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The Relationship between First-Year Expectations and Persistence for Students who Self-Identify as Having Not Declared a Major

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The Relationship between First-Year Expectations and Persistence for Students Who Self-Identify as Having Not Declared a Major

by

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Table of Contents

List of Tables

List of Figures

Abstract

This research aligned with protocols established by the Florida Board of Governors in 2016 to form a new funding model tied to the institution's performance. The literature review highlighted a disparity between students' expectations and the reality of college which could negatively impact persistence, and therefore funding to the institution. This quantitative study utilized the Beginning of College Survey of Student Engagement (BCSSE) to explore the correlation between incoming, undeclared FTIC students' expectations of co-curricular involvement, faculty interaction, and learning support services utilization and their persistence to the end of the second fall semester. The sample consisted of 1,042 respondents and was collected during orientation for the cohorts of 2017 and 2018. Logistic regression was employed to evaluate the relationships. The results showed no significant relationship between co-curricular involvement, faculty interaction, learning support services utilization, and first-year persistence. This study emphasized the substantial gap in understanding the current undeclared student population in a state with a competitive funding model that rewards metrics like first-year persistence and timely graduation rates.

Chapter 1: Introduction

Metrics such as first-year retention rates and four-year graduation rates have become contemporary benchmarks for higher education institutions (Braxton et al., 2014). For the purpose of this study, first-year retention rates will align with the Florida Board of Governors (BOG) protocols enacted in 2016 as part of a new funding model. This protocol includes measuring the percentage of a cohort of first-time-in-college (FTIC), first-year undergraduate students' full-time enrollment in the first fall, and then enrollment in at least one credit to the end of the second fall of college. This definition allows select students to be included in the fall cohort if they start with full-time enrollment in Summer B or other summer bridge programs and persist into full-time enrollment during the subsequent first fall semester. The term retention is used from an institutional standpoint whereas persistence is used when referring to the student perspective. Linda Hagedorn (2005) asserted, "Institutions retain students and students persist" (p. 92). Metrics have taken on further significance at public institutions in Florida as budgets are now associated with a Performance-Based Funding (PBF) model. The Florida Board of Governors (BOG) developed a funding model that includes metrics to evaluate the state's public universities on a range of important standards (FLBOG, 2021). To ensure each university is striving to excel and improve in key areas, new state funding and an amount of base state funding are tied to these outcomes. This system provides both financial incentives and penalties. These state-defined measurements heavily focus on first-time-in-college (FTIC) students (FLBOG, 2021).

Two areas that add layers of risk to achieving this financial windfall are academically undeclared student populations and the expectations of the experience brought by students into an institution. For this study, undeclared students are defined as those who self-select on the Beginning College Survey of Student Engagement (BCSSE) as unsure of their major as they matriculate into the studied institution. In terms of this population, there is concern that they may not assimilate into the intellectual or social fabric of the institution due to a lack of affiliation with an academic discipline (Chickering, 1993; Cuseo, 2005; Steele & Gordon, 2015). A lack of identity can cause students to become unsure about attending college or completing a degree. According to the National Center for Education Statistics (NCES), in 2017, there were 14,571,739 students in America enrolled in bachelor's degree-seeking programs at public institutions. In the same year, 6.35% of the surveyed population indicated that they considered themselves to be undeclared. That statistic roughly translates to 925,305 undeclared students nationally in 2017. The choice of undeclared was the 3rd most selected option in 2017 (NCES, 2017).

Regarding expectations of the typical FTIC student, the difficulty stems from the institution's lack of control over the prior eighteen years of the student's life and the beliefs formed by his or her experiences, including influences like family, friends, the media, and mainstream culture. Guiding the FTIC student can feel like losing the war before the battle begins. While a depth of established knowledge explores theories of student persistence and withdrawal (Astin, 1975, 1999; Braxton, 2000; Hagedorn, 2012; Milem & Berger, 1997; Tinto, 1975, 1999, 2012), substantially less empirical research examines how the expectations of undeclared, first-time-in-college students relate to their persistence at a large, public research institution.

Statement of the Problem

An assessment of the literature exposed a disparity between first-year students' expectations and the actuality of college. The experiences students seek out in college are heavily influenced by their expectations (Kuh et al., 2005). Therefore, unrealistic student expectations can be a potential risk factor for FTIC persistence, influencing many subsequent aspects of success, such as timely graduation (Geiger & Cooper, 1995; Smith & Wertlieb, 2005).

The past two decades have witnessed significant shifts in higher education institutions' federal and state funding policies (Mettler & Sorelle, 2014; Neelakantan & Romero, 2017). The struggle for resources has intensified with the fluctuation of government funding at the federal and state levels. These instabilities occur due to changing presidential leadership at the highest office and can vary significantly by state or region. From 1990 to 2010, Florida's support of public universities had fallen by over 20% in terms of inflation-adjusted funding per student (Florida Senate, 2011). Starting in the fall semester of 2012, stakeholders like university presidents and the Florida Board of Governors began to develop the PBF model. The model gained approval in the spring semester of 2014. In 2016, Governor Rick Scott signed into law the new PBF model in Florida, which intends to establish a formula with common standards that allow institutions to compete for additional funding year to year (FLBOG, 2021). By using a competition system instead of a benchmark model, institutions in the state must achieve levels of success far above national averages. Those institutions already at a tactical disadvantage must find innovative ways to fight for every student, every percentage point in the metrics, and every dollar of state funding (see Tables 1-3).

Table 1:

Overview of Florida Performance Funding Allocation for 2016-2017

Institution	Points	Allocation of State Investment	Allocation of Institutional Investment	Total Performance Funding Allocation
FAMU	65	$11,509,132	$14,066,717	$25,575,849
FAU	84	$25,356,748	$21,642,163	$46,988,911
FGCU	67	$8,010,396	$9,790,484	$17,800,880
FIU	76	$25,253,750	$30,865,695	$56,119,445
FSU	68	$35,574,6080	$43,480,076	$79,054,674
NCF	59	$0	$2,740,857	$2,740,857
UCF	84	$39,301,181	$38,697,580	$77,998,761
UF	82	$47,695,822	$49,180,011	$96,875,833
UNF	56	$0	$12,914,790	$12,914,790
USF	79	$32,308,363	$39,488,000	$71,796,363
UWF	57	$0	$12,133,627	$12,133,627

Note. Electronic image created by the researcher.

Table 2:

Overview of Florida Performance Funding Allocation for 2017-2018

Institution	Points	Allocation of State Investment	Allocation of Institutional Investment	Total Performance Funding Allocation
FAMU	65	$0	$13,905,021	$13,905,021
FAU	72	$19,395,004	$21,769,903	$41,164,907
FGCU	66	$0	$9,704,854	$9,704,854
FIU	68	$27,468,290	$30,831,754	$58,300,044
FSU	81	$38,547,492	$43,267,593	$81,815,085
NCF	75	$2,469,535	$2,771,928	$5,421,463
UCF	78	$35,692,230	$40,062,707	$75,754,937
UF	95	$55,061,011	$48,516,241	$103,577,252
UNF	58	$0	$12,894,229	$12,894,229
USF	84	$45,396,585	$39,206,903	$84,603,488
UWF	82	$20,969,853	$12,068,867	$33,038,720

Note. Electronic image created by the researcher.

Table 3:

Overview of Florida Performance Funding Allocation for 2018-2019

Institution	Points	Allocation of State Investment	Allocation of Institutional Investment	Total Performance Funding Allocation
FAMU	72	$0	$14,765,349	$14,765,439
FAU	84	$20,553,876	$22,880,729	$43,434,605
FGCU	75	$9,264,349	$10,313,143	$19,577,492
FIU	90	$39,996,601	$33,730,710	$73,727,311
FSU	86	$51,607,104	$47,135,335	$98,742,439
NCF	75	$0	$3,921,395	$3,921,395
UCF	77	$37,522,699	$41,770,552	$79,293,251
UF	93	$57,631,857	$53,002,618	$110,634,475
UNF	68	$0	$13,574,657	$13,574,657
USF	86	$37,650,670	$41,913,101	$79,563,680
UWF	86	$10,772,844	$11,992,412	$22,765,256

Note. Electronic image created by the researcher.

Undeclared students are often considered at-risk because of the understandable scenario where they do not fully assimilate with a specific academic department (Young & Redlinger, 2000). Since the major often determines the selection of coursework, this choice can affect a student's interaction with campus components like faculty, other students, and major/career-specific services (Porter & Umbach, 2006). Over the last fifteen years, studies indicated that differences exist between the experiences of undeclared and declared students with regard to their expected interactions with other students, faculty, and staff (Ellis, 2014; Gordon, 2007; Miller & Murphy, 2011; Renn & Reason, 2013).

Perhaps even more revealing is that the research on undeclared students in the last twenty years suggests this group is more heterogeneous and complex in its makeup than ever before (Allen & Robbins, 2008; Cuseo, 2005; Kerckhoff, 2002; Gordon, 2007; Steele & Gordon, 2015).

To date, the literature does not pinpoint any pre-college factor such as gender, race, or familial background as the defining characteristic of an undeclared student. However, research does paint a clear picture of generational factors at the foundation of America's current high school student population. Nearly 90% of all American high school students will graduate, and approximately two-thirds of these high school graduates will choose to pursue higher education (Kerckhoff, 2002; Mortimer, Zimmer-Gembeck, & Holmes, 2002). Thus, high school students are no longer required to commit to long-term professional decisions when they approach graduation. Since many American high school students expect to attend college, career decisions and other life goals may be postponed. A large number of these students will not enter full-time employment until they are well into their twenties (Kerckhoff, 2002; Mortimer, Zimmer-Gembeck, & Holmes, 2002). As a result, high school students and their families feel little pressure to consider academic and professional pathways before entering college. This lack of urgency is compounded by the fact that very few high school students will engage in suitable research activities to help them choose a potential academic or career path (Schneider & Stevenson, 1999). The most common error or misconception concerns a lack of information on the education needed for their imagined careers (Schneider & Stevenson, 1999).

For many high school students entering college under this paradigm, resources like subject-specific tutoring and faculty mentoring experiences have a sizable influence on satisfaction with their universities (Yin and Lei, 2007). Participation in these experiences promotes the social collaboration needed to create a campus community. Lack of integration can cause a high attrition rate. Paul and Brier (2001) noted that finding an influential group of peers in college would affect one’s sense of self. Paul and Brier, and many other researchers see this formation of identity as one of the most powerful predictive factors for student persistence. A

student with a quality social network of peers and institutional employees will be equipped with a vital coping mechanism for the bumpy road ahead.

These are all areas of concern regarding persistence for undeclared students who may not completely adapt academically or socially because of a lack of identity. The National Survey of Student Engagement (NSSE) annually collects information at hundreds of four-year colleges and universities about first-year and senior students' participation in programs and activities that institutions provide for their learning and personal development. A report from 2019 indicated that, on average, 5% of all first-year students expect to engage in research with a faculty member. Within the undeclared population, 3% held this expectation. The undeclared population was the lowest of all the options listed. The highest was biological sciences with 8% (NSSE, 2019). When the same question was asked of students during their senior year, on average, 22% of all students indicated that they had participated in research with a faculty member. The undeclared first-year student population tied for the lowest percentage at 11% (NSSE, 2019).

In conclusion, research indicates that more than half of students who withdraw will do so during their first year, and those first-year students who enter their institution as undeclared are often considered an at-risk population (Allen & Robbins, 2008; Chen & Soldner, 2013; Tracey & Robbins, 2006; Tinto, 1993). Given the complexity of the modern version of this population and the scarcity of literature on their expectations, further research should investigate how the institution, faculty, and administrators could better promote reasonable student expectations for undeclared students.

Purpose of the Study

The purpose of this study was to utilize secondary data analysis to explore whether incoming, undeclared FTIC students' expectations of co-curricular involvement, faculty

interaction, and the utilization of learning support services (tutoring, writing center, and success coaching) correlate to persistence to the end of the second fall semester at an institution in a state with a competitive funding model. Instead of concentrating on the population's demographic composition or on the plethora of reasons why students may start their college career as undeclared, this research examined how the expectations of this unique population could affect success during the first year in college According to Howard, “Expectancies include the anticipated outcome of a specific behavior in a situation, but also a person’s confidence that he or she will be able to perform a specific behavior in a particular situation” (2005).

The setting was a large, public research institution in a metropolitan area of the southeast United States. By focusing on expectations, an institution can gain valuable information about its incoming student populations, which can affect the strategies employed by the institution. This study hoped to increase awareness and appreciation of how institutions can support the first-year persistence of this at-risk student population.

Research Questions

Three research questions guided this secondary data analysis on undeclared first-year student expectations and persistence. For every research question, persistence is defined as full-time enrollment in the first fall, and then enrollment in at least one credit to the end of the second fall.

1. What is the relationship between undeclared, first-year students’ expected involvement in organized campus co-curricular activities and persistence?
2. What is the relationship between undeclared, first-year students’ expected interaction with faculty members and persistence?

3. What is the relationship between undeclared, first-year students' expected utilization of learning support services and persistence?

Theoretical Framework

The framework that this study utilized was the Psychological Contract Theory (PCT) by Denise Rousseau. The literature on psychological contracts has advanced extensively over the last 20 years (Cullinane & Dundon, 2006; Rousseau 1989, 1995, 2001). Yet, its origins are found in social exchange theory and other organizational research forbearers, such as the works of Argyris (1960), Levinson et al. (1962), and Schein (1978) that highlighted the power of perception and its effect on a relationship (Cullinane & Dundon, 2006). Schein (1978) stated that expectations between the employee and the organization go beyond a mere exchange of payment and include a multifaceted set of responsibilities and benefits. This revelation reveals that dissatisfaction can arise from violating a psychological belief separate from negotiable conditions like salary or working hours. This study focused on a population that has not fully formed a psychological contract with a specific academic department in college. Without an academic bond to stabilize a student during a tumultuous first year, this study hoped to discover what other contracts expressed as expectations may positively influence their persistence. Finally, the framework heavily influenced the researcher's methodological choices like the instrument and definition of the studied population in terms of prioritizing self-selected data sources.

Psychological Contract Theory (PCT) postulates that the creation of a psychological contract occurs when an individual forms beliefs regarding the terms and conditions of an agreement with another party (Rousseau, 1995). The decision to go to a college can be a type of psychological contract, as learners consent to pay an institution in exchange for an education and

the benefits that most believe come with this experience. These expectations form from culturally and situationally determined mental schemas: for example, the outreach they receive from the institution during high school, what they see on social media, or what family members have told them about their experiences or lack thereof (Rousseau, 2001). A schema is a cognitive organization of interrelated elements representing an abstract of a complex concept. It develops over time from experiences and uses this information to guide the individual to new ways of thinking or organization (Stein, 1992). The foundation of using PCT to study first-year persistence is the belief that each student makes an unseen and binding agreement that a particular set of actions will occur on campus. If a student perceives this contract to have been breached, he or she can lose trust in the institution and motivation to persist by dropping out, transferring, or disengaging with the campus community (Kuh et al., 2005; Rousseau, 2001).

For example, a typical contract or expectation in a college setting could be what students anticipate from their professors. These expectations might exist both inside and outside the classroom and will intertwine with how professors perceive their duties to the university, the students, and themselves. Do professors at an institution perceive their primary role to be teaching, researching, community service, university service, serving on doctoral dissertation committees to recruit the next generation in their field, or pursuing a pathway to executive leadership (Rousseau, 2001)? All of the elements in these contracts can be widely shared by societal cultures or based on particular experiences of the individuals. Also, the schemas and therefore the contracts can vary widely in complexity, such as the number of beliefs they contain, the levels of abstraction, and the linkages needed (Rousseau, 1995). Rousseau (2001) illustrated the differences in elements and linkages between faculty members in a professional subject like business (A) versus one from a liberal arts college (B) (see Figure 1).

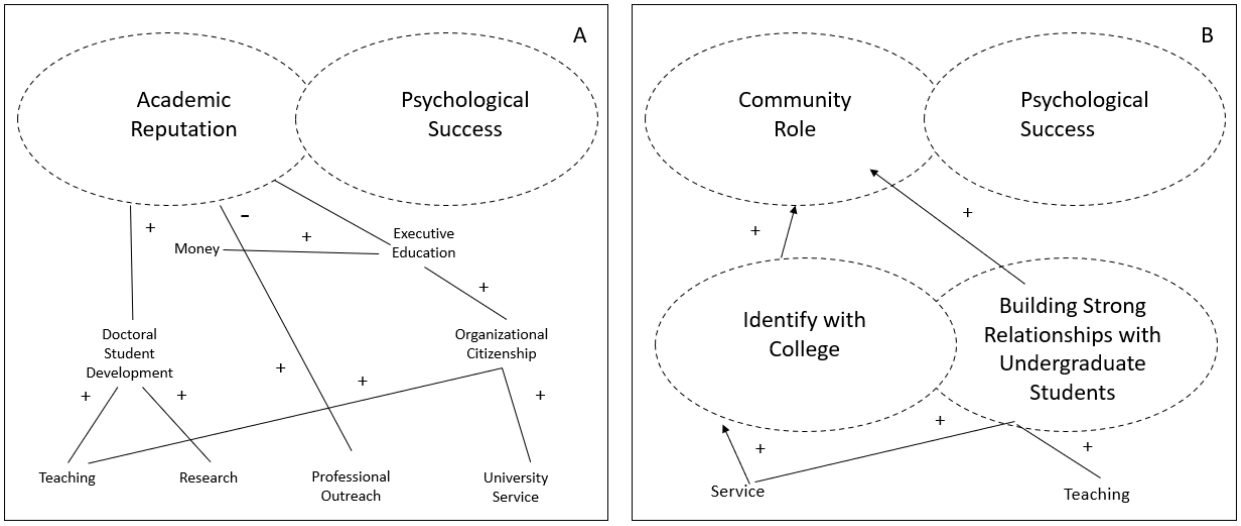

Figure 1:

A Comparison of Hypothetical Schemas for Professors in Varying Academic Environments

Note. Electronic image created by the researcher.

The model developed by Rousseau (2001) contains a vertical dimension that measures the level of abstraction from high to low and a horizontal dimension that explains the degree of differentiation at a given level, like whether an individual student believes that the professor has many duties or only a few (see Figure 2). Understanding that the university is committed to the student's well-being while enrolled and that completing the degree will provide a lifetime of rewards leads to the higher-level belief that this arrangement is a relationship and not just a transaction.

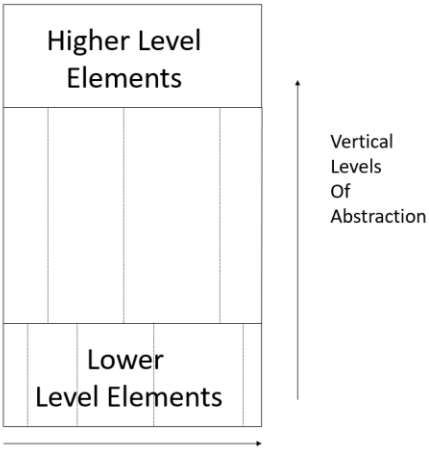

Figure 2:

Rousseau's Structure of Schemas

Note. Electronic image created by the researcher.

One dynamic that increases the complexity of using PCT to understand first-year persistence in college is the difference in basic cognitive structures from person to person, meaning elements that fit easily into one person's schema may constitute a violation in another. An examination of pre-employment (in the case of college students, pre-matriculation) factors, recruitment practices (like marketing), and first impression socialization experiences (like orientation or the first few weeks of classes) plays a prominent role in whether the initial mental schemas will form more durable contracts over time (Goodrick & Meindl, 1995; Rousseau, 2001; Thomas & Anderson, 1998).

Pre-matriculation schemas help account for individual differences in psychological contracts (Rousseau, 1995). Those with particular ideologies and highly anchored schemas may react more negatively to failures to fulfill direct and indirect commitments. For instance, incoming medical graduate students may perceive that their program has a professional obligation to protect the patient from harm as they begin their first-year of residency. They could

also expect the program to protect the student by creating a safe and effective learning environment. Thirdly, the student understands where he or she ultimately belongs in the health care system. Those students trying to balance all three concepts may respond differently to a contract breach than those who hold a single schema (Rousseau, 2001).

An important variable for pre-matriculation schemas is administrative signals, such as recruitment brochures and admission practices. These act as promissory messages and visible representations of the rewards a student should expect by agreeing to attend one institution over another (Rousseau, 2001). Does the brochure use imagery of graduation and create an expectation that the student will persist through year one and graduate? Does the advertisement feature a diverse array of students, giving the viewers hope that they will fit in on campus? Does the institution's social media presence highlight the accomplishments of alumni, suggesting that the viewers can expect the same type of success in their future? Recruitment and admission practices set the initial structure of the psychological contract and send signals regarding the institution's intentions toward its students (Rousseau & Greller, 1994).

Once on campus, their first experiences provide a unique opportunity to realign the psychological contract before the terms become irreversible. We see this phenomenon represented in higher education literature by Tinto, Kuh, Astin, and more who note the importance of the first few weeks on campus to first-year persistence. In this initial phase, when the students' beliefs are still schemas, the psychological contract is incomplete, and students feel driven to seek out and assimilate new information to understand their link with the institution (Rousseau, 2001). The experiences and information received during this phase form a long-term relationship with the psychological contract. Research (Rousseau 1995, 2000 2001) indicates that the quality of the contract depends largely on the quality of the information source as determined

through desired characteristics like being trustworthy, clear, and direct. Credible sources help with the processing of new information by generating a deep contemplation of discordant material that students might otherwise ignore, such as the importance of joining a student club or the use of a learning support service that the student never needed in high school. Students are less likely to question the contract when there is readily available and consistent messaging (Jick, 1993; Rousseau & Tijoriwala, 1999). For example, a family member tells a student he or she should create a mentor-based relationship with an academic faculty member, but the faculty culture at the institution does not prioritize this dynamic. The student could find a future faculty member in breach of a psychological contract, even though the faculty member never expected this type of relationship.

Finally, two essential findings on schemas help to frame the importance of first-year persistence and the search for an academic identity through the declaration of a major. First, there are differences between novices and experts accounting for discrepant information before considering a contract broken (see Figure 3). Experts have greater horizontal differentiation, a greater quantity of vertical linkages among elements, and more accurate schemas (Rousseau, 2001). The more accurate schemas allow the expert to better use contradictory information while also being less influenced (Larson, 1994). This concept could illuminate established persistence notions, such as that a student is exponentially more likely to persist through to graduation after completing the first year in college (Upcraft et al., 2005). Once a psychological contract has reached a level of harmony, the contract is durable and resistant to radical change (Rousseau, 2001). The second discovery is that schemas are more likely to adapt successfully when the student is motivated to make the cognitive effort that change requires (Rumelhart & Norman,

1978). This second discovery corresponds with higher education literature on why forming an academic identity and having a clear path toward graduation is vital for student persistence.

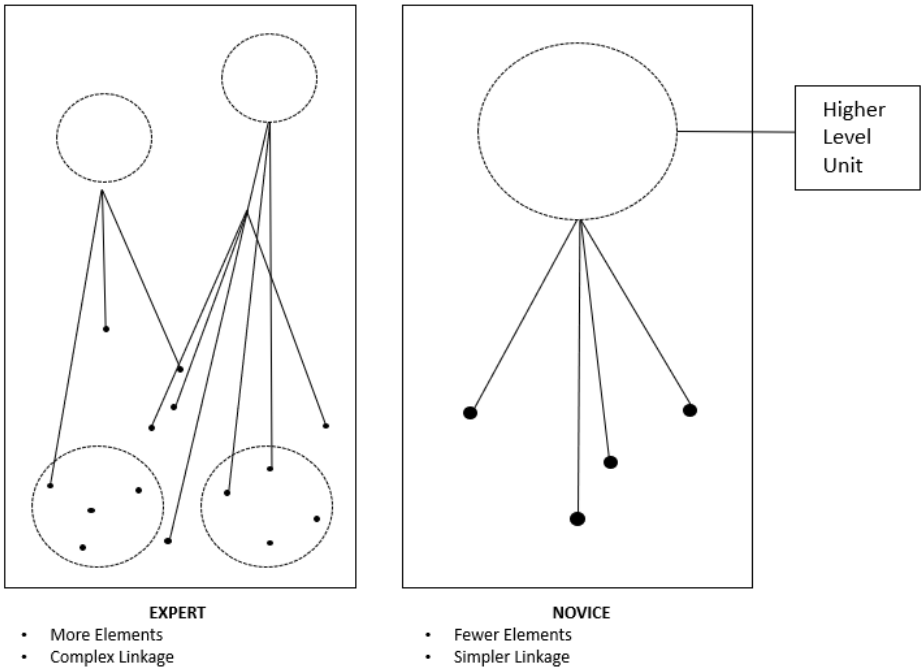

Figure 3:

A Contrast of Schemas between an Expert and a Novice

Note. Electronic image created by the researcher.

In 2000, Rousseau developed a Psychological Contract Inventory (PCI) to assess the generalizability, reliability, and validity of her Psychological Contract Theory. The PCI measures the subjective experience of the employment relationship from the reference point of the worker, the leader, and the ideal psychological contract as described by both parties (Rousseau, 2000). The researcher developed an instrument to measure several constructs, such as if the relationship is long or short-term, if the performance tasks were specified or not, employer obligations (such as concern for employee well-being), and employee obligations (such as making personal sacrifices for the organization, loyalty, trust, and more) (Rousseau, 2000). The sample included

professionals, managers, executives, and graduate students in the United States and a comparison population from Singapore and a 1999 study by Ang and Goh (Rousseau, 2000). These populations could help with the generalizability of this study, as the profile of the studied institution included an international student population. Each construct is measured twice: the respondent's beliefs on his or her employer's obligation to the employee and then the employee's obligation to the organization (Rousseau, 2000). The analysis revealed that eleven of the fourteen obligation scales met the criteria for internal consistency, reliability, and validity. The three scales that did not were employee and employer short-term obligations and employer stability obligations (Rousseau, 2000). The data also supported the generalizability of the PCT to non-American populations; though, the researcher noted apprehension in overstating the case based on these preliminary findings. They attributed a portion of the results to the fact that many dimensions of employment would be universal and documented at this time through global employment practices (Rousseau, 2000).

Conversely, Cullinane & Dundon conducted a critical review of Rousseau's work in 2006. They underscored some limitations important for this study. First, there is no universally accepted definition of a psychological contract. Some researchers emphasize obligations and reciprocity, while others place expectations at the core of a psychological contract. The varying approaches can result in authors measuring different aspects of the same construct, which can create logistical issues with the methods and results (Atkinson et al., 2003; Roehling, 1997; Tekleab and Taylor, 2003). Another concern is that every work or campus environment will have varying levels of power differentials. The variations create multiple contracts and include some that are imposed rather than mutual. In the end, studies show that the many different understandings of a psychological contract and the variety of responses to a violation generate

ambiguity in the framework (Othman et al., 2005; Sturges et al., 2005, Lester et al., 2002). As a final point, the contextual understanding of a psychological contract has cultural variance (Wang et al., 2003). A possible cultural discrepancy is relevant to this study, where the population's makeup and sample at a college campus can be more diverse than in most other standard societal settings. This study hoped to add to the literature on PCT in a higher education setting to create a more robust analytical framework.

Implications for Policy and Practice

Since much of the research on student success emphasizes the engagement and assimilation of students within the university (Astin, 1975, Kuh et al., 2005; Tinto, 1993), this study sought to inform practice at institutions that serve undeclared, FTIC students by encouraging the institutions to challenge their established methods of helping these students develop their campus relationships and improve their levels of persistence. This study approached the challenge by studying a population that has not fully formed a psychological contract with a specific academic department. Without a contract to anchor a student to an obvious pathway through the first year, an institution must rely on other influential campus pillars to stabilize the student during this turbulent time. As budgets shrink and demand for college access increases, an institution must choose wisely among the plethora of support services and resources.

The findings may help college administrators decide on co-curricular opportunities and campus resources offered to first-year students. This study may inform faculty on how undeclared students evaluate their academic preparedness for college. High school students understand that college requires a hefty time commitment to academic activities outside the classroom. However, most do not fully grasp that the standard educational expectation is that

they will need to spend two hours of preparation outside the classroom for each hour spent in the classroom (Upcraft et al., 2005). Learning support services such as writing centers, tutoring, success coaching, and others may benefit from understanding more about the needs and expectations of first-year undeclared students. Lastly, undeclared students could benefit from this study by gaining a more realistic expectation about how the major selection and first-year success process will develop.

Limitations and Delimitations

There were several possible limitations and delimitations to this study. For example, the population and sample are restricted to one institution, one specific student population, and select cohort years, which could reduce the generalizability of the study. Another important concept is that the researcher may be unable to distinguish the power of being undeclared versus the effect of the variables. For instance, is it the characteristic of being academically undeclared that causes the fluctuation in persistence or the variable like the utilization of support services? Furthermore, a limitation common to most survey research is that they rely on self-reported data (Carini et al., 2006; Kuh, 2004). Participants may have responded to the BCSSE survey questions based on what they believed was the most collectively appropriate answer or may have responded indifferently without genuinely considering the questions. This research assumes that participants have voluntarily taken the survey at orientation and have previously reflected on their college expectations. Finally, one of the most important limitations is the researcher's relationship to the study. The researcher is the advisor for undeclared students at the institution being studied. This dynamic may mean that the researcher has preconceived notions that could influence any portion of the study. All restrictions on the data are explained in further detail in Chapter Five.

Key Terms

The following terms have been defined for better understanding throughout the study:

Beginning College Survey of Student Engagement (BCSSE): Survey that collects data from pre-college students about their perception of high school experiences inside and outside of the classroom, and their expectations of college in terms of several scales like academic experiences, co-curricular activities, and the expected benefits of a degree (BCSSE, 2021a).

First-Time-in-College (FTIC): Students who have earned a standard high school diploma or its equivalent and who have earned fewer than twelve (12) semester hours of transferable college credit since receiving a standard high school diploma or its equivalent (FLBOG, 2019).

Matriculation: The point at which an enrolled student attends his or her first class at a college or university.

Performance-Based Funding Model (PBF): A metric-based funding model developed by the Florida Board of Governors (BOG) to assess the success of the state university system (FLBOG, 2021).

Persistence: The ability of a student to remain enrolled in college from matriculation through graduation of a degree (Reason, 2009). For this study, first-year persistence is defined as full-time enrollment in the first fall, and then enrollment in at least one credit to the end of the second fall.

Retention: Enrollment from term to term or semester to semester. This term differs from persistence in the sense that it is viewed from an institutional perspective, whereas persistence is normally viewed from the student perspective.

Schema: A cognitive organization of interrelated elements that represents an abstraction of a complex concept. It develops over time from experiences and uses this information to guide the individual to new ways of thinking or organization (Stein, 1992)

Student expectations: The beliefs that incoming students have about the college experience. These preconceived ideas come from a student's interests, family background, mainstream media, and peers (Miller & Associates, 2005).

Undeclared: Students who self-select on the Beginning College Survey of Student Engagement (BCSSE) as unsure of their major as they matriculate into the university.

Chapter 2: Literature Review

Student Persistence

Student persistence comprises an expansive and intricate challenge for higher education institutions. Even with decades of research, higher education leaders continue to grapple with creating and implementing effective strategies to reduce student attrition rates. Furthermore, utilizing research to inform retention policies has proven difficult due to the diversity of the modern student population and the unique combination of each institution's academic structure and culture (NCES, 2013). Finally, a lack of standardized metrics complicates defining student success (Bean, 1980; Johnson, 2006).

Student persistence is a strategic issue that invites influence from various stakeholders, such as the federal government, state government, private constituents, and more contemporary influences like institutional rankings. A review of this seminal subject marks a practical starting point for developing innovative and more adaptive retention cultures.

Seminal Studies on the Topic

The terms "persistence" and "retention" are often used interchangeably in higher education research literature, which can create inconsistencies and confusion. Persistence is an operational term applying to the individual student. Persistence can be defined as continuous enrollment at the institution from year to year, such as the first year to the second year (Reason, 2009). In contrast, retention is a measure expressed as a percentage that displays the rate at which an institution retains a student population, such as the percentage of first-year students

from the previous fall enrolled again in the current fall semester (NCES, 2017). Overall, persistence is most often defined as a student outcome, and retention is an institutional effort (Hagedorn, 2012; Mortenson, 2012; Renn & Reason, 2013). Student persistence has been a focus of higher education research for nearly 100 years (Braxton, 2000). The foundation of modern college persistence literature relies on analyzing how institutional programming, interventions, and other resources can affect the attrition of student populations. These themes were first explored by the likes of Tinto's Theory of Student Departure (1974), Bean's Causal Model of Student Attrition (1980), and Astin's Theory of Student Involvement and I-E-O model (1985).

The works of Tinto correspond with this study because he asserted that unrealistic or mistaken expectations could lead to the student feeling significant disappointment in the institution (Tinto, 1993). These expectations may be academic, such as expecting a similar GPA to the one they achieved in high school. They may also be social, like expecting to be active in several clubs at once. Expectations could be personal, like meeting a lifelong friend early in the college experience as often seen on television and in movies. Lastly, they may be professional, such as finding a major aligned with a student's professional skills and values (Tinto, 1993). Furthermore, Tinto laid the foundation for how social integration affects persistence. These interactions often occur as informal peer group associations, semi-formal extracurricular activities, and more formal interactions with college faculty and staff (Tinto, 1975).

The works of Bean built upon the theoretical foundation of Tinto's model (Bean, 1982). Yet, Bean believed that previous retention studies simply consisted of correlations between attrition and variables that gave little explanation for the reasons behind the withdrawal. Bean infused organizational behavior research like the employee turnover model of Price (1977) and

the Informal Contract Model of Pascarella (1980). The goal was to create a model that could adapt better to different contexts and institution types (Aljohani, 2016).

There are five core tenants to the Astin Involvement Theory (1999). First, there is an investment in both psychosocial and physical energy. This energy can be devoted to broad pursuits like the overall student experience or specific activities like preparing for a final math exam. Second, involvement occurs on a continuum. This means that not only can engagement vary by student, but that each individual will also have different degrees of commitment at different times. Third, this involvement has qualitative (how focused the student is during the involvement) and quantitative (hours spent on involvement) aspects. Fourth, what the student gains from the involvement is proportional to the quantity and quality of the investment. Finally, the effectiveness of any educational policy or practice is directly related to its capacity to increase student involvement (Astin, 1999). The work of Astin informs all higher education employees involved in first-year persistence that students are prime players in their persistence, but that the environment created by the institution also plays a key role.

These theories started the conversation on persistence in higher education for the post-World War 2 era. Next, starting in the 2000s, horizons broadened with studies of nontraditional students and other underrepresented populations that attempted to recognize external factors affecting persistence, such as parental involvement, peer support, and financial constraints (Aljohani, 2016). There was also a revamping of previous theories like the 2004 revision of Tinto's work by Braxton and associates (Braxton et al., 2004). In the last fifteen years, research on how student expectations may play a vital role in persistence has blossomed (Cole, 2009; Kuh, 2005; Miller & Associates, 2005).

The First-Year Student and Persistence

The last thirty years have witnessed a paradigm shift in how institutions view the persistence of first-year students. Previous generations had operated in a "survival of the fittest" approach, where student attrition was the responsibility of the student. Their failure to progress was seen as a lack of ability or dedication (Upcraft et al., 2005). As the number of institutions grew and the sophistication of the higher education landscape deepened in America, this approach resulted in bleak retention data and unfavorable graduation rates.

With these plummeting rates came the recognition that retention is a by-product of a more tremendous effort to provide a substantive and motivating college experience, hence, the importance of making a first-year connection and why many institutions front-load their best people and services (Levitz & Noel, 1989). This concept manifests on a college campus as a longer orientation process for first-year students compared to transfers, the fact that the majority of on-campus residents will be FTIC students, and the amount of learning support services geared toward first-year persistence. Operationally, it is evident that most institutions consider the first-year experience integral to the success of FTIC students.

Research across the decades stresses the importance of the first year in college and suggests that an even tighter window exists that can determine an institution's retention rates. The most critical window of the first-year transition occurs during the initial six weeks (Upcraft et al., 2005). A three-year study in Minnesota discovered that more than half of students who did not have significant contact with a faculty member or advisor during the first three weeks did not enroll the following year (Myers, 1981). Over the last five years, the data have held steady with one out of every three FTIC students dropping out of college during year one (Education Data,

2019). After that first year, attrition decreased by approximately 50% each subsequent year (Upcraft et al., 2005).

Student Engagement and Success

Approaching FTIC student persistence with knowledge of the importance of the first weeks on campus should prompt an institution to heavily review salient literature through a new lens. Tinto (1993) stated that students are at their lowest point of social integration into the institution during this time frame. Students learn by becoming involved, and the level of involvement can vary greatly (Astin, 1985; Bergen-Cico & Viscomi, 2012). Student engagement in the campus ecosystem has been shown to have a positive influence on grades during year one and promotes persistence to the second year (Kuh et al., 2008). Therefore, many believe the university must provide the student with opportunities to be involved in a wide range of activities and with a bridge to interact with faculty and learning support services. As Pascarella and Terenzini stated, "failure to incorporate and capitalize on students' out-of-class experiences risks increasing learning only at the margins...it is the breadth of student involvement in the intellectual and social experiences of college, rather than any particular type of involvement that matters most" (2005, p. 647).

Clubs and Organizations

One of the most heavily researched first-year persistence factors is involvement in clubs and organizations. In 1993, Astin released another round of research on the importance of student interaction through formal channels like clubs and organizations. This research stated that greater interaction with a peer group generates several beneficial outcomes. Astin maintained that involvement in these types of co-curricular activities is the most vital source of impact on a student's mental and emotional growth (Astin, 1993). Campus connection develops

from participation in co-curricular activities. Students expect an institution to provide them with a variety of opportunities (Kuh et al., 2005). The research proposes that a student's co-curricular participation performs an essential role in campus adjustment. There is a reciprocal relationship between academic and co-curricular engagement. On average, when engagement with co-curricular activities increases, so does the student's commitment to academic pursuits (Huang and Chang, 2004). Lastly, several studies have found a direct relationship between hours of engaging in co-curricular activities such as student clubs and valued academic skills like public speaking, group communication, and leadership. These abilities aid in the creation of an individual's academic and professional identity (Kuh, 1995; Terenzini et al., 1996).

Greek Life

A common definition of Greek life is a formal fraternity, sorority, or multicultural organization directly affiliated with an institution that charges a membership fee (Astin, 1999). The original research by Astin (1975) found that any level of participation in Greek life resulted in higher levels of persistence since it created a support group. In addition, membership in this community often leads to involvement in other aspects of the campus, producing higher retention rates (Walker et al., 2015). On the other hand, some researchers have found that certain aspects of Greek Life like over socialization can negatively affect academic achievement (Pascarella et al., 1996; Routon & Walker, 2014; Tinto, 1975).

Intramural/Intercollegiate Sports

Much like the reports from Greek life, first-year involvement in sports can increase student persistence by anchoring them into a campus community (Phipps et al., 2015). This notion is especially true for undeclared students using sports as a skill they can bring into a group that is not academic or professional. This talent can help build a bond that often becomes a first-

year student's first social network on campus (Phipps et al., 2015). For this study, undeclared students are defined as those who self-select on the Beginning College Survey of Student Engagement (BCSSE) as unsure of their major as they matriculate into the university. Intramural/intercollegiate sports have been shown to have a positive relationship with persistence (Pascarella & Terenzini, 2005). Kilgo, Mollet, and Pascarella (2016) observed that sports in any setting had a constructive influence on one's psychological health. Students who are mentally and emotionally healthy persist at higher rates (Locke et al., 2016).

Interaction with Faculty

Interaction with faculty has proven to be crucial in the persistence of all students, especially first-year students (Astin, 1993; Delaney, 2008; Umbach & Wawrzynski, 2005). These interactions can occur in any setting, even outside of the classroom or during office hours. Research finds faculty interaction is key to student development, which then affects first-year persistence. Since a first-year student is often in a vulnerable place personally within the higher education system, a faculty member could be the connection that anchors them into the process of being successful in college (Astin, 1993; Kuh & Hu, 2001; Lau, 2003; Pascarella & Terenzini, 2005). Likewise, faculty aid in the socialization process, particularly in terms of adjusting to college life, rising to the intellectual challenge, and creating post-graduation goals. A functional link to faculty can create a sense of well-being for students and deepen institutional commitments to persistence (Lamport, 1993; Peterson et al., 2001).

Despite research on the positive influence of faculty-student interactions on persistence, over the last fifteen years, data also suggest that these interactions infrequently occur (Kim & Sax, 2009; Kuh and Hu, 2001; NSSE, 2012.) In addition, in this time frame, there has been a shift away from focusing on just the quantity of interactions because the most positive outcomes

are associated with the quality of faculty exchanges (Pascarella & Terenzini, 2005). Socially-oriented interactions fail to produce positive outcomes, while interactions that focus on knowledge attainment and skill development generate the highest levels of impact on positive educational outcomes like persistence (Cox, 2011; Dika, 2012; Kuh & Hu, 2001).

Learning Support Services

Attaining a college degree has become an integral part of the American dream. As the percentage of the population seeking an undergraduate degree has skyrocketed, so has the number of students who do not ultimately reach their goal. Only around 50 percent of all students in the country will successfully obtain a bachelor's degree (Selingo, 2016). Institutions are receiving students who are less equipped academically and may lack the support systems that have buoyed success data in the past. According to Selingo, "Colleges and universities will need to create more pipelines to and through college than the one that exists today largely to better serve students who will be coming from a variety of backgrounds" (2016, p. 14). The BCSSE survey outlines three support services that they believe are most important to student success and persistence: tutoring, writing center, and success coaching. The survey does open the possibility of other services, but those three are specifically named in that order.

Tutoring. Many obstacles can make the transition from high school to college a difficult journey. Students report pressure to receive high grades, lack of time management skills, developing successful study habits, and constant test anxiety as their top concerns (Lucas, 1993). In a more recent study, 65% of students indicated that the lack of effective study habits formed the greatest barrier to success in the first two years of college (Turner and Thompson, 2014). Historically, any form of tutoring services has been recommended for at-risk student populations

like undeclared, first-year students (Astin, 1993; Barh, 2008; Tinto, 2004; Pascarella and Terenzini, 2005).

Numerous studies have shown that tutorial services can increase students' success by not only improving performance in individual assignments or classes but also by equipping them with generalizable study skills for all future academic endeavors (Ginsburg-Block, Rohrbeck, & Fantuzzo, 2006; Kane, Beals, Valeau, & Johnson, 2004; Peterfreund, Rath, Xenos, & Bayliss, 2007). Furthermore, commitment to academic improvement outside the classroom also increases motivation to succeed, develops a stronger sense of belonging to the institution, and in the case of peer-led tutoring, increases exposure to a diverse array of student perspectives and knowledge sharing (Carr and London, 2019; Kuh, Kinzie, Buckley, Bridges, and Hayek, 2006). Finally, studies have shown that tutoring can positively affect retention and graduation rates (Boylan, Bonham, & Bliss, 1994).

On the other hand, less clear is how the countless variety of tutoring structures, leadership styles, and employee types can be examined for a definitive answer on the most effective method of tutoring in higher education and if tutoring services affect all student types in the same manner (Colvin, 2007). One of the most critical debates in tutoring services in higher education is the use of expert and trained professional staff versus the use of peer tutoring programs. In the last twenty years, peer tutoring in the United States has become a more attractive option for institutions because of its cost-effective nature and data suggesting it can compensate for low grades in traditional lecture environments like those found in large, public, research institutions (Boylan, Bonham, Bliss, & Saxon, 1995; Dvorak, 2004; Maxwell, 2001). No matter the employee type, research does support the need for tutors to receive training. Schleyer and Associates (2005) demonstrated that students performed better when someone who had received

training tutored them. The most significant suggestions for training were learning approaches, group strategies, how to re-direct questions, and brainstorming for the ability to think through problems (Schleyer, Langdon, & James, 2005).

Writing Center. The birth of writing centers in the American university system began as a response to the literacy crisis of the 1970s. By the late 1980s, there were over 1,000 writing centers in North American post-secondary institutions (Harris, 1995). The roots of this movement can be found in the works of Britton (1970) who advocated writing as a way to learn, not just report (Britton, 1970; Nightingale, 1980 Walshe, 1987). The university writing center is not just a place to proofread an essay, but a space for an alternative form of learning, approximating human communications and complimenting other academic learning strategies (Bangert-Drowns et al., 2004). The writing center has become an essential service for university leadership to consider because the writing tutor acts as a translator to help students better understand "teacher language" and converts "student language" into more appropriate academic discourse (Harris, 1995, p. 37).

In a survey by the American Association of University Professors, 96% of the faculty indicated that writing effectively was critical to succeeding in undergraduate education (DeAngelo et al., 2009). Other research from the late 2000s strongly indicated a positive connection between writing centers and retention (Kostecki and Bers, 2008). However, several limitations and gaps in the literature make it difficult for writing centers to find space for their services in university budgets. First, one of the strongest limitations in this area of research is the fact that this service is not universal to all institutions (Maxson et al., 2019). Moreover, there are differences in writing center approaches such as embedding into a course versus a stand-alone service, or a professional versus peer tutor staff (Maxson et al., 2019). The differences can lead

to a disparity in the literature, as there are very few quantitative studies on writing centers, especially in terms of empirically evaluating their effects (Lerner, 2001). For example, a study by Bredtmann and Associates (2013) found that almost all interviewed students reported finding the writing center helpful, but researchers could not prove a significant effect on grade improvement.

In the last five years, there has been some progress made in this area of research. A partnership between the Council of Writing Program Administrators (CWPA) and NSSE in 2017 found a positive relationship between students who participated in some form of the interactive writing process and higher-order learning outcomes such as critical thinking, reflective learning, and a greater appreciation for personal development in college (Anderson et al., 2017).

Success Coaching. In the last ten years, researchers have increasingly found that success coaching in an academic setting can have positive impacts on student achievement (Andreanoff, 2016; Bettinger & Baker, 2011; Grant, 2013). Success coaching in a higher education setting can identify and help develop or improve the skills needed to perform in college in a patently different approach from other support services. Robinson noted, "Coaches coach towards objectives and goals. Tutors address content. Advising plans course structure. Counseling solves emotional issues" (2015, p. 112).

It is unclear when the concept of coaching in a non-sports setting became a standard practice. A review by McLean (2012) indicated that this phenomenon began to occur in the mid to late 1980s. Since then, the fields of psychology, business, health care, and adult education have all had strong influences on this burgeoning practice (Brock, 2008; Grant, 2007). In 1995, the International Coaching Federation (ICF) was formed to legitimize the field through a regulating agency. The ICF seeks to advance the art, science, and practice of professional

coaching through 11 core competencies via the four phases of setting the foundation, co-creating the relationship, communicating effectively, and facilitating learning and results (ICF, 2021).

A study by Bettinger and Baker (2011) found that students who participated in success coaching with a professional academic coach were more likely to persist and that graduation rates were ultimately higher. The study identified learning information about college that the student was unaware of and the structured nature of success coaching as the main drivers of the positive effects (Bettinger and Baker, 2011). A study a few years later by Brown-O'Hara (2013) found more mixed results. This study focused on academic success coaching for nursing students as they approached their licensing exam. The results concluded that success coaching can be helpful and motivational when there are high levels of customization for each session. On the other hand, the results did not indicate a statistically significant relationship between the perception of the coaching relationship and perceived readiness to take the licensing exam (Brown-O'Hara, 2013).

Another format of success coaching involves the use of student peers. A study by Asghar (2010) that utilized the peer coach format found that self-regulation skills and self-efficacy were increased in first-year undergraduate students who participated in peer coaching. These results were bolstered by another study that found peer coaching intervention programs to increase academic achievement and confidence (Andreanoff, 2016). Lastly, a study by Sims (2014) distributed a survey to second and third-year students in an English course about their experiences with peer-led facilitation of course materials. This study noted student teachers being unprepared and lacking a sufficient knowledge base as the main problems with peer-led learning activities.

Expectations

According to Upcraft et al., "Many students enter college with only a vague notion of what undergraduate education is all about, where it is supposed to lead, and what the institution expects of them" (1989, p. 39). Moreover, "expectations affect students' motivation, engagement, and investment of effort" (Konings et al., 2008, p. 536). Based on the literature, a discord between expectations and reality forms a barrier to student success. This section explored why an institution should prioritize expectation data and how existing theories can help us better understand this phenomenon.

The Importance of Expectation Data

According to Howard (2005), expectations determine how a person will approach or respond to future situations. These expectations are formed based on past experiences and can be influenced by a variety of sources, including, but not limited to, peers, family, mentors, social media, and other forms of mainstream media. However, he also noted that expectations constantly change as one experiences new situations (Howard, 2005). Expectations constitute a significant area for educational research because through understanding the importance of expectations, institutions may be better equipped to meet students' needs once they matriculate. Institutions often take great care to outline what they expect of students such as a code of conduct, but significantly less energy has been applied to discovering what students expect of the institution (Miller, 2005). Researchers have observed that understanding expectations can be valuable before college matriculation. Cole (2009) asserted that "understanding student backgrounds, experiences, and expectations so that institutions can minimize unmet expectations and increase student engagement, learning, satisfaction, and persistence" is one of the reasons

why pre-college data is necessary (p. 67). Furthermore, research indicated that there might be a connection between pre-college expectations and persistence (Cole, 2009).

Theories that Help Explain How Expectations Affect Persistence

Research by Helland and Associates (2001) discussed the importance of collecting expectation data to better understand student departure and its relationship to first-year persistence. Also, Driscoll (2000) pointed to using literature from the fields of psychology and sociology to better understand how expectations are formed and operationalized by individuals in everyday life. These expectations can have an enormous impact on how a student may react to the institutional environment and serve as a herald to decision-making such as a choice of major (Pike, 2006). Three theories that shed light on this phenomenon are discussed in the section below.

Astin's Inputs-Environments-Outputs (IEO) model. Alexander Astin's model outlined the interactions between inputs, environments, and outputs to understand better how students persist in college. The foundation of the model (1993) is the belief that higher education institutions need to understand the qualities and characteristics of the student as they matriculate, the nature of the educational environments the student will meet while at the institution, and the qualities of the student as he or she exits the institution to evaluate its effectiveness. Astin defined inputs as the characteristics of the student at the time of entry, like demographics, financial status, and motivations for attending college. Expectations captured before the student fully engages with the college campus could also be considered a pre-matriculation input.

Bronfenbrenner's Ecological Systems Theory. The ecological theory suggested that a lack of alignment between the environment and the student characteristics can cause dissonance for an individual, followed by regret and ultimately a desire to leave the institution (Astin, 1993:

Tinto, 1993). This lack of "fit" could stem from a student's unrealistic expectation or perception about the overall college experience, or that the specific institution is in breach of the previously mentioned psychological contract. Lack of "fit" can heavily contribute to student attrition (Smith & Wertlieb, 2005).

Vroom's Expectancy-Value Theory. This theory aimed to explain how individuals make decisions regarding behavioral alternatives and select the best option based on motivational forces (Geiger & Cooper, 1995; Wigfield & Eccles, 2000). The theory included three parts. The first is a positive relationship between performance and rewards, the second is a positive relationship between effort and performance, and finally the attainment of valued outcomes and rewards (Isaac et al., 2001). The notion is that a student's motivation to learn is fueled by the likely success of a positive outcome (Geiger & Cooper, 1995; Wigfield & Eccles, 2000). Motivation can then affect the amount of effort a student may choose to invest into his or her college success. Nevertheless, since the first year is front-loaded with heavy life decisions, most students are overwhelmed, which often leads to impractical expectations and high-stress levels.

In conclusion, for the importance of expectations, any employee in the higher education landscape with the ability to affect the design of the educational experience should consider assessing the expectations of the various student populations. For the traditional FTIC, the first year is a dynamic period filled with both opportunity and challenge. It is incumbent on the institution to create an environment that meets expectations with specific opportunities like student clubs, internal resources like learning support services, and an accessible faculty-to-student relationship paradigm. Humans naturally see the world from an egocentric point of view, but they also see what they expect to see. Consequently, it will be difficult for an institution to achieve its goals without the collection and interpretation of expectation data.

Psychological Contract Theory

Kuh, Gonyea, and Williams (2005) put forth the notion that Psychological Contract Theory (PCT) in higher education research provides another viewpoint for understanding how students perceive the fundamental nature of the relationship between themselves and the institution. The key underpinning is that each student perceives a bond dictating a specific and appropriate set of behaviors between the parties (Rousseau, 1995). The difficulties lie in these understandings being overwhelmingly implicit and rarely spoken aloud. With no verbal contract, the students will turn to schemas to shape and guide their expectations (Howard, 2005).

The psychological study of cognitive processes is so vast and well-documented that this chapter cannot contain its scope. Nonetheless, several noteworthy exemplars will help in understanding the future of PCT in higher education research. In 1955, Kelly claimed all people have the innate ability to act like scientists by analyzing experiences to form a hypothesis on how to test their present situation. If the hypothesized behavior was successful, a construct was formed and added to the pre-existing system. This system also includes high levels of anxiety, as one's hypothesis always has the potential to be mistaken or insufficient. In 1979, Mischel sought to replace dispositional traits like extroversion or introversion with concepts like expectancies when attempting to predict behaviors. These expectancies include the anticipated outcome of the behavior and the level of confidence in achieving the desired outcome in the specific moment of need. For example, does the student believe they can perform the required behaviors critical to succeeding in his or her first year of college? Finally, in 1981, Bandura built upon previous research to postulate that self-efficacy plays the most crucial role in having the confidence to carry out the necessary behaviors for success. Self-efficacy reflects confidence in exerting control over one's motivation, behavior, and social environment (Bandura, 1986). A student may

possess a high level of confidence in his or her ability to handle the academic rigor, but not in his or her ability to manage the social pressures of college. These constructs are more than representations of the past; they are embedded deep into the psyche and directly affect the student's ability to engage with the challenges of a new environment.

Howard (2005) outlined a brief and novel history of PCT in an education setting such as Sims (1992), who utilized the theory to build effective learning environments for employee training, Danielson (1995), who applied PCT to the role of the course syllabus, and Arnold and Kuh (1999), who examined the use of mental models to describe the differences among the various stakeholders in higher education. They analyzed the diverse array of schemas entangled in the undergraduate learning and identity development process. They applied this lens to several student types such as traditional-age, older students, or commuters. Though, they did not consider undeclared students coming straight from high school.

More recently, higher education researchers have noticed undeniable similarities between the study of workplace employee turnover and student attrition in college. A contemporary study employed PCT with other frameworks when analyzing data from FTIC students in a large institution in the Midwest whose academic profile aligns with this study (Pleitz et al., 2015). They concluded that FTIC students have unknown, naive, or inaccurate expectations resulting in the creation of false schemas to fill in the missing information. Furthermore, the findings demonstrated that incoming students have strong expectations of social life and institutional characteristics, among others. This finding corresponds with a previous study by Kuh, Gonyea, and Williams (2005) who conducted a factor analysis on Pace & Kuh's College Student Experiences Questionnaire (1998) to conclude that "expectations of college activities" was one of the main drivers in explaining variance within their scale. Finally, students who have a more

challenging time finding a peer group and adjusting to the social expectations of college life are more likely to leave (Pleitz et al., 2015). A failure on the part of the institution to provide an accurate description of the social skills needed and existential intelligence required to integrate into this level of academic setting is found throughout persistence research, such as Tinto's work on voluntary departure.

Higher education researchers should look to PCT to help discover new solutions and to better understand the expectations of incoming students. Our ability to create engaging educational environments that produce desired outcomes is hindered if we do not better understand the incongruences between first-year students' expectations and the reality of their situation. As student retention continues to be a vital issue for higher education institutions, this study and those like it seek to find commonalities between workplace turnover and student attrition based on violations of an unseen and unspoken contract between two parties.

The Undeclared Student

Interest in students who enter college without a major, most often called undeclared, began more than 80 years ago (Carduner, 2011). The literature on undeclared students is wide but shallow. The subject has been studied for many decades, but it cannot be characterized as robust (Allen & Robbins, 2008; Baird, 1967; Gordon, 1998, 2007; Grites, 1981; Holland 1977, 1985; Steele & Gordon, 2015). There seems to be a disconnect by generation. There was a time when being undeclared would have been considered high risk (Upcraft et al., 1989; Anderson et al., 1989). Since then, some studies have suggested the benefits of waiting to declare for a small period before the effects of waiting too long cause persistence to fall off the cliff (Cuseo, 2005; Gordon, 2007).

How to Define the Undeclared Student

For Gordon, "Undecided students are such a heterogeneous group and the administrative variations on campuses are so different that it is difficult to comprehend the enormity and complexity of trying to identify and advise them" (2007, p. ix). A meta-analysis by Kelly and Pulver (2003) listed several postulates for the disparity in defining and studying this population: (1) the lack of predictive analytics, (2) the failure to consider academic aptitudes, (3) the use of convenience sampling and the choice to frame the data as undeclared versus declared students, (4) the way statistical analysis is interpreted, and (5) the variation in personality variables (Gordon, 2007).

A review by Gordon (2007) found the term used most often to define this group on a college campus is Undeclared, followed by Undecided, and then Exploratory. Other terms are used less frequently, such as General Studies, Pre-Major, Deciding, General Curriculum, Open Enrolled, Open Option, and No Preference (Gordon, 2007). This study lists ten different possible terms to denote the concept of a student being unsure of his or her academic or professional pathway in college. There could be countless other labels and perhaps more to come in the future. These inconsistencies may add to the confusion a student feels as he or she struggles to find his or her fit on campus and in the larger world off-campus.

To synthesize the previous data on undeclared students, Virginia Gordon developed multiple subtypes to help institutions tailor their interventions. She created a taxonomy that included seven subgroups of undecided, decided, and indecisive students (Gordon, 1998). Within the decided group were "very decided," "somewhat decided," and "unstable decided." There were also three sub-types of undecided: "tentatively undecided," "developmentally undecided," and "seriously undecided." The discerning factor among these subtypes of undecided type is self-

esteem and confidence in decision-making (Gordon, 1998). The final group is chronically indecisive, where the students are not deficient in aptitude or motivation but have severe anxiety and may not be ready for the rigors of the exploration process (Gordon, 1998). At the studied institution and for this study, the data did not delineate the sample into these sub-groups.

Brief History

R.B. Cunliffe in Detroit cited the first recorded study of students not committed to an educational direction in 1927 (Gordon, 2007). Over the next thirty years, the research attempted to parse out other factors, such as being college-bound or not (Kilzer 1935), the effect of religious attitudes (Nelson & Nelson 1940), and family influences (Kohn 1947) as part of more extensive studies (Gordon, 2007).

From the 1960s through the 1990s, several waves of research shed new light on this population. The vast majority would frame the studies as a comparison of undeclared students to declared students with little thought as to why the student was choosing to be undeclared (Ashby et al., 1966; Baird, 1967; Holland, 1977). Then came studies that started to focus on psychological factors like identity and locus of control (Appel et al., 1970; Kimes & Troth, 1974). After that came those classifying the issue as a dimension of career indecision (Feldman, 2005; Gordon, 1998; Holland, 1985).

In the early 2000s, the concept of being undeclared as a product of career indecision was furthered by exploring the source of this indecision through the lens of vocational psychology (Brown & Rector, 2008; Page et al., 2008; Saka & Kelly, 2008). Nevertheless, this most recent time saw a decline in studies on the subject of being undeclared and its effect on academic performance and retention rates. This researcher has found little explanation for the decline in

interest in this subject, but many researchers are calling for a renewed focus on the topic (Blustein, 2008; White & Tracey, 2011).

The Undeclared Student and Persistence

As previously noted, studies on undeclared students and academic performance are mixed. Some maintain that students who commit to a major of choice are more likely to persist and therefore graduate than those who change majors. In the last twenty years, several studies have noted major-interest congruence as a likely predictor of success in a student's chosen academic field (Allen & Robbins, 2008; Leuwerke et al., 2004; Tinto, 1999). This concept supports previous studies of "best fit" that suggested an undeclared student may be at risk due to a lack of fit, causing a lack of commitment (Tinto, 1993; Wilcoxson & Wynder, 2010). Also, in this time frame, there are notable examples of research that found undeclared student populations tend to earn lower grades and have lower retention rates than their declared counterparts (Anderson et al., 1989; Leppel, 2001, Pascarella & Terenzini 2005).

On the contrary, there is also historic precedence of studies that frame starting college undeclared as having a positive relationship to persistence, Holland and Holland (1977) found the only difference between undecided and decided students was their confidence in vocational identity and attitude toward the decision-making process. A study by Grites (1981) showed that a student's decision to be undecided marked a healthy approach to college and post-collegiate decision-making. Grites argued that at the time of application, high school students do not have enough information about themselves, their majors, and careers to make appropriate decisions and that being undeclared at this point does not indicate they will have a chronic issue with committing to the institution and persisting until graduation. This sentiment has recently been revived by several studies that categorized undeclared students as developmentally normal and

that this population achieves comparable academic achievement milestones like GPA and persistence to their declared classmates (Cuseo, 2005; Graunke, 2006; Lewallen, 1995; Spight 2020; Strommer, 1997).

It is disagreements in the literature that drive the proposed study to examine this unique population further. There must be a variety of other factors affecting the first-year persistence of this group. For instance, Lewallen (1993) asserted that previous studies confused commitment to a major with a commitment to earning a college degree. Graunke (2006) furthered this notion by determining that students with high institutional commitment and commitment to an educational goal were likely to persist and graduate regardless of their commitment to an academic major. This study does not indicate if the sample students began as undecided or later changed their major. An updated analysis of this type of data could help explain why undeclared students do or do not persist.

Another possible explanation of why being undeclared is often associated with attrition is a fear of instability in the student's academic life. Often institutions assume a student choosing a major at the time of application or orientation understands themselves and the chosen field. However, studies estimate that 30-50% of all students change their major at least once before graduation (Foraker, 2012; Tinto, 2012). Thus, the majority of students are in a state of transition throughout their college career, and attempting to predict persistence based solely on the initial major of choice is problematic. Yet, the research on retention overall points to having either an educational or career goal as one of the strongest factors associated with persistence (Wyckoff, 1999). Lastly, there is an empirical relationship between student satisfaction with institutions and persistence (Noel & Levitz, 1995). There is a gap in the literature and a need to unify the theories

on undeclared students, first-year persistence, the psychological development of identity, and how students' expectations can affect their satisfaction with the institution.

Summary

Academic preparedness and motivation are the best predictors of student persistence and completion through graduation (Kuh et al., 2005). However, recruiting only the best students is a tactic few institutions can afford. Therefore, a renewed focus on motivation is required. This research focused on the motivation to persist through the second fall semester of college through the lens of met/unmet expectations of a specialized population. The goal was to provide a more accurate explanation of first-year persistence for the undeclared population to allow the findings to be generalized across institution types and other at-risk populations. The biased perception of an undeclared student should not be what drives the strategies and responses of the institution. Successful institutions realize that the best way to retain students is by discovering what resources and campus relationships enhance student satisfaction (Elliott & Shin, 2002).

Chapter 3: Methods

The focus of this study was to examine the relationship between the expectations of undeclared, first-time-in-college (FTIC) students and their persistence defined as full-time enrollment in the first summer or fall, and then enrollment in at least one credit to the end of the second fall. For this study, undeclared students were defined as those who self-select on the Beginning College Survey of Student Engagement (BCSSE) as unsure of their major as they matriculate into the university. The BCSSE also measured their expectations. Survey data is an appropriate tool for a university to improve the quality of the undergraduate experience and for the state to measure institutional performance (Kuh et al., 2001; Porter, 2011). By assessing BCSSE data with institutional information on first-year persistence for the undeclared, FTIC population, this study helped shape the decisions and actions of university leadership to attain the success metrics as outlined by the state government. This chapter includes a review of the research design, a detailed description of the population and sample, a review of the variables, validation of the instrumentation and data collection plan, and an overview of how the data was analyzed.

Research Design

This non-experimental, quantitative study with a correlation design explored how undeclared, FTIC students' expectations of college in terms of co-curricular involvement, faculty interaction, and the utilization of learning support services correlate to persistence to the end of the second fall of college. A correlational analysis aims to determine if two or more variables

have a relationship where the direction and magnitude can also be observed (Cohen, Manion, & Morrison, 2000, p. 133). For each research question, a logistic regression model was utilized to determine the relationship between the expectation and persistence. For every research question, persistence is defined as full-time enrollment in the first fall, and then enrollment in at least one credit to the end of the second fall. The following research questions guided the study:

1. What is the relationship between undeclared, first-year students' expected involvement in organized campus co-curricular activities and persistence?
2. What is the relationship between undeclared, first-year students' expected interaction with faculty members and persistence?
3. What is the relationship between undeclared, first-year students' expected utilization of learning support services and persistence?

Theoretical Framework and Research Questions

Rousseau's Psychological Contract Theory classified the elements of a contract into two broad groups: transactional, where the relationship is short-term and ends in an immediate exchange of resources; and relational, where the relationship is long-term, and the resources desired have a socio-emotional component (Rousseau, 1995). For the research questions in this study, questions 1 and 2 should be categorized as relational, such as receiving mentorship from an older student in a Greek Life organization or a faculty member in the field of study the student intends to pursue. Question 3 will most often be transactional, as the student seeks immediate help on an assignment through tutoring or a social skill improvement from success coaching.

Research indicates that relational elements stimulate higher levels of obligation to the relationship but can be more easily violated due to the many elements that can contain ambiguity (Rousseau and Tijoriwala, 1999). Additionally, research suggests that transactional elements do

not significantly impact satisfaction or performance (Dabos and Rousseau, 2004; Rousseau and Tijoriwala, 1999). Based on this previous research, the data analysis for this study included methods to establish how much each variable uniquely predicts persistence through the end of the second fall semester of college. The data helped determine if PCT can become a viable framework for higher education research. A study by Wade-Benzoni, Rousseau, and Li (2006) suggested that the PCT framework yields findings in academic populations consistent with previous industry research, though this research focused solely on the student-to-faculty relationships at the doctoral level.

Population

The population for this study was FTIC, undergraduate students who were degree-seeking at the University of South Florida (USF) on the Tampa campus in the fall of 2017 or the fall of 2018. The researcher requested persistence data on this population during the proposed studied cohort years to serve as a benchmark for the sample. USF was founded in 1956 on the principles of access, academic excellence, and service to the community. USF is accredited by the Southern Association of Colleges and Schools (USF, 2021). The Tampa campus serves 32,000 FTIC, undergraduate students from over 140 countries. The Tampa campus population is approximately 55% female and 45% male, and 73% are classified as full-time students (USF Office of Decision Support, 2020). In 2018, the incoming FTIC student population had an average high school GPA of 4.13, an average SAT of 1286, an average ACT of 29, and approximately 65% of new FTIC students lived on campus during the first year (USF Office of Decision Support, 2020).

Sample

This study employed a non-probability sampling method of purposive sampling. A purposive sample consists of units chosen because they contain specific characteristics sought out by the researcher (Levy and Lemeshow, 1991). The criteria for the sample of this study were FTIC, undergraduate, full-time (at least 12 total credits), degree-seeking students who matriculated to the USF Tampa campus in the summer or fall of the years 2017 or 2018, and who self-identified as unsure of their major during the orientation process. The proposed cohort years were ideal due to the stability of the BCSSE and its delivery method at the studied institution. For example, one of the variables was not available until 2017. Additionally, this period features consistency with the campus and global environments. The researcher has decided to exclude the last few years of data, starting with the fall 2019 cohort. For the 2019 cohort and every subsequent cohort, these students will have experienced the COVID global pandemic starting in Spring 2020. This unprecedented event will have a substantial but yet-to-be-verified impact on this cohort's first-year retention rate.

According to Hosmer and Lemeshow (2000), a minimum sample size estimate could start with the simple idea of at least 50 observations per independent variable. This study proposed to have six independent variables and therefore needed a base sample size of 300. However, the researcher chose to use one of the nine BCSSE scales for Research Question Two, which reduced the number of independent variables to three. The independent variables and the BCSSE scales are discussed in further detail in the next section. Nevertheless, the researcher also conducted a power analysis to determine the number of subjects needed to detect an effect, if one exists. Conducting this power analysis requires three pieces of information: an estimate of the size of the correlation, a two-tailed alpha value also known as a Type 1 error rate, and a beta

value also known as a Type 2 error rate (Creswell, 2018). The Type 1 error rate is a false positive when a researcher incorrectly rejects a true null hypothesis. The Type 2 error rate refers to a false negative when a researcher fails to reject a false null hypothesis (Ware et al., 2013). The software Statistical Package for the Social Sciences, also known as SPSS, has a function appropriate for power analysis with logistic regression called SPSS Sample Power that was used for this study.

A demographic makeup and pre-matriculation data breakdown of the sample are provided. The goal was first to determine if the sample is similar to the population to assess how generalizable the results of the study will be to the rest of the university and other similar institutions. Furthermore, future researchers may look for this type of data when determining if this study would be useful to their own goals. Finally, for readers to recognize the quality of the study, methodological details such as information about the sample are vital to detect statistically significant relationships (Hancock et al., 2010).

Variables

The dependent variable for each research question was persistence to the end of the second fall of college. This variable was measured by students from the sample who were enrolled in their first fall semester for at least 12 credits (full-time status) and were subsequently enrolled and completed at least one credit in the fall semester of the next academic year. For example, the student began in the Fall of 2017 in full-time status and was enrolled in at least one course by the end of the Fall of 2018. This scenario included students approved for late adds outside the standard registration window. This dependent variable is dichotomous and categorical. Students who did not meet the criteria were coded with a value of 0, and students who do meet the criteria were coded with a value of 1. The Office of Decision Support provided

persistence information for the sample that self-identify as being undeclared and for the FTIC population of the cohort year for comparison.

There were three independent variables to be examined in the study (see Table 4). The first research question focused on expected involvement with organized campus co-curricular activities that the BCSSE outlines as organizations, campus publications, student government, fraternity, or sorority, and intercollegiate or intramural sports. The independent variable for this research question was the student's response to question 13c on the BCSSE from 2017 or 2018. The student had eight response options for this question, which are 0 hours per week, 1-5 hours, 6-10 hours, 11-15 hours, 16-20 hours, 21-25 hours, 26-30 hours, and more than 30 hours. For this research question, the response options were ordered categorical variables. The chosen statistical software has a function that allows variables to be converted into custom ordinal categories. 0 hours per week was coded as 0, 1-5 hours was coded as 1, 6-10 hours was coded as 2, 11-15 hours was coded as 3, 16-20 hours was coded as 4, 21-25 hours was coded as 5, 26-30 hours was coded as 6, and more than 30 hours was coded as 7. A review of the assumptions required for logistic regression is provided in the data analysis plan later in this chapter.

Table 4:

Overview of the Six Independent Variables

Independent Variables	**Response Options**
During the coming school year, about how many hours do you expect to spend in a typical 7-day week; Participating in co-curricular activities?	Response options are (0, 1-5, 6-10, 11-15, 16-20, 21-25, 26-30, more than 30)

Table 4: *(Continued).*

Independent Variables	Response Options
During the coming school year, about how often do you expect to; Talk about career plans with a faculty member?	Response options are (Very Often, Often, Sometimes, Never)
During the coming school year, about how often do you expect to; Discuss your academic performance with a faculty member?	Response options are (Very Often, Often, Sometimes, Never)
During the coming school year, about how often do you expect to; Discuss course topics, ideas, or concepts with a faculty member outside of class?	Response options are (Very Often, Often, Sometimes, Never)
During the coming school year, about how often do you expect to seek help with coursework from; Learning support services (tutoring, writing center, success coaching, etc.)	Response options are (Very Often, Often, Sometimes, Never)

The second research question focused on expected involvement with faculty. The researcher defined this variable as the student's responses to questions 15e-h. These questions ask the student if they expect to discuss career plans with faculty members, work with faculty members on activities other than coursework, discuss academic performance with faculty

members, and interact with faculty outside of the classroom. The response options for 15e-h are a four-point Likert scale of "Very Often," "Often," "Sometimes," and "Never." This is where the researcher considered if theoretically each question should be treated as distinctly different concepts or if they should be treated as one underlying construct of interaction with faculty, if they believed there were issues with putting different constructs of the same concept into the model due to concerns with multicollinearity. A common problem with logistic regression is multicollinearity which occurs when two or more independent variables measure the same information (Morgan et al., 2013). However, a 2013 revision of the BCSSE survey included the creation of nine scales with strong psychometric properties. These scales measured internal consistency reliability concepts like item-to-scale correlations and intercorrelations of items within a scale (BCSSE, 2021c). Questions 15e-h on the 2017 or 2018 BCSSE would be located on the scale labeled Expected Student-Faculty Interactions (EXP_SFI). No average inter-item correlation fell below .15 indicating that the EXP_SFI scale does not represent overly broad constructs. The use of the scale would have component items converted to a 60-point scale with never coded as 0, sometimes as 20, often as 40, and very often as 60, then averaged together as student-level scores. This would collapse the variable response options into just one independent. A review of the instrument later in this section included a more detailed assessment of the validity and reliability of this scale.

The third research question focused on expected involvement with learning support services. The researcher defined this variable as the student's response to question 19c. This question asks the student if they expect to seek help with coursework from learning support services like tutoring, the writing center, success coaching, and other sources. The response options are a four-point Likert scale of "Very Often," "Often," "Sometimes," and "Never." This

question about the utilization of learning support services was not added to the survey until the 2017 version.

Instrument

The Beginning College Survey of Student Engagement (BCSSE) was designed in 2007 by the Center for Postsecondary Research at the Indiana University School of Education (BCSSE, 2021a). Since its inception, the survey has been administered to nearly one million students at 540 different institutions across the United States and Canada (BCSSE, 2021a). Concerning the generalizability of using BCSSE data, there is ample indication that a variety of institutional types participate. A recent review indicated that among the institutions that participated, 42% were classified as master's colleges and universities, 35% as baccalaureate colleges, and 22% as doctorate-granting universities. Moreover, 44% were categorized as public and 55% as private. Finally, for undergraduate enrollment, 13% of institutions utilizing the survey have fewer than 1,000 students, 35% 1,000-2,499 students, 13% 2,500-4,999, 13% 5,000-9,999, 17% 10,000-19,000 and 10% had 20,000 or more. BCSSE institutions generally reflect the diversity of U.S. bachelor's-granting institutions concerning Carnegie Classification, public or private control, and undergraduate enrollment (BCSSE, 2021a).

The survey is often improved upon, infused with new research, or updated to reflect new populations and goals. For example, it was recently updated to include the ability to be administered in a web format and to account for older students (BCSSE, 2021a). One of the most significant updates occurred in 2013 to better align with the companion survey entitled the National Survey of Student Engagement (NSSE). The goals of this update were to develop new measures of effective learning, refine the existing measures and scale, and update the survey language to reflect more contemporary educational contexts (NSSE, 2021a; NSSE, 2021b). This

included reviewing the literature, interviewing students, conducting pilot tests, and interviewing both industry experts and institutional staff members who administer the survey on their campus (Cole & Paulsen, 2019). Additionally, both exploratory and confirmatory factor analyses were used to measure the construct validity of the survey to ensure that the indicators actually measure what they intend to measure (NCSSE, 2021c). In more recent studies, construct validity has become the standard in determining overall validity (Creswell, 2018). The exploratory analysis provided evidence that the items were grouped in a way that was statistically appropriate and sensible. The confirmatory analysis concluded that overall fit indices, factor correlations, and regression weights provided sufficient construct validity evidence (NCSSE, 2021c).

For this study, the researcher utilized the version administered in paper format to the studied institution in 2017 or 2018, which was the same in both years. The goal of the survey, as outlined by Indiana University, is to collect data from matriculating first-year students about their high school experiences and the expectations they hold regarding educationally purposeful activities during their first year of college (BCSSE, 2021a). The studied institution started administering the survey in 2014 (BCSSE, 2021b) as a resource for faculty, advisors, other staff, and executive leadership to assist in decision-making strategies to improve first-year persistence. This version of the survey included 34 questions that incorporate multiple-choice, fill-in-the-blank, and rating scale responses. Kuh (2004) stated that self-reported student survey data is one of the most efficient and practical methods for gathering information on incoming students' expectations. Kuh (2004) also does caution the researcher to be mindful of the problems with self-reported data like issues with accuracy and the possibility for the student to be unwilling to provide honest information. To address this issue, the researcher looked to research by Carini and Associates (2006) that outlines six indicators of the validity and reliability of student self-

reports: the information requested is known to the respondents, the questions are phrased clearly and unambiguously, the questions refer to recent activities, the respondents think the questions merit a thoughtful response, the information requested is potentially verifiable, and the question asks for information that is known to those answering the questions and does not threaten, embarrass, or violate their privacy or encourage the respondents to respond in socially desirable ways. Research on the BCSSE indicates that this instrument was designed with these conditions in mind (Cole & Paulsen, 2019; Kuh, 2001; Kuh, 2002).

The survey also encompasses nine scales (see Table 5). The first two scales are dedicated to high school quantitative reasoning and learning strategies. Three scales focus on a student's expectations about collaborative learning, interactions with faculty, and exchanges with a diverse student body. The next three scales deal with expectations about academic situations and preparedness. The final scale deals with the importance of campus environments (BCSSE, 2021c). In this study, the second research question dealing with expected faculty interactions fell under the scale of "Expected Student-Faculty Interaction" which is also labeled as SFI.

Table 5:

List of BCSSE Scales

High School Quantitative Reasoning
High School Learning Strategies
Expected Collaborative Learning
Expected Student- Faculty Interaction
Expected Interactions with Diverse Others
Expected Academic Perseverance
Expected Academic Difficulty
Perceived Academic Preparation
Importance of Campus Environment

Note. Electronic image created by the researcher.

The scales are composed of three or more items where the scale value is created by translating the responses from each item into a 0-60 point scale. For example, never was assigned 0 points, sometimes was 20, often was 40, and very often was 60. The points are then averaged together as student-level scores. This conversion increases the generalizability of the survey across institutions and time (BCSSE, 2021c). These scales were tested for several years from a quantitative and qualitative approach, including cognitive interviews, focus groups, and a multi-year pilot with analysis (BCSSE, 2021c).

Validity and Reliability of the SFI scale

Statistical techniques were used to confirm the reliability and validity of the nine scales for the version of the BCSSE survey that was utilized in this study (Cole & Paulsen, 2019). The use of Cronbach's alpha examined the internal consistency reliability. Using Cronbach's alphas based on Pearson's correlations is appropriate for ordinal data for research purposes when the alpha for the scale is not smaller than .70 (Gadermann, Guhn, & Zumbo, 2012). Another technique used a split-sample approach to identify possible factor structures and then test those (Cole & Paulsen, 2019).

From the descriptive analysis, the results indicated that overall, the scales have sufficient distributional properties (Cole & Paulsen, 2019). Next, a multi-year analysis of confidence intervals revealed insignificant differences for the year-to-year scale, inspiring 95% confidence that the true mean for each scale is close to the sample mean (Cole & Paulsen, 2019).

The results suggest a high degree of internal consistency in most of the nine scales, including the SFI scale used in this study. Furthermore, no average inter-item correlation fell below .15, indicating that none of the scales represents overly broad constructs (Cole & Paulsen, 2019). The nine scales displayed moderate to high levels of internal consistency. In the end,

researchers determined that the SFI scale has sufficiently strong construct validity evidence to support its use for this study (see Table 6).

Table 6:

Cronbach's Alpha for SFI BCSSE Scale

BCSSE scale	Cronbach's α	Inter-Item Correlation	Average Inter-Item Correlation
Expected Student-Faculty Interaction	.85	.52-63	.58

Note. Electronic image created by the researcher.

Data Collection

This study explored two secondary data sets from the institution. The first data set is institutional reports of the BCSSE responses for FTIC students who self-identified as unsure of their major. The second data set is institutional reports on student persistence. The researcher gained permission for this data from the dean, the Institutional Review Board (IRB), and the Office of Decision Support (ODS). The studied institution has a request process and forms specifically for doctoral students. The BCSSE responses and persistence data was matched based on unique student identification information contained in both reports. To maintain the privacy of the student, the identifying student information was removed from the merged report after all variables were incorporated. The Office of Orientation, the Division of Student Affairs, the Office of Academic Advocacy, and the Office of Decision Support collaborated to collect, score, and code the BCSSE data to ensure that individual students could not be identified. The Office of Decision Support provided the institutional data for first-year persistence.

From 2013 through 2018, USF administered only the paper version of the BCSSE survey during FTIC orientation. For all students, the orientation would occur between June and August.

The USF orientation during this time frame was mandatory for all FTIC students, occurred only in person with no virtual options, and was a two-day experience. The administration of the survey occurred at a similar point in both of the studied years, which was during the post-afternoon portion of day one. A review of the day-one programming for both years indicates a similar experience. For example, the students would have received information on how to transition from high school to college, financial literacy, alcohol education, and academic integrity. However, for both years, students would not have interacted with their major or major advising until day two. The only difference is that in 2017, the survey was administrated at 8 p.m. after the optional activities time slot like a campus tour. While in 2018, the survey was administered at 5 p.m. before the optional activities time slot (M. Hauser, personal communication, May 17, 2022). Finally, the researcher requested the survey response rate that helped with decisions regarding outliers and missing data.

Data Analysis Plan

Logistic regression was used to determine the strength of the relationship between students' expectations and persistence to the end of the second fall of college because the dependent variable for all three-research questions is binary. The student will persist or not persist. "Logistic regression is appropriate for determining the correlation between a dichotomous dependent variable and a set of independent variables" (Gall et al., 2007, p. 354). A separate regression model was utilized for each research question, meaning there were three total logistic regression models in this study. The independent variables were continuous and rating responses from the BCSSE. A statistical analysis of the data was completed using the Statistical Package for the Social Science software (SPSS). Any p-value reported by the software as .000 was reported as <.001 in the results. The alpha was set at .05 for all inferential statistics (Ware et

al., 2013). Descriptive statistics such as measures of central tendency, standard deviation, skewness, and kurtosis were evaluated. Table 7 displays the research questions and the data analysis conducted for each question. For every research question, persistence is defined as full-time enrollment in the first fall, and then enrollment in at least one credit to the end of the second fall.

Table 7:

Data Analysis by Research Question

Research Question	**Independent Variable**	**Dependent Variable**	**Data Source**
1. What is the relationship between undeclared, first-year students' expected involvement in organized campus co-curricular activities and persistence?	Expected involvement in organized campus co-curricular activities (hours per week)	Persistence (Yes or No)	Independent BCSSE question 13c
2. What is the relationship between undeclared, first-year students' expected interaction with faculty members and persistence?	Expected interaction with faculty (Likert Scale)	Persistence (Yes or No)	Independent BCSSE questions 15e-h
3. What is the relationship between undeclared, first-year students' expected utilization of learning support services and persistence?	Expected utilization of learning support services for help with coursework (Likert Scale)	Persistence (Yes or No)	Independent BCSSE question 19c

There are several assumptions associated with logistic regression: a binary dependent variable, the independent variables are measured on either a continuous or nominal scale,

independence of observations, an appropriate number of cases per independent variable, a linear relationship between the continuous independent variables and the logit transformation of the dependent variable, and no issues with multicollinearity or extreme outliers (Field, 2009; Hosmer et al., 2013; Osborne, 2015).

In terms of how the independent variables were measured, research questions two and three are represented on the BCSSE survey as ordinal as they are on a Likert scale. There is sufficient evidence to treat ordinal variables as continuous since interval or ordinal data response sets do not yield significantly different conclusions (Spatz, 2008; Suskie, 1996; Zumbo & Zimmerman, 1993). Moreover, a function in SPSS will account for this decision. An artificial dichotomy could be created by combining "Sometimes" and "Never" into one category and "Very Often" and "Often" into a second category. The researcher has chosen to submit the variables to the IRB as separate values. If needed, after reviewing the data, the researcher could have determined whether a more reliable analysis was needed. The researcher would then decide to collapse the levels within the variables and submit a revision of the methods to the IRB.

For linearity, one possible method that can be utilized to examine this assumption is the Box-Tidwell procedure initially developed for linear regression, but it has been proven appropriate for logistic regression models (Fox, 2016; Menard, 2010). Lastly, for linearity, while more advanced methods could be deployed on this assumption, these procedures are not compatible with the SPSS software chosen by the researcher.

If outliers are detected, the analysis should be run with and without the outliers to determine how much impact they are making on the conclusion. The researcher could demarcate the differences in conclusions they would make if they included everyone, but note that a few individuals with outlying scores are heavily influencing them. The researcher could test extreme

outliers using Cook's distance. Cook's D is considered a suitable measure of the relationship of an observation without specifically indicating whether it is the intercept or slope that is affected (Ware et al., 2013). While there is not a clear set of criteria for evaluating Cook's D, the research suggests that values greater than 1.0 are noteworthy (Ware et al., 2013).

Likewise, the researcher must determine how to handle missing data. The first step is to assess the missing values. If less than 5% of the entire sample has missing data, the researcher could employ listwise deletion where any observation with a missing value is deleted. This approach is the simplest, however, it has the disadvantage of producing biased estimates and does not account for the assumption that the data is Missing Completely at Random (MCAR) (Kaplan, 2004; Newman, 2014). If the researcher has concerns about the total number of observations with missing data, a function in the chosen software will allow the researcher to determine patterns in the missing data points. The goal will be to determine if the missing data is random (MAR), completely at random (MCAR), or not random (MNAR). If the missing values are deemed to be systematic or MNAR, the chosen software has a function to allow the researcher to use the multiple imputation method for dealing with missing data (McKnight et al., 2007; Schaffer, 1999). This method creates several plausible and imputed data sets by suitably combining results obtained from each set. Next, statistical methods could be used to fit the model of interest to each of these new, imputed datasets. The inferences would be considered valid because the researcher will be averaging over the distribution of the missing data. While multiple imputations should be considered an appropriate choice for improving the validity of the research, it is important to note that the results depend on careful modeling behavior. There are several common pitfalls to keep in mind: omitting the outcome variable in the procedure, dealing with non-normally distributed variables, and practical implications like contemplating all the

possible reasons for missing data (Little & Rubin, 2019; Horton & Lipsitz, 2001; Royston, 2004; Sterne et al., 2009; Wood et al., 2009).

The researcher decided to submit to the IRB with no control variables like race, gender, or the number of college credits a student is bringing into the institution and the source of these credits (i.e., Dual Enrollment vs. Advanced Placement) in the models due to a fear of reducing the sample size needed. In Chapter Four, demographic makeup and pre-matriculation data breakdowns are provided to establish the nature of the sample as consistent with the general population of the students at the studied institution. Descriptive analysis can inform the researcher if utilizing control variables would be advantageous to the study.

Finally, for data analysis, this study could determine how much each independent variable uniquely predicts persistence to the end of the second fall of college. Multiple logistic regression analysis could help to determine the correlation between a dependent variable and two or more independent variables. Multiple regression can describe the interrelationship of several independent variables to evaluate their joint influence on the dependent variable (UCLA, 2017).

Summary

This study utilized secondary data of FTIC students who self-select on the Beginning College Survey of Student Engagement (BCSSE) that they are unsure of what their major will be. The dependent variable was a binary of persisting through the first year of college or not, defined as full-time enrollment in the first fall, and then enrollment in at least one credit to the end of the second fall of college. Three independent variables represented various expectations this sample may have as they matriculate into college. Understanding this pre-matriculation data can bolster the university's ability to stay competitive within the state's current funding model. The expectations of this sample were measured by the BCSSE, and institutional data were

analyzed to answer the research questions. The validity and reliability of the chosen instrument have been determined by the researcher as sufficient for the needs of this study. Chapter Four contains the findings of the statistical analysis and provides insights into what the answers to the research questions mean for higher education practices and policies.

Chapter 4: Results

This study aimed to determine if a relationship exists between expectations and persistence to the end of the second year of college for students who self-identify as not knowing their major as they matriculate into the university. This study focused on students' expected involvement in organized co-curricular activities, interaction with faculty, and the utilization of support services. The study defined persistence as the full-time enrollment in the first fall, and then enrollment in at least one credit to the end of the second fall for a first-time-in-college student (FTIC). Chapter Four includes a description of the survey responses, an analysis of the results for each research question, and an overall summary of the results.

Survey Responses

The USF System Office of Decision Support de-identified the data set and assigned a participant ID. The sample included 1,077 respondents. A listwise deletion method was utilized to remove cases that were missing any values. This reduced the sample to 1,042. This method is deemed appropriate by the researcher as it represents less than 5% of the entire sample (3.25%). The sample included 536 females (51%) and 506 males (49%). The race/ethnicity identities of the sample were: 527 White (51%), 225 Hispanic (22%), 83 Asian (8%), 66 Black (6%), 55 two or more (5%), 44 were listed as a non-resident alien (4%), and 42 no reported race/ethnicity (4%). In terms of high school characteristics prior to matriculation, the lowest high school GPA was 2.27, the highest was 4.8, and the average was 3.91. Next, for college credits earned in high school, the lowest amount was 0, the maximum was 97, and the average was 17.6. For

standardized test scores, the lowest overall ACT score was 16, the highest was 35, and the average was 26.9. Furthermore, the overall SAT score had a low of 860, a high of 1520, and an average of 1244.

For each research question, the model was run twice. Once by separating the cohort years (2017 had 487 cases and 2018 had 555 cases) and the second time with both cohort years combined into one data set with 1,042 cases. There were no significant differences in the results for any of the research questions. Furthermore, it was established in Chapter 3 that there were no significant differences in the demographic makeup of the two cohort years. Therefore, the researcher has decided to report on the combined cohort years to create the largest sample size. A power analysis of this decision is provided in Table 8. The Alpha or Type 1 error of a false positive was set at 5%. The results indicate a 99.3% chance of detecting a difference if one exists. Also, there is a .70% or less than 1% chance of a Beta or Type 2 error of a false negative.

Table 8:

Tests of Between-Subject Effects: Power Analysis of Sample (N=1042)

Variable	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Observed Power
Intercept	100.760	1	100.76	806.534	<.001	.493	1.000
Co-curricular Activities	.607	7	.087	.695	.677	.006	.303
BCSSE SFI Scale	1.022	12	.085	.682	.770	.010	.406
Support Services	.378	3	.126	1.008	.388	.004	.276
Co-curricular*SFI*Support Services	8.884	76	.117	.936	.633	.079	.993

A descriptive summary including mean, standard deviation, skewness, and kurtosis for each independent variable is provided in Table 9. The descriptive statistics do not indicate any concerns with a normal distribution or outliers. The researcher also conducted a Box-Tidwell

procedure to test for linearity. This information is provided in Table 10. The results indicate that all the independent variables are linearly related to the logit of the dependent variable.

Table 9:

Descriptive Statistics for Sample

Variable	N	Range	Min.	Max.	Mean	Std. Deviation	Skewness	Kurtosis
Co-curricular Activities	1042	7	1	8	3.32	1.349	.995	1.518
BCSSE SFI Scale	1042	60	0	60	30.32	12.297	.518	-.021
Support Services	1042	3	1	4	2.80	.828	-.059	-.797

Table 10:

Box-Tidwell Results

Variable	B	S.E.	Wald	Df	Sig.	Exp(B)
Co-curricular Activities	.472	.523	.815	1	.367	1.604
BCSSE SFI Scale	-.017	.113	.022	1	.883	.983
Support Services	.611	1.100	.308	1	.579	1.842
LnCO-CURRICULAR by Co-curricular	-.164	.227	.522	1	.470	.849
LnSFI by SFI	.004	.025	.025	1	.874	1.004
LnSUPPORT SERVICES by Support Services	-.282	.556	.258	1	.611	.754
Constant	.123	1.564	.006	1	.937	1.131

Results of the Analysis

The findings of this study were reviewed and discussed for each research question. For each research question, the findings were only considered significant at the alpha level of .05.

Additionally, any p-value reported by SPSS as .000 were reported as <.001 in the discussion of the results.

Research Question One

The first research question examined the relationship between expected involvement in organized co-curricular activities and persistence. A Hosmer-Lemeshow Test was utilized to determine how well the sample data fit a population with a normal distribution. The Hosmer-Lemeshow statistic indicates a poor fit if the significance value is less than 0.05 (Hosmer et al., 2013). For Research Question One, a value of .208 indicates the model adequately fits the data.

A logistic regression was used to evaluate the relationship in question one. The results of the logistic regression are presented in Table 11. The results of the regression indicate that the relationship is not significant at the alpha level of .05, $\chi 2$ (1) = .11, p = .12. This finding indicates that the expected involvement in organized campus co-curricular activities does not have a significant relationship to first-year student persistence for students who self-identify as not having a major. The -2 Log likelihood was 863.397, the Cox and Snell R Square was .002, and the Nagelkerke R Square was .004. The model explained a low amount of variance in persistence at 0.4%.

Table 11:

Logistic Regression for Research Question One

Variable	B	S.E.	Wald	Df	Sig.	Exp(B)	95% CI	
							LL	UL
Co-curricular Activities	.108	.069	2.466	1	.116	1.114	.974	1.275
Constant	1.416	.236	35.920	1	<.001	4.120		

The researcher conducted other logistic regressions for Research Question One utilizing different combinations of the eight possible response options, such as only respondents who expected to be involved with student clubs 16 hours or more per week. These data are presented in Table 12. These data represented students who chose the top four response options that correspond to the highest amounts of expected involvement in organized campus co-curricular activities. The researcher chose to display this model as previous research indicated that involvement in organized campus co-curricular activities would significantly impact persistence (Astin, 1999; Braxton, 2000; Hagedorn, 2012; Tinto, 2012). None of the various combinations yielded significant results, including those displayed in Table 12.

Table 12:

Logistic Regression for Research Question One with Responses of 16 Hours or More Only

Variable	B	S.E.	Wald	Df	Sig.	Exp(B)	95% CI	
							LL	UL
Co-curricular Activities 16 or more hours	-.220	.233	.893	1	.345	.803	.508	1.267
Constant	3.415	1.400	5.955	1	.015	30.427		

Research Question Two

The second research question examined the relationship between expected interactions with faculty and persistence. A Hosmer-Lemeshow Test was utilized to determine how well the sample data fit a population with a normal distribution. For Research Question Two, a value of .219 indicates the model adequately fits the data.

A logistic regression was used to evaluate the relationship in question two. The results of the logistic regression are presented in Table 13. The results of the regression indicate that the

relationship is not significant at the alpha level of .05, $\chi 2$ (1) = .01, p = .48. This finding indicates that the expected interaction with faculty does not have a significant relationship to first-year student persistence for students who self-identify as not having a major. The -2 Log likelihood was 865.366, the Cox and Snell R Square was .000, and the Nagelkerke R Square was .001. The model explained a low amount of variance in persistence at 0.1%.

The researcher conducted logistic regressions for each of the individual components of the BCSSE SFI scale. These are questions 15e-h on the BCSSE survey. These results were also not statistically significant and did not reveal any results of note.

Table 13:

Logistic Regression for Research Question Two

Variable	B	S.E.	Wald	Df	Sig.	Exp(B)	95% CI	
							LL	UL
SFI	.005	.007	.498	1	.480	1.005	.991	1.019
Constant	1.614	.232	48.198	1	<.001	5.023		

Research Question Three

The third research question examined the relationship between the expected utilization of learning support services and persistence. A Hosmer-Lemeshow Test was utilized to determine how well the sample data fit a population with a normal distribution. For Research Question Three, a value of .801 indicates the model adequately fits the data.

A logistic regression was used to evaluate the relationship in question three. The results of the logistic regression are presented in Table 14. The results of the regression indicate that the relationship is not significant at the alpha level of .05, $\chi 2$ (1) = .08, p = .44. This finding indicates

that the expected utilization of learning support services does not have a significant relationship to first-year student persistence for students who self-identify as not having a major. The -2 Log likelihood was 865.279, the Cox and Snell R Square was .001, and the Nagelkerke R Square was .001. The model explained a low amount of variance in persistence at 0.1%.

Table 14:

Logistic Regression for Research Question Three

Variable	B	S.E.	Wald	Df	Sig.	Exp(B)	95% CI	
							LL	UL
Support Services	.081	.106	.598	1	.443	1.085	.881	1.335
Constant	1.541	.306	25.374	1	<.001	4.669		

However, a trend was observed. Students who never expected to utilize support services had the lowest average persistence rate at 81%. The rate of persistence would then increase as the student increased their expected use of support services. This trend is displayed in Figure 4.

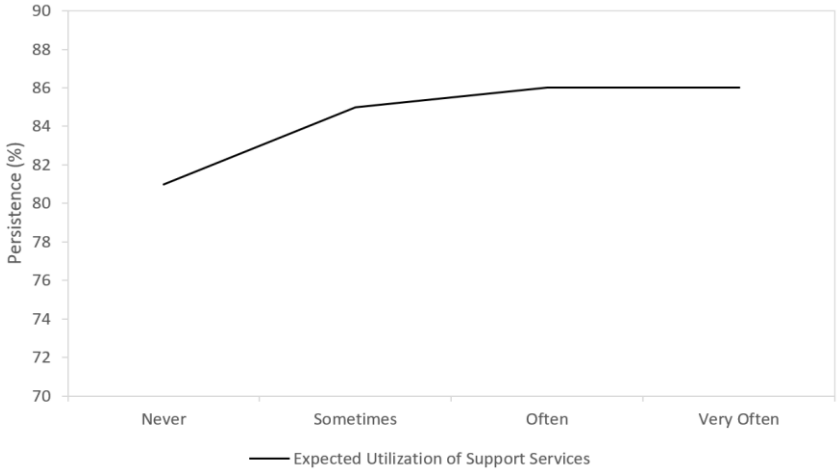

Figure 4:

Percent of Students who persisted to the End of the Second Year of College Based on Response to Question 19c on the BCSSE

Finally, a multiple logistic regression analysis was performed to determine the correlation between the binary dependent variable and all three independent variables. The first step in this process was to test issues with multicollinearity. The variance inflation factor (VIF) was used to test the variables' correlations. A VIF value of 10.0 indicates a high degree of collinearity. However, many researchers consider a VIF of 3.0 or higher as a possible indication of an issue with collinearity (Morgan et al., 2013). All three independent variables returned a VIF of below 1.5. The results are displayed in Table 15. The results of the multiple logistic regression are displayed in Table 16. The model results indicate that the p-values for all three independent variables were not significant.

Table 15:

Variance Inflation Factor

Variable	Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics	
						Tolerance	VIF
Constant	.789	.046		17.175	<.001		
Co-curricular Activities	.012	.008	.046	1.445	.149	.960	1.042
BCSSE SFI Scale	.000	.001	.006	.179	.858	.811	1.233
Support Services	.007	.014	.016	.481	.630	.835	1.198

Note. Dependent Variable: Persistence

Table 16:

Multiple Logistic Regression

Variable	B	S.E.	Wald	Df	Sig.	Exp(B)	95% CI	
							LL	UL
Intercept	-1.242	.366	11.504	1	<.001			
Co-curricular Activities	-.101	.070	2.091	1	.148	.904	.788	1.037
BCSSE SFI Scale	-.001	.008	.030	1	.862	.999	.983	1.014
Support Services	-.055	.116	.228	1	.633	.946	.754	1.187

Note. Reference category is: 1

Summary

Chapter Four provided an analysis of the results for each of the three research questions in the study. The research questions employed self-reported BCSSE survey data to represent student expectations before starting their first year in college and institutional data on first-year persistence. The results demonstrated that for students who self-identify as not knowing their major, the expected involvement in organized co-curricular activities, interaction with faculty, and the utilization of support services were not statistically significant to first-year persistence. While overall the relationship between the utilization of support services and persistence was not found to be statistically significant to persistence, students who selected the "Never" response option had the lowest average persistence rate. The average persistence rate increased as the expected utilization of support services increased. Chapter Five discusses the findings, outlines limitations, and suggests recommendations for future research and current practices.

Chapter 5: Discussions

This study sought to explore whether incoming, undeclared FTIC students' expectations of co-curricular involvement, faculty interaction, and the utilization of learning support services (tutoring, writing center, and success coaching) correlated to persistence at an institution in a state with a competitive funding model. For this study, persistence was defined as full-time enrollment in the first fall and then enrollment in at least one credit to the end of the second fall. Undeclared is defined as students who self-selected on the Beginning College Survey of Student Engagement (BCSSE) as unsure of their major as they matriculate into the studied institution. The goal of the study was to better understand how the institution, faculty, and administrators could better promote reasonable student expectations for undeclared students.

This non-experimental, quantitative study with a correlation design applied a logistic regression model for each research question to determine the relationship between expectation and persistence. Logistic regression was used because the dependent variable for all three-research questions is binary. The student will persist or not persist. Three research questions guided this study on undeclared first-year student expectations and persistence:

1. What is the relationship between undeclared, first-year students' expected involvement in organized campus co-curricular activities and persistence?
2. What is the relationship between undeclared, first-year students' expected interaction with faculty members and persistence?

3. What is the relationship between undeclared, first-year students' expected utilization of learning support services and persistence?

Summary of the Findings

For Research Question One, logistic regression was conducted to determine the strength of the relationship between students' expectations and persistence to the end of the second fall. There was not a statistically significant relationship between expected involvement in organized campus co-curricular activities and first-year student persistence for undeclared students at the alpha level of .05, $\chi 2$ (1) = .11, p = .12. The researcher conducted other logistic regressions for Research Question One utilizing different combinations of the eight possible response options, such as only respondents who expected to be involved with student clubs 16 hours or more per week. All the various iterations yielded results that were not statistically significant. These findings differ from the conventional understanding of co-curricular involvement and persistence (Astin, 1999; Bergen-Cico & Viscomi, 2012; Kuh et al., 2008; Huang and Chang, 2004). However, the researcher could not find any studies that focused on this concept specifically for undeclared populations.

The second research question utilized logistic regression to determine the strength of the relationship between expected interactions with faculty and persistence for undeclared students. The chosen instrument of the BCSSE contains nine scales with strong psychometric properties. The second research question dealing with expected faculty interactions combined BCSSE questions 15e-h into one scale of "Expected Student-Faculty Interaction." There was not a statistically significant relationship between expected interactions with faculty and first-year student persistence for undeclared students at the alpha level of .05, $\chi 2$ (1) = .01, p = .48. The researcher conducted logistic regressions for each of the individual components of the artificially

created SFI model. These results were not statistically significant. These findings expose the crossroads around faculty and persistence literature. Previously, interaction with faculty was proving to be an anchor point for persistence including being a primary aid to the socialization process and adjusting to college life (Astin, 1993; Delaney, 2008; Lau, 2003; Lamport, 1993; Peterson et al., 2001; Umbach & Wawrzynski, 2005). Yet, studies in the last fifteen years suggest that the overall quantity of interactions with faculty the types of exchanges needed to provide positive outcomes are happening less frequently (Cox, 2011; Dika, 2012; Kim & Sax, 2009; Kuh and Hu, 2001; NSSE, 2012; Pascarella & Terenzini, 2005).

The third research question utilized logistic regression to determine the strength of the relationship between the expected utilization of support services (tutoring, writing center, success coaching, etc.) and persistence for undeclared students. There was not a statistically significant relationship between the expected utilization of support services and first-year student persistence for undeclared students at the alpha level of .05, $\chi 2$ (1) = .08, p = .44. The researcher did note a trend where students who never expected to utilize support services had the lowest average persistence rate at 81%. The average rate of persistence increased as the student increased their expected use of the support services. This trend suggests that while the expected utilization of support services was not a significant predictor of persistence for undeclared students in this study, these services can perform a critical function in promoting student success. The utilization of learning support services may not be a cure-all for promoting student persistence, but it may be beneficial to develop interventions that specifically target students who are currently unlikely to seek out these services. Further research could seek to gain a better understanding of how undeclared students are choosing to or not to engage with learning support services, and what services the undeclared student wants or actually needs.

Limitations

As outlined in Chapter One there are several possible limitations to this study. For example, the sample was restricted to one institution, one specific student population, and select cohort years, which means the findings may not apply to other institutions or population types. Amplifying this issue is the fact that the studied institution already has a high persistence rate, which meant there was less variance in the outcome. This is making it difficult to note differences in the results. Next, a limitation common to most survey research is that they rely on self-reported data (Carini et al., 2006; Kuh, 2004). Participants may have responded to the BCSSE survey questions based on what they believed was the most socially appropriate answer or may have responded indifferently without honestly considering the questions. Finally, this study did not make use of control variables or co-variates, such as gender, ethnicity/race, level of parental education, socioeconomic status, pre-college characteristics (high school grades and standardized test scores), commitment to the institution, or campus residency (on or off campus). The addition of these types of controls may help to manage the many factors that affect first-year persistence. The literature indicates that the undeclared population is more complex and nuanced than ever before (Allen & Robbins, 2008; Cuseo, 2005; Kerckhoff, 2002; Gordon, 2007; Steele & Gordon, 2015). Perhaps the use of control variables would find pockets of students who are not persisting at the same rates as others in the larger population. For example, one possible control variable to consider for future research is the quantity and type of college credit-bearing programs that the student interacted with in high school. The expectations of a student who participated in Advanced Placement (AP) could be dramatically different than a student who participated in Dual Enrollment (DE) where they would have been exposed to the dynamics of a college classroom.

Recommendations for Future Research

While none of the research questions in this study yielded significant results, the study did illuminate numerous lessons. The findings of this study suggest that there is a further need to explore the modern undeclared student population. In terms of Research Question One, even though the results were not statistically significant, it is valuable to note that participation in organized co-curricular activities is still widely recognized as an important component to support first-year persistence (Astin, 1999; Braxton, 2000; Hagedorn, 2012; Terenzini et al., 1996; Tinto, 2012). Future research could determine why this one specific institution or population is yielding these results. The researcher could compare the results of this research question between undeclared and declared students at the studied institution. Moreover, the researcher could compare the results of this research question between the institution in this study and all the other institutions that use the BCSSE survey.

For Research Question Two, although the results were also not statistically significant, it is important to note that it is broadly acknowledged in practice that interaction with faculty should have a positive effect on first-year persistence (Astin, 1993; Cox, 2011; Delaney, 2008; Pascarella & Terenzini, 2005; Umbach & Wawrzynski, 2005. A possible factor that could be dampening the anticipated positive effect in more contemporary studies like this one can be found in the change in literature beginning in 2010 that highlights an overall reduction in the quantity and quality of meaningful interactions with faculty as the number of students these institutions serve is pushing every campus stakeholder to well beyond their maximum capacity (Cox, 2011; Dika, 2012; NCSSE, 2012). Furthermore, the BCSSE gives students a four-point Likert scale of “Very Often,” “Often,” “Sometimes,” and “Never.” These response options leave room for individual interpretation of what these concepts mean in terms of the quantity and

quality of the interaction. For example, question 15h specifically gives the student the prompt that the interaction can occur outside the classroom, but the other questions do not. Future research could create more accurate response options to reduce ambiguity.

For Research Question Three, the BCSSE survey outlines three support services that they believe are most important to student success and persistence: tutoring, writing center, and success coaching. The survey does open the possibility of other services, but those are the only three named directly. This issue is furthered by the fact that the literature revealed that of all the research questions, support services are still considered to be nebulous entities on college campuses. There are countless varieties of structures, leadership styles, and employee types for these support services. Finally, all these support services may not even be offered at every institution that uses the BCSSE. Further research could create a custom survey that more accurately depicts the full range and exact nature of the support services offered at the studied institution.

Next, one area not yet discussed is a stronger integration of the Psychological Contract Theory (PCT) framework into the structure of future research. Since PCT centers around student perceptions, this could involve the use of a mixed-method approach to include qualitative methods to provide greater insight into the lived experiences of the undeclared student. The use of interviews or focus groups could clarify how a student chooses an organized co-curricular activity, how they determine how many hours to invest in the activity, and what benefits the student expects to receive from joining. It could better describe what an interaction with faculty means to this new generation of students who often hold virtual or digital interactions as tantamount to in-person interactions. A recommendation for future research could be to run the study again utilizing post-COVID cohort years to better capture the changes in expectations for

the next generation of students on campus. Lastly, it could help leadership and administrators better understand why a student is choosing to or not to engage with support services, or what services the undeclared student wants. One of the most important findings from this study is that the Psychological Contract Theory (PCT) framework is suitable for use in higher education research and is a great opportunity for a researcher to contribute to an underserved area of literature.

As a final point for this section, this study focused on student expectations before they officially matriculate into the university. An expectation does not always come to fruition for a variety of internal and external reasons. Therefore, a recommendation for future research would be to create a mechanism that captures a student's actual engagement in college. One possible method could be the incorporation of The National Survey of Student Engagement (NSSE) which is the companion to BCSSE and is taken later in college. This would allow researchers to compare expectations to actual outcomes.

Recommendations for Practice

This study aimed to inform practice for an institution in a state with a competitive funding model and help an at-risk student population gain a more realistic view of how the first-year success process will develop. For example, the results of this study might inform decisions on creating organized co-curricular opportunities that are focused on helping students form their academic identity, including a student club for finding a major as opposed to clubs that are concentrated around an already chosen major or career outcome. This study may help an institution reshape the culture around faculty and student interactions. An institution could create more formalized faculty mentorship opportunities or create a system that rewards faculty members for going above and beyond in their teaching services. On the other side of that coin, an

institution could create a curriculum for new students that betters equip them to engage with faculty. This could be embedded into the orientation process or as a part of commonly held first-year seminar courses. Studies like this could create a movement within the state to better fund and create more universal standards of practice for learning support services.

Finally, this study revealed an interesting phenomenon in terms of how students view their major selection as they matriculate into the university. There were students who self-selected as being unsure of their major on the BCSSE, even though they were also choosing to start their college career in a specific major. This corresponds with research by Gordon (1995, 2007, 2015) that encourages institutions to not lump all undeclared students into a single category. Institutions should take great care to understand the different sub-types of undeclared students. Institutions could create toolkits of resources, best practices, and action plans based on the various sub-types.

Conclusions

One of the biggest lessons from the literature review was that research on the modern undeclared population is mixed and inconclusive. This study follows in the footsteps of this tradition by yielding results that indicate that undeclared student populations may not follow patterns found in mainstream persistence research (Blustein, 2008; Carduner, 2011; Chen & Soldner, 2013; Gordon, 1998; Gordon, 2007; Graunke, 2006; Steele & Gordon, 2015; White & Tracey, 2011). The researcher chose the three questions on the BCSSE that best aligned with established norms and guideposts for first-year student persistence. This study found no significant relationship between expected involvement with organized co-curricular activities, interaction with faculty, and the utilization of support services for FTIC college students who self-identify as not knowing their major at the studied institution.

To better align financial funding in higher education with persistence and other metrics like graduation rates, it is essential for institutions to gain a deeper understanding of their first-time college students' expectations and strive to meet them. This requires strategic planning, targeted resource allocation, and a commitment to serving populations that seem to consistently defy precedents and expectations.

References

Aljohani, O. (2016). A comprehensive review of the major studies and theoretical models of student retention in higher education. *Higher Education Studies, 6*(2), 1–18.

Allen, & Robbins, S. B. (2008). Prediction of college major persistence based on vocational interests, academic preparation, and first-year academic performance. *Research in Higher Education, 49*(1), 62–79. https://doi.org/10.1007/s11162-007-9064-5

Allen, & Smith, C. L. (2008). Faculty and student perspectives on advising: Implications for student dissatisfaction. *Journal of College Student Development, 49*(6), 609–624. https://doi.org/10.1353/csd.0.0042

Anderson, P., Anson, C. M., Fish, T., Gonyea, R. M., Marshall, M., Menefee-Libey, W., Weaver, S. (2017). How writing contributes to learning: New findings from a national study and their local application. *Peer Review: Association of American Colleges & Universities, 19*(1), 4-8.

Anderson, B. C., Creamer, D. G., & Cross, L. H. (1989). Undecided, multiple changes, and decided students: How different are they? *NACADA Journal, 9*(1), 46-50.

Andreanoff, J.A. (2016). The impact of a peer coaching programme on the academic performance of undergraduate students: A mixed methods study. *Journal of Learning Development in Higher Education*. https://doi.org/10.47408/jldhe.v0i0.358

Appel, V., Haak, R., & Witze, D. (1970). Factors associated with indecision about collegiate major and career choice. *American Psychological Association, 5*(1), 667-668.

Argyris, C. (1960). *Understanding Organisational Behaviour*. Doresy.

Arnold, K., & Kuh G.D. (1999. What matters in undergraduate education? Mental models, student learning, and student affairs. *National Association of Student Personnel Administrators, 5*(1), 15-35.

Ashby, J., Wall, H., & Osipow, S. (1966). Vocational uncertainty and indecision in college freshmen. *Personnel and Guidance Journal*, *44*(10), 1037-1041. https://doi.org/10.1002/j.2164-4918.1966.tb03829.x

Asghar, A. (2010). Reciprocal peer coaching and its use as a formative assessment strategy for first-year students. *Assessment and Evaluation in Higher Education*, *35*(4), 403–417. https://doi.org/10.1080/02602930902862834

Astin, A.W. (1975). *Preventing students from dropping out*. Jossey-Bass.

Astin, A.W. (1985). *Achieving education excellence: A critical assessment of priorities and practices in higher education*. Jossey-Bass.

Astin, A.W. (1993). *What matters in college? Four critical years revisited*. Jossey-Bass.

Astin, A.W. (1999). Student involvement: A developmental theory for higher education (Reprinted from Journal of College Student Development, July, 1984). *Journal of College Student Development, 40*(5), 518–529.

Atkinson, Barrow, C., & Connors, L. (2003). Models of police probationer career progression: preconceptions of the psychological contract. *Human Resource Development International*, *6*(1), 43–56. https://doi.org/10.1080/13678860110059401

Bahr, P. R. (2008). Cooling out in the community college: What is the effect of academic advising on students' chances of success? *Research in Higher Education*, *49*(8), 704-732. https://doi.org/10.1007/s11162-008-9100-0

Baird, L. (1967). The undecided student-How different is he? *The Personnel and Guidance Journal*, *47*(5), 429-434.

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Prentice-Hall.

Bandura, A., & Schunk, D. H. (1981). Cultivating competence, self-efficacy, and intrinsic interest through proximal self-motivation. *Journal of Personality and Social Psychology*, *41*(3), 586. https://doi.org/10.1037/0022-3514.41.3.586

Bangert-Drowns, R.L., Hurley, M.M. and Wilkinson B. (2004). The effects of school-based writing-to-learn interventions on academic achievement: a meta-analysis. *Review of Educational Research*, *74*(1), pp. 29-58. https://doi.org/10.3102/00346543074001029

Bean, J. P. (1980). Dropouts and turnover: The synthesis and test of a causal model of student attrition. *Research in Higher Education*, *12*(2), 155-187. https://doi.org/10.1007/BF00976194

Bean, J.P. (1982). Conceptual models of student attrition: How theory can help the institutional researcher. *New Directions for Institutional Research, 1982*(36), 17-33.

Beginning College Survey of Student Engagement. (BCSSE). (2021a). *BCSSE Overview*. Retrieved February 12, 2023 from https://nsse.indiana.edu/bcsse/reports-data/bcsse-overview.html

Beginning College Survey of Student Engagement (BCSSE). (2021b). *Working with BCSSE Data*. Retrieved February 12, 2023 from https://nsse.indiana.edu/bcsse/working-with-bcsse-data/index.html

Beginning College Survey of Student Engagement (BCSSE). (2021c). *BCSSE Scales and Psychometric Reports*. Retrieved February 12, 2023 from https://nsse.indiana.edu/bcsse/survey-instruments/bcsse-scales-and-psychometric-report.html

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

Berger, J.B., & Milem, J.F. (2000). Organizational behavior in higher education and student outcomes. In J. Smart (Ed.), *Higher education: Handbook of theory and research* (pp. 268-338). Agathon.

Bettinger, E., & Baker, R., (2011). *The effects of student coaching in college: An evaluation of a randomized experiment in student mentoring.* Stanford University School of Education.

Blaikie, N. (2003). *Analyzing quantitative data: From description to explanation*. Sage Publications.

Blustein. (2008). The role of work in psychological health and well-being: A conceptual, historical, and public policy perspective. *The American Psychologist*, *63*(4), 228–240. https://doi.org/10.1037/0003-066X.63.4.228

Boylan, H. R., Bonham, B. S., & Bliss, L. B. (1994). Characteristic components of developmental programs. *Research in Developmental Education*, *11*(1), 1-4.

Boylan, H. R., Bonham, B. S., Bliss, L. B., & Saxon, D. P. (1995). What we know about tutoring: Findings from the national study of developmental education. *Research in Developmental Education*, *21*(3), 1-4.

Brack, A. B., Millard, M., & Shah, K. (2008). Are peer educators really peers? J*ournal of American College Health*, *56*(5), 566-568. https://doi.org/10.3200/JACH.56.5.566-568

Braxton, J.M. (2000). Reinvigorating Theory and Research on the Departure Puzzle. In J. Braxton (Ed.), *Reworking the Student Departure Puzzle* (pp. 257-274). Vanderbilt University Press.

Braxton, J. M., Bray, N. J., & Berger, J. B. (2000). Faculty teaching skills and their influence on the college student departure process. *Journal of College Student Development*, *41*(2), 215–227.

Braxton, J.M., Doyle, W.R., Hartley, H.V., Hirschy, A.S., Jones, W.A., & McLendon, M.K. (2014). *Rethinking college student retention.* Jossey-Bass.

Braxton, J. M., Hirschy, A. S., & McClendon, S.A. (2004). Understanding and reducing college student departure. *Journal of College Student Retention, 3*(1), 91-118.

Bredtmann, Crede, C. J., & Otten, S. (2013). Methods for evaluating educational programs: Does writing center participation affect student achievement? *Evaluation and Program Planning, 36*(1), 115–123. https://doi.org/10.1016/j.evalprogplan.2012.09.003

Britton, J. (1970). *Language and Learning*. Penguin Books.

Bronwen K. Maxson et. al., (2009). *The power of peers: Approaches from writing and libraries.* Reference Services Review.

Brown-O'Hara, P. (2013). *The influence of academic coaching on: Baccalaureate nursing students' academic success, perceptions of the academic coaching relationship, perceived NCLEX-RN exam readiness and success on the NCLEXRN exam* (Publication No. 3570585) [Doctoral dissertation, Widener University School of Nursing]. ProQuest Dissertations & Theses Global.

Brown, S. D., & Rector, C. C. (2008). *Handbook of counseling psychology.* John Wiley & Sons.

Carduner, J. (2011). Exploratory honors students: Academic major and career decision making. *NACADA Journal, 31*(1), 14-29. https://doi.org/10.12930/0271-9517-31.1.14

Carini, R.M., Kuh, G.D., & Klein, S.P. (2006). Student engagement and student learning: Testing the linkages. *Research in Higher Education, 47*(1), 1-32. https://doi.org/10.1007/s11162-005-8150-9

Carr, B., & London, R. A. (2019). The role of learning support services in university students' educational outcomes. *Journal of College Student Retention: Research, Theory & Practice*, *21*(1), 78-104. https://doi.org/10.1177/1521025117690159

Chen, X. and Soldner, M. (2013). *STEM attrition: College students' paths into and out of STEM fields statistical analysis report* (ED544470). ERIC. https://files.eric.ed.gov/fulltext/ED544470.pdf

Chickering, A. W., & Reisser, L. (1993). *Education and identity* (2nd ed.). Jossey-Bass.

Cohen, L., Manion, L., & Morrison, K. (2000). *Research Methods in Education* (5th ed.). Routledge.

Cole, J. S., Kennedy, M., & Ben-Avie, M. (2009). The role of precollege data in assessing and understanding student engagement in college. *New Directions for Institutional Research*, *2009*(141), 55–69. https://doi.org/10.1002/ir.286

Cole, J.S., & Paulsen, J. (2019). *Confirmatory factor analysis of the BCSSE scales.* Retrieved February 12, 2023 from http://bcsse.indiana.edu/pdf/BCSSE%20Psychometric%20Report.pdf

Colvin, J. W. (2007). Peer tutoring and social dynamics in higher education. *Mentoring & Tutoring: Partnership in Learning*, 15(2), 165–181.

Cox, Bradley E. (2011). A developmental typology of faculty-student interaction outside the classroom. *New Directions for Institutional Research*, *2011*(S1), 49–66. https://doi.org/10.1002/ir.416

Creswell, J. W., & Creswell, J. D. (2018). *Research design* (5th ed.). Sage Publications.

Cullinane, N., & Dundon, T. (2006). The psychological contract: A critical review. *International Journal of Management Reviews*, *8*(2), 113–129. https://doi.org/10.1111/j.1468-2370.2006.00123.x

Cuseo, J. (2005). Decided, undecided, and in transition: Implications for academic advisement, career counseling & student retention. In R. Feldman (Ed.). *Improving the first year of college: Research and practice.* (pp. 27-48). Lawrence Erlbaum Associates.

Dabos, G. and Rousseau, D.M. (2004). Mutuality and reciprocity in the psychological contracts of employee and employer. *Journal of Applied Psychology*, *89*(1), 52-72. https://doi.org/10.1037/0021-9010.89.1.52

Danielson, M. A. (1995). *The role of the course syllabi in classroom socialization* (ED387845). ERIC. https://files.eric.ed.gov/fulltext/ED387845.pdf

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. https://doi.org/10.1353/csd.0.0079

Delaney, A. M. (2008). Why faculty-student interaction matters in the first-year experience. *Tertiary Education and Management*, *14*(3), 227-241. https://doi.org/10.1080/13583880802228224

DeAngelo, L., Hurtado, S., Pryor, J., Kelly, K. and Santos, J. (2009), *The American College Teacher: National Norms for the 2007-2008 HERI Faculty Survey*. Higher Education Research Institute, Los Angeles, CA, United States. Retrieved February 12, 2023 from https://www.heri.ucla.edu/monographs/HERI-FAC2011-Monograph-Expanded.pdf

Dika, S.L. (2012). Relations with faculty as social capital for college students: Evidence from Puerto Rico. *Journal of College Student Development, 53*(4), 596-610. https://doi.org/10.1353/csd.2012.0051

Driscoll, M. P. (2000). *Psychology of learning for instruction* (2nd ed.). Allyn and Bacon.

Dvorak, J. (2004). Managing tutoring aspects of the learning assistance center. *Research for Educational Reform, 9*(4), 39-51.

Education Data. (2019). *College Dropout Rates.* Retrieved April 3, 2021 from https://educationdata.org/college-dropout-rates

Elliott, K. M. & Shin, D. (2002). Student satisfaction: An alternative approach to assessing this important concept. *Journal of Higher Education Policy and Management*, *24*(2), 197-209. https://doi.org/10.1080/1360080022000013518

Ellis, K. C. (2014). Academic advising experiences of first-year undecided students: A qualitative study. *NACADA Journal*, *34*(2), 42-50. https://doi.org/10.12930/NACADA-13-001

Endo, J. J., & Harpel, R. L. (1982). The effect of student-interaction on students' educational outcomes. *Research in* faculty *Higher Education*, *16*(2), 115–138. https://doi.org/10.1007/BF00973505

Erikson, E. (1968). *Identity: Youth and crisis*. Norton.

Feldman, R. S. (2005). *Improving the first year of college: Research and practice.* Psychology Press.

Field, A. (2009). *Discovering statistics using SPSS*. (3rd ed.). Sage Publications.

Fischer, M. J. (2007). Settling into campus life: Differences by race/ethnicity in college involvement and outcomes. *The Journal of Higher Education*, *78*(2), 125-156. https://doi.org/10.1080/00221546.2007.11780871

Florida Board of Governors (FLBOG). (2019). *First-Time-in-College Students*. Retrieved February 12, 2023 from https://www.flbog.edu/universities/admissions-transfers/first-time-in-college-students/

Florida Board of Governors (FLBOG). (2021). *Performance Based Funding Model.* Retrieved February 12, 2023 from http://www.flbog.edu/about/budget/performance_funding.php

Florida Senate. (2011). *Florida Senate Bill Analysis and Fiscal Impact Statement SB1366* Retrieved May 23, 2021 from http://www.flsenate.gov/Session/Bill/2012/1366/Analyses/2012s1366.pre.ed.PDF

Foraker, M.J. (2012, June 1-3). *Does changing majors really affect the time to graduate? The impact of changing majors on student retention, graduation, and time to graduate*. [Conference presentation]. Association for Institutional Research, New Orleans, LA, United States.

Fox, J. (2016). *Applied regression analysis and generalized linear models* (3rd ed.). Sage.

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

Gadermann, A. M., Guhn, M., & Zumbo, B. D. (2012). Estimating ordinal reliability for Likert-type and ordinal item response date: A conceptual, empirical, and practical guide. *Practical Assessment, Research & Evaluation, 17*(3), 1-13.

Geiger, M. A., & Cooper, E. A. (1995). Predicting academic performance: The impact of expectancy and needs theory. *Journal of Experimental Education*, *63*(3), 251-263. https://doi.org/10.1080/00220973.1995.9943812

Ginsburg-Block, M., Rohrbeck, C. A., & Fantuzzo, J. W. (2006). A meta-analytic review of social, self-concept, and behavioral outcomes of peer-assisted learning. *Journal of Educational Psychology, 98*(4), 732–749. https://doi.org/10.1037/0022-0663.98.4.732

Goodrick, E., & Meindl, R. (1995, August). *Evolutionary building: the ideological transformation of the nursing profession.* In Academy of Management Meetings, Vancouver, Canada.

Gordon, V.N. (1995). *The undecided college student: An academic and career advising challenge.* (2nd ed.). Thomas.

Gordon, V. N. (1998). Career decidedness types: A literature review. *The Career Development Quarterly, 46*(4), 386–403. https://doi.org/10.1002/j.2161-0045.1998.tb00715.x

Gordon, V. N. (2007). *The undecided college student: An academic and career advising challenge* (3rd ed.). Thomas.

Gordon, V.N. & Steele, G.E. (1992). Advising major changers: A longitudinal study. *NACADA Journal*, *12*(2), 22-27.

Grant, A. M. (2007). Enhancing coaching skills and emotional intelligence through training. *Industrial and Commercial Training, 39*(5), 257-266. https://doi.org/10.1108/00197850710761945

Grant, A. M. (2013). The efficacy of coaching. In J. Passmore, D. Peterson, & T. Freire (Eds.), *Wiley-Blackwell handbook of the psychology of coaching and mentoring* (pp. 15-39). John Wiley & Sons.

Graunke, S.S. (2006). How do their initial goals impact students' chance to graduate? An exploration of three types of commitment. *NACADA Journal, 26*(1), 13-18. https://doi.org/10.12930/0271-9517-26.1.13

Greene, H. R. (1998). *The select: Realities of life and learning in America's elite colleges*. Harper Collins.

Grites, T.J. (1981). Being “undecided” might be the best decision they could make. *The School Counselor*, *29*(1), 41-46.

Hagedorn, L. S. (2012). How to define retention: A new look at an old problem. In A. Seidman (Ed.), *College student retention: Formula for student success* (2nd ed.) (p. 85-100). The Rowman & Littlefield Publishing Group.

Hancock, G. R., Mueller, R. O., & Stapleton, L. M. (2010). *The reviewer's guide to quantitative methods in the social sciences*. Taylor & Francis Group.

Harris, M. (1995). Talking in the middle: why writers need writing tutors. *College English*, *57*(1), 27–42. https://doi.org/10.2307/378348

Helland, P. A., Stallings, H. J., & Braxton, J. M. (2001). The fulfillment of expectations for college and student departure decisions. *Journal of College Student Retention*, *3*(4), 381-396. https://doi.org/10.2190/99FW-AHT1-K1L9-73CF

Holland, J.L., & Holland, J.E. (1977). Vocational indecision: More evidence and speculation. *Journal of Counseling Psychology*, *24*(5), 404–414. https://doi.org/10.1037/0022-0167.24.5.404

Holland, J.L. (1985). *Making vocational choices* (2nd ed.). Prentice-Hall.

Horton, N. J., & Lipsitz, S. R. (2001). Multiple imputation in practice: comparison of software packages for regression models with missing variables. *The American Statistician*, *55*(3), 244-254. https://doi.org/10.1198/000313001317098266

Hosmer, D. W. & Lemeshow, S. (2000). *Applied logistic regression* (2nd ed.). John Wiley & Sons.

Hosmer, D. W., Lemeshow, S., & Sturdivant, R. X. (2013*). Applied logistic regression* (3rd ed.). John Wiley & Sons.

Howard, J. A. (2005). Why should we care about student expectations? In T. Miller, B. Bender, J. Schuh, & Associates (Eds.), *Promoting reasonable expectations: Aligning student and institutional views of the college experience* (pp. 10-33). Jossey-Bass.

Huang, Y. R., & Chang, S. M. (2004). Academic and co-curricular involvement: Their relationship and the best combinations for student growth. *Journal of College Student Development*, *45*(4), 391-406. https://doi.org/10.1353/csd.2004.0049

International Coaching Federation. (2021). *The ICF ecosystem*. Retrieved February 12, 2023 from https://coachingfederation.org/about/the-icf-ecosystem

Isaac, R. G., Zerbe, W. J., & Pitt, D. C. (2001). Leadership and motivation: The effective application of expectancy theory. *Journal of Managerial Issues*, *8*(2), 212-226.

James Kostecki and Trudy Bers (2008). The Effect of Tutoring on Student Success. *Journal of Applied Research in the Community College*, 16(1), 6–12.

Jick, T. (1993). *Managing change cases and concepts.* Irwin.

Johnson, I.Y. (2006). Analysis of stopout behavior at a public research university: The multi-spell discrete-time approach. *Research in Higher Education*, *47*(8), 905-934. https://doi.org/10.1007/s11162-006-9020-9

Johnson, B. & Christensen, L. (2012). *Educational Research: Quantitative, Qualitative and Mixed Approaches* (4th ed). Sage Publications.

Kane, M. A., Beals, C., Valeau, E. J., & Johnson, M. J. (2004). Fostering success among traditionally underrepresented student groups: Hartnell college's approach to implementation of the math, engineering, and science achievement (mesa) program. *Community College Journal of Research & Practice*, *28*(1), 17-26. https://doi.org/10.1080/10668920490251944

Kaplan, D. (2004). *The Sage handbook of quantitative methodology for the social sciences*. Sage Publications.

Kelly, G. (1955). *The Psychology of Personal Constructs: Clinical Diagnosis and Psychotherapy*. WW Norton.

Kelly, K.R. & Pulver, C.S. (2003). Refining measurement of career indecision types: A validity study. *Journal of Counseling & Development*, *81*(4), 445-455. https://doi.org/10.1002/j.1556-6678.2003.tb00271.x

Kerckhoff, A. C. (2002). The transition from school to work. In J. T. Mortimer & R. W. Larson (Eds.), *The changing adolescent experience: Societal trends and the transition to adulthood* (pp. 52–87). Cambridge University Press.

Kilgo, C.A., Mollet, A.L., & Pascarella, E.T. (2016). The estimated effects of college student involvement on psychological well-being. *Journal of College Student Development*, *57*(8), 1043-1049. https://doi.org/10.1353/csd.2016.0098

Kimes, H. & Troth, W. A. (1974). Relationship of trait anxiety to career decisiveness. *Journal of Counseling Psychology, 21*(4), 277-280. https://doi.org/10.1037/h0037611

Kim, Y. & Sax, L. (2009). Student–faculty interaction in research universities: Differences by student gender, race, social class, and first-generation status. *Research in Higher Education*, *50*(5), 437-459.

Konings, K. D., Brand-Gruwel, S., van Merrienboer, J. J. G., & Broers, N. J. (2008). Does a New Learning Environment Come Up to Students' Expectations? A Longitudinal Study. *Journal of Educational Psychology*, *100*(3), 535–548. https://doi.org/10.1037/0022-0663.100.3.535

Kuh, G. D. (1995). The other curriculum: Out-of-class experiences associated with student learning and personal development. *The Journal of Higher Education*, *66*(2), 123-155. https://doi.org/10.2307/2943909

Kuh G. D. (2001). Assessing what really matters to student learning. Inside the National Survey of Student Engagement. *Change*, *33*(3), 10–66. https://doi.org/10.1080/00091380109601795

Kuh, G. D. (2004). *The National Survey of Student Engagement: Conceptual framework and overview of psychometric properties.* Retrieved February 12, 2023 from https://centerofinquiry.org/wpcontent/uploads/2017/04/conceptual_framework_2003.pdf

Kuh, G. D. (2005). *Assessing conditions to enhance educational effectiveness: The inventory for student engagement and success* (1st ed.). Jossey-Bass.

Kuh, G. D. (2005). Student engagement in the first year of college. In M. Upcraft, J. Barefoot, & Associates (Eds.), *Challenging and supporting the first-year student: A handbook for improving the first year of college* (pp. 86-107). Jossey-Bass.

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

Kuh, G. D., Gonyea, R. M., & Williams, J. M. (2005). What students expect from college and what they get. In T. Miller, B. Bender, J. Schuh & Associates (Eds.), *Promoting reasonable expectations: Aligning student and institutional views of the college experience* (pp. 34–64). Jossey-Bass.

Kuh, G. D., Hayek, J. C., Carini, R. M., Ouimet, J. A., Gonyea, R. M., & Kennedy, J. (2001). *NSSE Technical and Norms Report*. Indiana University Center for Postsecondary Research and Planning.

Kuh, G.D. & Hu, S. (2001). The effects of student-faculty interaction in the 1990s. *The Review of Higher Education*, *24*(3), 309-332. https://doi.org/10.1353/rhe.2001.0005

Kuh, G. D., Kinzie, J., Buckley, J. A., Bridges, B. K., & Hayek, J. C. (2006). *What matters to student success: A review of the literature commissioned report for the national symposium on postsecondary student success: Spearheading a dialog on student success.* National Postsecondary Education Cooperative.

Kuh, G. D., Kinzie, J., Schuh, J.H., Whitt, E.J. & Associates. (2005). *Student success in college: Creating conditions that matter* (1st ed.). Jossey-Bass.

Lamport, M. (1993). Student-faculty informal interaction and the effect on college student outcomes: A review of the literature. *Adolescence, 28*(112), 971-990.

Larson, W.D. (1994). The role of belief systems and schemas in foreign policy decision-making. *Political Psychology, 15*(1), 17-33. https://doi.org/10.2307/3791437

Lau, L. K. (2003). Institutional factors affecting student retention. *Education*, *124*(1), 126-136.

Lerner, N. (2001). Choosing beans wisely. *Writing Lab Newsletter*, *26*(1), 1-5.

Lester, S.W., Turnley, W.H., Bloodgood, J.M. and Bolino, M.C. (2002). Not seeing eye to eye: differences in supervisor and subordinate perceptions of an attribution for psychological contract breach. *Journal of Organizational Behavior, 23*(2), 39–56. https://doi.org/10.1002/job.126

Leppel, K. (2001). The impact of major on college persistence among freshmen. *Higher Education, 41*(3), 327–342. https://doi.org/10.1023/A:1004189906367

Leppel, K. (2005). College Persistence and Student Attitudes Toward Financial Success. *College Student Journal*, *39*(2), 223–241.

Leuwerke, W. C., Robbins, S., Sawyer, R., & Hovland, M. (2004). Predicting engineering major status from mathematics achievement and interest congruence. *Journal of Career Assessment, 12*(2), 135-149. https://doi.org/10.1177/1069072703257756

Levinson, H., Price, C.R., Munden, K.J. and Solley, C.M. (1962). *Men, Management and Mental Health*. Harvard University Press.

Levitz, R. & Noel, L. (1989). Connecting students to institutions: Keys to retention and success. In M. Upcraft & J. Gardner (Eds.), *The freshman year experience: Helping students survive and succeed in college* (pp. 65-81). Jossey-Bass.

Levy, P. S., & Lemeshow, S. (2013). *Sampling of populations: methods and applications.* John Wiley & Sons.

Lewallen, W.C (1993). The impact of being undecided on college-student persistence. *Journal of College Student Development, 34*(2),103-112.

Lewallen, W.C. (1995). Students decided and undecided about career choice: A comparison of college achievement and student involvement. *NACADA Journal, 15*(1), 22-30.

Locke, B., Wallace, D., & Brunner, J. (2016). Emerging issues and models in college mental health services. *New Directions for Student Services*, *156*(1), 19-30. https://doi.org/10.1002/ss.20188

Light, R. J. (2001). *Making the most of college: Students speak their mind.* Harvard University Press.

Little, R. J., & Rubin, D. B. (2019). *Statistical analysis with missing data*. John Wiley & Sons.

Lucas, M. S. (1993). Personal, social, academic, and career problems expressed by minority college students. *Journal of Multicultural Counseling and Development*, *21*(1), 2-13.

Maxwell, M. (2001). Peer tutoring: An overview; history and research on program effectiveness. *Journal of the National Tutoring Association, 1*(1), 8-18.

McLean, P. (2012). *The completely revised handbook of coaching: A developmental approach* (2nd ed.). Jossey-Bass.

McKnight, P. E., McKnight, K. M., Sidani, S., & Figueredo, A. J. (2007). M*issing data: A gentle introduction*. Guilford Press.

Menard, S. (2010). *Logistic regression: From introductory to advanced concepts and applications*. Sage Publications.

Mettler, S., & Sorelle, M. (2014). Policy feedback theory. In P. A. Sabatier, & C. M. Weible (Eds.), *Theories of the Policy Process* (3rd ed., pp. 151-181). Westview Press.

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, T. E., Bender B.E., Schuh J.H, & Associates (2005). *Promoting reasonable expectations: Aligning student and institutional views of the college experience*. Jossey-Bass.

Miller, T.E. & Murphy, C. (2011). Predicting student risk of attrition. *Campus Activities Programming*, *43*(7), 40-44.

Mischel, W. (1979). On the interface of cognition and personality: Beyond the person–situation debate. *American Psychologist, 34*(9), 740-754. https://doi.org/10.1037/0003-066X.34.9.740

Morgan, G. A., Leech, N. L., Gloeckner, G. W., & Barrett, K. C. (2012). *IBM SPSS for introductory statistics: Use and interpretation.* Routledge.

Mortgenson, L. S. (2012). Measurements of persistence. In A. Seidman (Ed.), *College student retention: Formula for student success (2nd ed.)* (p. 35-68). The Rowman & Littlefield Publishing Group.

Mortimer, J.T., Zimmer-Gembeck, J., & Holmes, M. (2002). The process of occupational decision making: Patterns during the transition to adulthood. *Journal of Vocational Behavior, 61*(3), 439–465. https://doi.org/10.1006/jvbe.2002.1885

Myers, E. Unpublished attrition research studies, St. Cloud State University, St. Cloud, Minn., 1981. In M. Upcraft, J. Gardner, and Associates (Eds.), *The freshman year experience: Helping students survive and succeed in college* (pp. 66-67). Jossey-Bass.

National Association of College Employers (NACE). (2017). *Employers Rate Competencies, Students' Career Readiness*. Retrieved February 25, 2021 from https://www.naceweb.org/2017/talent-acquisition/internships/employers-rate-competencies-students-career-readiness/.

National Center for Education Statistics. (2013). *Nontraditional Undergraduates*. Retrieved January 21, 2021 from https://nces.ed.gov/pubs/web/97578e.asp

National Center for Education Statistics. (2017). *The Integrated Postsecondary Education Data System (IPEDS): Glossary*. Retrieved April 3, 2021 from https://nces.ed.gov/ipeds/glossary/.

National Center for Education Statistics. (2017). *The Integrated Postsecondary Education Data System (IPEDS): Total fall enrollment in degree-granting postsecondary institutions*. Retrieved April 17, 2021 from https://nces.ed.gov/programs/digest/d19/tables/dt19_303.10.asp?current=yes.

National Center for Education Statistics. (2017). *The Integrated Postsecondary Education Data System* (IPEDS): *Power Stats.* Retrieved April 17, 2021 from https://nces.ed.gov/datalab/powerstats/codebook.aspx?dataset=71&type=subject#MAJBA17

National Student Clearinghouse. (2019). *NSC Blog*. Retrieved April 17, 2021 from https://www.studentclearinghouse.org/nscblog/research-center-releases-2020-persistence-and-retention-report.

National Survey of Student Engagement (NSSE). (2012). *Promoting student learning and institutional improvement: Lessons from NSSE at 13* (ED537442). ERIC. https://files.eric.ed.gov/fulltext/ED537442.pdf

National Survey of Student Engagement (NSSE). (2019). *Exploring different dimensions of student engagement.* Retrieved February 12, 2023 from https://scholarworks.iu.edu/dspace/bitstream/handle/2022/25758/BCSSE19-NSSE20%20Grands%20Freqs%20and%20Means.pdf?sequence=1&isAllowed=y

National Survey of Student Engagement (NSSE). (2021a). *Conceptual Framework.* Retrieved February 12, 2023 from https://nsse.indiana.edu/nsse/about-nsse/conceptual-framework/index.html

National Survey of Student Engagement (NSSE). (2021b). *NSSE Update in 2013.* Retrieved February 12, 2023 from https://nsse.indiana.edu/nsse/survey-instruments/nsse-2013-update.html

National Survey of Student Engagement (NSSE). (2021c). *Construct Validity.* Retrieved February 12, 2023 from https://nsse.indiana.edu/nsse/psychometric-portfolio/construct-validity.html

Neelakantan, U., & Romero, J. (2017). *Falling short: Why isn't the U.S. producing more college graduates?* Richmond, VA: Annual Report (Federal Reserve Bank of Richmond). Retrieved May 23, 2021 from https://www.richmondfed.org/media/richmondfedorg/publications/research/annual_report/2017/article.pdf.

Newman, D.A. (2014). Missing data five practical guidelines. *Organizational Research Methods*, *17*(4), 372-411. https://doi.org/10.1177/1094428114548590

Nightingale, P. (1988). Understanding processes and problems in student writing. *Studies in Higher Education*, *13*(3), 263-283. https://doi.org/10.1080/03075078812331377720

Noel, L.T., Levitz, R., & Saluri, D. (1985). *Increasing student retention*. Jossey-Bass.

Noel, L.T., and Levitz, R. (1995). New strategies for difficult times. *Recruitment and Retention in Higher Education*, *9*(7), 4-7.

Nora, A. (1987). Determinants of retention among Chicano college students. *Research in Higher Education*, *26*(1), 31-59. https://doi.org/10.1007/BF00991932

Osborne, J. W. (2015). *Best practices in logistic regression.* Sage Publications.

Othman, R., Arshad, R., Hashim, N.A. and Rosmah, M. (2005). Psychological contract violation and organizational citizenship behaviour. *Gadjah Mada International Journal of Business, 7*(3), 325–349. https://doi.org/10.22146/gamaijb.5582

Page, J., Bruch, M. A., & Haase, R. F. (2008). Role of perfectionism and five-factor model traits in career indecision. *Personality and Individual Differences, 45*(8), 811-815. https://doi.org/10.1016/j.paid.2008.08.013

Pascarella, E. T. (1985). College environmental influences on learning and development: A critical review and synthesis. In J. Smart (Ed.), *Higher education: Handbook of theory and research,* (pp. 1-61). Agathon.

Pascarella, E.T., & Terenzini, P.T. (2005). *How college affects students, Volume 2, A Third Decade of Research*. Jossey-Bass.

Pascarella, E. T., Edison, M. I., Whitt, E. J., Nora, A., Hagedorn, L. S., & Terenzini, P. T. (1996). Cognitive effects of Greek affiliation during the first year of college. *NAPSA Journal, 33*(4), 242–259. https://doi.org/10.1080/00220973.1996.11072414

Paul, E. L., & Brier, S. (2001). Friendsickness in the transition to college: Precollege predictors and college adjustment correlates. *Journal of Counseling and Development, 79*(2), 77-89.

Peterfreund, A. R., Rath, K. A., Xenos, S. P., & Bayliss, F. (2007). The impact of supplemental instruction on students in STEM courses: Results from San Francisco State University. *Journal of College Student Retention: Research, Theory and Practice, 9*(4), 487–503. https://doi.org/10.2190/CS.9.4.e

Peterson, M., Wagner, J. A., & Lamb, C. W. (2001). The role of advising in non-returning students' perceptions of their university. *Journal of Marketing for Higher Education, 10*(3), 45-49. https://doi.org/10.1300/J050v10n03_03

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

Pike, G. R. (2006). Students' personality types, intended majors, and college expectations: Further evidence concerning psychological and sociological interpretations of Holland's theory. *Research in Higher Education, 47*(7), 801-822. https://doi.org/10.1007/s11162-006-9016-5

Pleitz, J. D., MacDougall, A. E., Terry, R. A., Buckley, M. R., & Campbell, N. J. (2015). Great expectations: Examining the discrepancy between expectations and experiences on college student retention. *Journal of College Student Retention: Research, Theory & Practice, 17*(1), 88-104. https://doi.org/10.1177/1521025115571252

Porter, S. (2011). Do college student surveys have any validity? *Review of Higher Education, 35*(1). 45-76. https://doi.org/10.1353/rhe.2011.0034

Porter, S. and Umbach, D. (2006). College major choice: An analysis of person-environment fit. *Research in Higher Education Res High Education, 47*(4), 429-449. https://doi.org/10.1007/s11162-005-9002-3

Reason, R. D. (2009). An examination of the persistence research through the lens of a comprehensive conceptual framework. *Journal of College Student Development*, *50*(6), 659-682. https://doi.org/10.1353/csd.0.0098

Renn, K. A., & Reason, R. D. (2013). *College students in the United States: Characteristics, experiences, and outcomes*. Jossey-Bass.

Robbins, S., & Allen, J. (2010). Effects of interest-major congruence, motivation, and academic performance on timely degree attainment. *Journal of Counseling Psychology*, *57*(1), 23-35. https://doi.org/10.1037/a0017267

Robinson, C. E. (2015). *Academic/Success coaching: A description of an emerging field in higher education.* Retrieved from ProQuest Dissertations & Theses Global. (Order No. 3704390).

Roehling, M.V. (1997). The origins and early development of the psychological contract construct. *Journal of Management History*, *3*(2), 204–217. https://doi.org/10.1108/13552529710171993

Rousseau, D. M. (1989). Psychological and implicit contracts in organizations. *Employee Responsibilities and Rights Journal*, *2*(1), 121–139.

Rousseau, D. M. (1995). *Psychological contracts in organizations : understanding written and unwritten agreements* . Sage Publications

Rousseau, D. M. (2000). *Psychological contract inventory* (No. 2000-02). Technical report.

Rousseau, D. M. (2001). Schema, promise and mutuality: The building blocks of the psychological contract. *Journal of Occupational and Organizational Psychology*, *74*(4), 511-541. https://doi.org/10.1348/096317901167505

Rousseau, D. M., & Greller, M. M. (1994). Human resource practices: Administrative contract makers. *Human resource management*, *33*(3), 385-401. https://doi.org/10.1002/hrm.3930330308

Rousseau, D.M., & Tijoriwala, S.A. (1999). What makes a good reason to change? Motivated reasoning and social accounts in organizational change. *Journal of Applied Psychology*, *84*(4), 514-528. https://doi.org/10.1037/0021-9010.84.4.514

Routon, P. W., & Walker, J. K. (2014). The impact of Greek organization membership on collegiate outcomes: Evidence from a national survey. *Journal of Behavioral and Experimental Economic*s, *49*(1), 63–70. https://doi.org/10.1016/j.socec.2014.02.003

Royston, P. (2004). Multiple imputations of missing values. *The Stata Journal*, *4*(3), 227-241.

Rumelhart, D. E. & Norman, D. A. (1978). Accretion, tuning, and restricting: three modes of learning. In R. Klatsky & J. W. Cotton, *Semantic Factors in Cognition* (pp. 37-53) . Lawrence Erlbaum

Saka, N., & Kelly, K. R. (2008). Emotional and personality-related aspects of career-decision making difficulties. *Journal of Career Assessment*, *16*(4), 403-424. tps://doi.org/10.1177/1069072708318900

Schafer, J. L. (1999). Multiple imputation: A primer. *Statistical Methods in Medical Research*, *8*(1), 3-15. https://doi.org/10.1191/096228099671525676

Schein, E.H. (1978). *Career dynamics: Matching individual and organisational needs*. Addison-Wesley.

Schneider, B., & Stevenson, D. (1999). *The ambitious generation: America's teenagers, motivated but directionless.* Yale University Press.

Schleyer, G. K., Langdon, G. S., & James, S. (2005). Peer tutoring in conceptual design. *European Journal of Engineering Education*, *30*(2), 245-254. https://doi.org/10.1080/03043790500087084

Selingo, J. J. (2016). The *decade ahead: The seismic shifts transforming the future of higher education*. Chronicle of Higher Education.

Sims, R. R. (1992). Developing the learning climate in public sector training programs. *Public Personnel Management*, *21*(3), 335-346. https://doi.org/10.1177/009102609202100305

Sims, C. M. (2014). Self-regulation coaching to alleviate student procrastination: Addressing the likeability of studying behaviors. *International Coaching Psychology Review*, *9*(2), 147–164.

Smith, J. S., & Wertlieb, E. C. (2005). Do first-year college students' expectations align with their first-year experiences? *NASPA Journal*, *42*(2), 153-174. https://doi.org/10.2202/1949-6605.1470

Spatz, C. (2008). *Tales of distributions: Basic statistics* (9th ed.). Thomson Wadsworth.

Spight, D. B. (2020). Early declaration of a college major and its relationship to persistence. *NACADA Journal*, *40*(1), 94–109.

Sterne, J. A., White, I. R., Carlin, J. B., Spratt, M., Royston, P., Kenward M. G., & Carpenter, J. R. (2009). Multiple imputation for missing data in epidemiological and clinical research: potential and pitfalls. *British Medical Journal*, *338*(7713), 157-160. https://doi.org/10.1136/bmj.b2393

Stein, D. J. (1992). Schemas in the cognitive and clinical sciences. *Journal of Psychotherapy Integration*, *2*(1), 45-63. https://doi.org/10.1037/h0101236

Strauss, L.C. & Volkwein, J.F. (2004). Predictors of student commitment at two-year and four-year institutions. *The Journal of Higher Education*, *75*(2), 203-227. https://doi.org/10.1080/00221546.2004.11778903

Steele, G.E. & Gordon, V.N. (2015). *The Undecided College Student: An Academic and Career Advising Challenge.* Thomas.

Strommer, D.W. (1993). *Portals of entry: University colleges and undergraduate divisions* (ED367215). ERIC. https://files.eric.ed.gov/fulltext/ED367215.pdf

Sturges, J., Conway, N., Guest, D. and Liefooghe, A. (2005). Managing the career deal: The psychological contract as a framework for understanding career management, organizational commitment, and work behaviour. *Journal of Organizational Behavior*, *26*(7), 821–838. https://doi.org/10.1002/job.341

Suskie, L.A. (1996). *Questionnaire survey research: What works* (2nd ed.). Association for Institutional Research.

Tekleab, A. and Taylor, S. (2003). Aren't there two parties in the employment relationship? Antecedents and consequences of organization–employee agreement on contract obligations and violations. *Journal of Organizational Behavior, 24*(5), 585–608. https://doi.org/10.1002/job.204

Terenzini, P. T., Pascarella, E. T., & Blimling, G. S. (1996). Students' out-of-class experiences and their influence on learning and cognitive development: A literature review. *Journal of College Student Development, 37*(5), 149-162.

Thomas, H.D. & Anderson, N. (1998) Changes in newcomers' psychological contracts during organizational socialization: A study of recruits entering the British Army. *Journal of Organizational Behavior, 19*(S1), 754-767.

Turner, P., & Thompson, E. (2014). College retention initiatives meeting the needs of millennial freshman students. *College Student Journal*, *48*(1), 94-104.

Thurmond VA, & Popkess-Vawter S. (2003). Examination of a middle range theory: Applying Astin's Input-Environment-Outcome (I-E-O) model to web-based education. *Online Journal of Nursing Informatics, 7*(2), 9-12.

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

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

Tinto, V. (1997). Classrooms as communities: Exploring the educational character of student persistence. *The Journal of Higher Education*, *68*(6), 599-623. https://doi.org/10.2307/2959965

Tinto, V. (1999). Taking retention seriously: Rethinking the first year of college. *NACADA Journal*, *19*(2), 5-9.

Tinto, V. (2004). *Student retention and graduation-facing the truth, living with the consequences*. Retrieved February 12, 2023 from http://www.pellinstitute.org/publications-Student_Retention_and_Graduation_July_2004.shtml

Tinto, V. (2012). *Completing college: Rethinking institutional action*. University of Chicago Press.

Titus, M. (2006). Understanding the influence of the financial context of institutions on student persistence at four-year colleges and universities. *Journal of Higher Education*, *77*(2), 353-375. https://doi.org/10.1353/jhe.2006.0009

Tracey, T.G. & Robbins, S.B. (2006). The interest-major congruence and college success relation: A longitudinal study. *Journal of Vocational Behavior*, *69*(1), 64-89. https://doi.org/10.1016/j.jvb.2005.11.003

UCLA. (2017). *What statistical analysis should I use? Statistical analyses using SPSS.* Retrieved February 25, 2021 from http://stats.idre.ucla.edu/spss/whatstat/what-statistical-analysis-should-i-usestatistical-analyses-using-spss/.

Umbach, P.D., & Wawrzynski, M.R. (2005). Faculty do matter: The role of college faculty in student learning and engagement. *Research in Higher Education*, *46*(2), 153–184. https://doi.org/10.1007/s11162-004-1598-1

University of South Florida. (2021). *About USF*. Retrieved July 10, 2022 from http://www.usf.edu/about-usf/index.aspx

University of South Florida Office of Decision Support. (2021). *USF system facts 2018-2019.* Retrieved July 10, 2022 from http://www.usf.edu/pdfs/usf-facts-2018-2019.pdf

Upcraft, M.L., Gardner, J.N., & Associates. (1989). *The freshman year experience: Helping students survive and succeed in coll*ege. Jossey-Bass.

Upcraft, M.L., Gardner, J., & Barefoot, D. (2005). *Challenging & supporting the first-year student: A handbook for improving the first year of college*. Jossey-Bass.

U.S. Department of Education. (2013). *The condition of education 2013: Institutional retention and graduation rates for undergraduate students*. Retrieved February 12, 2023 from https://nces.ed.gov/pubs2013/2013037.pdf.

Wade-Benzoni, K.A., Rousseau D.M., and Li, M. (2006). Managing relationships across generations of academics: Psychological contracts in faculty-doctoral student collaborations. *International Journal of Conflict Management* 17(1), 4–33. https://doi.org/10.1108/10444060610734154

Walker, J.K., Martin, N.D., & Hussey, A. (2015). Greek organization membership and collegiate outcomes at an elite, private university. *Research in Higher Education*, 56(3), 203-227. https://doi.org/10.1007/s11162-014-9345-8

Walshe, R.D. (1987). The learning power of writing. *The English Journal*, *76*(6), 22-27.

Wang, D., Tsui, A., Zhang, Y. and Ma, L. (2003). Employment relationships and firm performance: Evidence for an emerging economy. *Journal of Organizational Behavior*, *24*(5), 511–536. https://doi.org/10.1002/job.213

Ware, W. B., Ferron, J. M., & Miller, B. M. (2013). *Introductory statistics: A conceptual approach using R*. Routledge.

Weisberg, S. (2014). *Applied linear regression* (4th ed.). John Wiley & Sons.

White, N. J., & Tracey, T. J. G. (2011). An examination of career indecision and application to dispositional authenticity. *Journal of Vocational Behavior*, *78*(2), 219-224. https://doi.org/10.1016/j.jvb.2010.09.015

Wigfield, A., & Eccles, J. S. (2000). Expectancy-value theory of achievement motivation. *Contemporary Educational Psychology*, *25*(1), 68-81. https://doi.org/10.1006/ceps.1999.1015

Wilcoxson, L. & Wynder, M. (2010). The relationship between choice of major and career, experience of university and attrition. *Australian Journal of Education, 54*(2), 175-189. https://doi.org/10.3316/aeipt.183072

Wood, A. M., White, I. R., & Thompson, S. G. (2004). Are missing outcome data adequately handled? A review of published randomized controlled trials in major medical journals. *Clinical trials*, 1(4), 368-376.

Wyckoff, S. C. (1999). The academic advising process in higher education: History, research, and improvement. *Recruitment and Retention in Higher Education, 3*(1), 1-3.

Yin, D. & Lei, S.A. (2007). Impacts of campus involvement on hospitality student achievement and satisfaction. *Education Chula Vista, 128*(2), 282-293.

Young, D. Y., & Redlinger, L. J. (2000, June 19-21). *Modeling student flows through the university pipeline* [Conference Presentation]. Forum of the Association for Institutional Research, San Antonio, TX, United States.

Zumbo, B.D., & Zimmerman, D.W. (1993). Is the selection of statistical methods governed by level of measurement? *Canadian Psychology*, *34*(4), 390-400. https://doi.org/10.1037/h0078865

Appendix A:

IRB Approval Letter

UNIVERSITY of SOUTH FLORIDA

NOT HUMAN SUBJECTS RESEARCH DETERMINATION

October 19, 2022

Shane Combs
4202 E. Fowler Avenue
Tampa, FL 33602

Dear Shane Combs:

On 10/19/2022, the IRB reviewed the following protocol:

IRB ID:	STUDY004805
Title:	The Relationship between First-Year Expectations and Persistence for Students who Self-Identify as Having Not Declared a Major

The IRB determined that the proposed activity does not constitute research involving human subjects as defined by DHHS and FDA regulations.

IRB review and approval is not required. This determination applies only to the activities described in the IRB submission. If changes are made and there are questions about whether these activities constitute human subjects research, please submit a new application to the IRB for a determination.

While not requiring IRB approval and oversight, your project activities should be conducted in a manner that is consistent with the ethical principles of your profession. If this project is program evaluation or quality improvement, do not refer to the project as research and do not include the assigned IRB ID or IRB contact information in the consent document or any resulting publications or presentations.

Sincerely,

Shanitra Butler
IRB Research Compliance Administrator