DIFFERENCE IN PERSISTENCE SCORES AMONG COMMUNITY COLLEGE STUDENTS: A CAUSAL-COMPARATIVE STUDY

by

Jessica Jean DeRoche

Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

Doctor of Philosophy

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ABSTRACT

The purpose of this quantitative, causal-comparative study is to determine if there are persistence score differences among students who have taken EDUC 1300 – Learning Frameworks, those who have not taken the course, and if there are any generational status differences. There is a need to better understand persistence in students, especially within community colleges given the increased enrollment rates, and low retention and completion rates these schools are experiencing. This study provided an examination of the persistence scores of 194 students attending a multi-campus community college in the south utilizing the College Persistence Questionnaire. A two-way ANOVA was used to determine if there were differences in persistence scores, with a significant difference in persistence scores of first-generation students who had taken EDUC 1300 – Learning Frameworks, and those who had not. The study confirms that there is a relationship between student success courses and persistence, though there is more research needed to fully understand community college student persistence, specifically with low-income and non-traditional students.

Keywords: persistence, community college, students, first-generation

Copyright Page (Optional)

Dedication

This manuscript is dedicated to my husband and all the community college students, staff, and faculty I get the pleasure to work with daily.

Acknowledgments

Thank you to my amazing husband for supporting and encouraging me. You have been understanding and patient when I worked on our vacations, throughout the holidays, and almost every weekend for the last few years. Though you may not have understood what I was reading or writing, you still listened and were a big part of this process.

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Lastly, thank you to Amy Klohn and Dr. Beck, without both of you this research would not have taken shape. I appreciate the willingness to learn more about community college students and persistence. The many emails and discussions about the College Persistence Questionnaire were at the heart of this, and I could not have done it without you.

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CHAPTER ONE: INTRODUCTION

Overview

The purpose of this quantitative, causal-comparative study is to determine if there are persistence score differences among students who have taken EDUC 1300 – Learning Frameworks, and those who have not taken the course, and if there are any generational differences. Chapter One provides background on persistence within higher education, specifically with community college students. Included in the background is an overview of the theoretical framework for this study. The problem statement examines the scope of the recent literature on this topic. Following the purpose of this study is the significance of the current study. Finally, introduction to the research questions and discussion related to definitions pertinent to this study are provided.

Background

Higher education has shifted over recent decades with more emphasis on increasing college enrollment and graduation rates, creating a challenge for community colleges (Ocean et al., 2022). The retention of students is a struggle for community colleges (Hall et al., 2021), with institutions facing limited resources, rising student enrollment, and serving a population that frequently changes, while accountability from state and federal legislatures pressure for improved student outcome measures (Kimbark et al., 2017). Community colleges play a vital role in the educational system, providing access to post-secondary education for students (Ocean et al., 2022) and are the most diverse institutions in American higher education (Taylor & Jain, 2017). American community colleges are open-access institutions committed to quality education (Hatch, 2017), providing access to economic opportunities for students who are low-income, minority, first-generation (Umbach et al., 2019), those who are academically

underprepared, and commuters (Edenfield & McBrayer, 2021). Additionally, community colleges serve as the first point of entry for some students and the last resort for other students, with student education goals varying from earning credit to transfer, academic remediation, assistance in changing careers, or obtaining an associate's degree (Edenfield & McBrayer, 2021; Schudde, 2019). Community colleges offer flexible education, delivered at a lower cost to students compared to traditional four-year institutions (Edenfield & McBrayer, 2021; Ocean et al., 2022) by providing an additional educational option for students. Faber and Slantcheva-Durst (2021) discussed that community colleges have now become the primary access point of higher education for nearly half of all Americans. Community colleges are in a unique position to improve student retention while implementing initiatives that can impact and foster student persistence.

Historical Overview

Historically, community colleges have held a unique position in the system of higher education (Ali-Coleman, 2019) and are an important access point for many students (Hafer et al., 2021). Community colleges play a democratizing role in higher education with institutions enrolling a disproportionate number of low-income, minority, and adult students (Ortagus et al., 2021). Retention and persistence within higher education have become a concern given the gradual decline of student enrollment, which Caviglia-Harris (2020) believed it is potentially due to institutional culture, increasing enrollment pressures, reduction in student resource allocations, and an increase in student-to-faculty ratios. Ortagus et al. (2021) discussed that community colleges typically have low completion rates and limited resources to allocate to retention and completion initiatives compared to four-year institutions. Community colleges have faced criticism over the low completion and retention rates within higher education and have pledged

to raise completion and retention rates, even though state and federal funding continues to fall with community colleges having to do more to retain students with less money (Monaghan & Sommers, 2022). Schudde (2019) added that community college student demographics and academic preparedness can contribute to low rates of degree attainment and transfer, though there are institutional barriers, such as a complex bureaucratic process and insufficient support services that can also influence a student's academic progress, especially for students who have competing demands, such as work, family, and school.

Student retention is a critical issue for higher education given the impact retention has on student success, degree completion, and the overall financial health of the institution (Adolf et al., 2023). Due to the critical nature of student retention for community colleges, Hafer et al. (2021) stated that it is imperative for institutions to evaluate retention strategies and determine what factors improve completion rates. Researchers have long looked at persistence in retention and potential strategies associated with ensuring students complete, though there are concerns related to community college persistence and the daunting path these institutions are facing (Hatch & Garcia, 2017).

Improvement in persistence among community college students has been difficult to navigate and understand given the array of backgrounds and educational goals of students. Crisp and Taggart (2013) revealed that community college students are significantly less likely to persist or earn a college degree when compared to students who attend four-year schools. Additionally, 90% of community college students enroll to earn a credential or transfer to a four-year institution, while only 39% of community college students earn a certificate, associate's degree, or bachelor's degree within six years. Schudde (2019) stated that community college students face significant navigational challenges, with demographics and academic preparedness,

partially explaining the low rates of degree attainment and transfer. Community college students face several risk factors, such as delayed entry, part-time enrollment, full-time employment, financial independence, dependent responsibility, single parenthood, low socioeconomic status, reliance on need-based support, low academic preparation, and less likely to engage in their college experience (Pechac & Slantcheva-Durst, 2021).

To tackle persistence, institutions have implemented academic and nonacademic intervention strategies, such as tutoring, to help students master college-level skills, student success courses, and one-on-one services, like academic, financial aid, and career services advising (Pechac & Slantcheva-Durst, 2021). Student success programs or courses created opportunities for institutions to assist new college students to gain and develop beneficial skills, knowledge, and support, which has shown to be critical to persistence, achievement, and completion (Hatch, 2017). Other inventions include implementing learning communities and supplemental instruction for high-risk courses (Crisp & Taggart, 2013). Newer interventions include coaching, which focuses on academic and the overall collegiate experience (Pechac & Slantcheva-Durst, 2021) or utilizing predictive analytics in proactive student success coaching (Hall et al., 2021), and micro-interventions, which are small and deliberate acts that can lead to more positive outcomes (Baleria, 2021) that can foster relationships increasing a student's sense of belonging and curiosity at the institution. Institutions continue to explore engagement strategies to garner a better understanding of student practices, retention, and persistence in higher education.

Society-at-Large

Community colleges provide greater access to economic opportunities and mobility to millions of people, especially those who are low-income, minority, or first-generation, and have

become a critical educational pathway for students to achieve educational success (Cross & Carman, 2022; Umbach et al., 2019). The issue of retaining and graduating students has been a constant focus for decades, resulting in several services designed to meet student needs (Kimbark et al., 2017). Institutions have widely adopted the development of student success initiatives to increase student retention and successful completion (Kimbark et al., 2017), indicating that institutions are committed to working on degree completion and retention.

The implementation of the Completion Agenda, which requires higher education institutions to be transparent regarding graduation rates, and are now required to collect more and better data about educational progress toward degrees, while state and federal legislation have enacted new policies that incentivize graduation rates and improve degree production and tied funding to increased completion rates, while continued budget cuts has morphed higher education into a more completion at a lesser cost agenda (Edenfield & McBrayer, 2021). Institutions have widely adopted the development of student success initiatives to increase student retention and success (Kimbark et al., 2017), proving that institutions are committed to working on degree completion and retention. The continued need to explore and understand student success and persistence is important given the changing educational environment. Edenfield and McBrayer (2021) emphasized that low completion rates can be problematic for millions of Americans who rely on a college degree as a pathway to the middle class, and for the millions of employers who rely on institutions to create a skilled and educated pool of potential employees.

Theoretical Background

Student development has evolved into an extensive literature based, though Astin (1999) believed that student development theories were missing how educational programs and policies

translate to a student's achievement and development. To address this, Astin developed the construct of student involvement, which refers to the "amount of physical and psychological energy that the student devotes to the academic experience" (p. 518). The theory of student involvement is rooted in a longitudinal study of college student persistence, which concluded that involvement contributed to students remaining in college and implied lack of involvement contributed to students dropping out. The theoretical findings suggest that the greater the student's involvement is in college, the greater the amount of student learning and personal development will occur, suggesting that a key component in understanding persistence in college is to understand the student's involvement.

Vincent Tinto (1993) supported the construct of student involvement and the belief that the role of student involvement promotes positive educational outcomes for students. Tinto believed that there is an important link between learning and persistence that arises from the interplay of student involvement and the quality of the student's effort. Specifically, within Tinto's theory of individual departure, a student's involvement inside and outside of the classroom with peers and faculty inside relates positively to the quality of student effort, which in turn leads to learning and persistence. Tinto argued that some degree of social and intellectual integration must exist for continued persistence, and the interaction between behavior and perception by the student leads to greater integration within the social and academic environments. Additionally, Tinto argued that the more students learn, the more likely they are to persist in higher education.

Later, Tinto (2017) conceptualized a model through the student's perspective related to student institutional persistence. Tinto revealed that persistence is one form of motivation, which can shape the student's perceptions and interactions related to the student's capacity to succeed

in college, the student's sense of belonging in the institution, and the value of the curriculum toward the student's degree of study. Highlighting that viewing persistence through the lens of the student provides "a dynamic interface between the actions of the institution that seeks to retain students and the decisions students make as to their persistence in the institution" (p. 264).

The role of student involvement progressed with Milem and Berger (1997), conceptualizing a model of student persistence by integrating behavioral constructs from Astin's work to further understand aspects of Tinto's model. Milem and Berger suggested that varying forms of involvement do influence the student's perceptions of institutional and peer support, leading to an effect on the student's level of institutional commitment. Also, Milem and Berger discovered that early involvement within a semester is significantly related to a student's persistence within the institution. Berger and Milem (1999) continued to review the relationship between behavioral involvement and perception integration within the college persistence process, discovering that academic and social integration affects persistence. Additionally, Berger and Milem confirmed the inclusion of behavioral involvement components increased understanding of student persistence and offered further insight into the relationship between student involvement and persistence.

Problem Statement

Student retention research has primarily focused on four-year institutions, with some research geared toward community colleges (Schneider, 2022). Community college enrollment is diverse, with student demographics and academic preparedness accounting for low rates in degree attainment and transfer rates, with students experiencing navigational challenges related to institutional barriers (Schudde, 2019). A large percentage of students who are first-generation, low-income, and non-traditional are enrolling in community colleges, and retention rates remain

relatively low (Ebanks & Francios, 2022). Baleria (2021) reported that consistently low community college transfer and completion rates hinder these institutions from fulfilling paths to certificates and degree completion, highlighting the growing concern about how to assist community college students in persistence, retention, and overall success in higher education.

The exploration of community college student success through the lens of psychosocial factors, such as motivation, self-empowerment, and critical thinking, factor into persistence (Fong et al., 2017a; Fong et al., 2017b; Fong et al., 2018). The incorporation of student success programs has assisted with understanding a student's success and persistence and has proven to be beneficial for students in relation to persistence and overall success (Barhoum, 2018; Crisp & Taggart, 2013; Hatch & Bohlig, 2016; Kimbark et al., 2017). Additionally, the role of community college faculty, staff, and support programs has proven to assist with student success and persistence (Hatch & Garcia, 2017; Hatch et al., 2018; Hatch-Tocaimaza et al., 2021; Tovar, 2015), providing insight in how institutions can engage and work with students. Institutional conditions, such as institutional characteristics, can create an environment that is conducive to learning, while meaningful interactions with institutional agents, such as staff and faculty, can make an impact on student success (Edenfield & McBrayer, 2021) and begin to understand student persistence. The examination of student engagement, with a student's post-transfer involvement, has proven to impact student success and persistence (Umbach et al., 2019), providing another framework in which to understand community college student persistence.

The persistence of community college students is unique and in need of more exploration to understand how students engage and succeed within higher education. There is a need for more evidence in understanding engagement efforts related to a student's persistence by looking at how the campus community may guide a student with effective faculty-student and student-

student interactions (Schudde, 2019). Alcantar and Hernandez (2020) reported the need for further discussion to address structural changes to facilitate opportunities to validate underrepresented students through curriculum, teaching pedagogies, individual interactions, mentoring, and advising of students to affect student success and persistence. Additionally, understanding how well a student has engaged within the classroom and at the institution may give insight into persistence, with Tight (2020) suggesting that understanding what students are like today may highlight how likely the student is to discontinue or finish successfully. The problem is that the literature has not fully addressed important aspects of community college student success and the barriers community college students face in relation to persistence in higher education.

Purpose Statement

The purpose of this quantitative, causal-comparative study is to determine if there are persistence score differences among students who have taken EDUC 1300 – Learning Frameworks, those who have not taken the course, and if there are any generational status differences. The independent variables are participation in EDUC 1300 – Learning Frameworks and the generational status of students, whereas the dependent variable is student persistence scores. Participation in EDUC 1300 – Learning Frameworks distinguishes those students exposed to how to learn, enhanced study skill strategies, and development of effective personal learning strategies to increase college success (Hodges et al., 2019). Calculation of student persistence scores utilizing the College Persistence Questionnaire (CPQ), which identifies students at risk of dropping out, discover why a student chooses to discontinue, and distinguish who will persist from those who will not persist at an institution (Davidson et al., 2009). Assessment of generational status, specifically, first-generation students, can be at-risk due to

their parents not holding a baccalaureate degree, considered less academically prepared, and are less likely to persist in college (Patfield et al., 2022). This study is investigating current community college students at a moderately sized institution in the south.

Significance of the Study

Higher education literature has indicated the need for understanding persistence in students. Retention and completion rates at community colleges are extremely low (Monaghan & Sommers, 2022), though community colleges have increased enrollment rates (Faber & Slantcheva-Durst, 2021). Community colleges have quickly embraced the new traditional student, but continue to struggle to have persistence rates like four-year institution students (Davidson & Wilson, 2017).

Kimbark et al. (2017) found that there is a relationship between student success courses and persistence, retention, academic achievement, and student engagement, with students' perceptions increasing over the importance of the course, while earning social and study skills as well. Improving academic success for community college students continues to be a compelling challenge for higher education professionals, academic faculty, and policymakers (Crisp & Taggart, 2013) and can serve to improve persistence. Davidson and Wilson (2017) added that there is still much work to do to understand persistence. Community colleges are serving students under great constraints with staff placing students into appropriate academic courses, identifying those at risk of poor academic outcomes while providing services, such as tutoring and counseling, with fewer resources than a four-year institution (Fagioli et al., 2020), while addressing the rising concern for completion and graduation rates. Edenfield and McBrayer (2021) discussed the need to shift student success initiatives away from putting the burden solely on the student and for institutions to fully engage with students to persist and work towards

educational goals. Davidson and Wilson (2017) discussed that student persistence depends on the student rather than the student's environment and the need to further explore the persistence of community college students.

Research Question

RQ1: Is there a difference in persistence scores among students who have taken EDUC 1300 – Learning Frameworks and those who have not and those who have not based on their generational status (first-generation college students or not)?

RQ2: Is there a difference in persistence scores among first-generation students who have taken EDUC 1300 – Learning Frameworks and those who have not?

Definitions

1. *Academic persistence* - is the ability of students to achieve their own goals despite adversities they encountered in search of their achievement goals (Menendez et al., 2020)
2. *College Persistence Questionnaire* – a self-report instrument that measures a student's post-matriculation view of themselves and their experiences at the present institution that they attend (Davidson & Beck, 2021).
3. *Community colleges* - are typically 2-year public higher education institutions that award an associate in art or science as its highest degree, along with certificates, vocational training, or the possibility to transfer to 4-year colleges and universities (Fong et al., 2017a).
4. *Community college student success* - graduating with an associate degree, earning a career or technical certificate, transferring to a four-year college, or developing career-related skills. (Fagioli et al., 2020)

5. *First-generation* - a college student whose parents have not received a baccalaureate degree (Patfield et al., 2022).
6. *Persistence* - the desire of a student to remain enrolled in higher education through to the completion of a degree (Miller, 2019).
7. *Persistence measures* - assess enrollment across time. First-to-second-term persistence and first-year-to-second-year persistence were the most common measures (CCSSE, 2021).
8. *Persistence rate* – measurement of the percentage of students who return to college at any institution for their second year (National Student Clearinghouse Research Center, 2022).
9. *Retention* - refers to the number of students who begin at an institution and stay enrolled for consecutive semesters (Miller, 2019).
10. *Retention rate* - represents the percentage of students who return to the same institution (National Student Clearinghouse Research Center, 2022).
11. *Student involvement* - refers to the quantity and quality of the physical and psychological energy that students invest in the college experience (Astin, 1999).
12. *Student success* - most often measured in terms of four-year transfer, degree, and certificate completion – is an important metric in assessing institutional effectiveness (Abrica, 2018).
13. *Student success courses* - characterized as programs aimed at assisting new entering students to transition to college (Crisp & Taggart, 2013).

CHAPTER TWO: LITERATURE REVIEW

Overview

The purpose of this literature review is to present an extensive review of the research conducted to explore community college student persistence, specifically related to student retention, student engagement, and student success. The chapter opens with the theoretical framework. Astin's (1999) Theory of Student Involvement provides the groundwork for understanding student persistence, with Tinto (1993, 2017) adding to the theoretical framework. Milem and Berger (1997) further developed the Theory of Student Involvement, believing that involvement increased a student's persistence. A thorough review of the literature related to student persistence and institutional initiatives related to student retention, student engagement, and student success provides the foundation to explore and understand differences in persistence among students within a student success course, including barriers these student face while enrolled at a community college complete the chapter, which ends with a summary.

Theoretical Framework

Defining a theoretical framework is important in grounding and promoting research. Within the realms of higher education, understanding the link between student retention, engagement, and success in a student's persistence within an institution is something that researchers continue to examine today. Within this literature review, examination of persistence concerning community college students using the theoretical frameworks of Astin's (1999) Theory of Student Involvement, Tinto's (1993) Theory of Individual Departure, and Milem and Berger's (1997) Model of Student Persistence will be provided. Examination of these theories and models, in connection to student success initiatives, will assist with the foundation of understanding student persistence.

Astin (1999) believed that student development theories were missing something regarding how educational programs and policies translate to a student's achievement and development. To tackle this, Astin developed the construct of student involvement, which simply refers to the amount of physical and psychological energy that a student devotes to the academic experience. Additionally, he reasoned that involvement had a behavioral component, believing that "it is not so much what the individual thinks or feels, but what the individual does, how he or she behaves, that defines and identifies involvement" (Astin, 1999, p. 519). There are five basic postulates to involvement theory: 1) involvement refers to the investment of physical and psychological energy in various objects, 2) involvement occurs along a continuum, 3) involvement has both quantitative and qualitative features, 4) the amount of student learning and personal development associated with any educational program is directly proportional to the quality and quantity of student involvement in that program, and 5) the effectiveness of any educational policy or practice is directly related to the capacity of that policy or practice to increase student involvement).

Astin (1999) further explained that the theory of student involvement emphasizes the active participation of the student throughout the learning process, with the curriculum eliciting enough student effort and energy to bring about the desired learning and development. Astin added that exposing the student to specific courses may or may not work to engage and keep the student involved. Astin encouraged educators to focus more on what the student does, such as how motivated is the student, and how much time and energy is the student devoting to the learning process versus what the educator is doing. The construct of student involvement resembles *motivation* in psychology, though Astin believed that involvement was more

susceptible to direct observation and measurement than the more abstract construct of motivation, leading educators from how to motivate students to how to get students involved.

The theory of student development is more concerned with behavioral mechanisms or processes that facilitate student development, than how a student develops. Markle and Stelzriede (2020) stated that Astin's theory (1999) focused on student attributes (motivation and behavior) instead of program attributes (content and technique) to understand how educational programs can influence student learning and personal development. Additionally, Astin discussed that the most precious institutional resource is the student's time. The link between a student's time and effort and the ability to reach development goals is important for educators to understand given that other forces are competing for a student's time. Astin explained that every institutional policy and practice can affect the way students spend their time and the effort to which they devote to academic pursuits, with many of these policies impacting a student's involvement within the institution. Additionally, Astin explored the ideation that a student's chances of dropping out are greater at a two-year institution versus a four-year institution, detailing that community colleges are places where the involvement of faculty and students is minimal. Astin stated that many community college students are commuters and enroll on a part-time basis, severely limiting the possible involvement that the student engages at the institution.

The theory of student involvement is rooted in a longitudinal study of college student persistence, which concluded that factors that contributed to a student remaining in college suggest involvement, whereas those factors that contributed to the student dropping out implied a lack of involvement. Markle and Stelzriede (2020) expressed that Astin's theory (1999) indicated that nearly all types of student involvement positively influence developmental outcomes, with involvement associated with academics, faculty members, and peers being the most productive

types of involvement. The theory suggested the more a student is involved in college, the more a student will learn and personally develop, which implies that a key component to persistence in college is understanding the students' involvement).

Vincent Tinto (1993) supported the construct of student involvement and the belief that the role of student involvement promotes positive educational outcomes for college students. Tinto explained that the longitudinal model of departure, which evolved to the theory of individual departure reports that a student has identifiable attributes prior to attending college, such as family background, skills or abilities, and prior academic experiences that lead the student to form educational intentions, goals, and institutional commitments, with other external commitments impacting the student while attending college. From here the student begins to develop informal and formal institutional experiences within the academic system (academic performance and faculty/staff interactions) and within the social system (extracurricular activities and peer group interactions), leading the student to integrate either positively or negatively into the college environment. DeVries et al. (2020) reported that Tinto's model emphasizes that institutional academic and social integration are the primary antecedents of student persistence in college. Additionally, Schaeper (2020) purported that the decision to leave the institution results from low levels of academic and social integration into higher education, especially low levels of academic integration.

According to Tinto (1993), a student's academic or social experiences can impact how the student sets intentions, goals, or institutional commitments, with potentially the influence of external commitments determining whether a student will depart from the institution or not. Milem and Berger (1997) discussed that Tinto believed that for a student to become integrated into the academic and social systems of college, the student needed to successfully navigate

through three stages: separation, transition, and incorporation. Separation involves students distancing themselves from past community norms, with the transition occurring after separation, and incorporation representing a student adapting to or adopting the norms and behaviors of the institutional community. Milem and Berger (1997) reported that once a student becomes integrated into the community does not necessarily indicate persistence.

Tinto (1993) noted the intention of the model is to understand the longitudinal process of departure as it occurs within an institution of higher education while paying special attention to the longitudinal process by which individuals voluntarily withdraw and that the model is longitudinal and interactional in character. Additionally, Tinto stated that itis not only a descriptive model of departure but one that is explanatory in nature. Inherent to the theory of individual departure is the important notion that colleges are systemic enterprises involving a variety of linked interactions, reciprocal parts, formal and informal, academic and social that result in events in one area, influencing events in another area. Tinto reported to fully comprehend a student's individual departure, consideration of a student's range of individual experiences, both within the formal and informal domains of the academic and social systems at the institution is important. The interplay between the social and intellectual components of a student's life provides individual experiences that are central to the process of departure, leading the student to continually evaluate their educational and occupational goals, and their commitments to attain their goals at the institution.

The process of persistence consists of different stages over time, with the student moving from past forms of association to new forms of membership in the social and intellectual communities of the college (Tinto, 1993). Additionally, Tinto explained that some degree of social and intellectual integration and membership within academic or social communities must

exist for continued persistence. Tinto further reported that individuals may persist without being fully integrated, though some form of integration, such as some type of membership either socially or intellectually in at least one college community, is a minimum condition for continued persistence.

Tinto (1993) believed that there was an important link between learning and persistence that develops from the student's involvement and the quality of the student's effort. Specifically, within his theory of individual departure, a student's involvement inside and outside of the classroom with peers and faculty relates positively to the quality of student effort, which, in turn, leads to learning and persistence. Again, Tinto emphasized the importance of faculty-to-student development and persistence inside and outside of the classroom, and how this directly shapes and impacts the students learning and persistence. Tinto expressed that persistence requires individuals to transition to college and become incorporated into the social and intellectual life of the institution in order to fully integrate and reduce the potential for departure. Individual departure is reflective of the student's evaluation of their social and intellectual interactions that in large part determine a student's decision to leave or stay at the institution.

Understanding how a student successfully navigates and transitions to college is important to fully grasp how a student integrates into the institutional community. Tinto argued that some degree of social and intellectual integration must exist for continued persistence, and the interaction between behavior and perception by the student leads to greater integration within the social and academic environments. Additionally, Tinto purported that the more a student learns and develops, the more likely the student is to persist.

Later, Tinto (2017) discussed ways in which institutions can promote student motivation to persist with the students ultimately persisting to completion. Tinto aimed to understand

persistence through the student's perspective and then relate this to how institutions can respond, conceptualizing a model related to a student's motivation and the institution's capacity to influence the student. Tinto revealed that persistence is one form of motivation, shaped by the students' perceptions and interactions related to the student's capacity to succeed in college, their sense of belonging in the institution, and their value of the curriculum towards their degree of study. In regard to student goals, Tinto pointed out that having a goal of completing college is a needed condition for completion, though it is not a sufficient condition. Additionally, events can influence a student's goal and motivation, with the goal oftentimes changing as well.

Tinto (2017) reported that there is an assumption that students begin college with some level of commitment to complete, and that the student's self-efficacy, sense of belonging, and perceptions of the curriculum are tied to persistence. Tinto explained that self-efficacy is "how individuals come to perceive themselves from experiences and interactions with others and their capacity to have some degree of control over their environment (locus of control)" (p. 256). Tinto further stated that self-efficacy is learned, can influence how a person addresses goals, tasks, and challenges presented to them, and is the foundation for which student persistence is built. Ultimately, a student's belief that they can succeed in college is important to persistence. In regard to a student's sense of belonging, it is important to note that believing in oneself to successfully complete is essential to persistence, though it does not ensure persistence. Tinto believed that a student needs to see themselves as a member of the institutional community, such as with faculty, staff, and peers, to know that they matter and belong. Lastly, in regard to perceptions of curriculum, Tinto reported that students need to know and feel that the curriculum learned is of quality that sufficiently warrants time and effort, with students motivated and engaged in the material, leading to persistence.

Viewing persistence through the lens of the student highlights the impactful interface between the actions of the institution that are wanting to retain students and the decisions students make regarding their persistence at the institution (Tinto, 2017). Tinto reminds us that persistence is one form of motivation, shaped by the student's perceptions of interactions with others on campus, and the meanings that drive the student towards success, creating a sense of belonging, and the perception and value placed on the curriculum the student has chosen to pursue. Tinto revealed that knowing that persistence is a form of motivation, shaped by a students' perception of their experiences, creates another dimension to understanding the complexity involved within the process of persistence and completion.

The understanding of the role of student involvement progressed with Milem & Berger (1997) conceptualizing a model of student persistence by integrating behavioral constructs from Astin's work to further understand aspects of Tinto's model. Milem and Berger suggested that varying forms of involvement do influence the students' perceptions of institutional and peer support, leading to an effect on the students' level of institutional commitment. Also, Milem and Berger discovered that early involvement within a semester is significantly related to the students' persistence within the institution. Berger and Milem (1999) continued to review the relationship between behavioral involvement and perceptual integration within the college persistence process and discovered that academic and social integration affects persistence. Additionally, Berger and Milem confirmed the inclusion of behavioral involvement components increased understanding of student persistence and offered further insight into the relationship between student involvement and persistence.

Related Literature

Community colleges are unique to the fabric of higher education, serving a role that often changes to meet demands from not only the student but society as a whole. Originally the establishment of community colleges were to expand access to higher education (Topper & Powers, 2013), typically offering two-year programs post-high school that provided a terminal education (Martin, 2021). The design of community colleges is to increase access to higher education without compromising or burdening the four-year institutions, and that these institutions award an associate of arts or science as the highest level of degree (Kane & Rouse, 1999). Hwang (2020) emphasized that community colleges provide more vocational support and serve as an educational ladder for students to eventually transfer to a four-year institution. Martin (2021) added that community colleges have continually provided educational opportunities to students regardless of socioeconomic background, race, and gender, with Kane and Rouse (1999) noting that community colleges have an open admissions policy, which broadens a student's ability to access higher education.

Community colleges created stand-alone institutions that provide a lower-cost option for higher education by providing academic coursework for transfer, vocational training, and continuing education courses (Topper & Powers, 2013). The appeal of community colleges often rests in the convenience of the location and the lower cost, with the average tuition less than one-half of the cost of a public four-year institution (Kane & Rouse, 1999). Smaller course sizes, the ability to attend courses beyond the traditional daytime hours, and the opportunity to take courses in-person, online, or at work sites give community college students more flexibility to pursue higher education . Hwang (2020) discussed that better community colleges attract diverse student populations, embrace minority students, and develop a student’s academic abilities while

creating an environment that is rich in institutional support. Topper & Powers (2013) recognized that non-traditional students are the majority of students at community colleges and that the enrollment of these students continues to rise.

A core function of community colleges is the academic preparation of students with the additional responsibility of buffering student burdens by providing various kinds of institutional support (Hwang, 2020). Community colleges have long implemented academic and supportive strategies to engage and retain students, given that many of these students are less likely to complete college credits (Kane & Rouse, 1999), causing continual concern for community college leadership. Transfer and award completion rates at community colleges continue to lag and raise additional concerns given federal and state funding initiatives (Topper & Powers, 2013) that influence how community colleges track retention and completion. Institutional missions of community colleges must balance changing demographics and an increased emphasis on institutional accountability in a struggling economic environment while providing academic quality and ensuring that students persist.

Research in understanding community college student persistence in conjunction with student retention, student engagement strategies, and student success initiatives continues to be of interest. Student retention is a critical aspect of understanding persistence with Kahu and Nelson (2018) indicating that more engaged students are more likely to be successful. Previous retention efforts focused to understand risk factors and barriers related to community college student retention (Davidson & Wilson, 2017; Edenfield & McBrayer, 2021; Watson & Chen, 2019), specifically towards low-income and non-traditional students (Baugus, 2020; Bennett et al., 2021; Zembrodt, 2021) while exploring student data and trends related to retention (Monaghan & Sommers, 2022; Watson & Chen, 2019). In tackling retention concerns and

persistence, institutions have worked towards improving student engagement using data and incorporating strategies aimed at assisting students to connect with the institution (Schudde, 2019; Tight, 2020). Student retention and engagement efforts have led institutions to implement student success initiatives, such as courses and coaching to foster student persistence and completion. These initiatives show the need to create a supportive environment for students to learn and empower students to persist in college (Hall et al., 2021; Hatch et al., 2018; Hatch-Tocaimaza et al., 2021; Pechnac & Slantcheva-Durst, 2021).

Student Persistence and Retention

Persistence and retention within higher education work together to give an account of how students are progressing with their courses and degree attainment at a given institution. Persistence rates measure a student's ability to continue on to the next term, whereas retention rates are campus-wide, showing an institution's ability to retain students, those students who persist to the end of the term or through to graduation have a positive effect on retention rates (Spear, 2019). Spear discussed that the definition of persistence across higher education will shift depending on the school, but that typically students who enroll in one term and persist to the end of the term, or to the next term, are a positive representation of persistence. Piland & Piland (2020) stated that persistence is the term-to-term re-enrollment of students, adding that students not returning to college after each term will never complete their college education. Menendez et al. (2020) took the concept of persistence and focused it on academics, stating that academic persistence is the ability of students to achieve their own goals despite the adversities they have found while in search of their achievement goals, while Zhong et al. (2022) discussed persistence through a learning lens and stated learning persistence has two meanings: the willingness to complete the current course and the willingness to pursue the other course at a later date. Each of

these definitions gives context to the idea of persistence within higher education and highlights the diversity and functionality of the word. Menendez et al (2020) stated that a student's social and academic integration and a student's previous academic attainment are key components in understanding academic persistence, while a student's commitment is essential in promoting positive decisions impacting academic persistence. The connection a student has to the institution, like their sense of belonging and their personal commitment to finish their studies, impacts their persistence which influences the retention of that student within the institution.

Retention of students has been of interest to those in higher education since the mid-1960s, with initial recognition given to the high proportion of students not successfully completing courses, moving to better understand why students were not completing, and landing on how to improve student outcomes (Tight, 2020). Retention is used on multiple levels to analyze and measure an institution's performance and overall success rate (Miller, 2019). Like persistence, the definition of *retention* will vary per institution, with *retention* defined as retaining a student from one term to the next or one year to the next (Spear, 2019). The hallmark of a successful college is the retention rate of the institution, which has become relatively static over time (Miller, 2019). Monaghan and Sommers (2022) reported that between 2004-2017 community colleges saw a small percentage in retention gains, though an increase in the proportion of racially and socioeconomically disadvantaged students, and the rising tuition cost worked against the increases in retention. Miller (2019) stated that retention has improved at a slow rate and that between 2006-2014 there were periods in which student retention declined rather than rose, leading researchers to further review student retention. Recent retention data for community college students shows that the overall retention rate is up slightly for fall 2020, but

still below pre-pandemic levels (National Research Clearinghouse Research Center, 2022) indicating small gains in retention, but the continued need for improvement.

Retention efforts have focused on modeling and predicting the student's outcome with researchers focusing on what causes retention or dropouts while trying to predict which students are likely to persist and may need additional support (Monaghan & Sommers, 2022; Tight, 2020). Institutions have implemented academic interventions directly related to academic content, such as tutoring, career counseling, financial aid, and life skills advising to promote retention, while also focusing on non-academic supports, such as assisting students to create social relationships, clarify aspirations, enhancing student commitment, develop college know-how, and to make college life easier to retain students (Ott et al., 2020). It is unclear if the interventions introduced have impacted students' outcomes, but if they are both pervasive and effective then it could assist with retention of students (Monaghan & Sommers, 2022). Though Schneider (2022) emphasized that early intervention is key to success and that understanding student retention and persistence has focused primarily on academic and social engagement of students but noted that the strongest connections that community college students make are in the classroom. Hope (2021) added that retention is everyone's responsibility and is not regulated to enrollment management or student affairs, highlighting the holistic approaches needed for student retention efforts.

Tight (2020) reported that there has been a concern about what to do about student retention with suggestions ranging from relationship marketing, mentorship, identifying at-risk students, and encouraging greater resilience in students. Additionally, researchers have looked at all kinds of students, different races and ethnicities, disabled, non-traditional, low socioeconomic, part-time, rural, and distance or online to understand retention (Boyd et al.,

2020; Monaghan & Sommers, 2022; Tight, 2020). Tight (2020) emphasized that a common theme has emerged in the study of student retention and that is for institutions to adapt to the student versus the institutions responding to help the student better adapt to the institution. Davidson and Wilson (2017) added that dropout and retention is rooted in the institution's inability to collectively affiliate with the student instead of the student's inability to integrate into the institution. Research has often identified the problem with the retention and persistence rates of the student and has not looked at what is the institution doing.

Risk Factors and Barriers to Persistence and Retention

Community colleges play an essential role in providing educational opportunities for a diverse student population, many of which are low-income, first-generation, or minority (Watson & Chen, 2019), academically underprepared (Edenfield & McBrayer, 2021), or non-traditional (Baugus, 2020). Community college student goals are also diverse with students needing help changing careers, support for continued education, obtaining an associate's degree or certificate (Edenfield & McBrayer, 2021), or skills for gainful employment (Davidson & Wilson, 2017). Additionally, community college students can have lower high school grade point averages, lower educational aspirations, work more hours per week, and completed a lower-level high school math course . The unique challenges that community college students face in comparison to four-year students speak to the struggle in understanding persistence at community colleges.

Baugus (2020) reported that the prevalence of barriers in a student's life can impact the student's ability to succeed and persist in higher education, with Waters-Bailey et al. (2019) emphasizing that many students who enter community college will encounter an obstacle and face non-academic barriers. Typically, these obstacles are academic in nature, but the reality is that the vital issue creating a barrier for students is more personal and outside the scope of the

institution. Baugus (2020) believed that the unique non-academic barriers, such as food insecurity, transportation, and adequate childcare can impact retention and persistence rates. Waters-Bailey et al. (2019) agreed with Baugus and has identified five areas of possible student need that can impact retention: food insecurity, housing insecurity, transportation, childcare, and mental health care. Institutions have slowly taken on assisting students with these needs by setting up food pantries, creating partnerships with local non-profits and businesses to address food, housing, and transportation issues, and exploring opportunities to fund initiatives through local, state, and federal grants. In regard to mental health, the mission of the community college coupled with flexible scheduling, open-door admissions policies, and smaller classroom environments is attractive for students or a student's family that struggle with a variety of medical issues. Waters-Bailey et al. stated that colleges have tackled mental health concerns by providing counseling options, establishing prevention and awareness programs, and referring students to local resources, while creating institutional protocols to assist students in crisis. Building a supportive and engaged institutional environment that can assess at-risk student needs and potential barriers to student success, retention, and persistence will begin to tackle the very problems that lead to poor retention and persistence.

College affordability is another barrier that impacts not only academic achievement but influences retention and persistence rates of students (Spica & Biddix, 2021). The cost of attending college has increased with many community colleges considered underfunded and student incomes becoming stagnate (Broton et al., 2022). Spica and Biddix (2021) addressed that college affordability has declined, especially for students from low to lower-middle-income families, with affordability not only encompassing tuition costs but related materials. Broton et al. (2022) stated that community colleges simply do not have sufficient resources to meet

students' unmet financial needs, which leads students to navigate how to afford the higher costs. Spica and Biddix (2021) reported that students are working more to break-even but must now decide between focusing on schoolwork and increased debt while risking successfully completing courses, degrees, or credentials necessary to retain and persist with academic and future career goals.

Low-Income Students. The U.S. Department of Education defines low-income as someone "whose family's taxable income for the preceding year did not exceed 150 percent of the poverty level amount" (2022, n.p.). Low-income can also refer to individuals with less disposable income than others, living paycheck to paycheck, who struggle to pay bills, or affected by a low-security job (Close the Gap Foundation, 2023). Additionally, low-income is a label given to students who are eligible for Federal Pell Grants, which are based on factors that contribute to the student's expected family contribution (EFC), determining how much financial aid a student can expect to receive based on a particular school (Davidson, 2015). Pell grants originally funded by the federal government were to support low-income students in a bid to decrease the gap in graduation rates between low-income and higher-income socioeconomic status (SES) students, though this has not necessarily been the case with low-income students more likely to leave college without a degree (Zembrodt, 2021). Even though low-income students often receive Pell Grants, Baugus (2020) reported that students typically do not have enough funding to cover financial needs outside of tuition and books, leaving students to navigate how to pay for additional expenses on their own.

Baugus (2020) stated that over 70% of low-income community college students are receiving some type of financial aid and are less likely to complete a college degree, similar to what Zembrodt (2021) reported. Students from higher incomes are more likely to obtain a degree

than students who are low-income, though lower-income students are less likely to drop out of school if they return for a second year, emphasizing that retention and persistence of these students is important. Ebanks and Francios (2022) stated that students who struggle to meet academic and nonacademic financial obligations tend to withdraw from college to address their financial obligations, with low-income students having to pick between financial responsibilities and their education. Low-income students may not be as academically prepared and may not have had the financial means to pay for preparatory classes to become prepared for college, excluding them from learning experiences that their wealthier peers are privy to while in school (Baugus, 2020) extending the academic and social gap between the two groups. This widening gap between the poor and the wealthy throughout the country has contributed to the lower persistence and graduation rates of low-income students.

Low-income students tend to be from underrepresented minority groups, such as African American or Latino, and are less likely to obtain a college degree (Baugus, 2020). There are many low-income minority students who are first-generation, which are students whose parents did not complete a four-year college degree, can be anyone who did not have exposure to specific academic settings, and may need additional resources (Close the Gap Foundation, 2023). Edenfield & McBrayer (2021) stated that community colleges enroll a disproportionate number of students who are low-income, first-generation, academically underprepared, and from minority racial and ethnic groups, which emphasizes the student population these institutions are working to retain and become successful students.

Students considered low-income tend to be viewed from a deficit model, indicating that these students may come from families that may not value or acknowledge attitudes and behaviors that contribute to college success (Zembrodt, 2021). This may impact a low-income

student's ability to belong, decrease overall satisfaction with the college experience, and interfere with student retention. Wilson (2019) discovered that low-income students, to be successful and remain in school, they need psychosocial development, such as being conscientious, improving self-esteem, better addressing spirituality, becoming socially engaged with instructors and peers, being open to receive moral support, encouragement, and motivation from others, as well as engaging in experiential learning experiences. Wilson believed that institutions should begin to focus on adding more college academic and social experiences to assist low-income students in finding ways to connect to the institution and ultimately retain them. Zembrodt (2021) noted that though low-income students graduate at a lower rate than their peers, if committed, these students are likely to see their time and money as an investment into the future, ultimately increasing persistence towards graduation.

Non-Traditional Students. Non-traditional students are a significant part of the college population with community colleges providing educational opportunities for non-traditional students to further their education, providing students with better career possibilities, and assistance in securing gainful employment (Spitzig & Renner, 2022). Spitzig and Renner stated that non-traditional students typically are 25 years or older, have delayed enrollment, attend college part-time, work full-time, did not receive a traditional high school diploma, or are financially responsible for dependents. Bennett et al. (2021) reported that non-traditional students have a high probability of managing many other life roles in addition to attending class, such as being a full-time employee, caregiver, spouse, parent, and community member. Baugus (2020) agreed that non-traditional students are more likely to have dependents or serve as caregivers to other family members, which oftentimes interferes with classes and college completion. Given that non-traditional students typically balance other obligations, taking

courses at a community college is convenient though there are still external commitments that impact a student's retention and persistence (Spitzig & Renner, 2022).

Spitzig and Renner (2022) discussed environmental factors, such as finances, hours of employment, outside encouragement, family responsibilities, and transfer opportunities that impact a non-traditional student's ability to remain in school. Baugus (2020) echoed that finances can be an issue for non-traditional students and added that time constraints are a burden as well. Baugus explained that time and finances are the highest predictors of stress in non-traditional students, with employment being a major source of stress. Family issues and conflicts with employment are the most significant factors that impact non-traditional completion rates. Each of these conflicts takes a toll on non-traditional students and impacts their ability to successfully complete school.

Baugus (2020) stated that non-traditional students are a growing population within higher education and are less likely to persist compared to traditional students. There is a distinct gap in retention and completion between non-traditional and traditional students, with non-traditional students having different engagement and supportive needs (Spitzig & Renner, 2022). Unlike most traditional students, non-traditional students face cultural barriers, such as lack of family support and academic preparedness, typically needing academic assistance, self-confidence, and support with navigating the campus (Bennett et al., 2021). Additional factors, such as personal development, absence of a support network, stress, and employment status can also be barriers that impact non-traditional students' success (Baugus, 2020). Spitzig and Renner (2022) reported that self-confidence is an obstacle with non-traditional students, stating that they feel less confident in their own abilities to complete assignments given their age, experience with new tools, and time available to complete coursework. Baugus (2020) reported that a positive campus

climate has been known to promote non-traditional students' success and that non-traditional students that have a strong supportive network are more likely to succeed than those that did not, and that participation in student affair activities contributed greatly to feelings of belonging, which contributed to better completion rates for these students. Academic support programs, such as academic advising, counseling, degree planning, financial assistance, mentoring, study skills assistance, tutoring, and cultural activities geared for non-traditional students would be beneficial (Bennett et al., 2021), and assist with retention efforts for this population of students. Supportive programming to address non-traditional student barriers and needs should provide equitable opportunities, which can impact retention rates and further connect non-traditional students to the institution.

Student Data. Community college student characteristics, preparation, and goals can create challenges in assessing student retention rates, while developing strategies for improvement (Hafer et al., 2021). Hafer et al. stated that nearly 50% of first-time college students will not persist to the second year, with most community college students who attempt completion of a credential not succeeding. Piland & Piland (2020) reported that persistence rates for most community colleges are abysmal, especially from fall-to-fall terms, suggesting that institutions previously focused on new students rather than attempting to hold on to the current ones they have. The National Student Clearinghouse (2021) indicated that community colleges have recently shown the steepest persistence rate decline over the last year, erasing improvements that colleges have made to keep students on track. Persistence rate has changed very slowly over time with colleges making a lot of effort and progress through the years, though with the recent decline it severely impacts colleges. Mitra and Zhang (2022) reported that for

every ten students who enroll in college, seven will return, and five will earn a degree, which highlights the struggle that colleges have in retaining students.

Waston and Chen (2019) discovered that some groups of students were significantly more at-risk for dropping out, which includes Black males and academically underprepared students, while first-semester grade point average was also a factor in dropping out. Mitra and Zhang (2022) discussed that non-traditional students are at greater risk for dropping out, noting that Hispanic and disadvantage students (low SES) were more likely to drop out during their freshman year. Mitra and Zhang further revealed that many of the non-traditional, minority and low SES students within their study were also first-generation, lacking family support and having additional financial burdens while in school, which can take away from schoolwork and impact retention. Another predictor of student retention is first semester grade point average (GPA), with students who have a low GPA were at the highest risk of not returning the second semester and a good indicator of whether a student retains and persists further with college (Watson & Chen, 2019).

To combat retention and persistence issues, Watson and Chen (2019) suggested hiring more minority faculty and administrators and implementing services targeted towards minority students to create a better connection to the institution while creating an early alert system to advise counselors or advisors of student difficulties. Academically underprepared students in remedial education are one of the most difficult issues that community colleges face, with Watson and Chen highlighting the need for more effective learning strategies to tackle this issue. Schneider (2022) stated that institutions should continue to develop innovative approaches and resources in tackling remedial education, suggesting that student peer-guided study sessions can serve to assist students academically but also foster a supportive network, which is a concern for

community colleges. Additionally, early identification of high-risk students is crucial in assisting students with lower grade point averages and that an early alert system implemented early in the semester will assist students most likely to fail (Watson & Chen, 2019), allowing students to address issues sooner, retaining the student throughout the semester, and persisting to the next semester. Schneider (2022) added that early intervention should be a targeted strategy rather than the approach of a more one-size fit, providing institutions an opportunity to address student retention from a macro to micro level. Utilizing data analytics in determining characteristics exhibited by an at-risk student can assist in exploring targeted strategies and the creation of programs designed to assist at-risk students earlier in the matriculation process (Hafer et al., 2021).

Student Retention Trends

Monaghan and Sommers (2022) reviewed student retention trends in community colleges, noting that there was an increase in retention from 2004 to 2017 when looking at Integrated Postsecondary Education Data System (IPEDS). Retention among community colleges increased during this period, with 70% of community colleges reporting retention gains, though these gains were small there was an impact on institutional enrollment. Retention gains noted by Monaghan and Sommers indicate that observable changes in student composition or the college environment and shifts in rising retention were small and did not necessarily offset retention-reducing changes. Monaghan and Sommers reported that retention gains during this timeframe could be associated with colleges massaging statistical reports, a reduction of standards for degrees, an increased commitment from students to increase grades and academic performance, or better academic and organizational practices at the institution. Monaghan and Sommers discussed how difficult it is to explain the level of change in retention and that

something is impacting student outcomes, suggesting that incorporating a higher level of ecological factors that change slowly over time would assist to better understand student retention. Additionally, Monaghan and Sommers highlighted the need to better understand why fewer students are dropping out and more are completing, providing a broader scope for future retention literature to explore.

A characteristic that has changed the landscape of colleges in the past several decades is the students, with the current generation of students being born after 9/11 and during the growing tech era (Barbera et al., 2020). Entitlement has become a concern for faculty and institutional leaders, as well as the growing number of psychological problems exhibited by students with researchers agreeing that students who are uncomfortable in the college environment will more likely not remain in it. Additional trends that are impacting retention are the influx of part-time faculty and the increase in online courses, with both becoming commonplace, and more research needed to understand their impact on retention. The growing number of concerns that institutions are now facing regarding retention ultimately influences how institutions will react and move forward.

Student Engagement

Student engagement relates to how involved the student is in the higher education experience, with those who are more engaged being less likely to leave the institution before completing their degree (Tight, 2020). Schudde (2019) added that engagement experiences broadly capture interactions that students have with faculty and peers. Chen and Chan (2022) define student engagement as the quality of effort and involvement in productive learning activities, aimed at building a foundation of skills to assist students through college and beyond, whereas Gillen-O'Neel (2021) defined student engagement as a broad construct incorporating

several aspects of a student's commitment to school and strongly linked to academic achievement. Gillen-O'Neel further stated that student engagement is multidimensional, and includes emotional and behavioral components, with emotional engagement referring to affective reactions to school, such as interest in engaging with academic challenges, and behavioral engagement refers to active participation in school and includes behaviors that occur inside/outside of the classroom. Participation in educationally effective practices both inside and outside of the classroom are important to understand student engagement and the connection engagement has to student retention and persistence (Schudde, 2019).

Tight (2020) reported that student engagement research has focused on identifying and measuring classroom engagement behaviors and facilitating the social and academic integration of students into the institution. Additionally, Tight identified engagement frameworks into five elements: personal, academic, intellectual, social, and professional engagement, with each of these focusing on a different aspect of engagement that researchers have used to better understand student engagement. The development of student engagement instruments has been an integral part of understanding an institutional performance compared to other institutions nationally, providing institutions with measurable data to track engagement. Schudde (2019) references that much of the community college student engagement data relies heavily on the annual Community College Survey of Student Engagement (CCSSE), which aims to help institutions to evaluate the quality of a student's experience and how to improve student learning and retention at the institution.

As with student retention, researchers have looked at the experience of the student from different groups, each highlighting engagement strategies that have impacted these groups (Tight, 2020). Engagement strategies can include using active and collaborative learning

approaches, self and peer assessment, increased interaction between faculty and students, support programs, encouraging students to work together in and outside of class, peer tutoring, and allowing faculty time to work with students to discuss ideas outside the classroom. Schudde (2019) revealed that engagement with faculty offers short and long-term positive impacts on college outcomes and that other engagement experiences, such as study groups and club participation, also positively impacts college outcomes, specifically persistence. The discussion between a sense of belonging and a student's retention and engagement continues to rule the literature, though Gillen-O'Neel (2021) indicated that cultivating a sense of belonging assists with keeping students engaged in school.

Tight (2020) discussed that student engagement research is missing and lacking in critique, exploration of the bigger picture of learning outcomes, measuring the underlying elements of engagement, disengagement or burnout, and the exclusionary element of engagement with different student groups. Gillen-O'Neel (2021) stated that it is important for institutions to identify other sources of motivation that can assist students to maintain a high level of engagement. Schudde (2019) reported that the causal effects of various student engagement experiences on short and long-term outcomes of community college students have yet to be fully explored. Tight (2020) suggested that institutions can better understand student engagement by moving beyond how students are engaging with courses and the institution, inquiring more on student experiences outside of school in a bid to connect with students on a broader level, which could significantly impact a student's experience and eventual engagement at the institution.

Student Success

While addressing concerns about student retention and engagement, and ultimately persistence, institutions developed interventions to assist with a student's success. Watson and Chen (2019) stated student support services created in the 1960s helped students to successfully begin and persist in college and earn a degree. Hatch et al. (2018) reported that community colleges have implemented a variety of student success programs and courses to equip students with the knowledge, skills, and support measures, including first-year seminars, college success strategies courses, orientation, and learning communities. Research has shown that participation in these types of interventions can lead to persistence, increased academic and social engagement, and better grades. Hall et al. (2021) explained that institutions addressing retention and persistence have used student success coaching to increase student engagement and integration into the institution. Thus, adding to the list of potential strategies and initiatives that could have an impact on student persistence.

Barhoum (2018) looked at how to increase student success by suggesting structural recommendations for community colleges. Barhoum discovered, while analyzing data from 42 community college professors, that two major themes emerged regarding student success: 1) offer a corequisite support class, and 2) have mandatory tutoring in a fully funded writing center. Corequisite support class offers up a needed feature for student success, allowing for individualized instruction and giving the professor the ability to be more attentive to student needs. Mandatory tutoring is a more intrusive technique with the benefit that students can build relationships with peers and other academically focused individuals, and considered an important component of successful student traits. Also, three minor themes emerged: 1) computer lab work, 2) small class sizes, and 3) acceleration, with each offering additional feedback into addressing student success and creating opportunities for students to persist and succeed. Barhoum

suggested that individualized support for students and amplifying current practices are optimal ways in which to help students succeed. Additionally, Ebanks and Francios (2022) recommended that professors use real-life world events, a student's perspective, experience, and background to present and assess how students are understanding information taught in the classroom, which will have the greatest impact on persistence and student success.

Student Success Course

Student success courses seek to improve retention (McLeod, 2019), and at the community college level, are among many interventions used to address retention and persistence by fostering student development in a supportive environment (Hatch et al., 2018). Student success courses are important in influencing behaviors associated with persistence and are beneficial to students in learning about the institution, assisting with developing study skills and critical relationships with faculty and peers (Sommer & Cuellar, 2020). These courses target new students during the first year informing students with crucial information about the college and assisting students with academic and career planning while developing habits associated with high-performing students (McLeod, 2019).

Student success courses employ a wide variety of curricular strategies to implement student support, such as academic planning, study skills training, career exploration, study skills awareness, and the development of time management and financial literacy (Hatch-Tocaimaza et al., 2021). Hatch et al. (2018) revealed that participation in student success courses enables the development of supportive peer groups, facilitates social integration, while bridging the gap between the academic and social divide, encourages students to be active with faculty, develops time management and other thinking skills, creates self-awareness and appreciation of other skills, eases the transition to college, and is a central point to gain and utilize information about

the institution. McLeod (2019) offered these best practices for student success courses to promote active learning, instruction on critical college study skills, effective time management and stress management techniques, effective relationships between students and teachers, awareness of the college environment, a sense of belonging, self-efficacy, the value of the course to the student, course contextualization and institutional expectations. Student success courses have become an opportunity for institutions to build an educational environment that seeks to assist students become the best student they can be while providing resources to tackle academic and personal issues, with the ultimate intention of retaining the student.

Student success courses deploy a wide variety of curricular strategies and ways to implement student support, though Hatch-Tocaimaza et al. (2021) discovered that the core purpose of student success courses, when asking instructors, was to acquire and enact skills, such as time management, organization, reading, note-taking, and writing, which institutions have deemed necessary to succeed in college. Next, the course assists to navigate college, specifically honing in on decision-making skills, while planning for future educational and career goals. Lastly, student success courses increase knowledge of self-reflection, self-efficacy, and the student's college identity, which have strong determinants towards college success. One instructor that Hatch-Tocaimaza et al. met with indicated the course is meant to empower the student to maintain realistic personal and educational goals, with another instructor emphasizing the need for students to be prepared for successful participation in college courses. Hatch et al. (2018) build on this by stating that student success courses provide students with an individualized development of college-going literacy aimed at creating a successful educational experience. Hatch-Tociamaza et al. (2021) stated that given the significant barriers that community college students face to achieving educational goals, it would be imperative for

institutions to implement student success courses to foster student success and persistence. Schneider (2022) agreed and suggested that student success courses should embed retention-focused assignments, allowing institutions to address student persistence within the classroom setting.

Effectiveness of student success courses. Student success courses have emerged as a promising strategy for community colleges, with Kimbark et al. (2017) examining if participation in these courses influences persistence, retention, academic achievement, and student engagement. Sommer and Cuellar (2020) stated that student success courses have proven to improve retention and completion rates by fostering a supportive learning environment for students, leading to a positive association between the course and earning a credential or transferring. Kimbark et al. (2017) discovered that there is a significant relationship between student success courses, and persistence, retention, and academic relationships.

Students reported greater student engagement and identified group work and active learning in the classroom to be a primary factor in continued enrollment at the college (Kimbark et al., 2017). Hatch et al. (2018) discovered that students believed that the student success course provided a space to break down traditional barriers, learn how to trust, and fully explore their goals. Additionally, the course facilitated a low-stakes space for students to develop a college-going identity. The importance of study skills incorporated into the student success course made a difference in the student's ability to be successful (Kimbark et al., 2017). Kimbark et al. determined that student success courses significantly impact student engagement, which supports retention, persistence, and successful completion of an academic goal. Student success courses required for all students to take their first semester incorporated into the core curriculum proves

that student success courses have an impact on persistence and overall student success, given the increase in persistence, retention, and academic achievement and engagement.

Student Success Coaching

To improve persistence and engagement, institutions implemented coordinated interventions to assist students, such as student success coaching (Hall et al., 2021). Pechnac and Slantcheva-Durst (2021) defined an academic coach as someone who uses active listening and questioning to assist students' focus on their specific learning experiences, work towards a specific goal, and address any problems along the way. Coaching from a holistic perspective focuses on the development of skills, which include the co-construction of student goals and steps to achieve these goals while meeting frequently over a shorter period (Alzen et al., 2021). Hall et al. (2021) added that student success coaching provides the student a point of contact to other institutional interventions and resources that might best serve the student. Feedback from coaches provides the student the ability to examine the learning environment, factors impacting academic progress, allows the student to become engaged in academic activities, while increasing self-awareness, personal responsibility, reflection, and goal setting (Pechnac & Slantcheva-Durst, 2021). Coaching complements other more traditional support services, such as advising, counseling, mentoring and tutoring, while servicing as the link between academic and student affairs for the student (Hall et al., 2021; Pechnac & Slantcheva-Durst, 2021). Coaches are role models who are able to motivate and empower the student to become engaged on campus and be an active participant in navigating the college experience (Pechnac & Slantcheva-Durst, 2021).

Coaching has been known to be an effective intervention with at-risk and non-traditional students, which can have a positive influence on student retention and persistence (Pechnac &

Slantcheva-Durst, 2021). Alzen et al. (2021) revealed that academic coaching can assist with moving retention rates for students who need the most academic support. Pechnac and Slantcheva-Durst (2021) examined the impact student success coaching has on student success and discovered that coaching has the potential to increase institutional efforts to support students, though there is a need to improve the frequency of coaching. Pechnac and Slantcheva-Durst revealed that a positive relationship exists between a student's academic progress and coaches' meetings focused on the student's academic, career, and personal goals. Additionally, Pechnac and Slantcheva-Durst suggested that coaching can support students towards retention, persistence, and completion, with the coaching sessions becoming more frequent, personalized, and tailored to address the needs of different student populations.

Ott et al. (2020) echoed Pechnac and Slantcheva-Durst (2021), stating that there is a positive effect on degree progression with one-on-one coaching. Students who met with a coach on average earned more credits than those students who did not, and for those students in their first year of enrollment, exceeded first-year credit accumulation compared to those who were not coached. Beyond credit accumulation, Ott et al. found that meeting more frequently benefitted the student academically and that coaching can have a positive impact, psychologically giving the student a boost to persist in college.

Summary

Institutions of higher education continue to assess student persistence and the potential to understand what fosters college completion, especially among community colleges (Hatch-Tocaimaza et al., 2021). Investment into resources, such as student success courses, can make an impact on student persistence (Hatch et al., 2018). Astin's (1999) and Tinto's (1993, 2017) theoretical frameworks related to a student's involvement in college, suggest there is a link to

student involvement and persistence. Tinto (1993) believed there is a connection between learning and persistence, with students who learn more likely to persist at the institution. Additionally, Tinto (2017) addressed the concern that students' perceptions and interactions influence their decision to remain in school and persist with their education. Milem and Berger's (1997) model of student persistence, influenced by both Astin and Tinto, emphasized that varying forms of involvement do influence a student's level of institutional commitment.

Higher education institutions have long looked at the persistence of students in conjunction with student retention, student engagement, and student success initiatives (Kahu & Nelson, 2018). Student retention has held the most interest within higher education, with institutions moving from why students are not completing courses to how to improve student outcomes (Tight, 2020). Tight revealed that retention efforts have focused on trying to predict who may persist and what support those students may need, though many institutions still view retention from an institutional point of view versus the student's (Davidson & Wilson, 2017). In relation to student engagement, researchers have discovered that those more engaged are less likely to leave the institution (Tight, 2020). Schudde (2019) discussed the development of engagement instruments and data institutions are utilizing to track engagement and retention efforts in relation to persistence.

The commitment and investment institutions have put into understanding student persistence has focused on the creation and implementation of innovative opportunities to raise retention and completion rates in the form of student success courses and success coaching. Student success courses show to improve persistence and completion rates by creating a supportive learning environment (Sommer & Cuellar, 2020) and continued development of college-going literacy aimed at creating a successful educational experience (Hatch et al., 2018).

These courses aim to guide students in acquiring skills that assist the student in navigating the educational landscape while gaining knowledge about themselves and plan for the future (Hatch-Tocaimaza et al., 2021). Each of these skills provides the student with the ability to succeed and persist at the institution. Additionally, Kimbark et al. (2017) believed that student success courses have a significant impact on improving student engagement, retention, and ultimately persistence. Student success coaching offers the student a point of contact, creating an additional layer in navigating the educational landscape, giving students institutional interventions and resources best served to assist the student and persist (Pechnac & Slantcheva-Durst, 2021). Edenfield and McBrayer (2021) stated that community colleges have unique needs and challenges related to student success, including the influence of student success strategies on persistence.

CHAPTER THREE: METHODS

Overview

The purpose of this study is to determine if there are persistence score differences among students who have taken EDUC 1300 – Learning Frameworks and those who have not taken the course. A causal-comparative, non-experimental research design was implemented to determine the persistence of students utilizing the College Persistence Questionnaire at a two-year community college in the south. Participation, setting, procedures, and data analysis are discussed.

Design

This quantitative, causal-comparative design study will determine if there are persistence score differences among students who have taken EDUC 1300 – Learning Frameworks and those who have not taken the course. The purpose of causal-comparative research design is to explain an educational phenomenon through the study of cause-and-effect relationships (Gall et al., 2007) involving comparing outcomes from groups (Creswell & Guetterman, 2019). Within this design, the presumed cause is the independent variable, and the presumed effect is the dependent variable, the researcher seeks to identify cause-and-effected relationships by forming groups of individuals where the independent variable is present, absent, or present at several levels, then determine whether the groups differ based on the dependent variable (Gall et al., 2007). Additionally, a defining feature of causal-comparative design is that the independent variable is categorial. Creswell and Guetterman (2019) reported that within the design there is no manipulation by the researcher, instead the selection of two groups that differ on some variable of interest compared to one or more dependent variables. Additionally, there is no experimental manipulation within the study, which is consistent with causal-comparative research .

The causal-comparative design is relevant given the relationship between naturally occurring variations between students who have taken EDUC 1300 – Learning Frameworks and those who have not, to determine if this course assists with student persistence. Cooper et al. (2019) chose a causal-comparative, non-research design when examining success rates, persistence rates, and demographic characteristics of placement policies and the redesign of developmental education in community colleges. A causal-comparative research design was used to investigate a link between two dual credit programs and the academic success of the students who took the course and later enrolled in community college (Ganzert, 2014). The present study fits the causal-comparative research design given the variables being examined have a cause-and-effect influence on each other and is practical given that there is no manipulation within the study.

This study is grounded in identifying cause and effect relationships in the formation of groups with independent variables (taken EDUC 1300) being present while determining if the groups differ on the dependent variable (persistence scores). There are two independent variables, EDUC 1300 – Learning Frameworks status and generational status. The first independence variable, EDUC 1300 – Learning Frameworks Status, is composed of two groups: those students who have taken EDUC 1300 and students who have not taken EDUC 1300 – Learning Frameworks. The second independent variable, generational status, is also composed of two groups: first-generation college students and non-first-generation college students. First-generation college students are defined as college students whose parents have not received a baccalaureate degree (Patfield et al., 2022), whereas non-first-generation college students are defined as students whose parents have received a baccalaureate degree. EDUC 1300 – Learning Frameworks is a course required for students to take to graduate with an associate's degree that

focuses on exposing students to how to learn, enhancing study skill strategies, and development of personal learning strategies to increase college success (Hodges et al., 2019). Whereas the dependent variable is represented by student persistence scores on the College Persistence Questionnaire, which assists to understand undergraduate persistence and retention patterns (Davidson et al., 2009).

Research Question

RQ1: Is there a difference in persistence scores among students who have taken EDUC 1300 – Learning Frameworks and those who have not and those who do not based on their generational status (first-generation college students or not)?

RQ2: Is there a difference in persistence scores among first-generation students who have taken EDUC 1300 – Learning Frameworks and those who have not?

Hypotheses

The null hypotheses for this study are:

$H_0$1: There is no difference in persistence scores among students who have taken EDUC 1300 – Learning Frameworks and those who have not, as measured by the College Persistence Questionnaire.

$H_0$2: There is no difference in persistence scores between students who are first-generation college students and those who are not, as measured by the College Persistence Questionnaire.

$H_0$3: There is no interaction between enrollment in EDUC 1300 – Learning Frameworks and generational status (first-generation college students or not) on college students' persistence scores.

$H_0$4: There is no difference in persistence scores among first-generation students who have taken EDUC 1300 – Learning Frameworks and those who have not, as measured by the College Persistence Questionnaire.

Participants and Setting

Participants were freshmen or sophomores attending a two-year community college in the south and enrolled at the institution. A diverse sample size was obtained for a two-way analysis of variance (ANOVA) with 194 students participating, which, according to Gall et al. (2007), is over the required 144 needed for an ANOVA with four groups when assuming a medium effect size, power of .7, and the alpha level set at .05. Participants were currently enrolled in a core academic course at the time of the study either on campus or online at the institution.

Population

The participants in the study were drawn from a convenience sample of community college students in the south during the fall 2023 semester. The community college is a two-year institution with multiple campuses serving students in rural and metropolitan areas in the south. Student demographics are diverse and vary per campus. Students took classes on-campus or online with instructors utilizing Canvas for campus assignments.

Participants

For this study, the number of participants sampled was 194, which met the required minimum when assuming a medium effect size, power of .7, and the alpha set at .05. According to Gall et al. (2007), 144 students is the required minimum for the analysis of variance with four groups when assuming a medium effect size with a statistical power of .7 at the .05 alpha level. The convenience sample came from freshman and sophomore students across the institution's multiple campuses due to the availability and ease of access (Gall et al., 2007). Students were

selected from Success Coaches' rosters. The sample consisted of students enrolled at the institution, with students ages ranging from 18-30 years of age. Students were naturally selected, not randomly selected. Students were in their second to third semester at the institution.

Setting

The setting for the study involved students presently enrolled at the institution and assigned to a Student Success Coach. Students were randomly selected and placed in the Student Persistence Canvas Group and received an email and course announcements from the researcher regarding their participation in the study. Students were prompted to go to Module 1 to read the consent form with students taking a quiz indicating if they wished to participate or if they opted out of the study. Once a student agreed to the consent, the questionnaire link was made available with students, continuing on until the questionnaire was completed. Students were unable to see any other students in the group with only the researcher and institutional staff having full access to the Canvas Group.

Instrumentation

College Persistence Questionnaire

The purpose of the College Persistence Questionnaire (see Appendix A) is to assist in identifying at-risk students, providing college support personnel the opportunity to concentrate on those undergraduates most in need of their services, while examining circumstances prompting a student's departure from the institution (Davidson et al., 2009). Davidson et al. reviewed retention literature and determined that colleges and institutions were using retention efforts that may not be beneficial to an institution. Further stating that institutions implementing a one-size fits all approach to reduce attrition may have little to no effect, leading the researchers to determine an effective way to reduce attrition and to focus on facilitating effective

interventions.

The College Persistence Questionnaire (CPQ) assists with understanding persistence within college students and is a multipurpose tool for decreasing attrition by providing variables most predictive of retention (Davidson et al., 2009). The CPQ was used in a number of studies involving persistence (Baier et al., 2016; Beck & Milligan, 2014; Davidson & Beck, 2016; Muwonge et al., 2017). Davidson and Beck (2021) stated that the CPQ has been widely administered at over 100 colleges and universities in the United States and at over a dozen institutions internationally. Given the diverse use of the CPQ with different student populations and educational settings, the scores have been predictive of students' decision to persist or not. Additionally, the CPQ has been modified to include a short form and has been translated into Spanish (Garcia-Ros et al., 2019; Pugh et al., 2018).

The CPQ was found to be reliable and valid given the initial development with Davidson et al. (2009) conducting a study with 2022 undergraduates from four different institutions that yielded the six subscales using Cronbach's alpha of .81 - academic integration, .82 - social integration, .74 - support services satisfaction, .70 - degree commitment, .78 - institutional commitment, with academic conscientiousness alpha at .63. The second study Davidson et al. (2009) conducted revealed predictive validity of freshman returning for their sophomore year, with CPQ scales being a better predictor of retention then precollege performance measures. Additional studies have used the CPQ and found the instrument to be reliable and valid (Davidson & Beck, 2021; Davidson et al., 2015; Menendez et al., 2020; Muwonge et al., 2017).

The CPQ-short version consists of 39 questions and used a five-point Likert-type scale, with a sixth option of *not applicable* being included for items students felt did not pertain to them (Davidson et al., 2009). Response scales ranged from 5 = very satisfied to 1 = very

dissatisfied and 5 = very much to 1 = very little (Davidson et al., 2009; Garcia-Ros, 2019) with favorability scores being -2 = very unfavorable, -1 = somewhat unfavorable, 0 = neutral, +1 = somewhat favorable, and +2 = very favorable (Davidson et al., 2009). The CPQ consists of twelve reliable factors: Academic Integration, Motivation to Learn, Academic Efficacy, Financial Strain, Social Integration, Collegiate Stress, Advising Effectiveness, Degree Commitment, Institutional Commitment, Scholastic Conscientiousness, Career Integration, and GRIT (Beck, personal communication, March 11, 2024). The College Persistence Questionnaire can also include a student intake form and an institution-specific form to gather data specifically for the institution (Beck & Davidson, n.d.). Beck (personal communication, March 11, 2024) explained that each applicable item is scored -2 to +2, with +2 being the most favorable and -2 the most negative response. Scoring the short version of the CPQ requires the sum of all applicable items for each reliable factor or scale, with 15 questions being reversed scored as well.

Administering the CPQ has varied, with students completing the questionnaire online (Davidson et al., 2009; Davidson et al., 2015) or in person during class time (Menendez et al., 2020). In prior studies, students were informed of the purpose of the questionnaire and voluntarily took the instrument. Completion times varied for the CPQ, with students taking roughly 15-35 minutes to complete the questionnaire (Davidson & Beck, 2009; Davidson et al., 2015; Muwonge et al., 2017). Questions related to demographic information, such as generational status, gender, and ethnicity were asked. Additional questions related to completion, current enrollment or non-enrollment or completion of EDUC 1300 – Learning Frameworks were asked as well.

Procedures

Prior to conducting the study, the researcher submitted for IRB approval from the institution's IRB Committee during the summer semester of 2023. The researcher followed institutional IRB guidelines (see Appendix B). The IRB Committee approved the study allowing the researcher to begin preparation to deliver the College Persistence Questionnaire to students during the fall semester of 2023. The researcher identified October and February as the best months to collect questionnaire data due to the proximity of the semester starting and prior to mid-semester, including the formal drop date for the semester. The researcher worked with Completion Center staff, TRIO Student Support Services staff and select English and Math professors to randomly select students to participate in the study. Selected students were placed in the Student Persistence Canvas Group, with the researcher emailing students of their selection, the purpose of the study, and the opportunity to participate in the study. Students were guided to Module 1, which reviewed participant consent, having students take a quiz to accept or opt out of the study. Once students agreed to consent, the College Persistence Questionnaire link with login and password was available to students. Students did not have access to other students within the study nor to the questionnaire after they submitted their answers. Once students completed the questionnaire, notification was sent directly to the researcher.

The collection of data was stored through the College Persistence Questionnaire server, which the researcher did not have access to, while consent information was stored on Canvas in the Student Persistence Group. The researcher worked with the e-Learning department and the Completion Center staff on the Canvas group parameters with access to the group only given to the researcher and Director of the Completion Center. Student identifying information was eliminated to ensure anonymity. Access to the data was password-protected and stored on a

password-protected computer.

Data Analysis

Quantitative data were analyzed utilizing a two-way analysis of variance (ANOVA) for RQ1, and for RQ2, an independent t-test was conducted. ANOVA determines "whether the difference between mean scores of two or more groups on a dependent variable is statistically significant" (Gall et al., 2007, p. 632). This allows for comparisons of the amount of between-groups variance in individuals' scores with the amount of within-group variance (Gall et al., 2007). A two-way ANOVA is used when there are two independent variables (EDUC 1300 – Learning Frameworks and first-generation students), in combination, affecting the dependent variable (persistence scores) (Bevans, 2022). Data screening was conducted on each group's dependent variable of persistence scores, with the researcher sorting the data on each variable and scanning for inconsistencies, errors, or outliers. Descriptive statistics were obtained on the dependent variable for each group. Assumption of normality was examined using Kolmogorov-Smirnov, with Levene's Test of Equality of Error Variance being used for the assumption of homogeneity (p = .05). The null was tested 95% confidence level $\propto = .05$, with effect size being measured by partial eta squared (η_p^2). Bonferroni correction was needed, since two tests of significance were conducted to guard against type I error. The alpha level is calculated to be: 0.05/2 = .025, rounded to .03 (Warner, 2013). An independent samples *t* test (*t*-test) was used to test null hypothesis four. An independent samples *t* test is used when the researcher seeks to determine if there is a difference in the means of two groups, there is only one independent variable made up of only two groups, and there is only one dependent variable measured on a continuous scale. An independent samples *t* test was appropriate for this data because the

independent variable, generational status, was divided into two groups, first-generation and non-first generation, with the dependent variable being persistence scores.

CHAPTER FOUR: FINDINGS

Overview

A two-way ANOVA was used to analyze if there was a difference in persistence scores among students who have taken EDUC 1300 – Learning Frameworks and those who had not, including those who did not based on their generational status (first-generation college students or not). Results indicated that there was not a statistically significant difference in persistence scores of students who had taken or not taken EDUC 1300 – Learning Frameworks, and there was no interaction between enrollment in EDUC 1300 – Learning Frameworks and generational status (first-generation college students or not) and student persistence scores. There was a statistically significant difference in persistence scores between first-generation students who had taken EDUC 1300 – Learning Frameworks and those who had not.

Research Question(s)

RQ1: Is there a difference in persistence scores among students who have taken EDUC 1300 – Learning Frameworks and those who have not and those who do not based on their generational status (first-generation college students or not)?

RQ2: Is there a difference in persistence scores among first-generation students who have taken EDUC 1300 – Learning Frameworks and those who have not?

Null Hypotheses

$H_0$1: There is no difference in persistence scores among students who have taken EDUC 1300 – Learning Frameworks and those who have not, as measured by the College Persistence Questionnaire.

$H_0$2: There is no difference in persistence scores between students who are first-generation college students and those who are not, as measured by the College Persistence Questionnaire.

$H_0$3: There is no interaction between enrollment in EDUC 1300 – Learning Frameworks and generational status (first-generation college students or not) on college students' persistence scores.

$H_0$4: There is no difference in persistence scores among first-generation students who have taken EDUC 1300 – Learning Frameworks and those who have not, as measured by the College Persistence Questionnaire.

Descriptive Statistics

A two-way ANOVA was performed to analyze if there was a difference in persistence scores among students who had taken EDUC 1300 – Learning Frameworks and those who had not based on generational status (first-generation college students or not). The sample was evenly distributed among the independent variables, with each group consisting of 97 participants and a total of 194 participants in the study. See Table 1 – Descriptive Statistics.

Table 1

Descriptive Statistics

Dependent Variable: Persistence Score

Taken 1300	Gen Status	*M*	Std. Deviation	*n*
Yes	Yes	4.6	2.7	39
	No	3.5	2.9	58
	Total	3.9	2.8	97
No	Yes	4.0	3.4	58
	No	2.8	3.2	39
	Total	3.5	3.4	97

Total	Yes	4.2	3.2	97
	No	3.2	3.0	97
	Total	3.7	3.1	194

Results

A two-way ANOVA was conducted to test null hypotheses 1-3. Since the groups were not of equal size, it was not appropriate to run an independent samples *t* test. Instead, a Mann-Whitney *U* test was run to test null hypothesis 4. Data screening and assumption testing were reported below for all four hypotheses.

Data screening

Data screening was conducted on each group's dependent variable. The researcher scanned for data entry errors and inconsistencies. No data errors or inconsistencies were identified. Box and whisker plots were used to detect outliers in the dependent variables. There were no extreme outliers in the data set. See Figure 1-5 for box and whisker plots.

Figure 1

Box and whisker plots for Persistence (dependent) and Taken 1300: Yes, Generational Status: Yes (independent).

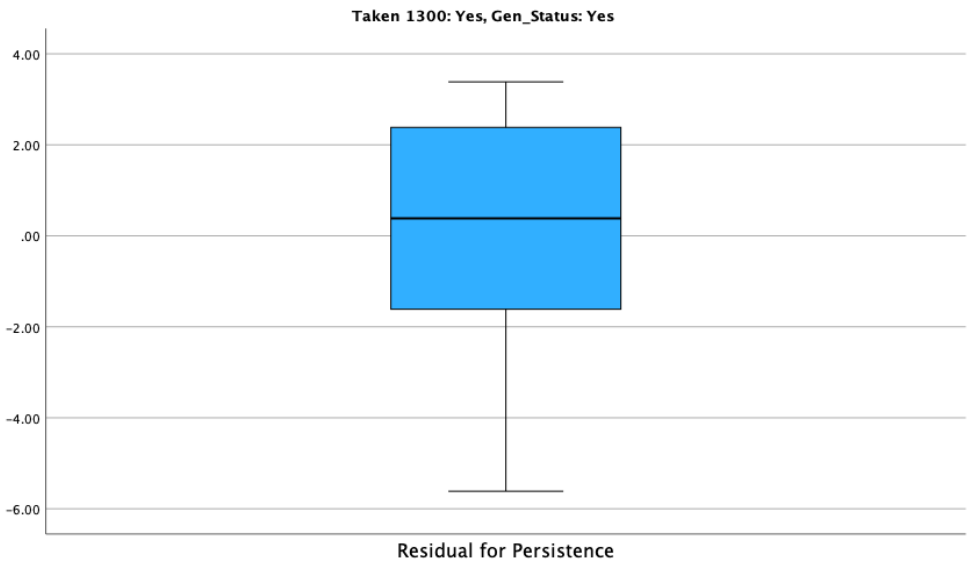


Figure 2

Box and whisker plots for Persistence (dependent) and Taken 1300: Yes, Generational Status: No (independent).

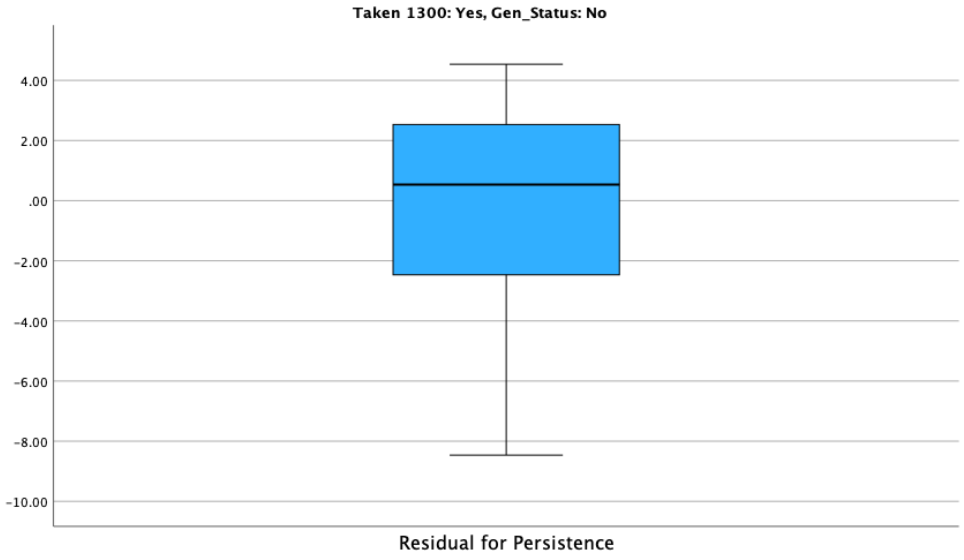


Figure 3

Box and whisker plots for Persistence (dependent) and Taken 1300: No, Generational Status: Yes (independent).

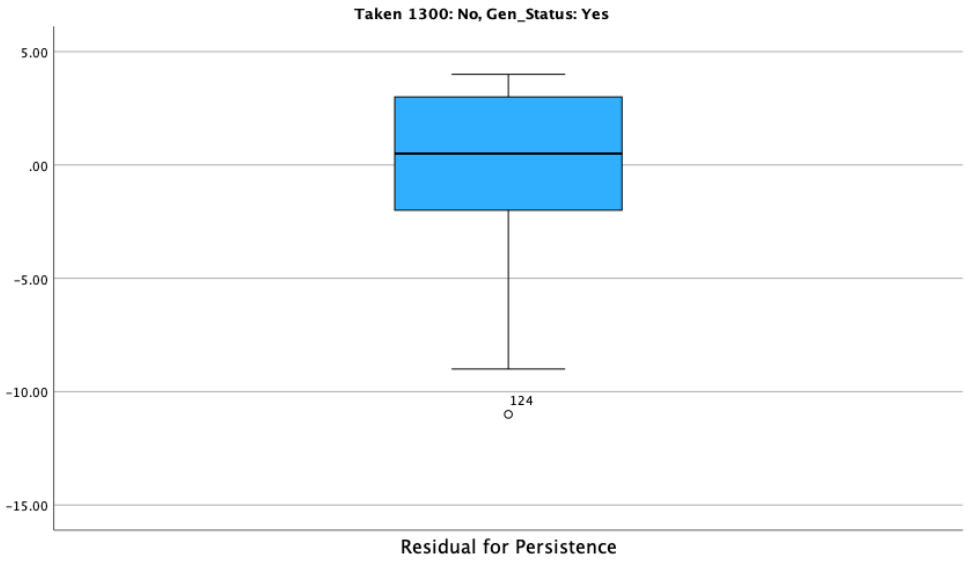


Figure 4

Box and whisker plots for Persistence (dependent) and Taken 1300: No, Generational Status: No (independent).

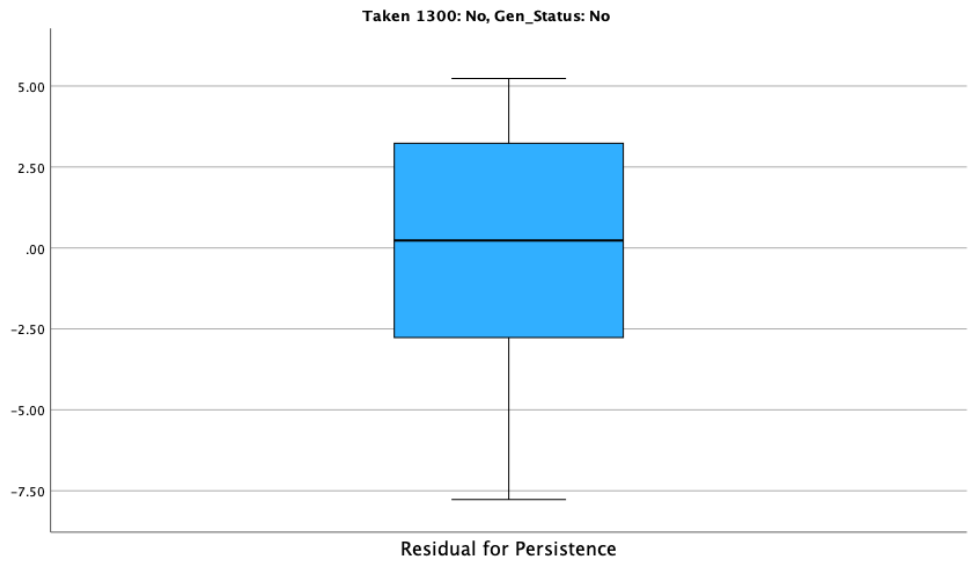
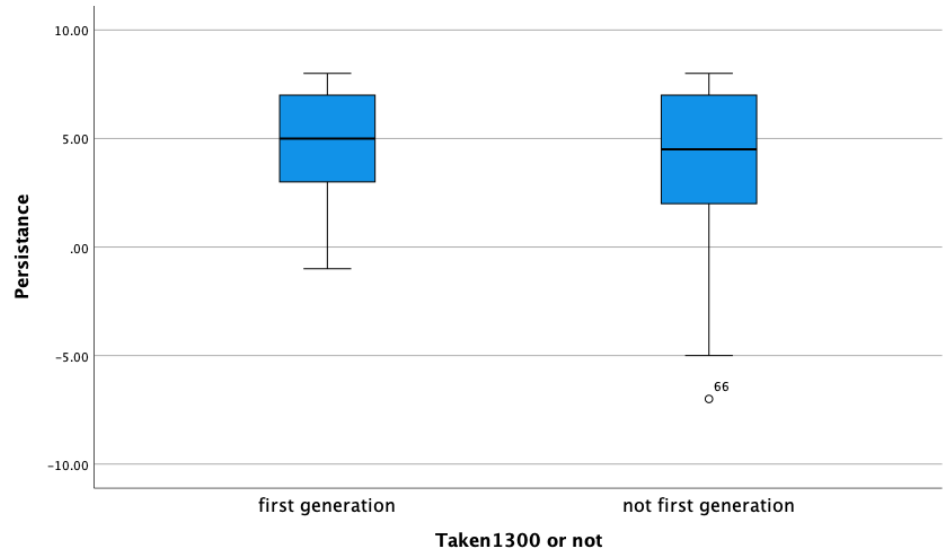


Figure 5

Box and whisker plots for Persistence (dependent) and Taken 1300 or not either First-Generation or Not First-Generation (independent).



Assumptions for Research Question 1

A two-way Analysis of Variance (ANOVA) was used to test the null hypothesis. The ANOVA required that the assumptions of normality and the homogeneity of variance are met. Normality was examined using a Kolmogorov-Smirnov. Some of the Kolmogorov-Smirnov test

values were less than .05, but ANOVA is robust to some violation when groups are large and of equal size. For this reason, the researcher continued with the ANOVA. See Table 2 for Tests of Normality.

Table 2

Tests of Normality

		Kolmogorov-Smirnov		
Taken 1300	Generational Status	Statistic	*df*	Sig.
Yes	Yes	.147	39	.034
	No	.108	58	.091
No	Yes	.127	58	.020
	No	.144	39	.040

Assumption of Homogeneity of Variance

The assumption of homogeneity of variance was examined using Levene's test. No violation was found where $p = .512$. The assumption of homogeneity of variance was met.

Results for Null Hypothesis 1

A two-way ANOVA was used to test null hypothesis 1, which stated there is no difference in persistence scores among students who have taken EDUC 1300 – Learning Frameworks and those who have not, as measured by the College Persistence Questionnaire. The null hypothesis was not rejected at a 95% confidence level where $F(1, 194) = 2.11$, $p = .148$, $\eta_p^2 = .011$. Based on this analysis the mean and standard deviation are as follows for the students who have taken EDUC 1300 – Learning Frameworks group ($M = 3.9$, $SD = 2.8$) and students who have not taken EDUC 1300 – Learning Frameworks group ($M = 3.5$, $SD = 3.4$). The effect

size was small. Therefore, there is no significant main effect of taking EDUC 1300 – Learning Frameworks on college persistence scores.

Results for Null Hypothesis 2

A two-way ANOVA was used to test null hypothesis 2, which stated that there is no difference in persistence scores between students who are first-generation college students and students who are not first-generation college students, as measured by the College Persistence Questionnaire. The null hypothesis was rejected at a 95% confidence level where $F(1, 194) = 6.958$, $p = .009$, $\eta_p^2 = .035$. Based on this analysis the mean and standard deviation are as follows for first-generation students ($M = 4.2$, $SD = 3.2$) and non-first-generation status students ($M = 3.2$, $SD = 3.0$). The students who were first-generation college students had a higher mean persistence score than students who were not first-generation college students. The effect size was small. There is a statistically significant main effect of generational status on the college persistence scores between students who have taken EDUC 1300 – Learning Frameworks and those who have not.

Results for Null Hypothesis 3

Null hypothesis 3 tested that there is no interaction between enrollment in EDUC 1300 – Learning Frameworks and generational status (first-generation college students or not) on college students' persistence scores. There was no significant difference interaction between EDUC 1300 and generational status. The null hypothesis was not rejected at a 95% confidence level where $F(1, 194) = .008$, $p = .929$, $\eta_p^2 = .000$. The effect size was small.

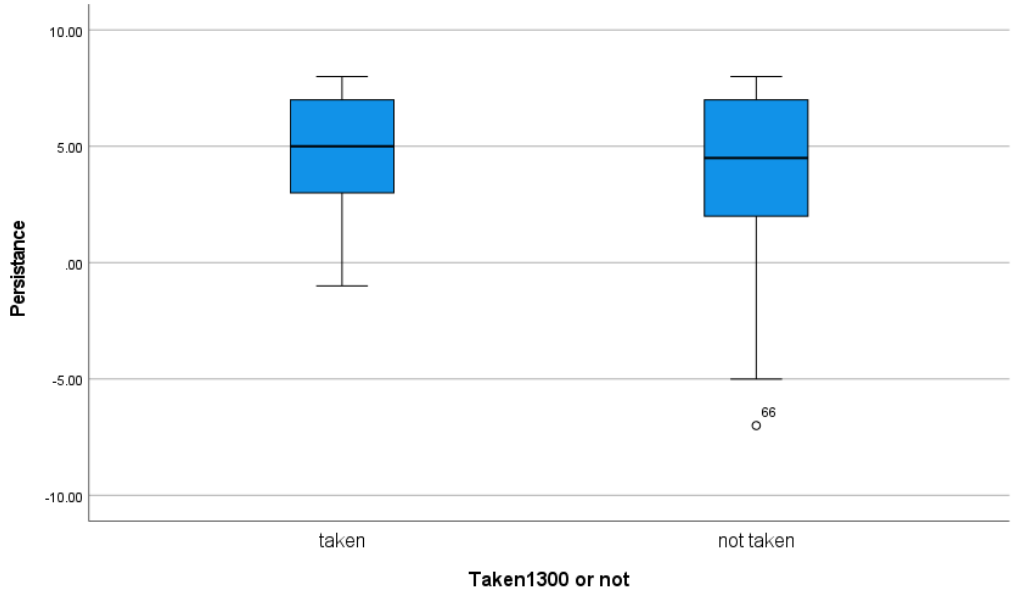
Results for Research Question 2, Null Hypothesis 4

An independent samples *t* test was planned to test null hypothesis 4, which stated that there is no difference in persistence scores among first-generation students who have taken EDUC

1300 – Learning Frameworks and those who have not, as measured by the College Persistence Questionnaire. Data were screened for missing or inaccurate entries; none were found so all data were retained. Next, box plots were created and examined to check for extreme outliers. None were found as seen in Figure 6 below.

Figure 6

Box-plots of Persistence Scores of Students who have taken EDUC 1300 and those who have not



The *t* test required that the assumptions of normality and homogeneity of variance are met. Normality was examined using a Shapiro-Wilk test. Shapiro-Wilk was used because the sample size was less than 50. Violations of normality were found for both groups as seen in Table 3.

Table 3

Tests of Normality

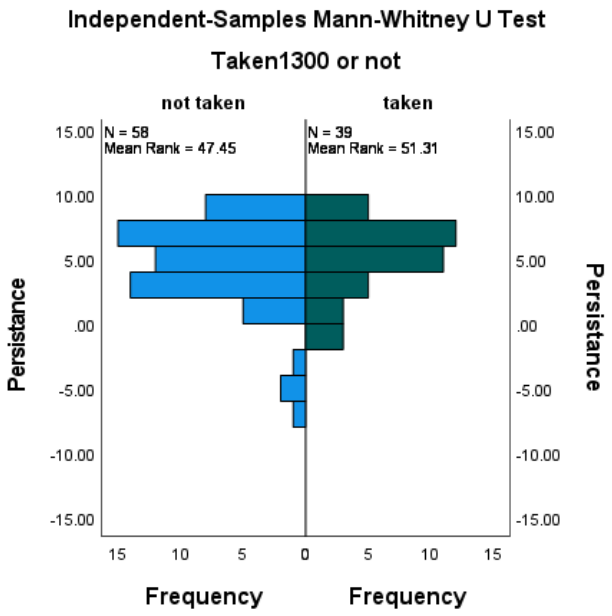
Group	Statistic	*df*	Sig.
Taken	.910	39	.004
Not taken	.890	58	<.001

Due to the violation of the assumption of normality, a Mann-Whitney U test was performed. Mann-Whitney U test is a nonparametric alternative test to the independent sample *t* test. It is a rank-based test that determines if a difference exists between two groups on a continuous or ordinal dependent variable. The Mann-Whitney U test is appropriate to use when the assumption tests of an independent samples *t* test are not tenable. In this study, the data was not normally distributed in either of the two groups, so a Mann-Whitney U test is appropriate.

Mann-Whitney *U* test has four assumptions. The first assumption is the dependent variable is continuous or ordinal. In this study, the dependent variable is continuous, so this assumption is confirmed. The second assumption is the independent variable is categorical and consists of two groups, which is tenable for this data set. The third assumption is independent observations, which is also tenable. The last assumption is the distribution of scores of the two groups are similar. This assumption is tested by creating a pyramid graph. Visual inspection of Figure 6 below indicates the population pyramids for the two groups have similar shape. This assumption is tenable.

Figure 7

Pyramid graph of Persistence Scores of Students who have taken EDUC 1300 and those who have not



The median persistence scores of first-generation college students were similar between those who took EDUC 1300 – Learning Frameworks and those who did not. Median persistence score for first-generation students who took EDUC 1300 – Learning Frameworks was greater (5.0) than those who did not take the course (4.5), but were not statistically significantly different, $U = 1041$, $z = -.667$, $p = .505$. Therefore, the researcher failed to reject the null hypothesis as $p = .505$. There is no significant difference in median persistence scores between first-generation students who had taken EDUC 1300 – Learning Frameworks and those who did not.

CHAPTER FIVE: CONCLUSIONS

Overview

The impact of student success courses, such as EDUC 1300 – Learning Frameworks, is noted to increase student persistence (Hatch et al., 2018), with the present study exploring persistence score differences among students. Kimbark et al. (2017) noted that students taking student success courses reported that the skills obtained from this course strongly influenced their decision to stay, indicating a connection the course has to persistence. The study showed that there is a difference in college persistence scores between first-generation students who have taken EDUC 1300 – Learning Frameworks and those who have not. Student success courses provide opportunities for students to become more self-aware and learn skills to be successful in school and later in the workplace. More research is needed to fully explore persistence in community college students, specifically with students who are first-generation college students.

Discussion

The purpose of this quantitative, causal-comparative study was to determine if there are persistence score differences among students who have taken EDUC 1300 – Learning Frameworks, those who have not taken the course, and if there are any generational status differences. Community colleges are a crucial component in the education system by providing students with an opportunity to earn an associate's degree or credential at a lower cost (Evans et al., 2020), yet the students who attend community colleges tend to be lower income, underrepresented, and first-generation students (Bowlin & Cutler White, 2024). The challenge is the persistence, retention, and graduation rates of these students are lower than students at four-year institutions (Monaghan & Sommers, 2022), with community colleges tackling barriers that impede success, such as non-academic factors that have an impact on persistence decisions

(Bowlin & Cutler White, 2024). Evans et al. (2020) explained that in addition to non-academic barriers, community college students have trouble navigating the complex community college system, and lack the necessary commitment, planning, and time management skills needed for persistence. Student success courses, like EDUC 1300 – Learning Frameworks, address academic planning, study skills training, career exploration, study skills awareness, financial literacy, and time management to tackle the concern of students persisting and succeeding in college. Hatch-Tocaimaza et al. (2021) further discussed that student success courses provide opportunities to acquire and enact skills, help navigate college, planning for future career and educational goals, while creating a college-going identity, self-awareness, and self-efficacy for students.

The College Persistence Questionnaire (CPQ) was used to determine if there were any differences in persistence scores among students, specifically looking at the Institutional Commitment subscale. Beck (personal communication, March 11, 2024) stated that the Institutional Commitment subscale is the best single predictor of persistence based on previous studies. Davidson et al. (2009) detailed that institutional commitment is the student's intention to re-enroll, to earn a degree from the same institution, and the student's confidence in having selected the right institution. Bowlin & Cutler White (2024) stated that a student's sense of belonging and connectedness, in addition to campus engagement, can define institutional commitment and garner a sense of the student's persistence. Bowlin & Cutler White further discussed the effectiveness of the CPQ and the opportunity the instrument provides as a tool for institutional effectiveness impacting student goals and psychosocial qualities while improving persistence. CPQ can be a resource that institutions use to deliver supportive student success services and resources to students.

The study examined whether there was persistence score differences among students who have taken EDUC 1300 – Learning Frameworks, those who have not, and if there were any generational status differences. Within this study, null hypothesis one showed that there was no difference in persistence scores among students who have taken EDUC 1300 – Learning Frameworks and those who had not, as measured by the CPQ. The outcome reflects that there was no difference between those who had taken and not taken EDUC 1300 – Learning Frameworks. Though there was not a difference in persistence scores for this study courses, such as EDUC 1300 – Learning Frameworks, the assessment fosters a supportive academic environment that allows students to explore goals and provide tools for success, which impact a student's persistence (Sommer & Cuellar, 2020). Edenfield & McBrayer (2021) discussed that faculty-student interactions are a key factor in students' success, with meaningful interactions with institutional agents becoming a resource and an opportunity for students to explore and have a sense of belonging. Hatch-Tocaimaza et al. (2021) revealed that student success courses have varied since their inception, but courses that assist with self-awareness and developing a college-going identity can impact students and foster persistence. While there was not a significant difference in persistence scores for this study, looking at different subscales within the CPQ could indicate a difference or confirm that there are truly no differences in persistence scores between those who have taken ornot taken EDUC 1300 – Learning Frameworks.

The second null hypothesis showed that there is no difference in persistence scores between students who are first-generation college students and those who are not, as measured by the CPQ, with the results indicating there was a significant difference between persistence scores for first-generation students who had taken EDUC 1300 – Learning Frameworks and those who had not. Bamberger and Smith (2023) explained that first-generation college students

face many barriers to attaining a college degree, specifically less parental/familial support, and relying on self and others to find information and resources to navigate college. Community colleges have the largest proportion of first-generation college students (Bamberger & Smith, 2023; Bowlin & Cutler White, 2024), with a quarter of all first-generation college students discontinuing after the first year (Allen-McCombs, 2022). Student success courses like EDUC 1300 – Learning Frameworks are considered to be important in influencing behaviors associated with persistence and are found to be beneficial to students (Sommer & Cuellar, 2020). Kimbark et al. (2017) acknowledged that students who completed a student success course were more likely to earn a credential (certificate or degree) than those who had not taken the course. The current study echoes this by discovering that there is a difference between first-generation students who have taken the course versus those who are not first-generation. These results are akin to Sommer & Cuellar (2020), which found that slightly higher persistence rates for Latino students compared to non-Latino students who had taken a student success course.

The interaction between enrollment in EDUC 1300 – Learning Frameworks and generational status (first-generation college student or not) on college students' persistence scores, which is null hypothesis 3, resulted in no interaction. Antonelli et al. (2020) stated that any parental experience with higher education influences a student's perceptions and preparedness for college and that institutions should continue to invest in the effectiveness of first-year seminar classes that focus on skills, such as goal setting, time management, study and motivational strategies to improve success. Though there was not an interaction between enrollment in EDUC 1300 – Learning Frameworks and generational status for this study, this does not negate the importance of student success courses and the benefits they provide to students and institutions.

Student characteristics often can influence a student's ability to continue with college (Marine Nin & Gutierrez Keeton, 2020), though with null hypothesis 4, there was no difference between persistence scores among first-generation students who have taken EDUC 1300 – Learning Frameworks and those who have not, as measured by the CPQ. Though there was no difference between the persistence scores of first-generation students who had taken ornot taken EDUC 1300 – Learning Frameworks, this could be accounted for by other institutional initiatives at the institution or the sample of first-generation students. Marine Nin & Gutierrez Keeton (2020) discovered that though first-generation students are often unaware of support services on campus and that institutions have worked to have better institutional agents, allowing first-generation students the access to utilize support and campus resources more easily. Student success courses are one of many ways that institutions work to engage and retain students.

There is a relationship between persistence and student success courses (Kimbark et al., 2017), with Hatch et al. (2018) stating that participation in these courses enables supportive peer groups, facilitates social integration, and bridges the academic-social divide, develops a student's ability to be active with faculty, and facilitates self-awareness. Astin (1999) stated that community college students were limited in involvement opportunities at the institution and believed that student involvement is emphasized by being active participants in the learning process. Student success courses have proven that students who have taken the course are more engaged and involved at the institution than those who have not taken the course (Kimbark et al., 2017). Tinto (1993) discussed that there are different stages of persistence and there is an important link between learning and persistence that develops with student involvement. Hatch et al. (2018) reported that students who have taken a student success course expressed that the course broke down traditional barriers, the students learned to trust and were fully able to explore

personal goals. The connection between first-generation students and EDUC 1300 – Learning Frameworks is another example of understanding persistence and the role of student involvement, student motivation, and establishing a sense of belonging at the institution that can impact the student.

Implications

Though there was found to be no difference in persistence scores amongst those who had taken EDUC 1300 – Learning Frameworks and those who had not, there was a statistically significant main effect of generational status on persistence scores between students who had taken EDUC 1300 – Learning Frameworks and those who had not. First-generation students had higher persistence scores than those students who were not first-generation. This indicates that students who are first-generation benefit from courses like EDUC 1300 – Learning Frameworks. This adds to the growing literature on how institutions can continue to support first-generation students, especially those attending community colleges.

Courses, such as EDUC 1300 – Learning Frameworks, are opportunities to give students tools to be successful in college and the workforce. The benefits of student success courses are that students learn about college classes and study skills while building important relationships with faculty, staff, and peers, and can effectively adjust to the college environment and increase academic confidence (Kimbark et al., 2017). Ferguson et al. (2023) detailed that the most in-demand skills for those in the workforce are digital literacy, data literacy, critical thinking, emotional intelligence, creativity, collaboration, flexibility, leadership skills, time management, and curiosity, all of which are taught in EDUC 1300 – Learning Frameworks. Students who learn and gain these skills better understand themselves and know how to communicate and work with others while in college and beyond.

Limitations

Participation was the biggest limitation of the study. Selected students were added to the Canvas group and given instructions to proceed with agreeing or declining consent, and then how to access and take the questionnaire online. Students agreed to consent but did not move to the next step of taking the questionnaire, so the numbers were off from the Canvas group to the questionnaire portal. The researcher sent multiple Canvas announcements and emails encouraging participation, which would slightly increase the response rate online in Canvas and the questionnaire. To further combat this issue, the researcher worked with the Completion Center and TRIO staff to remind students to take the questionnaire via text messages, emails, and while in coaching or advising sessions. The response rate improved significantly once Student Success Coaches and TRIO staff walked the students through how to agree to consent and the questionnaire while on campus in coaching or advising sessions. This could be considered a threat to internal validity given the intervention of potential attrition from participants.

The number of participants directly impacts the internal and external validity of the study, given that this study was a random selection of students, it was difficult to gauge whether students had taken or not taken EDUC 1300 – Learning Frameworks and if they were first-generation or not. Narrowing down the number of participants to have equally-sized groups assisted in ensuring optimal statistical analysis of each group's persistence scores, especially when testing for normality, though it did limit the number of students who were analyzed for the study. This reprocessing assisted with external validity but could influence internal validity. Using a bigger sample size with more equal groups would be one way to combat this issue.

Another threat to internal validity was maturation. Students were initially selected for the study in October, with additional participants being added in February. The impact of when the

initial students were added to the Canvas group and when the study concluded was a total of five months; this could have influenced responses given that a student in the fall semester may have a different outlook on college in the spring semester. Additionally, those students added in February potentially could have had different responses given that they had more experience with the college than those initial students had. To eliminate this concern, it would be wise to only sample students in one semester instead of across two semesters.

Causal-comparative research design has limitations that can impact the results of the study. Specifically, the inferences about causality based on the collected data are necessarily tentative (Gall et al., 2007). Costello (2023) stated that though causal-comparative research offers valuable insight, the research does not provide definitive cause-and-effect conclusions, and can suggest probable causes, but cannot confirm them. Also, it is not possible to control the effects of extraneous variables that could influence the study and cloud the clarity of potential causal links . Ensuring that the groups are equivalent is another limitation and, if there is not a careful selection of groups, then results and interpretations can be skewed.

Recommendations for Future Research

Community colleges are a crucial component in the education system by providing students with an opportunity to earn an associate's degree or credential at a lower cost (Evans et al., 2020) yet there is little research on the persistence of these students. Edenfield and McBrayer (2020) state that community college students have different needs and that students are more likely to succeed when institutions are committed to student success and addressing barriers impacting these students. Institutions have implemented student success courses at varying degrees to address these concerns and provide institutional support that prepares the student to be successful. Kimbark et al. (2017) report that student success courses have proven to impact

student persistence, retention, academic achievement, and student engagement, but there is more to be uncovered in this field. Continued exploration of differences in persistence scores of community students, such as looking at different populations of students, like non-traditional or low-income students, which each have significant barriers to persistence and academic completion. Additional research in varying types of community colleges and persistence, specifically multi-campus institutions, rural versus metropolitan. This information would continue to build upon the growing fields of student success, retention, and persistence.

REFERENCES

Abrica, E. J. (2018). How to measure student success? Toward consideration of student resilience as a metric of success in institutional accountability frameworks. *Community College Journal of Research and Practice, 42*(7-8), 569-573. 10.1080/10668926.2018.1429962

Adolf, L., Kim, M., & Crawley, W. (2023). Comprehensive performance analysis of student retention outcomes in a higher education institution. *TechTrends, 67*, 42-53. https://link.springer.com/article/10.1007/s11528-022-00771-4

Alcantar, C. M., & Hernandez, E. (2020). "Here the professors are your guide, Tus Gias": Latina/o student validating experiences with faculty at a Hispanic-serving community college. *Journal of Hispanic Higher Education, 19*(1), 3-18. https://doi.org/10.1177/1538192718766234

Ali-Coleman, K. Z. (2019). Essential pathways: An examination of how community college compromise their unique contribution to American higher education. *Higher Education Politics & Economics, 5*(1), 54-69. DOI:10.32674/hepe.v5i1.1141

Allen-McCombs, J. (2022). Using the cultural wealth framework to examine institutional conditions impact minoritized first-generational college students' success and life outcomes. *Journal of First-Generation Students Success, 2*(1), 18-35. https://doi.org/10.1080/26906015.2022.2027220

Alzen, J. L., Burkhardt, A., Diaz-Bilello, E., Elder, E., Sepulveda, A., Blankenheim, A., & Board, L. (2021). Academic coaching and its relationship to student performance, retention, and credit completion. *Innovative Higher Education, 46*(5), 539-563. https://doi.org/10.1007/s10755-021-09554-w

Antonelli, J., Jones, S. J., Andrea, B. B., & Hawkins, J. (2020). Understanding the self-regulated learning characteristics of first-generation college students. *Journal of College Student Development, 61*(1), 67-83. https://go.openathens.net/redirector/liberty.edu?url=https://www.proquest.com/scholarly-journals/understanding-self-regulated-learning/docview/2349228721/se-2

Astin, A. (1999). Student involvement: A developmental theory for higher education. *Journal of College Student Development, 40*(5), 518-529.

Baier, S. T., Markman, B. S., & Pernice-Duca, F. (2016). Intent to persist in college freshman: The role of self-efficacy and mentorship. *Journal of College Student Development, 57*(5), 614-619.

Baleria, G. (2021). Counteracting othering in the community college setting: Increasing belonging and curiosity to improve student success. *Community College Journal of Research and Practice, 45*(4), 273-289. DOI: 10.1080/10668926.2019.1689207

Bamberger, M. R., & Smith, T. J. (2023). First-generation college students: Goals and challenges of community college. *Community College Review, 51*(3), 445-462. https://doi.org/10.1177/00915521231163903

Barbera, S. A., Berkshire, S. D., Boronat, C. B., & Kennedy, M. H. (2020). Review of undergraduate student retention and graduation since 2010: Patterns, predictions, and recommendations for 2020. *Journal of College Student Retention: Research, Theory & Practice, 22*(2), 227-250. https://doi.org/10.1177/1521025117738233

Barhoum, S. (2018). Increasing student success: Structural recommendations for community colleges. *Journal of Developmental Education, 41*(3), 18-25. https://www.jstor.org/stable/pdf/44987489.pdf

Baugus, K. E. (2020). Food insecurity, inadequate childcare, and transportation disadvantage: Student retention and persistence of community college students. *Community College Journal of Research and Practice, 44*(8), 608-622. DOI: 10.1080/10668926.2019.1627956

Beck, H. P., & Davidson, W. B. (n.d.). *College persistence questionnaire: Components and sample items*. https://www.beckdavidson.com/welcome/cpqComponentsScalesSampleItems.pdf

Beck, H. P., & Milligan, M. (2014). Factors influencing the institutional commitment of online students. *The Internet and Higher Education, 20*, 51-56.

Bennett, C. A., Hsiao, E. L., Dees, D. C., Kim D., & Bochenko, M. J. (2021). The impact of TRIO student support services on academic performance of non-traditional students at a public state college in Georgia. *Journal of Adult and Continuing Education, 27*(2), 157-174. https://doi.org/10.1177/1477971420915938

Berger, J. B., & Milem, J. F. (1999). The role of student involvement and perceptions of integration in a causal model of student persistence. *Research in Higher Education, 40*(6), 641-664. http://www.jstor.org/stable/40196897

Bevans, R. (2022, July 9). *Two-way ANOVA: When and how to use it, with examples*. Scribbr. https://www.scribbr.com/statistics/two-way-anova/

Bowlin, W., & Cutler White, C. (2024). Should I stay or should I go? Examining persistence factors among rural first-year community college students. *Community College Journal of Research and Practice, 48*(2), 69-87. https://doi.org/10.1080/10668926.2023.2249857

Boyd, N. M., Liu, X., & Horissian, K. (2020). Impact of community experiences on student retention perceptions and satisfaction in higher education. *Journal of College Student*

Retention: Research, Theory & Practice, 24(2), 337-365. https://doi.org/10.1177/1521025120916433

Broton, K. M., Mohebali, M., & Lingo, M. D. (2022). Basic needs insecurity and mental health: Community college students' dual challenges and use of social supports. *Community College Review, 50*(4), 456-482. https://doi.org/10.1177/00915521221111460

Caviglia-Harris, J. L. (2020). Community is key: Estimating the impact of living learning communities on college retention and GPA. *Education Economics, 30*(2), 173-190. DOI: 10.1080/09645292.2021.1958167

Chen, W. L., & Chan, Y. W. (2022). Can higher education increase students' moral reasoning? The role of student engagement in the U.S.. *Journal of Moral Education, 51*(2), 169-185. DOI: 10.1080/03057240.2020.1806045

Close the Gap Foundation. (2023, January 31). *FGLI (First-Gen, Low-Income)*. https://www.closethegapfoundation.org/glossary/fgli

Community College Survey of Student Engagement. (2021, March 26). *About the community college survey of student engagement (CCSEE)*. https://www.ccsse.org/aboutccsse/aboutccsse.cfm

Cooper, E. E., McGee, J. R., Levine-Brown, P., & Bolt, L. (2019). The effectiveness of redesigns in developmental education. *Journal of Developmental Education, 43*(1), 20-25,32.

Costello, D. (2023, August 23). *Causal comparative research: Insights and implications*. Servicescape. https://www.servicescape.com/blog/causal-comparative-research-insights-and-implications

Creswell, J. W., & Guetterman, T. C. (2019). *Educational research: Planning, conducting, and evaluating quantitative research* (6th ed.). Pearson.

Crisp, G., & Taggart, A. (2013). Community college student success programs: A synthesis, critique, and research agenda. *Community College Journal of Research and Practice, 37*(2), 114-130. DOI: 10.1080/10668920903381847

Cross, J. D., & Carman, C. A. (2022). The relationship between faculty diversity and student success in public community colleges. *Community College Journal of Research and Practice, 46*(12), 855-868. 10.1080/10668926.2021.1910595

Davidson, J. C. (2015). Examining zero expected family contribution as a new criterion for "low income": Comparing the impact on student persistence at two- and four-year institutions. *Community College Journal of Research and Practice, 39*(5), 442-460. https://doi.org/10.1080/10668926.2013.837414

Davidson, J. C., & Wilson, K. B. (2017). Community college student dropouts from higher education: Toward a comprehensive conceptual model. *Community College Journal of Research and Practice, 41*(8), 517-530. DOI: 10.1080/10668926.2016.1206490

Davidson, W. B., & Beck, H. P. (2016). The development and validation of a measure of career integration in college students. *Psychology Research, 6*(6), 371-376. 10.17265/2159-5542/2016.06.005

Davidson, W. B., & Beck, H. P. (2021). A two-minute test to identify undergraduates likely to drop out. *College Student Journal, 55*(1), 56-66. https://doi.org/10.1177/0033294118769452

Davidson, W. B., Beck, H. P., & Grisaffe, D. B. (2015). Increasing the institutional commitment of college students: Enhanced measurement and test of a nomological model. *Journal of College Student Retention: Research, Theory & Practice, 17*(2), 162-185. DOI: 10.1177/1521025115578230

Davidson, W. B., Beck, H. P., & Milligan, M. (2009). The college persistence questionnaire: Development and validation of an instrument that predicts student attrition. *Journal of College Student Development, 50*(4), 373-390.

DeVries, K. S., Harrison, W., & Santo, J., B. (2020). I already belong: Immigrant-origin college students' persistence. *Journal of Higher Education Theory and Practice, 20*(16), 22-33. https://doi.org/10.33423/jhetp.v20i16.3988

Ebanks, G., & Francios, S. (2022). The persistence of African American female students in community colleges. *Community College Journal of Research and Practice*, ahead of print. DOI: 10.1080/10668926.2022.2046208

Edenfield, C., & McBrayer, J. S. (2021). Institutional conditions that matter to community college students' success. *Community College Journal of Research and Practice, 45*(10), 718-734. DOI: 10.1080/10668926.2020.1785353

Evans, W. N., Kearney, M. S., Perry, B., & Sullivan, J. X. (2020). Increasing community college completion rates among low-income students: Evidence from a randomized controlled trial evaluation of a case-management intervention. *Journal of Policy Analysis and Management, 39*(4), 930-965. https://doi.org/10.1002/pam.22256

Faber, A., & Slantcheva-Durst, S. (2021). The impact of community attributes on the earnings of their students. *Community College Journal of Research and Practice, 45*(9), 687-700. DOI: 10.1080/10668926.2020.1798302

Fagioli, L. P., Baker, R., & Orona, G. A. (2020). The role of non-cognitive variables in identifying community college students in need of targeted supports. *Research in Higher Education, 61*(6), 725-763. http://dx.doi.org/10.1007/s11162-020-09588-7

Ferguson, S., Shrove, J., & Lucy, I. (2023, October 4). *Data deep dive: The workforce of the future*. U.S. Chamber of Commerce. https://www.uschamber.com/workforce/data-deep-dive-the-workforce-of-the-future

Fong, C. J., Davis, C. W., Kim, Y., Kim Y. W., Marriott, L., & Kim, S. (2017a). Psychosocial factors and community college success: A meta-analytic investigation. *Review of Educational Research, 87*(2), 388-424. http://www.jstor.org/stable/44667660

Fong, C. J., Kim, Y., Davis, C. W., Hoang, T., & Kim, Y. W. (2017b). A meta-analysis on critical thinking and community college student achievement. *Thinking Skills and Creativity, 26*, 71-83. https://doi.org/10.1016/j.tsc.2017.06.002

Fong, C. J., Acee, T. W., &Weinstein, C. W. (2018). A person-centered investigation of achievement motivation goals and correlates of community college student achievement and persistence. *Journal of College of Retention: Research, Theory & Practice, 20*(3), 369-387. https://doi.org/10.1177/1521025116673374

Gall, M. D., Gall, J. P., & Borg, W. R. (2007). *Educational research: An introduction* (8th ed.). Pearson.

Ganzert, B. (2014). Dual enrollment credit and college readiness. *Community College Journal of Research, 38*(9), 783-793. 10.1080/10668926.2012.719483

Garcia-Ros, R., Perez-Gonzalez, F., Fuentes, M. C., & Cavas-Martinez, F. (2019). Predicting first-year college student retention: Validation of the college persistence questionnaire in a spanish sample. *Sustainability, 11*(16), 4425. http://dx.doi.org/10.3390/su11164425

Gillen-O'Neel, C. (2021). Sense of belonging and student engagement. A daily study of first- and continuing-generation college students. *Research in Higher Education, 62*(1), 45-71. https://doi.org/10.1007/s11162-019-09570-y

Hafer, L. C., Gibson, N. M., York, T. T., Fiester, H. R., & Tsemunhu, R. (2021). An examination of student retention at a 2-year college through structural equation modeling. *Journal of College Student Retention: Research, Theory & Practice, 22*(4), 550-571. https://doi.org/10.1177/1521025118770813

Hall, M. M., Worsham, R. E., & Reavis, G. (2021). The effects of offering proactive student-success coaching on community college students' academic performance and persistence. *Community College Review, 49*(2), 202-237. https://doi.org/10.1177/0091552120982030

Hatch, D. K. (2017). The structure of student engagement in community college student success programs: A qualitative activity systems analysis. *AERA Open, 3*(4), 1-14. https://doi.org/10.1177/2332858417732744

Hatch, D. K., & Bohlig, E. M. (2016). An empirical typology of the latent programmatic structure of community college student success programs. *Research in Higher Education, 57*(1), 72-98. http://www.jstor.org/stable/43920031

Hatch, D. K., & Garcia, C. E. (2017). Academic advising and persistence intentions of community college students in their first weeks in college. *The Review of Higher Education, 40*(3), 353-390. doi:10.1353/rhe.2017.0012.

Hatch, D. K., Mardock-Uman, N., & Garcia, C. E. (2018). Best laid plans: How community college student success courses work. *Community College Review, 46*(2), 115-144. https://doi.org/10.1177/0091552118760191

Hatch-Tocaimaza, D. K., Mardock-Uman, N., Garcia, C., & Rodriguez, S. (2021). Charting the design of community college student success courses: Uncovering their espoused and enacted curricula. *Community College Journal of Research and Practice, 45*(10), 756-777. DOI: 10.1080/10668926.2020.1797598

Hodges, R., Acee, T. W., Jarrett, S. M., Leblanc, R., Lin, Y., Castillo, A. M., Cox, C.H. T., Lawson, C., Oelschlegel, C. P., & Flaggs, D. A. (2019). Characteristics of learning frameworks courses in Texas public community colleges. *Journal of College of Academic Support Programs, 2*(1), 7-23. https://digital.library.txstate.edu/bitstream/handle/10877/8562/Issue1-PP7.pdf?sequence=1&isAllowed=y%20

Hope, J. (2021). Comprehensive efforts result in high enrollment, retention despite pandemic, hurricanes. The Successful Registrar, 21(4), 8-11. https://doi.org/10.1002/tsr.30844

Hwang, Y. (2020). Community college rankings: A tool to explain institutional characteristics and highlight the implications for creating a competitive community college. *The Community College Enterprise, 26*(1), 96-120. https://www.proquest.com/docview/2423043408?pq-origsite=summon

Kahu, E. R., & Nelson, K. (2018). Student engagement in the educational interface: Understanding the mechanisms of student success. *Higher Education Research & Development, 37*(1), 58-71. DOI: 10.1080/07294360.2017.1344197

Kane, T. J., & Rouse, C. E. (1999). The community college: Educating students at the margin between college and work. *The Journal of Economic Perspectives, 13*(1), 63-84. https://www.proquest.com/docview/212066692?pq-origsite=summon

Kimbark, K., Peters, M. L., & Richardson, T. (2017). Effectiveness of the student success course on persistence, retention, academic achievement, and student engagement. *Community College Journal of Research and Practice, 41*(2), 124-138. DOI: 10.1080/10668926.2016.1166352

Marine Nin, O. F., & Gutierrez Keeton, R. (2020). Challenges and realizations of first-generation students who navigated through transfer momentum points. *Community College Journal of Research and Practice*, *44*(4), 273-287. https://doi.org/10.1080/10668926.2019.1585303

Markle, G., & Stelzriede, D. D. (2020). Comparing first-generation students to continuing-generation students and the impact of a first-generation learning community. *Innovative Higher Education*, *45*(4), 285-298. https://link.springer.com/article/10.1007/s10755-020-09502-0

Martin, Q. (2021). Preparing the next generation of community college leaders: The role of community college leadership programs. *The Community College Enterprise*, *27*(2), 9-19. https://www.proquest.com/docview/2619485318?pq-origsite=summon

McLeod, J. J. (2019). The effects on student retention by implementing contextualized, program-specific learning modules in an online student success course. *Student Success*, *10*(1), 141-146. https://doi.org/10.5204/ssj.v10i1.1095

Menendez, A. Z., Flores, J. G., & Gutierrez, M. R. B. (2020). Learning approaches, time perspective and persistence in university students. *Educacion*, *23*(2), 17-39. http://dx.doi.org/10.5944/educXX1.25552

Milem, J. F., & Berger, J. B. (1997). A modified model of college student persistence: Exploring the relationship between Astin's theory of involvement and Tinto's theory of student departure. *Journal of College Student Development*, *38*(4), 387-400.

Miller, L. (2019). The level of decision-making, perceived influence, and perceived satisfaction of faculty and their impact on student retention in community colleges. *Community*

College Journal of Research and Practice, 43(7), 515-529. https://doi.org/10.1080/10668926.2018.1504700

Mitra, S., & Zhang, Y. (2022). Factors related to first-year retention rate in a public minority serving institution with nontraditional students. *Journal of Education for Business, 97*(5), 312-319. https://doi.org/10.1080/08832323.2021.1951640

Monaghan, D. B., & Sommers, O. K. (2022). And now some good news: Trends in student retention at community colleges, 2004-2017. *Research in Higher Education, 63,* 425-452. https://doi.org/10.1007/s11162-021-09656-6

Muwonge, C. M., Schiefele, U., Ssengyonga, J., & Kibedi, H. (2017). Determinants of persistence among science teacher-trainees: Examining the role of self-efficacy, task value, and academic hope. *Journal of Science Teacher Education, 28*(6), 522-548. 10.1080/1046560X.2017.1379860

National Student Clearinghouse. (2021). *College persistence rate drops an unprecedented 2 percentage points*. https://www.studentclearinghouse.org/nscblog/college-persistence-rate-drops-an-unprecedented-2-percentage-points/

National Student Clearinghouse Research Center. (2022). *Persistence and retention: Fall 2020 beginning postsecondary student cohort*. https://nscresearchcenter.org/wp-content/uploads/PersistenceRetention2022.pdf

Ocean, M., McLaughlin, J., & Hodes, J. (2022). “We take everyone”: Perceptions of external assessment and accountability at the community college. *Community College Journal of Research and Practice, 46*(4), 223-239. DOI: 10.1080/10668926.2020.1841041

Ortagus, J. C., Skinner, B. T., & Tanner, M. J. (2021). Investigating why academically successful community college students leave college without a degree. *AERA Open*, 7. https://doi.org/10.1177/23328584211065724

Ott, N. R., Staklis, S., & Boyette, J. (2020). The effectiveness of student coaching in community colleges. *Community College Journal of Research and Practice, 44*(8), 549-562. https://doi.org/10.1080/10668926.2019.1621786

Patfield, S., Gore, J., & Fray, L. (2022). Degrees of "being first": Toward a nuanced understanding of first-generation entrants to higher education. *Educational Review, 74*(6), 1137-1156. 10.1080/00131911.2020.1740172

Pechac, S., & Slantcheva-Durst, S. (2021). Coaching towards completion: Academic coaching factors influencing community college student success. *Journal of College Student Retention: Research, Theory & Practice, 23*(3), 722-746. https://doi.org/10.1177/1521025119869849

Piland, W. E., & Piland, A. (2020). Enhancing the faculty role in fostering the community college completion agenda. *Journal of Applied Research in the Community College, 27*(2), 135-144. https://compton.edu/adminandoperations/presidentceo/docs/Enhancing-Faculty-Role_piland_2020.pdf

Pugh, J. D., Cramer, J. H., Slatyer, S., Twigg, D. E., & Robinson, M. (2018). Adaptation and pretesting of the college persistence questionnaire V3 (short form) for measuring intention to persist among Aboriginal diploma of nursing students. *Nurse Education Today, 61*, 162-168. https://doi.org/10.1016/j.nedt.2017.11.021

Schaeper, H. (2020). The first year in higher education: The role of individual factors and the learning environment for academic integration. *Higher Education, 79*(1), 95-110. DOI:10.1007/s10734-019-00398-0

Schneider, D. (2022). Understanding and improving community college retention: A review with recommendations for developing institutional attachment. *The Community College Enterprise, 28*(1), 28-40. https://home.schoolcraft.edu/cce/28.1.28-40.pdf

Schudde, L. (2019). Short- and long-term impacts of engagement experiences with faculty and peers at community colleges. *Review of Higher Education, 42*(2), 385-426. http://dx.doi.org/10.1353/rhe.2019.0001

Sommer, C. L. S., & Cuellar, M. G. (2020). Exploring student success course with an Latinx perspective: A focus on students and outcomes. *New Directions for Community Colleges, 190*, 35-47. https://doi.org/10.1002/cc.20385

Spear, E. (2019). *Persistence vs. retention: How to measure and improve rates*. Precision Campus. https://precisioncampus.com/blog/persistence-vs-retention/#:~:text=Where%20persistence%20rates%20measure%20a,positive%20effect%20on%20retention%20rates.

Spica, E., & Biddix, J. P. (2021). Prices they pay: Academic achievement and progress to graduation barriers experienced by community college students due to the cost of course materials. *Innovate Higher Education, 46*(6), 643-662. https://doi.org/10.1007/s10755-021-09557-7

Spitzig, J., & Renner, B. J. (2022). Student engagement and retention in adult learners at community college. *Journal of College Student Retention: Research, Theory & Practice, 0*(0). https://doi.org/10.1177/15210251221138065

Taylor, J. L., & Jain, D. (2017). The multiple dimensions of transfer: Examining the transfer education in American higher education. *Community College Review, 45*(4), 273-293. https://doi.org/10.1177/0091552117725177

Tight, M. (2020). Student retention and engagement in higher education. *Journal of Further and Higher Education, 44*(5), 689-704. DOI: 10.1080/0309877X.2019.1576860

Tinto, V. (1993). *Leaving college: Rethinking the causes and cures of student attrition* (2nd ed.). University of Chicago Press.

Tinto, V. (2017). Through the eyes of students. *Journal of College Student Retention: Research, Theory & Practice, 19*(3), 254-269. https://doi.org/10.1177/1521025115621917

Topper, A. M., & Powers, J. M. (2013). Democracy's college: The American community college in the 21st century: Framing the issue. *Educational Policy Analysis Archives, 21*(4), 1-8. https://doi.org/10.14507/epaa.v21n14.2013

Tovar, E. (2015). The role of faculty, counselors, and support programs on Latino/a community college students' success and intent to persist. *Community College Review, 43*(1), 46-71. https://doi.org/10.1177/0091552114553788

Umbach, P. D., Tuchmayer, J. B., Clayton, A. B., & Smith, K. N. (2019). Transfer student success: Exploring community college, university, and individual predictors. *Community College Journal of Research and Practice, 43*(9), 599-617. DOI: 10.1080/10668926.2018.1520658

U.S. Department of Education. (2022). *Federal TRIO programs current-year low-income levels*. https://www2.ed.gov/about/offices/list/ope/trio/incomelevels.html

Warner, R. M. (2013). *Applied statistics: From bivariate through multivariate techniques* (2nd ed.). Thousand Oaks, CA: Sage Publications

Waters-Bailey, S., McGraw, M. S., & Barr, J. (2019). Serving the whole student: Addressing nonacademic barriers facing rural community college students. *New Directions for Community Colleges, 187*, 83-93. **https://doi.org/10.1002/cc.20372**

Watson, A., & Chen, R. (2019). Educational opportunity fund program and community college retention. *Journal of College Student Retention: Research, Theory & Practice, 21*(3), 384-406. https://doi.org/10.1177/1521025118780329

Wilson, S. D. (2019). The unmet psychosocial development needs of the high-achieving, low-income student. *The Community College Enterprise, 25*(2), 39-62. https://www.proquest.com/docview/2343013913?pq-origsite=summon

Zembrodt, I. (2021). Commitment: Predicting persistence in low-SES students. *Journal of College Retention: Research, Theory & Practice, 23*(3), 580-606. https://doi.org/10.1177/1521025119858340

Zhong, Q., Wang, Y., Lv, W., Xu, J., & Zhang, Y. (2022). Self-regulation, teaching presence, and social predictors of students' learning engagement and persistence in blended synchronous learning. *Sustainability, 14*(9), 5619. **https://doi.org/10.3390/su14095619**

APPENDIX A

College Persistence Questionnaire Items

Academic Integration

- How well do you understand the thinking of your instructors when they lecture or ask students to answer questions in class?
- How satisfied are you with the extent of your intellectual growth and interest in ideas since coming here?
- In general, how satisfied are you with the quality of instruction you are receiving here?
- How concerned about your intellectual growth are the faculty here?
- On average across all your courses, how interested are you in the things that are being said during class discussions?
- How much of a connection do you see between what you are learning here and your future career possibilities?
- I believe that many instructors deliberately impose unreasonable requirements on students and enjoy their distress.
- Students differ widely in how much interaction they want to have with faculty. How disappointed are you in the amount of interaction you have?

Social Integration

- How much have your interpersonal relationships with other students had an impact on your personal growth, attitudes, and values?
- How much have your interpersonal relationships with other students had an impact on your intellectual growth and interest in ideas?
- How strong is your sense of connectedness with other faculty, students, staff on this campus?
- How much do you think you have in common with other students here?
- When you think about your overall social life here, friendships, college organizations, extracurricular activities, and so on, how satisfied are you with yours?
- How many of your closest friends are here in college with you rather than elsewhere such as other colleges, work, or hometown?
- What is your overall impression of the other students here?
- How often do you wear clothing with this college's emblems?

Supportive Services Satisfaction

- How satisfied are you with the academic advisement you receive here?
- How well does this institution communicate important information to students such as academic rules, degree requirements, individual course requirements, campus news and events, extracurricular activities, tuition costs, financial aid and scholarship opportunities?
- How easy is it to get answers to your questions about things related to your education here?

- How much input do you think you can have on matters such as course offerings, rules and regulations, and registration procedures?
- If you have needs that are different from the majority of students here, how well does this university meet these needs?
- How fairly do you think students are handled here?

Degree Commitment

- When you think of the people who mean the most to you (friends and family), how disappointed do you think they would be if you quit school?
- At this moment in time, how certain are you that you will earn a college degree?
- At this moment in time, how strong would you say your commitment is to earning a college degree, here or elsewhere?
- How strong is your intention to persist in your pursuit of the degree, here or elsewhere?
- How supportive is your family of your pursuit of a college degree, in terms of their encouragement and expectations?

Institutional Commitment

- How likely is it that you will earn a degree from here?
- How confident are you that this is the right university for you?
- How likely is it that you will reenroll here next semester?
- How much thought have you given to stopping your education here perhaps transferring to another college, going to work, or leaving for other reasons?

Academic Conscientiousness

- How often do you miss class for reasons other than illness or participation in school-sponsored activities?
- How often do you turn in assignments past the due date?
- I am disinterested in academic work and do as little as possible.

APPENDIX B

Institutional Review Board (IRB) Guidelines

What is research on human subjects?
The regulations define research as "a systematic investigation, including research development, testing and evaluation, designed to develop or contribute to general knowledge." The regulations further clarify that "activities which meet this definition constitute research... whether or not they are conducted or supported under a program which is considered research for other purposes. For example, some demonstration and service programs may include research activities." (45 CFR 46.102(d))

Human subjects are living individuals "about whom an investigator (whether professional or student) conducting research obtains (1) data through intervention or interaction with the individual, or (2) identifiable private information." The following additional guidance is included in the regulations to help in determining whether the research involves human subjects:

- Intervention includes both physical procedures by which data are gathered and manipulations of the subject or the subject's environment that are performed for research purposes.
- Interaction includes communication or interpersonal contact between investigator and subject.
- Private information includes information about behavior that occurs in a context in which an individual can reasonably expect that no observation or recording is taking place, and information that has been provided for specific purposes by an individual and which the individual can reasonably expect will not be made public (for example, a medical record). Private information must be individually identifiable (i.e., the identity of the subject is or may readily be ascertained by the investigator or associated with the information) for obtaining the information to constitute research involving human subjects. (45 CFR 46.102(f))

Only projects meeting both definitions (research and human subjects) come under the jurisdiction of the NCTC IRB. All NCTC surveys conducted should be approved by the IRB, along with questions that will be used in focus groups.

Why is your research subject to review?
The federal Office for Human Research Protections (OHRP) has issued a Federal-wide Assurance (FWA) to NCTC. According to the terms of this assurance, it is NCTC's responsibility to reasonably ensure that the rights and welfare of human subjects are adequately protected in all human subjects research conducted at NCTC and all human subjects research conducted by NCTC faculty, staff, or students at any other location.

Submitting an IRB Request

To submit a request or proposal for review by the Institutional Review Board, or to request more information on the process or potential supporting documentation, please send an Email to irb@nctc.edu.