention to return. Students who reported social integration with the institution tended to have 10.5% higher odds of returning. This is consistent with literature that found first-generation students were less likely to be involved in activities and often did not fully understand the importance of such involvement (Pike & Kuh, 2005). Students who reported social integration outside the institution with others (caring for dependents) tended to have a lower intention to return. The relationship between social integration with the institution yielded a more positive relationship with intention to return compared to time spent outside the university. This is consistent with existing literature that the more students spend time at the institution, utilize support services, join clubs/organizations, and immerse themselves in the college culture, the more likely they are to return.

Other Factors and Intention to Return

To answer my second research question regarding what other factors are important in predicting first-year, first-generation retention, I examined the relationship between the control variables and intention to return. The major themes that emerged were that for first-time, first-generation students, race/ethnicity, major, grades, and institutional size and type were all significant to intention to return. There were four factors that had a highly significant relationship with intention to return. Those factors are students who identified as Black or African American, reported attending a private institution, and reported attending a small size

institution (2,500 or less) had lower intentions to return, while reported grades of A- to A and B- to B+ tended to have higher intentions of return.

This data analysis is consistent with existing literature that higher levels of academic and social integration are related to increased student persistence for first-generation students. When students are integrating more at the institution, they are more likely to persist. This study has shown that students who did not engage with their faculty and peers in an academic or social nature were less likely to indicate they would return to the institution. Additionally, other factors that are important in predicting first-year, first-generation retention are race/ethnicity, grades, major, and institutional size and type.

Discussion of Findings

Academic Integration

Prior research has shown that academic integration is critical for students in college. When looking at the relationship between academic integration with peers and intention to return in my study, the results of the study indicate a positive relationship between the variables. Students who reported academic integration with peers were more likely to report their intention to return. Peer relationships during college are associated with positive outcomes, and friendships made during this time can improve academic and social adjustments and ties to the college (Lund et al., 2022). Given the literature shows evidence that first-generation students lack the social capital, peer relationships are especially important and can help them acquire that social capital once enrolled in college. A previous study found that college students indicated peer relationships mattered more than parental relationships in fostering purpose among college students (Moran et al., 2013, cited by Lund et al., 2022). For first-generation students, academic

integration with peers is especially salient in relation to student persistence as evidenced by the results of this study and existing literature.

Academic integration with institutional support also had a highly significant relationship with intention to return. Institutions emphasizing support services can be instrumental in intention to return. First-generation students are less likely to use support services on campus, spend less time studying, and less time interacting with other students in class or in study groups (Engle, 2007). Additionally, advising, tutoring, and mentoring by faculty, peers, and staff can help maintain the critical support needed for success (Engle, 2007). Considering first-generation students are less likely to utilize the supports available, when institutions reinforce the support available and encourage students to utilize the resources available, it makes a difference in students' intentions to return.

While academic integration with faculty was not found to be significant in relation to intention to return, it illuminates the deficits of critical interaction first-generation students often face. Prior studies have found that students who have more frequent quality contact with faculty members have greater likelihood of retention (Shoulders et al., 2020). While the literature shows the importance of faculty interaction on academic engagement, first-generation students are more resistant to seek help and feel they can do it on their own. It is also important to note that the participants completed this survey within their first few months of school and may not have initiated contact or developed relationships within the time frame they answered this question.

Social Integration

Social integration was found to be a highly significant factor in relation to intention to return in both positive and negative ways. The findings of this study highlighted that for students

who reported higher social integration with institution such as participating in extracurriculars, the more likely they are to intend to return. The relationships and social capital that students build in their college network can be influential to their colleges experience; the more time they spend socializing outside of the institution can hinder their social integration in college. Social capital, or the value of a relationship with another person that provides support and assistance in social situations, is a useful framework for understanding the experiences of first-generation students, as they are predictors of educational outcomes and postsecondary persistence (Lareau & Horvat, 1999; Moschetti & Hudley, 2015; Pascarella et al., 2004; Stanton-Salazar, 2001). When students build relationships at their institution, the more likely they are to integrate and build their social capital, which is necessary for student success. As students develop more networks in college, they are less likely to "disconnect" and more likely to stay connected to college life (Carey, 2005; Moschetti & Hudley, 2015). Being that first-generation students are more likely to have social and familial responsibilities outside the institution, colleges must consider that these students may need more assistance or more flexibility as they learn to balance all of these responsibilities so they can also participate in extracurricular activities.

Control Variables

The sample included a large number of students who identified as female (n = 19,646) compared to male (7,398). This is consistent with prior research that has found women enroll in colleges and obtain associate's degrees or higher at a greater rate compared to males (Espinosa et al., 2019). Race/ethnicity also was an important factor in intention to return. Asian students tended to have 17.7% lower odds of intention to return. This finding was not consistent with the literature, and while there was a smaller sample size of students who identified as Asian (n = 2,320) that could account for the negative relationship between students who identified as Asian

and intention to return, or it could also be attributed to a lower number of Asian students reporting as first-generation overall in the literature. While these are just interpretations, more needs to be understood about this relationship and could be explored in future studies. This is particularly important as the demographics continue to reflect the growth in population for students of color (Espinosa et al., 2019).

Those who identified as Black or African American were the population that was least likely to report intention to return. Of the sample, 4,228 identified as Black or African American. Within this population, students tended to have 32.7% lower odds of returning. This is consistent with previous literature that have found that Black or African American students had the lowest retention rates amongst their peers (Espinosa et al., 2019). It is important for institutions to understand the relation between race/ethnicity and intention to return for first-generation students, as more intentional programming and policies should be considered to reduce attrition for these students.

Academic grades and majors were significant factors in relation to intention to return. Students who reported grades higher than a C+ tended to have significantly higher odds of intention to return. Often, first-generation students come from low-income backgrounds. Therefore, if they are not getting good grades immediately, they may feel like they do not belong and will not be able to meet the academic standards to be successful, so it is best they transfer to another institution or obtain a full-time job. First-generation students also may connect good grades, GPA, and honor society admittances to scholarship opportunities (Watts & Davis, 2022). This means that first-generation students may be connecting their academic achievement to additional financial resources. Additionally, research shows first-generation students spend less time studying and are less likely to use support services on campus (Engle, 2007). Without the

connection to important resources and support to mitigate the feelings of academic failure, students cannot academically integrate to the institution and therefore may have lower likelihood of intention to return.

The academic major has significant impact on career opportunities and salaries (Pascarella & Terenzini, 1991; Soria & Stebleton, 2013). First-generation students may experience more difficulty in choosing a major compared to their continuing generation peers (Engle, 2007). The major choice for first-generation students is very significant and can influence student persistence. Students who reported artistic and social majors tended to be more likely to return. Depending on the choice of major, it can positively or negatively influence first-generation student persistence. Providing more career advising for first-generation students may help to ensure the students are fully understanding how their major will influence their career opportunities.

Financial responsibilities are often one of the most significant barriers first-generation students encounter while in college. While 53% of respondents indicated they held a job, the variable was not significant in the regression model. When comparing to existing literature, the number of respondents of those working was low, and the financial responsibility variable was nonsignificant. This was inconsistent with previous findings. Prior research has found working detracts from campus integration, and it is likely more pronounced among first-generation students (Mcdossi et al., 2022). This could also be attributed to the limitation of the sample being first-time, full-time students and not nationally representative of non-traditional first-generation students who may be more likely to hold a job while in college.

Research shows that students may also select their institutions based on finances alone at a higher rate compared to their continuing generation peers, which can negatively impact student

persistence. First-generation students were more likely to report obtaining financial aid, obtaining their degree in a short period of time, attending a school close to home, and being able to work while going to college was very important while selecting their school (Engle, 2007). This study found that students attending private institutions and smaller institutions were less likely to report intention to return. Financial responsibilities and institutional type and size may often be linked decisions for first-generation students not only when it comes to enrollment, but persistence as well. Students may not receive as much financial aid at private, smaller institutions or may not have as much flexibility to get a job, which is necessary for them to afford and return to college.

All in all, additional factors such as gender, race/ethnicity, grades, major, financial responsibility, and institutional size and type can increase the likelihood of persistence or create wider deficits in academic and social integration, making it less likely for first-generation students to persist. These findings further support current research that indicated there are additional factors that are related to first-generation student persistence.

Implications and Recommendations

The significance of this study is it provides a greater understanding of current first-generation student needs and aims to bridge the gap within the current literature as to which academic and social integration factors are significantly related to first-time, first-generation student retention. This study adds to the existing literature on the academic and social integration of first-generation and student persistence while also providing additional factors that may relate to persistence. The results of this study can help policymakers understand current needs, address specific issues impacting first-generation students, and help institutions provide individualized support, meaningful programs, and customized communication to increase persistence.

Academic and Social Integration

A prior study found that, on average, first-generation students are about 30% less likely compared to their continuing generation peers to be integrated at all on campus (Mcdossi et al., 2022). There are many factors that can be barriers for first-generation students to integrate into the institution. The financial burden of work shifts, studying, and extracurricular activities are major constraints for first-generation students to integrate into the college culture (Landers, 2017; Mcdossi et al., 2022). When it comes to academic and social integration in college, it is important to understand the complex lens in which they are connected. The more students may academically integrate to the institution the less time they may have for their social integration or vice versa.

Additionally, research has shown first-generation students are more connected to their family culture and have a hard time acclimating to the new demands of academic and social integration in college. They are more likely to live at home to lessen the burden of debt and have a torn sense of loyalty between familial responsibilities and college (Mcdossi et al., 2022; Wilbur & Roscigno, 2016). With all of this at the forefront of decision making for institutions, researchers, and policymakers, it is most important to understand first-generation students are facing many competing needs. While this study has reinforced prior research that academic and social integration is critical for the persistence of first-generation students, we must create an environment in which first-generation students can successfully do this with all the other burdens they may bear. The next section will provide ideas for institutions, policymakers, and researchers to consider when building support for first-generation students.

Academic Integration

There are two concepts that can be useful in creating a supportive environment that encourages peer-to-peer interaction and consequently increases academic integration with peers. The first concept is creating formalized peer mentor programs specifically for first-generation students. An effective strategy is to learn from competent, relatable models, people who can draw from their own experiences (Jacobi, 1991) without making them feel marginalized (Plaskett et al., 2018). The creation of a peer mentor program can help reduce the uncertainty first-generation students face as they are navigating college. Given the lack of family modeling, first-generation students often proceed in a trial-and-error fashion when facing challenges, which is not a sustainable model for success (Plaskett et al., 2018). By creating built-in friends in the mentor program, institutions can provide dedicated and tailored support to this population of students.

The second is creating informal gatherings and spaces that encourage friendship and relationship building. While there is prior research on formalized mentoring programs, there is a growing focus on understanding the critical friendships that provide instrumental and emotional support during college (Lund et al., 2022). We know that students are already coming in with less social capital, so institutions and policymakers must create ways for students to build that social capital. Creating a space for students to find their friend group and find a sense of belonging within that group can be crucial in helping first-generation students build their social capital. Increasing their social capital can lead students to build their confidence, interact more within the classroom spaces, and, in turn, increase their academic integration, which has proven to relate to student persistence. Further research should be done to look at how friendships in

college may influence first-generation students, as they are heavily relying on their peers for college guidance compared to their continuing generation peers.

Academic integration with institution should be looked at from a multitude of perspectives. Institutions should evaluate how they are disseminating and marketing resources available to students to ensure encouraging usage of support services such as tutoring center, writing center, and so forth and that they are readily accessible to students. Additionally, targeted programs can be helpful in creating a community of support for this population of students. Participation in "special programs can 'scale down' the college experience by providing them with a dedicated staff and a place to connect with supportive peers who share common backgrounds and experiences" (Engle, 2007, p. 39).

Considering academic integration with faculty was found not to be significant for intention to persist, which is contrary to the literature. It is important to examine how to increase faculty and first-generation student interaction as early as possible. Faculty can have a major impact on how first-generation students experience college (Schademan & Thompson, 2016). Being that first-generation students are less confident in their academic ability and readiness for college-level work and are more likely to avoid asking questions or seeking help from faculty (Jenkins et al., 2009), it is vital to educate faculty members on how to best support first-generation students. Creating opportunities for faculty members to learn how to best support first-generation students through workshops, curriculum development, and training can help to increase the relationships between faculty and first-generation students.

Engle and Tinto (2008) found that effective faculty working with first-generation students created interactive and engaging classroom environments, helped students develop stronger peer relationships, and mentored students in and outside of the classroom. Not only is it

important that students connect with their faculty members, the encouragement faculty can give to students can also increase their academic integration with their peers. Schademan and Thompson's (2016) study found that faculty who were invested in getting to know their students approached students with more success rather than deficit-oriented approaches to their abilities, and developed college readiness practices helped promote academic success amongst their first-generation students. It is important these training and resources are readily available to faculty members and that first-year students have this type of faculty experience very early on to reduce attrition.

Faculty also are significant in that they have the ability to affirm students' cultural identities and help navigate the academic demands of college (Schademan & Thompson, 2016). This role is extremely important, and without students knowing the power of this potential relation the training and education of faculty may be less effective. By creating intentional programming within the first few weeks of school helping first-generation students understand how to interact and build relationships with their faculty members can help students further academically integrate into the institution. Given these students lack the capital to understand what is expected, developing intentional programming both with faculty and students can aid in increasing these interactions, which are significant in helping increase first-generation student persistence.

Social Integration

Social integration is central to the support or lack of support students face when entering college. We know from prior research that first-generation students may have strong cultural and familial ties that will compete with the ability to socially integrate into college. Social integration within the institution was significant in relation to intention to return. For students who joined

clubs/organizations and socialized within the college, the more likely they were to intend to return. This is consistent with current research that shows increases social integration can influence student persistence.

However, institutions must recognize how they can remove the barriers that may exist around the social integration within the college. Focusing on reducing barriers, such as financial burdens by increasing financial aid and increasing exposure to campus, can help increase students' social integration. For example, increasing opportunities for work-study can help students who need to work find the financial support they need while also networking and building relationships at the institution (Engle, 2007). It is not enough just to encourage or emphasize the importance of joining clubs and organizations.

Furthermore, institutions can implement programs that focus not only on the academic integration into college but also include emphasis on building social capital and networking. When students participate in programs that encourage social integration, it is assumed that within these relationships students will learn acceptable forms of institutional capital, knowledge, behaviors, and attitudes that enable success in college (Smith, 2007). Through these programs, students can build social capital through access to staff, faculty, mentors, and peers that can aid in the integration process (Jehangir, 2010; Schwartz et al., 2018; Stanton-Salazar, 2011). The more access institutions can provide to human resources, the more students can acquire the necessary capital they lack. Therefore, it is important there is increased funding for first-generation support programs.

Future Research

The most significant gap in the current literature regarding student retention is there has not been any updated theories and conceptual frameworks in almost 30 years. As the historical and demographic section of this paper highlighted, higher education looks drastically different than when these theories were created in the 1970s and 1980s. Not only do theories and frameworks need to be updated to better reflect the change in demographics, but there also needs to be further research to reflect modern experiences in college.

Considering the current demographics of college students, one of the gaps is researching the most influential predictor variables for first-generation student retention. Being able to identify which variables are most significantly influencing student retention can refocus retention efforts and meet the current needs of students today. While there has been a significant amount of research on first-generation student retention, there has been no movement in closing the retention gap of first-generation students and their continuing generation peers. One of the reasons may be related to the outdated frameworks being used that are even more so impacting the research being done on first-generation students. Some of the literature previously reviewed highlighted many first-generation students are disproportionately non-White, low-income, and female, and Tinto's student departure theory is not reflective of minority student experiences (Lohfink & Paulsen, 2005). Many of the studies do not consider the cultural differences amongst first-generation students and the impact it may have on student persistence.

Since the theory discussed that students must have a separation from one's native culture as a precondition for persistence, it does not consider that in some cultures that cannot happen (Lohfink & Paulsen, 2005). For some students their deep roots and familial bonds will not allow this separation to occur. This separation is problematic for minority students because it suggests

that they would need to disconnect from their past patterns and cultural norms for them to successfully integrate into their college experience (Rendón et al., 1993). This lack of connection to cultural differences is hindering us from understanding not only what predictors would be most influential to student persistence but what programs and policies are needed to support their needs. Given that a large portion of first-generation students identify as minority students and that the cultural separation may not occur, further research must consider the differences in academic and social integration in order to better serve this population of students.

To further understand social integration in today's society, a key missing factor is exploring how social media may relate to social integration in college. Social media began to emerge in the mid-1990s as a means for people to connect with each other and create a social network online (Shah, 2016). The emergence of social media began after some of the most widely used retention theories had been developed, leaving a large gap in the literature of understanding new factors related to student persistence and student dropout. Social media can have a significant psychosocial impact on students. An article on how social media impacts mental health examines the negative impact social media has on peer relationships. When linking the use of cellphones and social media it was found that the higher the cellphone use, the more time spent on social media, [resulted in] higher the anxiety (Barrett, 2018). Peer relationships get worse the more you use your phone (Barrett, 2018). Considering peer relationships get worse with more time on social media, more needs to be done to incorporate this finding into the social integration aspect of student retention theories.

Another gap in the retention literature is that there are few qualitative and mixed-method studies regarding academic and social integration and sense of belonging in college. Much of the literature tries to answer this question from a quantitative perspective as it dominates the higher

education field with over 75% of the methods used being quantitative (Creswell et al., 2018). While there are also a small percentage of qualitative methods used in the field, the least used method is mixed methods, as less than six percent of popular higher education journals use this method (Creswell et al., 2018). This can be an important missing link, as many of the studies indicate further research needs to be done to better understand what the best predictor variables of student retention are (Morrow & Akermann, 2012).

By including a more qualitative or mixed-methods approach in future research studies, a deeper understanding of student perceptions and experiences in college may provide a missing link. More studies on the descriptions of their positive and negative experiences during the first year of college should be examined rather than perceptions after they leave, which is what is currently most studied (Martin, 2017). Many of the theories have focused on what students need to do well to transition into college successfully, and few discuss the negative experiences students have that may lead to student departure. This is providing educators with an inaccurate understanding of student experiences related to academic and social integration, sense of belonging on campus, faculty interactions, and the many other external factors that influence student retention.

A further gap in the literature for first-generation students concerns the lack of a universal definition of first-generation status, which makes it difficult to assess the needs of the students and how differences might occur based off the various definitions of first-generation status. While the United States federal government defines first-generation status as neither parent having earned a bachelor's degree, which is consistent with the language in the U.S. government's Higher Education Act, there is very little research on how the differences between

types of first-generation status may impact student retention (Auclair et al., 2008., Spiegler & Bednarek, 2013; U.S. Department of Education, 1998).

For instance, it is important to understand how the federal government defines first-generation status because students can identify as first-generation status on their FAFSA form, which includes important information about their family background and impacts their financial aid package. While the simple identification would not impact the financial aid package, it is pertinent because it provides the government and institutions with a streamlined definition regarding information they need about who identifies as first-generation. However, what about institutions and other research studies that define first-generation differently? Is there a difference?

The first-generation college status is often categorized according to the following levels: how many of their parents did not attend college, whether their parents started or completed college, and the type of institution attended (Toutkoushian et al., 2019). Given the inconsistencies in the definition of first-generation status, a recent national landscape report was conducted on first-generation programs in the United States, which revealed that there are currently six different definitions in practice today (Whitley et al., 2018). These inconsistencies make it difficult to get an accurate understanding of how being first-generation may impact the academic and social integration into college for the various subpopulations, which are key components of retention frameworks, which shows how crucial it is for student persistence.

The few studies that have used multiple levels of parental education or considered the number of college-educated parents found differences in graduation depending on whether parents had no college, some college, or a bachelor's degree, and between those with one versus two parents with bachelor's degrees (Toutkoushian et al., 2019). The gaps in this area of first-

generation research are vast and require further studies to help understand if there can be a consensus regarding a universal definition and how that definition may impact student retention studies. Furthermore, additional studies should be conducted to assess how the different levels of first-generation status may impact student access, transition, retention, and graduation. Another consideration should be more comparative studies with first-generation and continuing-generation peers. This may help to best understand how the factors influence each group of students and identify any patterns that may emerge to support specialized populations.

Moreover, there are few studies that examine specific policies and programs that institutions have created to address retention issues. This issue also stems from the inconsistencies in the definition of first-generation status. Considering there is a lack of a universal definition, it directly impacts policy and practice, as it can affect who receives and does not receive services and interventions designed to improve their success in college (Toutkoushian et al., 2019). Without being able to correctly identify who needs services and which services they would benefit from, institutions may not be providing students with the programs and services they need. Furthermore, without truly understanding the different experiences these students are having, if any at all, then the research is not helping to understand the best practices for retaining these students at higher rates.

Governmental education departments and college administrators have consistently recognized the need to improve student retention and graduation rates for its social and economic societal benefits by developing curricula and programs geared toward student success (Grace-Odeleye & Santiago, 2018). Some examples of programs and polices geared toward increasing student retention are first-year seminar courses, bridge programs, mentoring programs, comprehensive orientation curriculums, academic advising resources, and opportunities for

student social integration and leadership (Grace-Odeleye & Santiago, 2018). Further research should be conducted as to how the extent to which these programs may aid in first-generation student persistence. If such a correlation is found, policymakers may consider developing policies to increase such programs at all institutions serving first-generation students.

While there have been studies done on the various programs and services offered, there are few studies that focus on if there any differences for first-generation students that are provided these resources. Further understanding of how these programs and services impact first-generation students can provide higher education administrators with the best practices to ensure they are providing students with the necessary tools for student success. There is also little research that examines how these programs operate and have evaluated the efficacy and outcomes of these programs (Grace-Odeleye & Santiago, 2018). Further studies should examine if institutions have created any polices toward increasing first-generation retention. Moreover, studies should also examine how many institutions have created programs and specialized services for first-generation students and if the participation in these programs and/or utilization of services offered positively impacts student retention.

Lastly, the timing of the survey posed a significant limitation to fully understanding the academic and social integration of first-generation students. Being that the survey was administered so early on in students' first semester in college, a suggestion would be to administer the survey after one completed semester of college to better capture their experiences. Having more time to acclimate and experience college may provide a wider range of first-generation students' academic and social integration to college.

Conclusion

Overall, student retention remains a significant issue for higher education as the national trends indicate. Considering first-generation students account for 34% of the collegiate population (Lederer et al., 2021), yet 40% of first-generation students do not return for their sophomore year (Hanson, 2021), more needs to be done to ensure students are not just enrolling but persisting in their postsecondary experience. While many studies have indicated this population of students faces more barriers than their continuing-generation peers, little is known about what factors may be most influencing their decisions regarding persistence or dropping out (Costello et al., 2018). Furthermore, the higher education field remains conflicted on how to respond to the current retention issues. Even though there have been many studies and research done on student retention, most institutions have not been able to form plans of action that lead to substantial gains in student persistence and graduation (Tinto, 2001). This study examined current gaps in the literature and proposed studies to help further understand the current retention issues and needs of first-generation students.

By focusing on a vulnerable population of students, the concentrated effort may help to increase the overall retention rates as well. Not only is future research needed to better understand the current retention issues, more theories and conceptual frameworks need to be developed to better serve the current demographic characteristics of students in college. It is important to update the theories and frameworks driving our decisions regarding how to better retain students because retention issues can cost universities millions of dollars in lost revenue and dictate institutional effectiveness and rankings (Martin, 2017). If retention continues to remain a concern, some colleges may face difficult financial decisions regarding providing a quality education to students. This can also negatively impact the economy and have less

prepared people in the workforce (Martin, 2017). Researchers and policymakers must do more to provide institutions with the support they need to further understand what can be done to increase student retention rates. Overall, focusing on first-generation students and their experiences in college may help to close the retention rate gaps and strengthen our society and economy.

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Appendix A

NSSE Data Sharing Agreement

CENTER FOR
POSTSECONDARY RESEARCH
INDIANA UNIVERSITY
School of Education
Bloomington

Indiana University Data Sharing Agreement

This Indiana University Center for Postsecondary Research Data Sharing Agreement ("Agreement") defines the parameters for data sharing from the National Survey of Student Engagement ("NSSE") between the Research Institution(s) and its Authorized Researchers named below and the Trustees of Indiana University on behalf of the Indiana University Center for Postsecondary Research ("IUCPR"). The terms below are intended to reflect and comply with the existing agreements between NSSE and the institutions that participate in the survey program. Under these participation agreements NSSE may make de-identified data available to researchers.

RESEARCHERS

The following researchers ("Authorized Researchers") of **Seton Hall University** ("Research Institution") may make use of NSSE data pursuant to the terms of this Agreement:

Nicole Battaglia, Seton Hall University, [redacted]

FACULTY SPONSOR (Required for students)

Dr. Rong Chen, Associate Professor- Education, Leadership, Management and Policy, [redacted], Seton Hall University

PROJECT TITLE or TOPIC ("Project")

Understanding What College Academic and Social Integration Factors Are Important in Predicting First-Generation College Students' Retention in First Year

DATA DESCRIPTION

Under this Agreement, IUCPR will provide the researchers a data file delimited in the following ways ("NSSE Data File"):

Data Source(s):
NSSE 2018

Variables:
All core NSSE survey items and Engagement Indicators, institution-provided variables (sex, race/ethnicity, enrollment status, class level), and institution-level variables (Carnegie type, control, enrollment size in categories). All student identifiers will be removed. Institution identifiers will be replaced with unique non-identifiable codes.To avoid disclosure of student or institution identities, the data will not include open-text responses.

Cases:
The dataset will include an 80% random sample of all eligible (norms=1) full-time (IRenrollment=1) first-year (IRclass=1) first-generation (firstgen=1) respondents from U.S. institutions who completed NSSE in 2018.

PARAMETERS FOR DATA SHARING:

1. IUCPR will provide a single copy of the NSSE Data File solely for non-commercial research by the Authorized Researchers.

2. The NSSE Data File will exclude the Unit ID code from Integrated Postsecondary Educational Data System (IPEDS), any other unique school or personal identifiers, and any variables that IUCPR determines reasonably may permit the identification of a participating institution or respondent.

3. The Authorized Researchers will not attempt, privately or publicly, to associate elements of the NSSE Data File with the individual institutions or individual respondents participating in the NSSE, nor will they share the data with anyone else who might do so.

4. In all publications or presentations of data obtained through this Agreement, the Authorized Researchers agree to include the following citation:

   "NSSE data were used with permission from The Indiana University Center for Postsecondary Research."

5. The Authorized Researchers agree to provide to IUCPR a copy of all reports, presentations, analyses, or other materials in which the data given under this Agreement are presented, discussed, or analyzed.

6. **This Agreement is effective on the date of the last signature herein and expires on 7/31/2022.** The data should be encrypted when not in use by the above researcher and should be destroyed once the Project has been completed. If the researcher needs the data for any longer period than that which is necessary for completing the Project, the researcher is required to ask for an extension. Using the data for other purposes besides completing the Project must be approved by the Director of the Center for Postsecondary Research at Indiana University at Bloomington.

7. Other parameters: **None**

8. The IUCPR of Indiana University may, by written notification to the Authorized Researchers and the Research Institution(s), terminate this Agreement if it determines, in its sole discretion, that either the Authorized Researchers or the Research Institution(s) have breached the terms of this Agreement. In the event that this Agreement is terminated, the Authorized Researchers and Research Institution(s) shall return the originals and all copies of the NSSE Data File to the IUCPR, and securely destroy all NSSE Data File elements contained in any analyses or other materials created or maintained by Authorized Researchers, within ten (10) days of the receipt of the termination notice.

9. IU will not be liable to the Research Institution(s) for any direct, consequential, or other damages, related to the use of the NSSE Data File or any other information delivered by Indiana University or IUCPR in accordance with this Agreement. The Research Institution(s) shall defend, indemnify, and hold harmless The Trustees of Indiana University, their officers, employees, and agents, with respect to any and all claims, causes of action, losses, and liabilities, of any kind whatsoever, arising directly or indirectly from the Authorized Researchers' use of the NSSE Data File.

CENTER FOR
POSTSECONDARY RESEARCH

INDIANA UNIVERSITY
School of Education
Bloomington

Indiana University Data Sharing Agreement

FEES

In exchange for access to and use of the NSSE Data File, **Nicole Battaglia** of **Seton Hall University** agrees to pay Indiana University the sum of [redacted] upon execution of this Agreement. IUCPR will send an invoice detailing payment instructions.

SIGNATURES

The undersigned hereby consent to the terms of this Agreement and confirm that they have all necessary authority to enter into this Agreement.

BTB **For The Trustees of Indiana University:**

John Sejdinaj

~~John Sejdinaj (Jun 11, 2021 14:38 EDT)~~ 6/11/2021

John Sejdinaj, Vice President & CFO — Date
Indiana University Office of the Treasurer

Alexander C. McCormick
2021.06.09 17:42:24 -04'00'

Dr. Alexander C. McCormick, Director, National Survey of Student Engagement — Date

For the Research Institution(s):

Authorized Institutional Official from Seton Hall University

06/08/2021

Name: Dr. Michael LaFountaine — Date
Title: Director, Office of Grants and Research Services

Acknowledgment of Authorized Researcher(s) (including Faculty Sponsor if applicable):

6/7/2021

Nicole Battaglia, Seton Hall University, battagni@shu.edu — Date

6/7/2021

Dr. Rong Chen, Associate Professor- Education, Leadership, Management and Policy, rong.chen@shu.edu, (973)275-2823, Seton Hall University — Date

Appendix B

IRB Letter

SETON HALL UNIVERSITY
1 8 5 6

May 18, 2021

Nicole Battaglia
Seton Hall University

Re: 2021-218

Dear Ms. Battaglia,

The IRB is in receipt of the application for your study entitled "*Understanding What College Academic and Social Integration Factors Are Important in Predicting First-Generation College Students' Retention in First Year.*" After reviewing the inclusive content, the proposed study was deemed to be "Not Human Subjects Research" by the Research Ethics Committee of the Seton Hall University Institutional Review Board and is therefore beyond the purview of the Institutional Review Board. Therefore, you are under no obligation to submit any further correspondence to the Seton Hall University Institutional Review Board regarding this effort, unless of course there are any modifications made to the design or intent of your study that may otherwise change the designation to human subject's research. If you plan to create any future correspondence with the Institutional Review Board about this study, please reference the ID# listed above.

Sincerely,

Director, Institutional Review Board
Seton Hall University