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The Relationship of Pre-enrollment Timespans to Persistence and Time-to-Degree of Transfer Students at a Four-Year, Metropolitan University

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The Relationship of Pre-enrollment Timespans to Persistence and Time-to-Degree of Transfer Students at a Four-Year, Metropolitan University

by

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A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Curriculum and Instruction with an emphasis in Higher Education Administration Department of Leadership, Counseling, Adult, Career and Higher Education College of Education University of South Florida

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DEDICATION

To my parents, Dr. James and Roxanne Wilson, thank you for all of your continued support as I pursued this degree. Although I pursued an unconventional career path, I appreciated your encouragement throughout the process. Thank you for spending extra time with our girl so that I could work and go to school.

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ABSTRACT

This research study investigated the relationship to the pre-enrollment factors of admissions-to-enrollment and orientation-to-enrollment timespans to transfer student success as measured by persistence and the length of time taken to earn a baccalaureate degree. This quantitative study analyzed secondary data ($N = 357$) from a large, four-year, public research institution in the southeast United States. A logistic regression analysis was used to explore the relationships between the pre-enrollment timespans and persistence. The relationship between the admissions-to-enrollment timespan and persistence was not statistically significant. The orientation-to-enrollment timespan was found to have a statistically significant relationship to persistence ($p < .05$). This indicated that students who had increased orientation-to-enrollment timespans were more likely to persist. To further explore this relationship, a multiple logistic regression analysis was conducted to control for possible extraneous demographic, pre-enrollment, and enrollment variables. The relationship of orientation-to-enrollment timespan and persistence continued to be statistically significant. An ordered logistic technique was used to explore the relationship between the admissions- and orientation-to-enrollment timespans and time-to-degree completion. Neither timespan was found to have a significant relationship with time elapsed to complete the degree. Implications for admissions and orientation timespans were discussed in relation to transfer student transitions.
CHAPTER ONE: INTRODUCTION

Enrollment numbers at the community college level remain strong as evidenced by the enrollment estimate of more than 12 million students in the 1,123 community colleges across the nation (AACC, 2015; Lester, 2006; Mellow & Heelan, 2008). Furthermore, community college students represent half of the college enrollment in the United States (Mellow & Heelan, 2008). Statistically, one out of five students enrolled at a community college will choose to transfer to a four-year institution with the intent of earning a baccalaureate degree (Eggleston & Laanan, 2001). As the nation responds to President Barack Obama’s call for an increase in college attendance and degree completion by the year 2020 (White House, 2009), this number is expected to increase (Handel, 2013).

On February 24, 2009, President Obama challenged America to lead the world in the percentage of college graduates by the year 2020. In this same speech, President Obama noted that America was not producing enough educated citizens to fill positions in ¾ of the fastest-growing occupations (White House, 2009). A few years later, Carnavale and Rose (2011) asserted that there is a need to add 20 million college-educated people to the workforce by the year 2025. Of this 20 million, 15 million workers will need to possess a baccalaureate degree to fill the increased demand from employers who have vacant higher-level positions. In order to produce an increase in the college-educated populace and to decrease vacancies in these specialized positions, higher education institutions need to ensure that they are providing an unobstructed path for students whose goal is to obtain a baccalaureate degree. As transfer students make up a significant part of the college student population, it is paramount that they have the support they need to persist and graduate in a timely fashion.
Statement of Problem

Transfer students make up a large portion of the college and university system. Current research reports that 77% of the 95,356 community college student respondents to the 2014 Survey of Entering Student Engagement reported that their reason for attending their community colleges was to transfer to a four-year college or university (Center for Community College Student Engagement, 2014). Despite their successful tenure at the community colleges, transfer students do not always make a smooth transition into the four-year college. They may experience a decrease in grade point average, an increase in the time it takes to earn a degree, and/or a lack of persistence (Berger & Malaney, 2001). Furthermore, they face a variety of obstacles in the areas of admissions, articulation, housing, career planning, academic advising, financial aid, and student involvement. This transition into the university can prove problematic to the new student; therefore, both community colleges and four-year institutions need to be prepared to assist these students as they transfer and begin to acclimate to the university setting. In response, universities have implemented myriad programs and practices to assist these students including living and/or learning communities, first year interventions, and transfer-specific orientations (Borland, 2004).

In order to complete university business and understand the nuances of their new educational environment, transfer students need time to prepare for the transition from the community college to the four-year university. Applications for admission can typically be completed one year prior to the term for which the applicant is seeking admission. Those who apply and are admitted several months prior to their enrollment term can use their time to prepare for their transfer by contacting academic advisors at the university, visiting the campus, setting up housing, and attending orientation. At some institutions, attendance at orientation is
mandatory before transfer students are permitted to register for classes. Those with greater timespans between admission and enrollment have the opportunity to attend an earlier orientation date, thus, allowing them to register for courses earlier. They also have the time to address any issues that may arise regarding the applicability of transfer credits into the university and their academic program. Those who are admitted closer to their enrollment date might be attending orientation as late as a few days before they begin classes at the university. Students who have a later registration are faced with a diminished number of courses from which to choose. Moreover, their academic transcripts from their state or community colleges may not have been fully articulated, which could lead to students retaking courses or the inability to enroll for critical courses in their academic program for which the pre-requisites are not fully articulated. This could result in additional costs and time elapsed to earn a degree. Furthermore, students who attend a later orientation do not have as much time to prepare for their transition into the university, which could increase stress and anxiety. This difficult adjustment may lead to poor academic performance and/or lack of persistence.

Although there is much research concerning social and academic issues related to transfer students, there has not been research to explore how the timing of both admission to the university and attendance at orientation relates to transfer students as they transition into the university. Moreover, the research has not explored the relationship between admission and orientation timing and transfer students’ likelihood to stay at the university and persist towards a degree.

Theoretical Framework

Nancy Schlossberg’s transition theory (2007) provides insights into the transition that transfer students experience as they move from one institution to another. She defines a
transition as an incident or non-incident that alters an individual’s life. The individual has to recognize and attach significance to this change for one to consider this change a true transition. There are three types of transitions: anticipated transitions, unanticipated transitions, and nonevents (Evans, Forney, Guido, Patton, & Renn, 2010). Anticipated or elected transitions refer to expected events. These can include social milestones, such as graduating from the community college, and individual choices, such as the choice to transfer to the university (Schlossberg, 2007). Even though individuals know these events will occur and have the opportunity to prepare for these transitions, they still experience an adjustment period. Unanticipated or surprise transitions are unpredictable events that occur at unexpected times (Evans et al., 2010; Schlossberg, 2007). Transfer students could experience this type of transition when the university they transfer to accepts fewer transfer credits than expected, or they encounter an impediment to graduation due to the unavailability of critical courses in their academic major after attending orientation. Because individuals do not anticipate these transitions, they experience large amounts of emotional stress (Schlossberg, 2007). Nonevent transitions are those events that are expected to occur but do not transpire (Evans et al., 2010). One example is the denial of a student into the transfer institution or major of his or her choice. Anxiety and a sense of loss often accompany nonevents (Schlossberg, 2007; Steele & McDonald, 2008).

Transitioning occurs when an individual ceases to fixate on the transition and integrates the transition into his or her life and being (Evans et al., 2010). According to Schlossberg (2007), there are four factors that are influential in an individual’s ability to manage transition: situation, self, support, and strategies. The individual needs to reflect on and possess adequate resources in these four areas to successfully cope with the transition. One of the variables
Personal and demographic characteristics and psychological resources are factors considered important in evaluating the self. These characteristics include gender, age, ethnicity, state of health, and socioeconomic status, which can provide the lens with which those in transition view life. For instance, race and ethnicity can impact a student’s cultural and societal norms. Psychological resources include outlook, commitment, ego development, personality, and optimism (Evans et al., 2010; Schlossberg, 1984). If well developed, these psychological resources can assist transfer students when transitioning into the university.

Social support is imperative in handling the stress that accompanies a transition. Schlossberg (1984) denotes that social support is categorized by type, function, and measurement. Relationship types with whom those in transition can find social support are intimate relationships, family, friends, and the institution. These relationships demonstrate their support through the functions of affect, affirmation, aid, and honest feedback. The degree or measure to which these types provide support are stable, role dependent, and changing (Evans et al., 2010). Universities can provide stable, institutional support by demonstrating aid and
affirmation to assist students in transition. Transfer students can use their social supports as they navigate the unfamiliar territory of the university.

According to Schlossberg (2007), coping strategies fall into three distinct functions: modifying or changing the situation, altering or controlling the meaning of the transition, and managing the stress-related actions that accompany the transition. Moreover, those in transition incorporate coping mechanisms of information seeking, direct action, inhibition of action, and intrapsychic behavior (Evans et al., 2010). Information seeking includes searching for advice and resources. Orientation programs provide an organized space for transfer students to find the answers to their questions. Direct action refers to stress management, negotiation, and discipline. These students will assert themselves when they need assistance. Denial, ignoring, and reflection demonstrate inhibition of action. In this instance, students may reflect on the deluge of information that they received at orientation and choose to ignore the information that is not relevant at that moment. Positive, negative, or neutral intrapsychic behaviors can help an individual through resolving the transition if applied appropriately (Schlossberg, 1984). University personnel can assist students through transitions by providing resources for students and responding strategically to these various strategies. Additionally, students may utilize various combinations of these strategies in working through a transition.

Schlossberg (1989) asserted that individuals going through a transition feel marginalized and that they matter very little. Changes in roles and experiences can elicit feelings of marginality, particularly if there is a large difference between the former role and the new role or if norms do not accompany the new role. According to Schlossberg, “…marginality elicits feelings about mattering” (Schlossberg, 1989, p. 8). Mattering is a motivational belief that one matters to others and is measured by the amount of attention and appreciation one receives. An
increase in mattering leads to a decrease in feelings of marginality (Schlossberg, 1989). This theory of marginality and mattering is applicable to transfer students as they transition into the four-year university and determine their place. Colleges and universities that promote student involvement and mattering foster greater student learning and retention. Schlossberg (1989) states that rituals can assist those in transition by helping them make sense of the conflicting nature of the transition. University orientation programs can serve as this ritual for the transfer student population.

When reflecting on the effect of the transition on a student, university personnel need to take relativity, context, and impact into account. The relativity is based on whether the student views the transition positively, negatively, or neutrally (Steele & McDonald, 2008). This view depends on the situation at hand. The context refers to the student’s attachment to the transition and the setting in which the transition is taking place. How meaningful is this transition to the student? The impact refers to the amount of modification the student has to make in his or her daily life because of the transition (Evans et al., 2010). Due to this transition, will the student need to take a break from school? Relativity, context, and impact should be considered when counseling a student who is experiencing any type of transition (Steele & McDonald, 2008).

**Purpose of Study**

This study explored the relationship of both the admissions-to-enrollment and the orientation-to-enrollment timespans to transfer student success as measured by persistence and the length of time taken to earn a baccalaureate degree. Specifically, the study looked at how these timespans related to transfer students’ ability to successfully transition into the university and ultimately stay and succeed as evidenced by baccalaureate degree attainment. Additionally,
it looked at the relationship between admissions-to-enrollment and orientation-to-enrollment timespans and the time passed between enrollment and graduation.

**Research Questions**

The first two research questions address the relationship of admissions-to-enrollment and the orientation-to-enrollment timespans to student persistence. The last two questions focus on the relationship between the pre-enrollment timespans to the length of time elapsed to earn the baccalaureate degree. The following research questions guided the study:

1. What is the relationship between transfer student persistence and the length of the admissions-to-enrollment timespan?
2. What is the relationship between transfer student persistence and the length of the orientation-to-enrollment timespan?
3. What is the relationship between the length of time taken for transfer students to complete a baccalaureate degree and the length of the admissions-to-enrollment timespan?
4. What is the relationship between the length of time taken for transfer students to complete a baccalaureate degree and the length of the orientation-to-enrollment timespan?

**Significance of the Study**

Based on the current economy and the need for advanced degrees, the enrollment at the community college level will most likely continue to rise. Consequently, this leads to an increase in students who transfer from the community college to the university. As the transfer student population continues to increase, it is important for the research on the transition between
the community college and the university to continue. Moreover, there needs to be more research concerning the long-term impact of this initial transition.

At this time, there is a significant amount of research about transfer students and how the transition from the community college to the university affects them socially and academically. However, there is not any research about the pre-enrollment timespans. Transfer application deadlines tend to be later than first-year application deadlines. In some instances, the university will not make an admissions decision until a final transcript from the community college has been received. Therefore, admissions decisions concerning transfer applications are made closer to the intended term of enrollment. The concern is whether or not transfer students have enough time to prepare for their transfer to the university. Additionally, orientation sessions for transfer students can occur a few days prior to enrollment. Transfer students need to have time to process the information received at orientation, as well as register for courses. Subsequently, they need the opportunity to consult with the university academic advisors concerning any scheduling issues. A diminished length of time between orientation attendance and the start of the semester may inhibit the transfer students’ ability to connect with the advisors in a timely fashion.

The first semester at the university has the potential to set up the academic future of a new student. Without the time to sufficiently connect with an academic advisor, transfer students may create their schedules without the proper guidance. A hastily created first-semester schedule could include unnecessary courses selected due to a lack of course availability but necessary to reach the credit hour threshold to receive financial aid. Additionally, there is the possibility that students will not register for courses that are critical for timely progression in the chosen major. Both of these instances can lead to extra semesters at the university, as well as the likelihood of accruing the financial penalties that accompany earning hours in excess of the
credit hours required for the intended degree. Another scenario is that students may create unbalanced schedules that lead them not to perform well academically their first semester. This can lead students to doubt their academic ability at the university level. They can lose confidence and choose to leave. Moreover, they may create an academic deficit from which they cannot recover, resulting in academic dismissal from the university.

This research study has the potential to inform admissions practices at the university level. Admissions offices could benefit from this exploration to determine if the transfer application and decision timing is related to persistence and progression. The results could lead to an alteration or confirmation of current admissions practices. Moreover, orientation programs could benefit as well from understanding this relationship to determine if their programs achieve their desired outcomes based on the elapsed timeframe.

**Definition of Terms**

The following terms have been defined, as they are central to the understanding of the research study:

*Active continuous enrollment* is defined as the act of students continuously registering and attending courses with a break no larger than three consecutive semesters. Students are classified as “Inactive” if they do not register for three consecutive semesters (including the summer semester). Students will be included in this study if they have continuously enrolled for 12-18 hours in the fall and spring semesters.

*Admissions-to-enrollment timespan* refers to the time elapsed between the date the Office of Undergraduate Admissions made an affirmative admissions decision on a student’s application and the first day of the semester in which that student enrolled at the university. The timespan is measured in days.
Affirmative admissions decision denotes the decision of the Office of Undergraduate Admissions to admit a student after reviewing his or her application. In this study, an affirmative admissions decision refers to the acceptance of a transfer student into the university. Specifically, this study will look at the date the Office of Undergraduate Admissions made the affirmative admissions decision.

Degree completion is the act of students continuing their education with the result of earning a baccalaureate degree.

Orientation refers to an on-campus program that informs incoming students and guests about academic policies, financial aid opportunities, programs of study, campus resources, and other university information. The purpose is to ensure students are knowledgeable in order to ease the transition from their previous institutions to the university. In this study, one-day orientation sessions for transfer students enrolling in the fall occurred periodically from mid-March to mid-August.

Orientation-to-enrollment timespan refers to the time elapsed between the date the student attended the mandated university orientation and the first day of the semester in which that student enrolled at the university. The timespan is measured in days.

Persistence refers to the act of a student continuing to enroll at an institution with the intention of attaining a degree. This study will look at students who maintained continuous, full-time enrollment (12-18 credit hours) in the fall and spring semesters until earning a baccalaureate degree. It will also include students who maintained active enrollment and were still pursuing their education three years after first enrolling.

Progression is the continuous act of a student meeting requirements towards the desired undergraduate degree.
Transfer students are students who enroll at a higher education institution after enrolling and earning college credits at another institution.

Limitations

One of the limitations of this study is the correlational methodology. The internal validity of a correlational design is not strong. To strengthen the study, the researcher controlled for demographic, pre-enrollment, and enrollment extraneous variables through the statistical design. In addition, the researcher used specific criteria to homogenize the population in an effort to increase the internal validity of the study. Regardless, even though the statistical analysis may show a relationship between the dependent and independent variable, the results will be tenuous as correlation does not infer causality.

Another limitation is the use of secondary data. The collection of this data occurred through two separate university offices. Therefore, the accuracy of the data was outside of the researcher’s control. Additionally, since the results are statistically based, there is not depth to the findings. Despite this limitation, the results of the study could lead to future research to further explore the findings.

Delimitations

This study analyzed data from students who transferred from a state or community college having earned a Florida Associate in Arts degree to a large four-year, public, research institution in the southeast in the fall semesters in the years 2007-2010. The students in this study had earned their Associate in Arts degrees between April and mid-June prior to their enrollment at the university. The population was additionally delimited to students who maintained a full-time course load (12-18 credit hours) in the fall and spring semesters throughout their tenure at the university. Due to these delimitations, the results may not be
generalizable to other universities or colleges as they have specific admissions and orientation regulations. Additionally, the results may not be generalizable to other transfer populations.

Organization of the Study

Chapter One presented the necessity to conduct research concerning the relationship of pre-enrollment timing factors to the transfer student transition process. It elaborated on the problem statement, as well as established the theoretical framework to ground the research in Schlossberg’s transition theory. The purpose of the study and the research questions were developed. This chapter also justified the significance of the study, defined relevant terms, and disclosed the limitations and delimitations.

The four remaining chapters are organized as follows: Chapter Two consists of a review of the relevant literature related to academic and social transfer transition issues, admissions, transfer orientation programs, persistence, and degree completion. Chapter Three includes a restatement of the problem and research questions, explanation of the research design, overview of the setting and participants, procedures for data collection, and a description of how the data will be analyzed. Chapter Four provides the characteristics of the sample, results of the data analysis, and interpretation of the data to determine the relationship on pre-enrollment timing factors on transfer student success. Chapter Five is comprised of a summary of the research study, as well as a discussion of the research findings, implications for practice, and the recommendations for future research.
CHAPTER TWO: LITERATURE REVIEW

The purpose of this study was to investigate the relationship of pre-enrollment timing factors of affirmative admissions decisions and orientation attendance to transfer student success as indicated by persistence and the time elapsed to attain a baccalaureate degree. This chapter will highlight the literature related to the transfer student transition experience. It will also elaborate on the role of the community college in the transfer process. Furthermore, it will explore the issues related to the transfer admissions process and the role of transfer-specific orientations on the transition into the university. Additionally, it will review studies concerning the impact that transferring has on both the academic and social aspects of the transfer student population. Finally, it will discuss specific issues related to transfer student persistence and degree completion.

Community College

The purpose of the community college in America is ever changing. Often regarded as an American invention, the community college’s role in higher education is cause for debate. There are those who regard these institutions as a continuation of secondary school education, while others view them as schools that prepare students to transfer into the four-year college or university. According to Ratcliff (1994), the foundation of the community college is a combination of “seven streams of educational innovation” (p. 4). The first stream, “community boosterism,” refers to the surge of colleges that were built to enhance the educational reputations of the states in which these institutions resided. Due to a lack of funding, however, several of these colleges did not thrive for long. The second stream that contributed to the evolution of the community college was the rise of the American university (Ratcliff, 1994). The community
college was the idea of University of Chicago President William Rainey Harper and other administrators as a way to increase university resources by outsourcing the freshman and sophomore years. Moreover, these colleges were created to provide education for students who had graduated from high school but were not prepared for the academic rigors of the university. The two-year college would serve as a way to provide access to post-secondary education; however, it would also ensure that students who were not academically prepared would not enter the four-year institution (Brint & Karabel, 1989). Joliet Junior College in Joliet, Illinois was established in 1901 as the first public junior college. There were other two-year private colleges, but they were a product of four-year private schools that eliminated their junior and senior years. Joliet Junior College was the first two-year school created with the intention of providing the first two years of college curriculum (Hutcheson, 1999).

An increase of junior colleges due to the restructuring of secondary education from 1910 to 1920 led to the third of Ratcliff’s (1994) seven streams. The reduction of high schools from four-year to three-year allowed for discussion of partnerships between high schools and junior colleges. Additionally, an increase in the need for teacher preparation and education, as well as the need for vocational education, comprise the fourth and fifth streams that led to the development of the community college (Ratcliff, 1994). The sixth stream is the surge in demand for continuing education for adults that has been on the rise since after World War II. Moreover, this time period established the “community” aspect of the community college. The last stream refers to one of the defining characteristics of the community college – that of open access to higher education (Ratcliff, 1994). A rise in immigrants with diverse educational experiences facilitated the need for open access to higher education. Community colleges provide pre-
collegiate education to students in order to enhance their prospects for success at the college or university.

From a historiographical standpoint, Hutcheson (1999) explores whether the community college is an extension of the public school system or a component of higher education. He states that “the community college is not simply an element of the public school system, nor is it in and of itself a unique American institution: it is a thoroughly American educational institution” (p. 316). Hutcheson uses the Yale Report of 1828 to support his claim. Aside from defending the “classical curriculum,” the report discusses the societal roles and characteristics of higher education institutions. Colleges and universities look for and rely on a variety of entities for support. Additionally, they have an obligation to educate those who are college-ready with a curriculum that encompasses both the liberal arts and utilitarian courses. They are places “to further thought” and offer “moral instruction” (p. 316). Hutcheson states that community colleges possess these same characteristics. They depend on support from other institutions and the local community. Community colleges provide access to higher education by educating those who are not ready for the four-year institution.

The Truman Commission of 1947 defines the mission of the community college to serve the community. The Commission suggested that community colleges operate as a “part of a broader call that public education be made available…to all Americans able and willing to receive it, regardless of race, creed, color, sex, or economic and social status” (Gleazer, 1994, p. 19). Additionally, the community colleges were tasked to continuously review the educational needs of the communities they serve and respond appropriately. The community college “is committed to trying to create success for all manner of students who enter its door” (Mellow &
They assist academically unprepared students for transfer into a four-year institution as well as those needing vocational skills to become or remain employed.

Handel (2013) emphasizes the importance of ensuring strong partnerships between community colleges and four-year institutions as a response to a national call for students to complete college. More and more, students enter the community college right out of high school to complete their first two years of college work. This trend is due to the affordability of tuition at the community college and the accessibility for underprepared students who are not ready for the rigors of the university. At least half of these students intend to transfer to a four-year institution. Furthermore, high school graduation rates had been expected to decline between 2010 and 2020, leading to a decrease in freshman students enrolling at the four-year institution. The expectation is that institutions will rely on transfer students to bridge this enrollment gap. Thus, it is critical for a strong relationship to exist between the community college and the four-year institution to ensure that the traditional transfer pathway remains a viable and unobstructed option for students.

**Transfer Admissions**

In theory, the route transfer students take to enroll at the university would be linear and unhindered. Often, this is not the case. Transfer students experience obstacles before, during, and after the application process that impact their transition into the university. This section will examine the literature concerning the timing of the university application and admissions process, information gathered by transfer students to prepare for matriculation into the university, and course articulation.

In a qualitative study, Chin-Newman and Shaw (2013) found that transfer students were apprehensive about applying to the university. Moreover, they lacked the confidence that they
would be admitted, or, if admitted, that they will perform well academically. Flaga (2006) noted that the admissions process needed to occur earlier in order to allow transfer students the time to take care of their administrative needs and attend orientation. Late admissions decisions may be disadvantageous to transfer students. Most research on transfer student experiences focuses on the student point of view. However, the students are not the only participants in this process. Through their qualitative study, Tobolowsky and Cox (2012) looked at a research institution’s perceptions on the transfer student experience, including staff views on the admissions process. The staff and administrators confessed their belief that admissions and major requirements impede transfer students success. If students do not gain admission to the majors of their choice, they are forced to make a hasty decision concerning new majors in a condensed time frame.

Students who actively prepare for their transfer by gathering information about the transfer process are generally more satisfied and academically successful upon their transition into the university (Berger & Malaney, 2001; Flaga, 2006; Tobolowsky & Cox, 2012). This aligns with Schlossberg’s (1984) theory that those in transition seek information as a coping strategy. However, accumulating this information can prove problematic. Community college academic advising offices are often underutilized. The Community College Survey of Student Engagement (CCSSE, 2013) found that 34% of community college students either do not utilize academic advising services or do so infrequently. In Townsend and Wilson’s (2006) study, only four out of the nineteen students they interviewed asked their community college about the transfer process. Often, students are unsure of program requirements and course selection. Uncertain about whom to ask, these students will self-advise, resulting in poor choices (Deil-Amen & Rosenbaum, 2003).
Additionally, because of the increase in community college enrollment and the diversity of the student body, academic advisors face the challenge of providing effective advising (Mellow & Heelan, 2008). Advising offices at the community colleges are severely understaffed with advising loads of over 800 students per advisor (Deil-Amen & Rosenbaum, 2003). In the 2011 NACADA (National Academic Advising Association) National Survey of Academic Advising, it was reported that 50% of the two-year colleges that responded to the survey (n=154) had an advising ratio of one full-time professional advisor for every 2000 undergraduate students (Robbins, 2013). These advisors are expected to assist students in course selection, career planning, academic planning, and personal issues. Due to the advising load and the extensive nature of each advising appointment, the advisors’ schedules fill up quickly. Students are forced to schedule appointments weeks or months in advance. Facing these obstacles, students delay registration until they see an advisor, which leads to fewer course options; or they choose to self-advise (Deil-Amen & Rosenbaum, 2003).

Even when a student sees an advisor, the information the student is given may be incorrect. There is an expectation that community college advisors, in addition to advising students on the various programs within the college, should be knowledgeable of articulation agreements, admissions procedures, and transfer processes of the state universities. Being knowledgeable about the expanse of programs offered at the community college coupled with the admissions requirements at the various transfer universities can be a daunting and almost impossible task for academic advisors. These advisors have to rely on the universities to provide current information; however, communication between community colleges and universities can be challenging. This knowledge gap affects community college students who seek transfer assistance from the community college advisors. Transfer students enroll at the university with a
set of preconceived notions and expectations that they have gleaned from their community college advisors. Upon transferring to the university, these students might discover that they received misadvising, which may result in non-transferable coursework or a delay in meeting graduation requirements (McGowan & Gawley, 2006). Regardless of the reason, poor advice can result in delays in graduation and/or transfer (Deil-Amen & Rosenbaum, 2003). Additionally, these misaligned expectations negatively influence the ease of transition from the community college to the university (Tobolowsky & Cox, 2012). According to Flaga (2006), students who meet with a university advisor prior to transferring have a more successful transfer experience. Students transfer with the knowledge concerning their transfer credits and have a better idea of their program of study.

Articulation agreements demonstrate a commitment to continuing education; however, they cannot take the place of transfer-specific outreach from both the community college and the receiving university. Four-year universities need to communicate with their feeder community colleges to ensure students understand the transfer process early on in their academic careers. If the community college can provide more “college-initiated guidance” based on the information from the receiving university, transfer students will benefit (Deil-Amen & Rosenbaum, 2003). Often, students can prepare for specific programs within the university while at the community college. If transfer students do not meet these requirements prior to matriculation, they could end up a semester or more behind. By engaging in goal-setting with advisors during the first semester at the community college, students can plan their educational path and prevent taking more courses than they need for their future degrees (Mellow & Heelan, 2008).

One of the most frequent issues that occurs during the transfer admissions process is that of articulation of transfer courses from the community college to the university. Transfer
students indicate that one of their largest concerns is how their community college credits will transfer to the university or whether or not their credits will transfer at all (Chin-Newman & Shaw, 2013; Chrystal, Gansemer-Topf, & Laanan, 2013). The university staff in McGowan and Gawley’s (2006) study specified that the topic transfer students asked administrators most about was transfer credits. Transfer students would compare this information to other schools to which they were applying to make enrollment decisions. Moreover, transfer students were concerned with the transferability of credits as it could impact the length of time it would take them to earn their degrees. Some students chose to major in programs that were quicker to complete at the university based on how their credits transferred. The students in Ellis’s (2013) qualitative study indicated that the top two reasons that their credits did not transfer were that 1) they changed their majors and 2) the courses did not apply to their degree program. In these instances, the transfer students positively accepted this loss of credit. However, if the students lost credits due to misadvising, a lack of the institution honoring established articulation procedures, or unidentified reasons, they expressed displeasure.

In their study to understand why community college transfer students earned degrees at a lesser rate than native students, Monaghan and Attewell (2014) discovered that the graduation rates were 2½ times greater for transfer students if most or all of their credits transferred to the university than those who transferred in with less than half of their credits. This relationship between credit transferability and degree attainment demonstrates the importance of streamlined and clear articulation policies and evaluation procedures at the university level.

**Transfer Orientation**

Most research conducted concerning the transfer student transition has been general in nature and has focused on the concept of transfer shock. Students who transfer from community
colleges to four-year institutions often have difficulty adjusting to the rigorous academic curriculum. However, little research has been conducted concerning the social and psychological adjustment of transfer students and the role orientation plays in this transition. Institutional orientation programs are integral in the social and academic support they provide to transfer students during this time of transition (Schlossberg, 1984).

To formulate a guideline for student affairs professionals, Cawthon and Ward-Roof (2004) detailed strategies for creating transfer student orientations. To provide a foundation for these programs, the authors provide a history of orientation programs and guidelines developed by five authors and one national organization. Furthermore, they include the results of a national survey conducted by the National Orientation Directors Association (renamed the Association for Orientation, Transition, and Retention in Higher Education in 2013) on their listserv. The 65 respondents provided applicable information concerning the format of varying transfer orientation programs. The survey found that most transfer orientations included “a welcome; a review of campus and community resources; academic advising; campus tours; interactions with faculty, staff, and students; social opportunities; placement and career testing; and class registration” (Cawthon & Ward-Roof, 2004, p. 60). The authors concluded that the receiving institution must be willing to provide the appropriate resources to implement successful orientation programs. In addition, the institution must “be committed to the transfer process” (Cawthon & Ward-Roof, 2004, p. 65), and the campus community needs to understand the unique needs of the transfer student population. Transfer-specific communication addressing university policy, transfer credits, and registration needs to be expressed prior to orientation. During orientation, university expectations should be presented clearly so transfer students can begin adjusting to norms that vary from their previous institutions. Moreover, they assert the
importance of the role of families in the orientation process as a means to promote a smoother transition. By creating a transfer-specific orientation program, the university can cater to the needs of transfer students as they transition into the four-year university.

To assess the quality and effectiveness of the transfer student experience, Harbin (1997) collected quantitative data from 85 students who transferred from a California community college to various colleges and universities in the San Francisco Bay Area. In this study, 71% of the respondents reported that they had participated in an orientation program upon entering the four-year institution. The majority of these students (78%) reported that the orientation program was of assistance in the academic transition. Similarly, Mayhew, Vanderlinden, and Kim (2010) analyzed survey results from over 14,000 students from 35 institutions in an effort to determine orientation’s impact on students’ academic and social experiences. Utilizing hierarchical linear analysis, the researchers found that transfer students were more likely than first-year students to credit orientation for an increase in academic learning (i.e. time management, academic expectations, study skills, etc.). However, transfer students were less likely than first-year students to attribute social integration to orientation. The authors postulate that this finding might reflect the focus of transfer students on navigating the academic landscape of the new institution over the social aspects of their transition.

Recognizing the tendency of past literature to focus on academic integration, Flaga (2006) conducted a qualitative and longitudinal study that tracked transfer students through their first year at a four-year university to study the transition process. Flaga (2006) interviewed 35 community college transfer students during their second semester at a four-year university to recount their first semester experiences. From this sample, 30 students returned to reflect upon their second semester experiences. In this study, some of the students identified orientation as
the time when they connected with fellow students and made long-lasting connections. These orientation programs can be built upon to include more strategies to assist with the academic and social transitions. Future research based on this study could include interviewing students before and after they transfer to fully understand the transfer transition.

Townsend and Wilson (2006) conducted a qualitative study concerning factors that contribute to the success of community college students as they transfer to a large research university. The study focused on the transfer assistance the students receive from the community college and four-year institution, the university’s efforts to orient and assist new transfer students, and the comparison of the community college and the university in relation to academic and social integration. The 19 students interviewed reported that transfer assistance was available, but few students utilized this service. In addition, 16 of the 19 students chose to attend a transfer orientation program provided by the receiving institution. One student suggested that the program could have been improved by including testimonials from students who had been through the transfer process while another student would have enjoyed hearing general advice and tips on applying to graduate school. Overall, these students sought information concerning study habits, classroom size, and general services available to them as new students. The students in Ellis’s (2013) study indicated that a transfer-specific orientation was helpful, but they would have liked to receive information about math labs, support services, and health and fitness center rather than information concerning study skills and time management.

In Tobolowsky and Cox’s (2012) research on institutional responses to the transfer student experience, the staff members declared that the late timing of orientation impedes students’ capabilities to register for the critical courses for their degree program. The staff members are put in the position of troubleshooting - trying to get students a full schedule prior to
leaving campus at the end of orientation. Those who participated in this study vocalized the need for more time for transfer students to navigate administrative tasks. Late orientation dates make the completion of pre-enrollment tasks difficult.

**Transfer Student Transition**

Even though the transition into the university is an anticipated event, transfer students experience stress related to various aspects of university life. Often, students have difficulty adjusting to their new academic environment, resulting in a lower first-semester grade point average (GPA). In addition, students may experience barriers to their successful social integration to the new institution. This section explores literature concerning both academic and social integration which can have an impact on transfer student success.

**Academic integration.** One of the most prevalent topics concerning the transfer student experience is that of transfer shock (Hills, 1965) – the tendency for transfer students’ GPAs to decline after the first semester at the college or university. However, the reason for this dip in GPA is hard to determine and one that needs to be investigated. Moreover, how successful transfer students are at navigating their academic integration into the university environment has impacts on academic achievement and persistence. Cutright (2011) argues that whether the reason for transfer shock is the increased rigor of the university curriculum or a lack of transitional support for transfer students, these issues need to be explored and addressed.

Academic integration can refer to one’s familiarity with the academic environment, as well as academic achievement as demonstrated by GPA. How students adapt to and interact in their new environment can impact their academic performance. Lester, Leonard, and Mathias (2013) utilized qualitative student responses to define academic engagement as “a strict focus on academic activities that include meaningful connections with faculty members as well as
academic challenge and learning” (p. 213). The students in their study were concerned that engagement in social activities within the university would negatively impact their academic performance. Additionally, the students only viewed social events beneficially if they were related to their classes or academics. This finding is consistent with Townsend and Wilson (2008-2009), who reported that belonging to an academic-related organization and/or working with a faculty member on research had a positive impact on academic integration.

In a similar vein, transfer student interactions with faculty also contribute to transfer student academic integration to the four-year institution. Transfer students reported that they did not feel comfortable approaching their professors (Townsend & Wilson, 2008-2009). Some transfer students stated that they had difficulty connecting with professors due to the larger size of the four-year institution (Townsend & Wilson, 2006). Additionally, these students observed that the university faculty were less interested in teaching than the professors at the community college. Other studies suggested that faculty were open to face-to-face interactions; these interactions primarily occurred during office hours rather than during or right after class (Ellis, 2013; Lester et al., 2013). Even though faculty provided an opportunity for personal interaction, transfer students tended to utilize e-mail to contact and interact with faculty (Casey & Davies, 1999; Ellis, 2013; Lester et al., 2013). Moreover, native students reported experiencing more faculty interaction than transfer students with part-time students reporting the least interaction with faculty (Ishitani & McKitrick, 2010).

The increased rigor of the university courses is also cited as a factor in the academic integration of transfer students. Transfer students report that they are concerned about how difficult university courses will be and how they will perform in them (Casey & Davies, 1999; Chrystal et al., 2013; Ellis, 2013; Lester et al., 2013). As expected, transfer students viewed the
university courses as more challenging than they were used to at the community college (Chrystal et al., 2013); however, they anticipated that the courses would be more difficult (Ellis, 2013). Furthermore, the increased expectation for students to engage in abstract thinking and reading assisted students in increasing their academic engagement and integration into the university community (Ellis, 2013; Lester et al.; 2013).

The difference in the academic environments at the community college and the university can influence the transfer student transition (Laanan, 1996; Townsend & Wilson, 2006). Transfer students may have trouble initially fitting in (Townsend & Wilson, 2006). Students who transfer from an institution or a program that provides individualized attention have difficulty adjusting to the anonymity and independence of university life (Casey & Davies, 1999; Laanan, 1996). At the community college, the classroom was not only a place to learn but also a space to socialize. Universities tend to have large, lecture-style classes (Townsend & Wilson, 2006); transfer students reported that they integrated better academically when the classes were smaller (Townsend & Wilson, 2008-2009). Additionally, students are transferring from an environment in which they are familiar to one that is foreign which can lead to issues in adjustment (Laanan, 1996).

To determine how to assist transfer students in their academic integration, researchers analyzed what factors contribute to a successful transition and which factors hinder this transition. One consistent theme is the importance of preparing for the transfer experience through researching and assimilating information concerning the university’s policies and procedures. Flaga (2006) reported that transfer students gather information formally (orientation, academic advising, faculty), informally (friends, family), and through initiative (on their own). Students who consult faculty or staff concerning the transfer process, as well as
those who were familiar with graduation requirements prior to transferring, perceive their academic progress as higher than those who do not (Berger & Malaney, 2003). Moreover, these students are more satisfied with the academic support provided by academic advisors and faculty. Some transfer students are not aware of the differences between the community college and university environments, thereby entering the university overconfident and uninformed (McGowan & Gawley, 2006; Tobolowsky & Cox, 2012). These unrealistic expectations can lead to barriers in academic understanding. Another prevalent theme that impacts academic integration is transfer student perceptions of their academic ability prior to transferring. There is a positive relationship between study and learning skills honed at the community college and university academic adjustment (Laanan, Starobin, & Eggleston, 2010-2011). Laanan (2007) also found that the higher a student’s perceived intellectual self-confidence, the easier a student adjusted to the academic aspect of the university. However, transfer students are more concerned with their academic performance than native students (McGowan & Gawley, 2006). Transfer students are concerned with the stigma that can be attached to their transfer identity, which negatively impacts academic integration (Laanan et al., 2010-2011). Other factors that contribute to the positive academic integration into the university are increased age, perceived math and writing preparation, family support, class participation, and participation in a sport, club, or organization (D’Amico, Dika, Elling, Algozzine, & Ginn, 2013).

The literature often uses transfer students’ first-semester grade point averages to measure academic integration into the four-year institution. Hills (1965), who established the term “transfer shock” to describe the decrease in transfer students’ GPAs in their first semester at the four-year institution, examined early studies that addressed the academic performance of transfer students. Of 46 studies that addressed transfer shock, 44 of them demonstrated that transfer
students experienced transfer shock upon completion of their first semester at the university. Moreover, 38 studies also looked at whether or not transfer students recovered from the initial dip in their GPAs. Thirty-four out of 38 studies observed recovery of the transfer students’ GPAs, although the studies varied in the extent of the recovery demonstrated by their specific populations. Though an older study, Hills’s (1965) analysis establishes the need for future research on how to assist transfer students in their academic transition.

The literature contains a significant amount of research on the comparison of native students (students who start their post-secondary education at the four-year university) to transfer students in regards to academic performance. Hills (1965) also looked at academic performance as demonstrated by earned grades. Thirty-three studies collected data comparing native and transfer student grades. Twenty-two data sets showed that native students earned higher grades than transfer students; four studies demonstrated that transfer students performed better, and seven studies indicated an equal performance from native and transfer students. Glass and Harrington (2002) further explored this disparity between transfer students and native students in a quantitative study of two cohorts (n=100) that looked at transfer GPAs before transferring compared to native GPAs earned at the end of the sophomore year. The cohort of students who graduated in 1998 did not demonstrate a difference in GPA between the native GPAs at the end of their sophomore years and transfer students’ entering GPAs; however, the transfer students in the 1999 cohort possessed a higher entering GPA than the native students. Additionally, they observed transfer GPAs at the end of their first semester at the university, as well as native GPAs after the first semester of completing their academic major coursework. Transfer students experienced transfer shock in their first semester of the university, but demonstrated recovery. The native students did not display a decrease in GPA during their first semester of major
coursework. The cumulative GPA of both native and transfer students in the 1998 cohort was similar; however, the transfer students in the 1999 cohort exhibited a statistically significant higher GPA than the native students. Though the sample size in this study is small, it emphasizes that the first semester after transferring is a critical time period for transfer students.

Qualitatively, transfer students have reported that they experienced a first-semester GPA drop due to work, academic credit load, and non-attendance in class (Chrystral et al., 2013). Additionally, D’Amico et al. (2013) found that community college GPAs, academic integration, increased age of transfer students, working fewer than 15 hours per week, class participation, and participation in a club or sport were positive predictors of first-semester university GPA. Similarly, Wang’s (2012) predictive study indicated that increased community college GPAs, higher self-concept, and greater university involvement were positively related to increased university GPAs. In contrast, D’Amico et al. (2013) determined that social integration was a negative predictor of university GPA in transfer students’ first and second semesters. However, the next section will discuss the role of social integration in the transfer student transition experience.

**Social integration.** In addition to preparing for the transfer experience, social integration at the university contributes to the transition. Students who make social connections and spend time with friends at the university tend to experience a more successful transition (Berger & Malaney, 2003; Casey & Davies, 1999; Chrystral et al., 2013; Flaga, 2006; Laanan, 2007; Townsend & Wilson, 2008-2009). These relationships can be informal or made through the involvement in social or academic organizations (Casey & Davies, 1999; Flaga, 2006; Townsend & Wilson, 2008-2009). Furthermore, these friendships can also provide transfer students with valuable information concerning the university’s academic and social environments (Flaga,
2006). Unfortunately, obstacles exist that hinder the social connection of transfer students to their new environment.

Often, transfer students are not concerned with the social aspects of the university. Transfer students are less likely than native students to be involved in the social aspects of the university; however, student engagement of full-time transfer students was found to be significantly higher than part-time student involvement (Ishitani & McKitrick, 2010). Transfer students tend to focus more on their academic integration and the importance of earning a degree that leads to a career; therefore, they do not ask about social events (McGowan & Gawley, 2006). Those who do participate in social events do not view them as essential to their university transition (Lester et al., 2013). Transfer students are more apt to participate in social events or join clubs and organizations that are directly related to their major or discipline (Ellis, 2013; Townsend & Wilson, 2008-2009). Furthermore, they tend to use the classroom as a social space, which is a common occurrence at the community college (Flaga, 2006; Townsend & Wilson, 2006).

There are transfer students who desire to make social connections; however, these connections can be difficult to make. Transfer students had trouble infiltrating the already-established friendships at the university (Ellis, 2013; Townsend & Wilson, 2006). Moreover, transfer students who lived and worked off-campus, as well as those with children, had difficulty connecting with other students (Ellis, 2013; Townsend & Wilson, 2008-2009). Transfer students reported feeling isolated, alone, and unfamiliar with the campus environment, which negatively impacts their transfer experience (Chrystal et al., 2013; Harbin, 1997).

Despite these difficulties, transfer students can still be successful in their social integration. D’Amico et al. (2013) determined that successful transfer student social integration
could be predicted by studying with peers, family support, participation in a club or sport, and working fewer than fifteen hours per week. Berger and Malaney (2003) conducted a quantitative study to ascertain transfer student academic achievement and satisfaction in relation to adjustment to life on a four-year university campus. The researchers found that those who actively prepared for their transfer were generally more satisfied and academically successful. Overall satisfaction with the university is related to the amount of time immersed in campus life. Involvement in clubs, living on campus, connecting with faculty, and socializing with others leads to a positive social transition (Chrystal et al., 2013; Laanan, 2007). Moreover, connecting with current students helps transfer students expand their social circle (Flaga, 2006).

**Persistence and Degree Completion**

Once matriculated into the four-year institution, transfer students encounter barriers that interfere with their ability to persist and attain a baccalaureate degree. As discussed previously, transfer students face both social and academic challenges unique to their population. The following section reviews research that focuses on how these issues can impact transfer student persistence and degree completion.

Students who begin at community colleges and transfer to four-year institutions are less likely to earn their bachelor’s degrees (AACC, 2009, October 19). The American Association of Community Colleges (AACC) issued a statement detailing the variables that prevent transfer student success. The AACC argues that community college students do not start on the same playing field as those who start at the four-year institution. Specifically, community college students typically include more first-generation college students, students from lower income families, and part-time students. The characteristics that impede associate’s degree completion continue into the baccalaureate setting. Furthermore, there is a correlation between four-year
universities that accept large numbers of transfer students and higher attrition rates. These universities typically have fewer financial, academic, and social resources to assist transfer students. Additionally, students often lose earned credits in the transfer process, particularly when transferring into specialized degree programs. This loss of credits can extend the time it takes to earn the bachelor’s degree.

Based on the research, there are cognitive as well as noncognitive factors that contribute to transfer student persistence and degree completion. Duggan and Pickering (2008) surveyed 369 transfer students after attending orientation but prior to enrolling in a mid-sized public, doctoral research university to determine if noncognitive factors (behaviors and attitudes) impact student success as measured by GPA attained by the end of the second semester and persistence to the second year. By utilizing the responses from the Transfer Student Survey (adapted from the Transition to College Inventory) and comparing these responses to transfer students in academic difficulty, the researchers derived a probation score to act as the noncognitive variable. The researchers discovered that academic success for upper division transfer students could best be predicted by noncognitive variables as opposed to cognitive variables. Furthermore, the higher the probation score, the more at risk students were of not persisting. The researchers identified the following items as substantial predictors of academic difficulty: student perceptions of their abilities (including mathematical skills, study skills, and concentration), academic and social integration, and confidence. However, the researchers did not indicate whether or not these students had earned a two-year degree prior transferring, which might yield different results.

To determine if psychosocial variables impacted the persistence and degree attainment of transfer students at a 4-year, public, Hispanic-serving institution, Dennis, Calvillo, and Gonzalez
(2008) conducted a longitudinal quantitative study of 1,130 students. The psychosocial variables used in the study included personal/career development motivation, academic self-efficacy, college commitment, and peer support. Through a cluster analysis, Dennis et al. (2008) identified five groups of students – young achieving, mature achieving, low peer support, young low-achieving, and low confidence/commitment. Young low-achieving students, whose GPAs were low upon transferring and remained consistently low throughout their academic career, were the most at-risk of not persisting although they scored well on the psychosocial scales. Students with low peer support persisted with an average 3.0 GPA; however, only about a third of these students graduated after three years. Similarly, the students who demonstrate low confidence/commitment also persist but with lower GPAs. They also graduate at a higher rate than those with low peer support. Young achieving students persisted with GPAs higher than a 3.0 and were the most likely to graduate; however, mature achieving students who exhibited high academic standing and increased psychosocial scores showed lower persistence and graduation rates than expected. Although this study is limited to this specific population of students, it does have implications for the importance of social integration and targeted interventions to address the specific needs of the transfer population.

Other research investigates how pre-enrollment characteristics, expectations, and academic achievement impact persistence and degree completion. Wang’s (2009) research sought to utilize pre-enrollment and college experience data from one cohort of students gleaned from the National Education Longitudinal Study of 1988 (NELS: 88) and the Postsecondary Education Transcript Study (PETS) to predict persistence and degree attainment of transfer students who transferred from a community college to a four-year institution. Using logistic regression, this study projected that the probability of earning a bachelor’s degree improved with
students who were female, had higher socioeconomic statuses, possessed the expectation of earning a Bachelor’s degree, demonstrated increased involvement in college, and transferred in with a higher GPA. In a second logistic regression model predicting persistence, higher transfer GPAs and perceived locus of control were positively related to continuous enrollment. In his comparative study of transfer students’ academic performance at a multi-campus institution, Reyes (2010) also determined that increased community college GPA positively impacted university GPA, persistence, and degree attainment.

In a comparison of the educational attainment of junior-level native students and community college transfer students, Melguizo, Kienzl, and Alfonso (2011) also utilized the data from NELS: 88. Their sample consisted of 3,160 high school graduates who graduated early or on time who either enrolled at a two-year college and transferred to a four-year institution or started at a four-year institution and attained junior status after two years. Utilizing both logistic regression and propensity score matching, the researchers determined that there was not a statistically significant difference between native and transfer students in bachelor’s degrees earned. The data were collected through a national survey, which improves the generalizability of the results. However, the data only captures one cohort of students eight years after high school graduation. In another comparative study, Garcia Falconetti (2009) sought to determine the validity of the Florida articulation agreement by comparing the academic success and persistence of community college transfers to native students who had achieved junior status at three Florida public universities. The state of Florida has an established 2+2 articulation agreement that assures admission into one of Florida’s State University System schools to students who complete their Associate in Arts degree at a Florida public community or state college. The researcher analyzed both graduated students and those who had not persisted.
Using discriminate analysis, Garcia Falconetti (2009) determined that native graduates earned twice as many lower level (1000- and 2000-level) credits in their junior and senior years than did transfer graduates. Similarly, community college graduates earned fewer cumulative semester hours than native graduates. Transfer dropouts also completed fewer lower level courses. Seventy-five per cent of the students who dropped out of the university (n = 644) were community college transfer students (n = 480). Transfer dropouts tended to leave the university without earning as many hours as native dropouts, indicating that the transfer dropouts left at a quicker pace than native students. In a chi-square analysis, the results showed that 63% of transfer students and 77% of native students graduated. Although the study does not demonstrate the effectiveness of the articulation policy on transfer student success, it does highlight the salient issue of high attrition of transfer students.

In addition to looking at the academic performance of native students as compared to transfer students, Hills’s (1965) study also looked at the data concerning the length of time taken to complete a degree, as well as degree completion rates. There were 21 studies that examined the length of time it took for transfer students to earn a degree, as well as degree completion rates. Of these 21 studies, 19 indicated that native students graduated either sooner than transfer students or in greater numbers, thus, establishing the importance of further studies on transfer student degree completion and the reasons behind this disparity between native and transfer students.

**Conclusion**

Students who transfer from the community college to the university face obstacles prior to submitting their university application. They are concerned about the application process and their ability to succeed at the four-year institution. As Schlossberg’s theory (1984) states,
institutional support can assist students in navigating their transition. They can provide the information that students are seeking prior to, during, and after their initial transition. Community colleges and universities provide resources for students to assist in the transfer process, it is the students who are responsible for preparing themselves for this transition. However, students need to ensure that they are giving themselves enough time to gather the information they need to make the transfer successful. Additionally, four-year institutions have a responsibility to provide information in a transparent and timely fashion. Attending a transfer-specific orientation assists in the transition process; however, the late timing of orientation can present an obstacle to students’ abilities to complete their pre-enrollment tasks. This study looked at if diminished preparation time has a long-term relationship to transfer student success.
CHAPTER THREE: METHODS

The focus of this study was to explore the relationship of affirmative admission decision timing and orientation attendance timing to both persistence and time to graduation of transfer students. This chapter outlines the methods used in this study. Included in Chapter Three is a restatement of the problem and research questions, the research design, overview of the setting and participants, procedures for data collection, and a description of how the data were analyzed.

Restatement of Problem

This research study investigated whether there was a relationship between the timing of receiving affirmative admissions decisions, as well as the dates of orientation attendance, on transfer student persistence and the time it takes to earn the degree. In other words, did the length of time between affirmative admission decision and enrollment and/or the length of time between orientation attendance and enrollment allow transfer students enough time to prepare for their transition into the university? Is there a relationship between these pre-enrollment timing factors and student persistence? Did a decrease in preparation time relate to the amount of time it took for a transfer student to attain a baccalaureate degree?

Research Questions

The research questions addressed the relationship of the pre-enrollment admissions and orientation timing factors to transfer student academic factors as measured by persistence and the time taken to earn a bachelor’s degree. The first two research questions concentrated on the timing of receiving an affirmative admissions decision and attending orientation on persistence.
The last two questions focused on the length of time elapsed to earn the baccalaureate degree.

The following research questions guided the study:

1. What is the relationship between transfer student persistence and the length of the admissions-to-enrollment timespan?
2. What is the relationship between transfer student persistence and the length of the orientation-to-enrollment timespan?
3. What is the relationship between the length of time taken for transfer students to complete a baccalaureate degree and the length of the admissions-to-enrollment timespan?
4. What is the relationship between the length of time taken for transfer students to complete a baccalaureate degree and the length of the orientation-to-enrollment timespan?

**Research Design**

This quantitative research study followed a correlational research design. Correlational designs are often used in educational studies to explore the “degree and direction…of the relationship between two or more variables” (Gall, Gall, & Borg, 2007, p. 336). Additionally, this design fits with the non-experimental nature of the research study. The correlational design was selected to explore the degree and direction of the relationships between pre-enrollment timespans on persistence and the length of time elapsed in degree attainment, while allowing the researcher to control for extraneous variables. Moreover, this design uncovered if any relationships existed.
Setting and Participants

A large, public research institution located in a metropolitan area in Florida provided the setting for this research study. The institution is comprised of a main campus and two regional campuses. In an effort to homogenize the population, this study only focused on students who transferred to the main campus. The main campus currently reports an unduplicated headcount of almost 42,000 individual students with an undergraduate population of 30,324 students. The main campus enrolled a total of 3,694 transfer students in fall 2014 of which 2,447 were transfer students from the Florida College System (System Facts, 2014-2015).

In response to the Florida State University System’s goal to increase undergraduate enrollment and the number of baccalaureate degrees awarded, the legislature approved a bill in 2001 that granted St. Petersburg Junior College (now St. Petersburg College) authority to be the first Florida community college to offer baccalaureate degrees in select programs. This bill also detailed how other community colleges could seek permission to grant four-year degrees (Wattenbarger & Albertson, 2007). Since then, 21 of the 28 community colleges in Florida have been given authorization to offer baccalaureate degrees. All but four of the Florida community colleges have changed their names to demonstrate the movement from the community college model to the state college system. In 2009, the Florida Community College System changed its name to the Florida College System. Additionally, the Florida Association of Community Colleges changed its name to the Association of Florida Colleges in 2010 (Holcombe, 2012).

The research population included students who transferred to a large, public, research university from a school within the Florida College System with their Associate in Arts degrees and enrolled at the university in a fall term during the years 2007 – 2010. The students had earned their Associate in Arts degrees between April and mid-June preceding their enrollment.
semesters. These students had been admitted to the university no more than one year prior to enrolling and attended a transfer orientation session no more than six months prior to their first semester at the university. To control for variance of course load, the population was limited to those who maintained a full-time course load (12-18 credit hours) in the fall and spring semesters. Additionally, this population excluded students who began at the university, left to attain an Associate in Arts degree, and returned to the university.

Florida upholds a transfer articulation agreement that guarantees admission to a Florida State University System school to Associate in Arts degree graduates from the Florida College System. Students who transfer in their Florida Associate in Arts degrees to the university are guaranteed to transfer in as juniors with at least 60 credit hours and will have their general education core requirements completed. Moreover, Florida has implemented a common course numbering system that assists in the transfer of specific courses from the Florida College System to the State University System (2007-2008 Undergraduate Catalog, 2008-2009 Undergraduate Catalog, 2009-2010 Undergraduate Catalog, 2010-2011 Undergraduate Catalog).

The university used in this study categorizes students who transfer in with 60 or more transferable credit hours as Upper-Level Transfer Applicants. To apply to the university, Upper-Level Transfer Applicants have to submit an application for admission, pay an application fee, and submit transcripts from each previous college attended. Those who qualify for the Articulation Agreement have to submit an official transcript once the Associate in Arts degree has been earned to gain final admission and to fulfill the stipulations of the Articulation Agreement (2007-2008 Undergraduate Catalog). Beginning in fall 2008, Upper-Level Transfer Applicants who sought admission into programs with specific GPA requirements had to meet those GPA requirements prior to admission into the university. Programs that required a 2.5
GPA included Athletic Training, Business, Communication, Education, and Engineering. Mass Communications required a 2.75 GPA, while Architecture, Liberal Studies, and Nursing (for those transferring in with an A.A.) required a 3.00 GPA (2008-2009 Undergraduate Catalog). In fall 2009, the GPA requirements for those declaring Nursing after earning their A.A. degree increased to 3.65 (2009-2010 Undergraduate Catalog). Athletic Training increased the GPA requirement to 2.80 for fall 2010 transfer students (2010-2011 Undergraduate Catalog). If students did not meet the GPA requirements for the limited access programs, Undergraduate Admissions would notify them and encourage them to choose an alternate major in order to continue the application process.

Fall 2007 Upper-Level Transfer Applicants who were admitted through the Florida Articulation Agreement did not have to meet a specific GPA requirement to gain admission into the university (2007-2008 Undergraduate Catalog). However, fall 2008 upper-level applicants were required to transfer in with at least a 2.50 GPA, while students who transferred in fall 2009 or later were required to have at least a 2.75 GPA (2008-2009 Undergraduate Catalog, 2009-2010 Undergraduate Catalog, 2010-2011 Undergraduate Catalog). Even though these admissions requirements were printed in the catalog, the university was at liberty to admit students with a 2.00 GPA from a Florida public community college who had earned an AA if they were pursuing a non-selective major.

The university was selected for this study due to the large transfer population the institution enrolls each semester. Moreover, the university requires all new undergraduate students, including transfer students, to attend a mandatory, on-campus orientation prior to registering for and attending courses. At the time that the participants in this study attended orientation, Florida Administrative Code 6C4-3.018 (2002, June 19) required new undergraduate
students at this university to attend an orientation program. Students admitted for the fall semester attended a one-day orientation as early as mid-March or as late as mid-August. The university began requiring transfer students to attend orientation for those students enrolling in summer or fall 2007. The first two hours of the day-long orientation consisted of sessions covering academic transitions, financial issues, university resources, academic technology, and campus involvement. After lunch, orientation attendees attended a college overview and advising session with the academic college that housed their major. Due to space constraints, the university would host two orientation sessions per scheduled orientation day – one starting in the morning and the other starting at noon. Typically, the afternoon session would consist of students with majors in the College of Arts and Sciences, which houses the largest enrollment of the academic colleges.

In 2009, the Office of Orientation was able to utilize the university’s new student union, allowing for larger transfer orientations and eliminating the need to host two transfer sessions per orientation day. Additionally, the transfer schedule was revamped to allow students to customize their day to get the information most relevant to their circumstance. Students began the day with a half hour welcome that included an overview of what to expect at orientation and during their academic transition into the university. Then, attendees had the opportunity to choose from and attend three different information sessions from various campus constituents including financial aid, parking, housing and dining, tutoring, career center, veteran’s services, education abroad, and student conduct. During lunch, orientation attendees had the opportunity to attend a showcase of university services, as well as take a campus tour. After lunch, the students reconvened to attend an academic success session to learn about academic technology. Then, students attended the college overview and advising with the academic college that housed their
academic major. The 2010 transfer orientation followed a similar format; however, the financial aid and payment information was presented to the entire population of attendees rather than as optional concurrent sessions. Additionally, health services, student involvement, student disability services, and a student panel were added to the list of information sessions from which attendees could choose to attend.

**Data Collection**

This study used data collected on 357 students who transferred from a Florida College System school to the university in the fall semesters from 2007-2010. The data captured the current academic standing of the participants; however, the researcher looked at the academic progress through the end of each participant’s third year at the university. Students were not active participants in this study. Secondary data was requested from the university’s Office of the Registrar and the Office of Orientation. This information was a combination of data from admissions, the registrar, and orientation.

The researcher worked with the Office of the Registrar to develop a query that reflected the population to be studied. This information was requested during the fall semester of 2014 and was received in the spring semester of 2015. Demographic information including gender, race, and age were included as to control for those potential extraneous variables. Additionally, the data included pre-enrollment information including Florida College System School attended, admission date, and transfer GPA. Enrollment information included degree completion, date of completion, last major declared, degree earned, and last semester enrolled. Once completed, the file was sent to the Office of Orientation for the orientation attendance date to be added. Once completed, the file was sent back to the Office of the Registrar. They removed names and
student identification numbers to ensure confidentiality before sending the file to researcher. The file was password protected.

**Data Analysis**

The data were analyzed using Statistical Program for the Social Sciences (SPSS) for Windows. This program allowed the researcher to utilize a variety of descriptive and inferential statistical techniques.

The first research question inquired about the relationship of the admissions-to-enrollment timespan to transfer student persistence. The independent variable was measured in days, which is a continuous variable. The dependent variable was measured by whether or not a student remained enrolled until graduation or was still enrolled after three years. A logistic regression analysis was computed as the dependent variable is dichotomous and the independent variable is continuous (Gall, Gall, & Borg, 2007). Additionally, this statistical analysis is appropriate to determine the strength of the relationship between admissions-to-enrollment timespan and persistence.

The second research question investigated the relationship of the orientation-to-enrollment timespan to transfer student persistence. Like the previous question, the independent variable was measured in days, which is a continuous variable. The dependent variable was measured by whether or not a student stayed enrolled at the university until graduation or was still enrolled at the end of the three years. A logistic regression analysis was computed as the dependent variable is dichotomous and the independent variable is continuous (Gall, Gall, & Borg, 2007). Additionally, this statistical analysis is appropriate to determine the strength of the relationship between the orientation timing and persistence.
To further explore the statistical relationships of orientation-to-enrollment timespan to persistence in Question Two, a multiple regression analysis was conducted. This analysis is appropriate when multiple predictor variables are present (Gall, Gall, & Borg, 2007). In addition, the multiple regression analysis allowed demographic, pre-enrollment, and enrollment variables to be statistically controlled. Specifically, the demographic control variables included age, gender, and ethnicity. The pre-enrollment control variables were comprised of the location of the Florida College System School attended and transfer GPA. The enrollment control variable was the major in which the degree was attained. The statistical control of these possible extraneous variables improved the internal validity of the study.

The third research question considered the relationship of the admissions-to-enrollment timespan to the time elapsed to earn the baccalaureate degree. The independent variable was measured in days, which is a continuous variable. The dependent variable was measured using ordered values of “graduated in fewer than two years”, “graduated in two years”, “graduated in third year”, and “not graduated by end of third year”. Therefore, an ordered logistic regression analysis was computed to determine the relationship of the admissions-to-enrollment timespan to the time elapsed from the first term of enrollment to the graduation date.

The fourth research question investigated the relationship of the orientation-to-enrollment timespan to the time elapsed to earn the baccalaureate degree. The independent variable was measured in days, which is a continuous variable. The dependent variable was measured using ranked values of “graduated in fewer than two years”, “graduated in two years”, “graduated in third year”, and “not graduated by end of third year”. Therefore, an ordered logistic regression analysis was computed to determine the relationship between the orientation-to-enrollment
timespan and the time elapsed from the first term of enrollment to the graduation date. Table 1 illustrates the research questions and the data analysis conducted.

**Researcher Bias**

The researcher developed this topic based on her professional interactions with transfer students in an academic advising setting. In her five years as an academic advisor, she conducted numerous transfer orientations. She witnessed that the students who attended transfer orientation sessions closer to the beginning of their semester of enrollment displayed more stress, frustration, and anxiety due to a lack of available coursework, as well as a diminished timeframe to act on the information they were given. Due to her exposure to the research population and her involvement in orientation, the researcher possessed an inherent population bias. However, the quantitative design of the study, as well as the controls that the researcher put into place, allowed the researcher to be objective when analyzing the data.
Table 1

*Variables and Research Questions*

<table>
<thead>
<tr>
<th>Research questions</th>
<th>Independent variable</th>
<th>Dependent variable</th>
<th>Data analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. What is the relationship between transfer student persistence and the length of the admissions-to-enrollment timespan?</td>
<td>Timespan between admission date and enrollment (Days)</td>
<td>Persistence (Yes or No)</td>
<td>Logistic Regression</td>
</tr>
<tr>
<td>2. What is the relationship between transfer student persistence and the length of the orientation-to-enrollment timespan?</td>
<td>Timespan between orientation attendance and enrollment (Days)</td>
<td>Persistence (Yes or No)</td>
<td>Logistic Regression and Multiple Regression Analysis</td>
</tr>
<tr>
<td>3. What is the relationship between the length of time taken for transfer students to complete a baccalaureate degree and the length of the admissions-to-enrollment timespan?</td>
<td>Timespan between admission date and enrollment (Days)</td>
<td>Time to degree • Not graduated by end of third year • Graduated in fewer than two years • Graduated in two years • Graduated in third year</td>
<td>Ordered Logistic Regression</td>
</tr>
<tr>
<td>4. What is the relationship between the length of time taken for transfer students to complete a baccalaureate degree and the length of the orientation-to-enrollment timespan?</td>
<td>Timespan between orientation attendance date and enrollment (Days)</td>
<td>Time to degree • Not graduated by end of third year • Graduated in fewer than two years • Graduated in two years • Graduated in third year</td>
<td>Ordered Logistic Regression</td>
</tr>
</tbody>
</table>
CHAPTER FOUR: RESULTS

This study sought to determine the relationship of the admissions-to-enrollment, as well as orientation-to-enrollment timespans to transfer student persistence and time-to-degree. Chapter Four presents the results of the data analysis. Included in Chapter Four is a description of the sample, the results of the statistical analysis for each research question, and a summary of the results.

Sample Characteristics

The sample included 357 students who earned their Associate in Arts degrees from a Florida Community College or Florida State College and transferred to the large, public university in the fall terms of 2007, 2008, 2009, or 2010. Table 2 presents the descriptive statistics of the transfer student population included in the data set.

The largest number of students entered the university in Fall 2010 with 129 students (36.1%). Fall 2008 is significantly smaller at 64 students (17.9%). This may be due in part to the unavailability of the attendance for the last orientation date in summer 2008. Therefore, the students who fit the sample and attended the last orientation before enrolling in Fall 2008 were not able to be identified. The gender ratio of the sample was 211 females (59.1%) to 146 males (40.9%). There were 242 students (67.8%) who identified as White, 45 as Hispanic (12.6%), and 36 as African American (10.1%). An additional 34 participants (9.5%) were classified as Asian, Non-Resident Alien, American Indian, Native Hawaiian or Other Pacific Islander, or Unknown. The majority of the sample, 286 students (80.1%), were 24 years of age or younger when they enrolled at the university, while 160 students (16.8%) were between 25 and 39 years of age.
Table 2

*Descriptive Statistics of Transfer Students in Sample (N = 357)*

<table>
<thead>
<tr>
<th>Demographic Category</th>
<th>N</th>
<th>Valid %</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>211</td>
<td>59.1</td>
</tr>
<tr>
<td>Male</td>
<td>146</td>
<td>40.9</td>
</tr>
<tr>
<td><strong>Term of Entry</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fall 2007</td>
<td>66</td>
<td>18.5</td>
</tr>
<tr>
<td>Fall 2008</td>
<td>64</td>
<td>17.9</td>
</tr>
<tr>
<td>Fall 2009</td>
<td>98</td>
<td>27.5</td>
</tr>
<tr>
<td>Fall 2010</td>
<td>129</td>
<td>36.1</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>242</td>
<td>67.8</td>
</tr>
<tr>
<td>Hispanic</td>
<td>45</td>
<td>12.6</td>
</tr>
<tr>
<td>African American</td>
<td>36</td>
<td>10.1</td>
</tr>
<tr>
<td>Asian</td>
<td>13</td>
<td>3.6</td>
</tr>
<tr>
<td>Non-Resident Alien</td>
<td>8</td>
<td>2.2</td>
</tr>
<tr>
<td>Unknown</td>
<td>6</td>
<td>1.7</td>
</tr>
<tr>
<td>Native Hawaiian or Other Pacific Islander</td>
<td>4</td>
<td>1.1</td>
</tr>
<tr>
<td>American Indian</td>
<td>3</td>
<td>0.8</td>
</tr>
<tr>
<td><strong>Age (at time of enrollment)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤ 24</td>
<td>286</td>
<td>80.1</td>
</tr>
<tr>
<td>25 – 39</td>
<td>60</td>
<td>16.8</td>
</tr>
<tr>
<td>40 and Up</td>
<td>11</td>
<td>3.1</td>
</tr>
<tr>
<td><strong>Last Academic College Declared</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arts &amp; Sciences</td>
<td>172</td>
<td>48.2</td>
</tr>
<tr>
<td>Education</td>
<td>65</td>
<td>18.2</td>
</tr>
<tr>
<td>Business</td>
<td>54</td>
<td>15.1</td>
</tr>
<tr>
<td>Behavioral &amp; Community Sciences</td>
<td>23</td>
<td>6.4</td>
</tr>
<tr>
<td>Engineering</td>
<td>17</td>
<td>4.8</td>
</tr>
<tr>
<td>The Arts</td>
<td>17</td>
<td>4.8</td>
</tr>
<tr>
<td>Medicine</td>
<td>5</td>
<td>1.4</td>
</tr>
<tr>
<td>Nursing</td>
<td>4</td>
<td>1.1</td>
</tr>
<tr>
<td><strong>Transfer GPA</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.00 – 2.99</td>
<td>117</td>
<td>32.8</td>
</tr>
<tr>
<td>3.00 – 4.00</td>
<td>240</td>
<td>67.2</td>
</tr>
</tbody>
</table>
Table 2 (Continued)

<table>
<thead>
<tr>
<th>Demographic Category</th>
<th>N</th>
<th>Valid %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Florida College System School Location</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Same county as University</td>
<td>84</td>
<td>23.5</td>
</tr>
<tr>
<td>Adjacent counties</td>
<td>127</td>
<td>35.6</td>
</tr>
<tr>
<td>Outside adjacent counties</td>
<td>146</td>
<td>40.9</td>
</tr>
</tbody>
</table>

Only 11 students (3.1%) were 40 years of age or older at the time they transferred to the university. Table 3 displays the mean of the ages of the population as 23.36, with an age range of 18 to 63. At the end of the third year of enrollment, the majority of students (48.2%) had declared a major in the College of Arts and Sciences, which is expected as it is the largest college at the university.

Table 3

*Descriptive Statistics for Age at Enrollment (N = 357)*

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age at Enrollment</td>
<td>23.36</td>
<td>5.72</td>
<td>18</td>
<td>63</td>
</tr>
</tbody>
</table>

Twenty-five of the 28 state or community colleges in the Florida College System are represented in the research sample. The number of students who transferred from each college ranged from 1 to 84. The community college most represented, with 84 students (23.5%), was located in the same county as the university. Moreover, 127 students (35.6%) transferred from the four community or state colleges in the four counties adjacent to the county that houses the university. The rest of the transfer population, 146 students (40.9%), transferred from one of the 20 state or community colleges outside of these five counties. As displayed in Table 4, the mean
transfer GPA was a 3.20, with 240 students (67.2%) transferring to the university with a community college GPA between a 3.00 and 4.00.

Table 5 displays the frequencies of both the admissions-to-enrollment and orientation-to-enrollment timespans. With 45.1%, the majority of students were admitted 151 days or more before enrolling at the university, while 11.2% were admitted 60 days or fewer before enrolling at the university. Conversely, only 1.1% attended orientation 151 days or more prior to enrolling.
while 52.7% attended orientation 60 days or fewer before enrolling. Table 6 summarizes the
descriptive statistics of these two timespans. The mean admissions-to-enrollment timespan was
136.8 days as opposed to the mean orientation-to-enrollment timespan of 49.03 days. The
minimum time elapsed between students receiving admission to the university and enrolling at
the university was 25 days, while the minimum time elapsed between students attending
orientation and enrolling was three days.

Table 6

*Descriptive Statistics for Pre-enrollment Timespans  (N = 357)*

<table>
<thead>
<tr>
<th>Timespan</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admissions-to-Enrollment</td>
<td>136.80</td>
<td>63.11</td>
<td>25</td>
<td>320</td>
</tr>
<tr>
<td>Orientation-to-Enrollment</td>
<td>49.03</td>
<td>29.04</td>
<td>3</td>
<td>157</td>
</tr>
</tbody>
</table>

Table 7

*Frequencies of Persistence and Degree Completion  (N = 357)*

<table>
<thead>
<tr>
<th>Measure</th>
<th>Yes or No</th>
<th>N</th>
<th>Valid %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persistence</td>
<td>Yes</td>
<td>213</td>
<td>59.7</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>144</td>
<td>40.3</td>
</tr>
<tr>
<td>Degree Completion</td>
<td>Yes</td>
<td>197</td>
<td>55.2</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>160</td>
<td>44.8</td>
</tr>
</tbody>
</table>

Table 7 presents the information concerning the persistence and degree completion of the
sample. Of the 357 students in the sample, 213 (59.7%) persisted having either earned a
baccalaureate degree or remaining enrolled at the end of three years. Additionally, 197 students
(55.2%) ultimately earned a baccalaureate degree while 160 (44.8%) did not earn this degree.
Table 8 shows that of the 197 students who earned a baccalaureate degree, 123 (62.4%) did so in two years or fewer, while 53 (26.9%) earned the degree in the third year after enrolling at the university. Moreover, 21 students (10.7%) earned the degree after the three year analysis.

Table 8

*Time Elapsed to Degree Completion* (N = 197)

<table>
<thead>
<tr>
<th>Time</th>
<th>N</th>
<th>Valid %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graduated in fewer than two years</td>
<td>17</td>
<td>8.6</td>
</tr>
<tr>
<td>Graduated in two years</td>
<td>106</td>
<td>53.8</td>
</tr>
<tr>
<td>Graduated in third year</td>
<td>53</td>
<td>26.9</td>
</tr>
<tr>
<td>Not Graduated by end of third year</td>
<td>21</td>
<td>10.7</td>
</tr>
</tbody>
</table>

*Status at the end of three years*

Table 9 summarizes student persistence by admissions-to-enrollment timespan. The Percent of Range calculates the percentage of students in that range who did or did not persist based on the range total. Based on range percentages as compared to the total persistence percentage (59.7%), the students who were admitted over 90 days before the beginning of the semester persisted at a higher rate. The students who demonstrated the highest percentage for persistence (66.7%) were admitted 30 or fewer days prior to enrollment. However, there were only three students in that range (0.8% of the total sample) which skews the results. Students who were admitted 31 – 90 days prior to the beginning of the semester persisted at a lower percentage rate than the total persistence percentage.

Similarly, Table 10 summarizes student persistence by orientation-to-enrollment timespan. Based on a comparison of range percentages to the total persistence percentage (59.7%), students who attended orientation more than 30 days prior to the start of the semester
Table 9

*Frequencies of Persistence by Admissions-to-enrollment Timespan (N = 357)*

<table>
<thead>
<tr>
<th>Range in Days</th>
<th>Frequency Percent</th>
<th>Persistence</th>
<th>Total Frequency</th>
<th>Total Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>No</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>≤ 30</td>
<td>Frequency</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>% of Range</td>
<td>33.3</td>
<td>66.7</td>
<td>0.8</td>
</tr>
<tr>
<td>31 - 60</td>
<td>Frequency</td>
<td>16</td>
<td>21</td>
<td>37</td>
</tr>
<tr>
<td></td>
<td>% of Range</td>
<td>43.2</td>
<td>56.8</td>
<td>10.4</td>
</tr>
<tr>
<td>61 - 90</td>
<td>Frequency</td>
<td>33</td>
<td>39</td>
<td>72</td>
</tr>
<tr>
<td></td>
<td>% of Range</td>
<td>45.8</td>
<td>54.2</td>
<td>20.2</td>
</tr>
<tr>
<td>91 - 120</td>
<td>Frequency</td>
<td>18</td>
<td>27</td>
<td>45</td>
</tr>
<tr>
<td></td>
<td>% of Range</td>
<td>40.0</td>
<td>60.0</td>
<td>12.6</td>
</tr>
<tr>
<td>121 - 150</td>
<td>Frequency</td>
<td>14</td>
<td>25</td>
<td>39</td>
</tr>
<tr>
<td></td>
<td>% of Range</td>
<td>35.9</td>
<td>64.1</td>
<td>10.9</td>
</tr>
<tr>
<td>151+</td>
<td>Frequency</td>
<td>62</td>
<td>99</td>
<td>161</td>
</tr>
<tr>
<td></td>
<td>% of Range</td>
<td>38.5</td>
<td>61.5</td>
<td>45.1</td>
</tr>
<tr>
<td>Total</td>
<td>Frequency</td>
<td>144</td>
<td>213</td>
<td>357</td>
</tr>
<tr>
<td></td>
<td>% of Total</td>
<td>40.3</td>
<td>59.7</td>
<td>100</td>
</tr>
</tbody>
</table>

persisted at a higher rate than those who attended orientation 30 days or fewer prior to the beginning of the semester (46.9%). The students who demonstrated the highest percentage of persistence attended orientation more than 150 days prior to the start of the semester (75%). However, the sample size for this timespan is only four students, which is 1.1% of the total sample studied.

Table 11 displays degree completion by admissions-to-enrollment timespan. Of the 357 students studied, 197 (55.2%) earned a baccalaureate degree. In a comparison of range
Table 10

*Frequencies of Persistence by Orientation-to-enrollment Timespan (N = 357)*

<table>
<thead>
<tr>
<th>Range in Days</th>
<th>Frequency</th>
<th>Persistence</th>
<th>Total Frequency</th>
<th>Total Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤ 30</td>
<td>43</td>
<td>38</td>
<td>81</td>
<td>22.7</td>
</tr>
<tr>
<td></td>
<td>53.1</td>
<td>46.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>31 - 60</td>
<td>40</td>
<td>67</td>
<td>107</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>37.4</td>
<td>62.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>61 - 90</td>
<td>52</td>
<td>86</td>
<td>138</td>
<td>38.7</td>
</tr>
<tr>
<td></td>
<td>37.7</td>
<td>62.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>91 - 120</td>
<td>8</td>
<td>19</td>
<td>27</td>
<td>7.6</td>
</tr>
<tr>
<td></td>
<td>29.6</td>
<td>70.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>121 - 150</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>151+</td>
<td>1</td>
<td>3</td>
<td>4</td>
<td>1.1</td>
</tr>
<tr>
<td></td>
<td>25.0</td>
<td>75.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>144</td>
<td>213</td>
<td>357</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>40.3</td>
<td>59.7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

percentages to the total percentage, the data showed that students who were admitted over 90 days prior to the start of the semester completed their degrees at a higher rate than those who were admitted 90 days or fewer than the beginning of the semester. The students who demonstrated the highest percentage of degree completion were those who were admitted to the university over 150 days prior to their enrollment (59%). The lowest percentage of degree completion was 33.3% for those who were admitted 30 days or fewer before enrolling; however, the sample size for this timespan was three students, which was .8% of the total study sampled.
Table 11

*Frequencies of Degree Completion by Admissions-to-enrollment Timespan (N = 357)*

<table>
<thead>
<tr>
<th>Range in Days</th>
<th>Frequency</th>
<th>Degree Completion</th>
<th>Total Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Percent</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>≤ 30</td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>66.7</td>
<td>33.3</td>
<td>0.8</td>
</tr>
<tr>
<td>31 - 60</td>
<td>18</td>
<td>19</td>
<td>37</td>
</tr>
<tr>
<td></td>
<td>48.6</td>
<td>51.4</td>
<td>10.4</td>
</tr>
<tr>
<td>61 - 90</td>
<td>37</td>
<td>35</td>
<td>72</td>
</tr>
<tr>
<td></td>
<td>51.4</td>
<td>48.6</td>
<td>20.2</td>
</tr>
<tr>
<td>91 - 120</td>
<td>20</td>
<td>25</td>
<td>45</td>
</tr>
<tr>
<td></td>
<td>44.4</td>
<td>55.6</td>
<td>12.6</td>
</tr>
<tr>
<td>121 - 150</td>
<td>17</td>
<td>22</td>
<td>39</td>
</tr>
<tr>
<td></td>
<td>43.6</td>
<td>56.4</td>
<td>10.9</td>
</tr>
<tr>
<td>151+</td>
<td>66</td>
<td>95</td>
<td>161</td>
</tr>
<tr>
<td></td>
<td>41.0</td>
<td>59.0</td>
<td>45.1</td>
</tr>
<tr>
<td>Total</td>
<td>160</td>
<td>197</td>
<td>357</td>
</tr>
<tr>
<td></td>
<td>44.8</td>
<td>55.2</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 12 shows degree completion by orientation-to-enrollment timespans. The comparison of the range percentages to the total degree completion percentage of the sample (55.2%) showed that students who attended orientation more than 30 days prior to the start of their enrollment semester had a higher percentage of degree completion than the total. Those who had an orientation-to-enrollment timespan of 30 days or less had a lower percentage of degree completion. The highest percentage of degree completion belonged to the students who attended orientation over 150 days prior to enrolling; however, this population consisted of four students, which represented only 1.1% of the sample.
Table 12

*Frequencies of Degree Completion by Orientation-to-enrollment Timespan (N = 357)*

<table>
<thead>
<tr>
<th>Range in Days</th>
<th>Frequency</th>
<th>Degree Completion</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>≤ 30</td>
<td>Frequency</td>
<td>49</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td>% of Range</td>
<td>60.5</td>
<td>39.5</td>
</tr>
<tr>
<td>31 - 60</td>
<td>Frequency</td>
<td>43</td>
<td>64</td>
</tr>
<tr>
<td></td>
<td>% of Range</td>
<td>40.2</td>
<td>59.8</td>
</tr>
<tr>
<td>61 - 90</td>
<td>Frequency</td>
<td>57</td>
<td>81</td>
</tr>
<tr>
<td></td>
<td>% of Range</td>
<td>41.3</td>
<td>58.7</td>
</tr>
<tr>
<td>91 - 120</td>
<td>Frequency</td>
<td>10</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>% of Range</td>
<td>37.0</td>
<td>63.0</td>
</tr>
<tr>
<td>121 - 150</td>
<td>Frequency</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>% of Range</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>151+</td>
<td>Frequency</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>% of Range</td>
<td>25.0</td>
<td>75.0</td>
</tr>
<tr>
<td>Total</td>
<td>Frequency</td>
<td>160</td>
<td>197</td>
</tr>
<tr>
<td></td>
<td>% of Total</td>
<td>44.8</td>
<td>55.2</td>
</tr>
</tbody>
</table>

Table 13 displays time elapsed for degree completion for the admissions-to-enrollment timespan. Table 14 summarizes the time elapsed for degree completion for the orientation-to-enrollment timespan. Both tables show the length of time it took degree-earning students (N = 197) to earn their degrees with respect to their pre-enrollment timespans. Additionally, they both demonstrate the percent of students who comprised the timespan ranges, as well as the percent of students who contributed to the time elapsed categories. For example, Table 13 shows that there were 54 students who were admitted more than 150 days before enrolling at the university who graduated in two years. These 54 students contributed to 50.9% of the students who graduated in
### Table 13

**Frequencies of Time Elapsed for Degree Completion by Admissions-to-enrollment Timespan (N = 197)**

<table>
<thead>
<tr>
<th>Range in Days</th>
<th>Frequency</th>
<th>Percent</th>
<th>Graduated in fewer than 2 years</th>
<th>Graduated in 2 years</th>
<th>Graduated in 3rd year</th>
<th>Not graduated by end of 3rd year</th>
<th>Totals Frequency</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤ 30</td>
<td>1</td>
<td>100.0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0.5</td>
</tr>
<tr>
<td></td>
<td>% of Range</td>
<td>100.0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>% of time elapsed</td>
<td>5.9</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td></td>
</tr>
<tr>
<td>31 - 60</td>
<td>2</td>
<td>10.5</td>
<td>9</td>
<td>3</td>
<td>5</td>
<td>19</td>
<td>19</td>
<td>9.6</td>
</tr>
<tr>
<td></td>
<td>% of Range</td>
<td>10.5</td>
<td>47.4</td>
<td>15.8</td>
<td>26.3</td>
<td>9.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>% of time elapsed</td>
<td>11.8</td>
<td>8.5</td>
<td>5.7</td>
<td>23.8</td>
<td>9.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>61 - 90</td>
<td>4</td>
<td>11.4</td>
<td>19</td>
<td>11</td>
<td>1</td>
<td>35</td>
<td>35</td>
<td>17.8</td>
</tr>
<tr>
<td></td>
<td>% of Range</td>
<td>11.4</td>
<td>54.3</td>
<td>31.4</td>
<td>2.9</td>
<td>17.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>% of time elapsed</td>
<td>23.5</td>
<td>17.9</td>
<td>20.8</td>
<td>4.8</td>
<td>17.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>91 - 120</td>
<td>2</td>
<td>8.0</td>
<td>14</td>
<td>5</td>
<td>4</td>
<td>25</td>
<td>25</td>
<td>12.7</td>
</tr>
<tr>
<td></td>
<td>% of Range</td>
<td>8.0</td>
<td>56.0</td>
<td>20.0</td>
<td>16.0</td>
<td>12.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>% of time elapsed</td>
<td>11.8</td>
<td>13.2</td>
<td>9.4</td>
<td>19.0</td>
<td>12.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>121 - 150</td>
<td>0</td>
<td>0</td>
<td>10</td>
<td>10</td>
<td>2</td>
<td>22</td>
<td>22</td>
<td>11.2</td>
</tr>
<tr>
<td></td>
<td>% of Range</td>
<td>0</td>
<td>45.5</td>
<td>45.5</td>
<td>9.1</td>
<td>11.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>% of time elapsed</td>
<td>0</td>
<td>9.4</td>
<td>18.9</td>
<td>9.5</td>
<td>11.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>151+</td>
<td>8</td>
<td>8.4</td>
<td>54</td>
<td>24</td>
<td>9</td>
<td>95</td>
<td>95</td>
<td>48.2</td>
</tr>
<tr>
<td></td>
<td>% of Range</td>
<td>8.4</td>
<td>56.8</td>
<td>25.3</td>
<td>9.5</td>
<td>48.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>% of time elapsed</td>
<td>47.1</td>
<td>50.9</td>
<td>45.3</td>
<td>42.9</td>
<td>48.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>17</td>
<td>8.6</td>
<td>106</td>
<td>53</td>
<td>21</td>
<td>197</td>
<td>197</td>
<td>100</td>
</tr>
</tbody>
</table>

Two years and comprised 56.8% of the students who were admitted more than 150 days prior to the first day of classes. The percentages in these two tables give a clearer picture of how the data
are dispersed between the independent timespan variables and the time-to-degree dependent variable.

Table 14

**Frequencies of Time Elapsed for Degree Completion by Orientation-to-enrollment Timespan (N = 197)**

<table>
<thead>
<tr>
<th>Range in Days</th>
<th>Frequency</th>
<th>Graduated in fewer than 2 years</th>
<th>Graduated in 2 years</th>
<th>Graduated in 3rd year</th>
<th>Not graduated by end of 3rd year</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Percent</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frequency</td>
<td>2</td>
<td>16</td>
<td>7</td>
<td>7</td>
<td>32</td>
</tr>
<tr>
<td>&lt; 30</td>
<td>% of Range</td>
<td>6.3</td>
<td>50.0</td>
<td>21.9</td>
<td>21.9</td>
<td>16.2</td>
</tr>
<tr>
<td></td>
<td>% of time elapsed</td>
<td>11.8</td>
<td>15.1</td>
<td>13.2</td>
<td>33.3</td>
<td></td>
</tr>
<tr>
<td>31 - 60</td>
<td>Frequency</td>
<td>10</td>
<td>32</td>
<td>18</td>
<td>4</td>
<td>64</td>
</tr>
<tr>
<td></td>
<td>% of Range</td>
<td>15.6</td>
<td>50</td>
<td>28.1</td>
<td>6.3</td>
<td>32.5</td>
</tr>
<tr>
<td></td>
<td>% of time elapsed</td>
<td>58.8</td>
<td>30.2</td>
<td>34.0</td>
<td>19.0</td>
<td></td>
</tr>
<tr>
<td>61 - 90</td>
<td>Frequency</td>
<td>4</td>
<td>45</td>
<td>24</td>
<td>8</td>
<td>81</td>
</tr>
<tr>
<td></td>
<td>% of Range</td>
<td>4.9</td>
<td>55.6</td>
<td>29.6</td>
<td>9.9</td>
<td>41.1</td>
</tr>
<tr>
<td></td>
<td>% of time elapsed</td>
<td>23.5</td>
<td>42.5</td>
<td>45.3</td>
<td>38.1</td>
<td></td>
</tr>
<tr>
<td>91 - 120</td>
<td>Frequency</td>
<td>1</td>
<td>10</td>
<td>4</td>
<td>2</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>% of Range</td>
<td>5.9</td>
<td>58.8</td>
<td>23.5</td>
<td>11.8</td>
<td>8.6</td>
</tr>
<tr>
<td></td>
<td>% of time elapsed</td>
<td>5.9</td>
<td>9.4</td>
<td>7.5</td>
<td>9.5</td>
<td></td>
</tr>
<tr>
<td>121 - 150</td>
<td>Frequency</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>% of Range</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td></td>
<td>% of time elapsed</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td></td>
</tr>
<tr>
<td>151+</td>
<td>Frequency</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>% of Range</td>
<td>0.0</td>
<td>100</td>
<td>0.0</td>
<td>0.0</td>
<td>1.5</td>
</tr>
<tr>
<td></td>
<td>% of time elapsed</td>
<td>0.0</td>
<td>2.8</td>
<td>0.0</td>
<td>0.0</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>Frequency</td>
<td>17</td>
<td>106</td>
<td>53</td>
<td>21</td>
<td>197</td>
</tr>
<tr>
<td></td>
<td>% of Total</td>
<td>8.6</td>
<td>53.8</td>
<td>26.9</td>
<td>10.7</td>
<td>100</td>
</tr>
</tbody>
</table>
Results of the Analysis

Research Question One. The following section addresses the data analysis for the first research question: “What is the relationship between transfer student persistence and the length of the admissions-to-enrollment timespan?” A logistic regression analysis was conducted since the dependent variable of persistence was dichotomous (Yes or No) and the independent variable of orientation-to-enrollment timespan was continuous (days).

Table 15

Logistic Regression of Admissions-to-enrollment Timespan and Persistence (N = 357)

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>S.E.</th>
<th>Wald</th>
<th>df</th>
<th>p</th>
<th>Odds Ratio</th>
<th>95% C.I.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admissions-to-enrollment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Timespan</td>
<td>0.003</td>
<td>0.002</td>
<td>2.964</td>
<td>1</td>
<td>0.085</td>
<td>1.003</td>
<td>1</td>
</tr>
<tr>
<td>Constant</td>
<td>-0.014</td>
<td>0.257</td>
<td>0.003</td>
<td>1</td>
<td>0.957</td>
<td>0.986</td>
<td></td>
</tr>
</tbody>
</table>

Note: Nagelkerke R² = .011, Model χ² (1) = 3.002, p = .083. The dependent variable of persistence was coded so that 0 = did not persist and 1 = did persist.

A logistic regression was conducted for 357 students to study the relationship between admissions-to-enrollment timespan and transfer students persistence (Table 15). When compared to the null model, the model chi-square was not statistically significant at the alpha level of .05, χ² (1) = 3.002, p = .083. In addition, the Nagelkerke R² = .011, which indicated that the admissions-to-enrollment timespan explains only 1.1% of the variance in predicted persistence. Furthermore, the probability of the Wald statistic for the admissions-to-enrollment variable was .085, which is larger than the established level of significance of .05. Both statistics indicate that the admissions-to-enrollment timespan does not have a significant effect on transfer student persistence. However, the odds ratio of 1.003 implies that a one unit increase in the
admissions-to-enrollment timespan (measured in days) increased the likelihood that transfer students would persist .3%. In other words, when an admissions-to-enrollment timespan increases by one day, transfer students are 1.003 times more likely to persist. Therefore, there is a positive relationship between the admissions-to-enrollment timespan and transfer students persistence; however, this relationship is not statistically significant.

**Research Question Two.** This section discusses the data analysis of the second research question: “What is the relationship between transfer student persistence and the length of the orientation-to-enrollment timespan?” Due to the presence of a dichotomous dependent variable and a continuous independent variable, it was determined that a logistic regression analysis was an appropriate test to examine the relationship between the two variables.

Table 16

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>S.E.</th>
<th>Wald</th>
<th>df</th>
<th>p</th>
<th>Odds Ratio</th>
<th>95% C.I. Lower</th>
<th>95% C.I. Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orientation-to-enrollment</td>
<td>0.009</td>
<td>0.004</td>
<td>5.839</td>
<td>1</td>
<td>0.016*</td>
<td>1.01</td>
<td>1.002</td>
<td>1.017</td>
</tr>
<tr>
<td>Timespan</td>
<td>-0.065</td>
<td>0.215</td>
<td>0.092</td>
<td>1</td>
<td>0.761</td>
<td>0.937</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note: Nagelkerke R² = .023, Model $\chi^2$ (1) = 6.112, $p = .013$. The dependent variable of persistence was coded so that 0 = did not persist and 1 = did persist, *$p < .05$.

A logistic regression was conducted to study the relationship between orientation-to

enrollment timespan and persistence (Table 19). When compared to the null model, the model chi-square was statistically significant at the alpha level of .05, $\chi^2$ (1) = 6.112, $p = .013$, supporting the existence of a relationship between the independent and dependent variables. In addition, the Nagelkerke R² = .023, which indicated that the orientation-to-enrollment timespan
explains 2.3% of the variance in predicted persistence. Moreover, the probability of the Wald statistic was .016, which is less than the .05 level of significance. This indicated that students who had increased orientation-to-enrollment timespans were more likely to persist. The odds ratio was 1.01, which implies that a one day increase in timespan increased the odds of students persisting by 1%.

Table 17

*Multiple Logistic Regression of Orientation-to-enrollment Timespan and Persistence Controlling for Gender, Age, and Ethnicity (N = 357)*

<table>
<thead>
<tr>
<th>Variables</th>
<th>B</th>
<th>S.E.</th>
<th>Wald</th>
<th>df</th>
<th>( p )</th>
<th>Odds Ratio</th>
<th>95% C.I. Lower</th>
<th>95% C.I. Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>-0.533</td>
<td>0.224</td>
<td>5.635</td>
<td>1</td>
<td>0.018*</td>
<td>0.587</td>
<td>0.378</td>
<td>0.911</td>
</tr>
<tr>
<td>Age at Enrollment</td>
<td>0.011</td>
<td>0.020</td>
<td>0.306</td>
<td>1</td>
<td>0.580</td>
<td>1.011</td>
<td>0.973</td>
<td>1.051</td>
</tr>
<tr>
<td>Hispanic</td>
<td>-0.080</td>
<td>0.338</td>
<td>0.056</td>
<td>1</td>
<td>0.813</td>
<td>0.923</td>
<td>0.476</td>
<td>1.790</td>
</tr>
<tr>
<td>African American</td>
<td>-0.222</td>
<td>0.371</td>
<td>0.357</td>
<td>1</td>
<td>0.550</td>
<td>0.801</td>
<td>0.388</td>
<td>1.657</td>
</tr>
<tr>
<td>Other</td>
<td>-0.661</td>
<td>0.379</td>
<td>3.052</td>
<td>1</td>
<td>0.081</td>
<td>0.516</td>
<td>0.246</td>
<td>1.084</td>
</tr>
<tr>
<td>Orientation-to-enrollment Timespan</td>
<td>0.009</td>
<td>0.004</td>
<td>5.474</td>
<td>1</td>
<td>0.019*</td>
<td>1.009</td>
<td>1.002</td>
<td>1.017</td>
</tr>
<tr>
<td>Constant</td>
<td>0.005</td>
<td>0.550</td>
<td>0.000</td>
<td>1</td>
<td>0.992</td>
<td>1.005</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Nagelkerke \( R^2 = .056 \), Block \( \chi^2 (1) = 5.703, p = .017 \). Gender - reference category is female, Ethnicity - Reference category is White. The dependent variable of persistence was coded so that 0 = did not persist and 1 = did persist, *\( p < .05 \).

To further explore the relationship between orientation-to-enrollment timespan and persistence, three multiple logistic regressions were conducted. The first multiple logistic regression analysis looked at the relationship between the orientation-to-enrollment timespan and persistence while controlling for the demographic variables of gender, age, and ethnicity (Table 20). When compared to the null chi-square, the block chi-square was statistically significant at the alpha level of .05, \( \chi^2 (1) = 5.703, p = .017 \). In addition, the Nagelkerke \( R^2 = .056 \), which
indicated that the predictors in this model explain 5.6% of the variance in predicted persistence.

The probability of the Wald statistic for orientation-to-enrollment timespan was .019, which is less than the .05 level of significance. The odds ratio was 1.009, which implies that a one day increase in timespan increased the odds of persisting by 0.9%. This further demonstrates that there is a statistically significant relationship between orientation-to-enrollment timespan and persistence when controlling for demographic variables.

Table 18

Multiple Logistic Regression of Orientation-to-enrollment Timespan and Persistence Controlling for FCSS and Transfer GPA (N = 357)

<table>
<thead>
<tr>
<th>Variables</th>
<th>B</th>
<th>S.E</th>
<th>Wald</th>
<th>df</th>
<th>p</th>
<th>Odds Ratio</th>
<th>95% C.I. Lower</th>
<th>95% C.I. Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>FCSS in adjacent counties</td>
<td>-0.609</td>
<td>0.317</td>
<td>3.698</td>
<td>1</td>
<td>0.054</td>
<td>0.544</td>
<td>0.293</td>
<td>1.012</td>
</tr>
<tr>
<td>FCSS outside immediate area</td>
<td>-1.054</td>
<td>0.303</td>
<td>12.084</td>
<td>1</td>
<td>0.001*</td>
<td>0.349</td>
<td>0.193</td>
<td>0.632</td>
</tr>
<tr>
<td>Transfer GPA</td>
<td>0.690</td>
<td>0.252</td>
<td>7.482</td>
<td>1</td>
<td>0.006*</td>
<td>1.994</td>
<td>1.216</td>
<td>3.269</td>
</tr>
<tr>
<td>Orientation-to-enrollment Timespan</td>
<td>0.008</td>
<td>0.004</td>
<td>4.187</td>
<td>1</td>
<td>0.041*</td>
<td>1.008</td>
<td>1.000</td>
<td>1.016</td>
</tr>
<tr>
<td>Constant</td>
<td>-1.543</td>
<td>0.807</td>
<td>3.653</td>
<td>1</td>
<td>0.056</td>
<td>0.214</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Nagelkerke $R^2 = .101$, Block $\chi^2 (1) = 4.320, p = .038$. FCSS - Florida College System School - reference category is FCSS in same county as university. The dependent variable of persistence was coded so that 0 = did not persist and 1 = did persist, *$p < .05$.

The second multiple logistic regression analysis looked at the relationship between orientation-to-enrollment timespan and persistence while controlling for the pre-enrollment variables of the Florida College System School attended and transfer GPA (Table 21). The block chi-square was statistically significant at the alpha of .05 ($\chi^2 (1) = 4.320, p = .038$). The Nagelkerke $R^2 = .101$, which indicated that the predictors in this model explain 10.1% of the variance in predicted persistence. Furthermore, the probability of the Wald statistic for the orientation-to-enrollment timespan variable was .041, which is less than the .05 level of
significance. The odds ratio was 1.008, which suggests that a one day increase in timespan increased the odds of persisting by .8%. Therefore, there was a statistically significant relationship between the orientation-to-enrollment timespan and persistence when controlling for pre-enrollment variables.

Table 19

**Multiple Logistic Regression of Orientation-to-enrollment Timespan and Persistence Controlling for College in which Last Major was Declared (N = 352)**

<table>
<thead>
<tr>
<th>Variables</th>
<th>B</th>
<th>S.E.</th>
<th>Wald</th>
<th>df</th>
<th>p</th>
<th>Odds Ratio</th>
<th>95% C.I. Lower</th>
<th>95% C.I. Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business</td>
<td>0.006</td>
<td>0.318</td>
<td>0.000</td>
<td>1</td>
<td>0.984</td>
<td>1.006</td>
<td>0.540</td>
<td>1.875</td>
</tr>
<tr>
<td>Behavioral &amp; Community Sciences</td>
<td>0.044</td>
<td>0.453</td>
<td>0.009</td>
<td>1</td>
<td>0.923</td>
<td>1.045</td>
<td>0.430</td>
<td>2.539</td>
</tr>
<tr>
<td>Education</td>
<td>1.145</td>
<td>0.348</td>
<td>10.794</td>
<td>1</td>
<td>0.001*</td>
<td>3.141</td>
<td>1.587</td>
<td>6.217</td>
</tr>
<tr>
<td>Engineering</td>
<td>-0.666</td>
<td>0.522</td>
<td>1.626</td>
<td>1</td>
<td>0.202</td>
<td>0.514</td>
<td>0.185</td>
<td>1.430</td>
</tr>
<tr>
<td>The Arts</td>
<td>0.639</td>
<td>0.558</td>
<td>1.312</td>
<td>1</td>
<td>0.252</td>
<td>1.895</td>
<td>0.635</td>
<td>5.659</td>
</tr>
<tr>
<td>Nursing</td>
<td>-0.142</td>
<td>1.024</td>
<td>0.019</td>
<td>1</td>
<td>0.890</td>
<td>0.868</td>
<td>0.116</td>
<td>6.461</td>
</tr>
<tr>
<td>Orientation-to-enrollment Timespan</td>
<td>0.010</td>
<td>0.004</td>
<td>6.128</td>
<td>1</td>
<td>0.013*</td>
<td>1.010</td>
<td>1.002</td>
<td>1.018</td>
</tr>
<tr>
<td>Constant</td>
<td>-0.237</td>
<td>0.250</td>
<td>0.897</td>
<td>1</td>
<td>0.344</td>
<td>0.789</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Nagelkerke R² = .086, Block \( \chi^2 (1) = 6.437, p = .011 \). Last College Declared - reference variable is Arts & Sciences. Medicine excluded due to multicollinearity. The dependent variable of persistence was coded so that 0 = did not persist and 1 = did persist, *p < .05.

The third multiple logistic regression analyzed the relationship between admissions-to-enrollment timespan and persistence while controlling for the enrollment variable of Last College Declared (Table 22). Evidence of multicollinearity was detected in the Medicine variable during the first analysis. This can be attributed to the fact that none of the students who last declared a major in the College of Medicine persisted. Because of this fact, the College of Medicine variable was removed and the sample size adjusted to 352. The block chi-square was statistically significant at the alpha of .05 (\( \chi^2 (1) = 6.437, p = .011 \)). The Nagelkerke R² = .086,
which indicated that the predictors in this model explain 8.6% of the variance in predicted
persistence. Additionally, the probability of the Wald statistic for the orientation-to-enrollment
timespan variable was .013, which is less than the .05 level of significance. The odds ratio was
1.010, which suggests that a one day increase in timespan increased the odds of persisting by
1%. Therefore, there was a statistically significant relationship between the orientation-to-
enrollment timespan and persistence when controlling for the college in which the last major was
declared. Overall, the analysis concluded that there was statistically significant relationship
between the independent and dependent variables when analyzed individually and when
controlling for extraneous demographic, pre-enrollment, and enrollment variables.

**Research Question Three.** The following section discusses the data analysis from the
third research question: “What is the relationship between the length of time taken for transfer
students to complete a baccalaureate degree and the length of the admissions-to-enrollment
timespan?” This question investigated the relationship between admissions-to-enrollment
timespan and the time elapsed to earn the baccalaureate degree. The independent variable of
timespan was measured in days, making it a continuous variable. The dependent variable of time
elapsed was measured using the ordered values of “graduated in fewer than two years”,
“graduated in two years”, “graduated in third year”, and “not graduated by end of third year”.
Therefore, an ordered logistic regression was used to observe if there was a relationship between
the two variables.

An ordered logistic regression was run on a sample of 197 students who had completed
their baccalaureate degrees to study the relationship between admissions-to-enrollment timespan
and the time elapsed to earn the baccalaureate degree (Table 20). The chi-square statistic was
not statistically significant at the alpha level of .05, $\chi^2(1) = .604, p = .437$. In addition, the
Nagelkerke $R^2 = .003$, which indicated that the admissions-to-enrollment timespan explains only .3% of the variance in the time elapsed to earn a degree. This low $R^2$ showed that admissions-to-enrollment timespan is a poor predictor of how long students take to earn a baccalaureate degree.

The ordered log-odds estimate for a one day increase in timespan was .002, meaning that the ordered log-odds of a student being in a faster time elapsed category (where degree attainment is quicker) would increase by .2%. Additionally, the Wald statistic for the predictor admissions-to-enrollment timespan is .612 with $p = .434$. Using an alpha level of .05, the relationship between the dependent and independent variables was not statistically significant.

Table 20

*Ordered Logistic Regression of Admissions-to-enrollment Timespan and Time Elapsed to Earn Degree (N = 197)*

<table>
<thead>
<tr>
<th>Threshold</th>
<th>Estimate</th>
<th>S.E.</th>
<th>Wald</th>
<th>df</th>
<th>$p$</th>
<th>Lower</th>
<th>Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not graduated by end of third year</td>
<td>-1.890</td>
<td>0.375</td>
<td>25.423</td>
<td>1</td>
<td>0.000</td>
<td>-2.625</td>
<td>-1.156</td>
</tr>
<tr>
<td>Graduated in third year</td>
<td>-0.268</td>
<td>0.335</td>
<td>0.639</td>
<td>1</td>
<td>0.424</td>
<td>-0.924</td>
<td>0.388</td>
</tr>
<tr>
<td>Graduated in two years</td>
<td>2.605</td>
<td>0.403</td>
<td>41.759</td>
<td>1</td>
<td>0.000</td>
<td>1.815</td>
<td>3.395</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Location</th>
<th>Estimate</th>
<th>S.E.</th>
<th>Wald</th>
<th>df</th>
<th>$p$</th>
<th>Lower</th>
<th>Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admissions-to-enrollment Timespan</td>
<td>0.002</td>
<td>0.002</td>
<td>0.612</td>
<td>1</td>
<td>0.434</td>
<td>-0.002</td>
<td>0.006</td>
</tr>
</tbody>
</table>

Note: Nagelkerke $R^2 = .003$, $\chi^2 (1) = .604, p = .437$. Time to Degree - Reference group is graduated in fewer than two years.

**Research Question Four.** The following section discusses the data analysis from the fourth research question, which asks, “What is the relationship between the length of time taken for transfer students to complete a baccalaureate degree and the length of the orientation-to-enrollment timespan?” This question investigated the relationship between orientation-to-enrollment timespan and the time elapsed to earn the baccalaureate degree. The independent
variable of timespan was measured in days, making it a continuous variable. The dependent variable of time elapsed was measured using the ordered values of “graduated in fewer than two years”, “graduated in two years”, “graduated in third year”, and “not graduated by end of third year”. Therefore, an ordered logistic regression was used to observe if there was a relationship between the two variables.

Table 21

*Ordered Logistic Regression of Orientation-to-enrollment Timespan and Time Elapsed to Earn Degree (N = 197)*

<table>
<thead>
<tr>
<th>Threshold</th>
<th>Estimate</th>
<th>S.E.</th>
<th>Wald</th>
<th>df</th>
<th>p</th>
<th>95% C.I.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not graduated by end of third year</td>
<td>-2.036</td>
<td>0.335</td>
<td>36.942</td>
<td>1</td>
<td>0.000</td>
<td>-2.692 to -1.379</td>
</tr>
<tr>
<td>Graduated in third year</td>
<td>-0.416</td>
<td>0.286</td>
<td>2.116</td>
<td>1</td>
<td>0.146</td>
<td>-0.976 to 0.144</td>
</tr>
<tr>
<td>Graduated in two years</td>
<td>2.453</td>
<td>0.357</td>
<td>47.210</td>
<td>1</td>
<td>0.000</td>
<td>1.753 to 3.152</td>
</tr>
<tr>
<td>Location</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Orientation-to-enrollment Timespan</td>
<td>0.002</td>
<td>0.005</td>
<td>0.134</td>
<td>1</td>
<td>0.715</td>
<td>-0.007 to 0.011</td>
</tr>
</tbody>
</table>

*Note:* Nagelkerke $R^2 = .001$, $\chi^2 (1) = .136$, $p = .713$. Time to Degree - Reference group is graduated in fewer than two years.

An ordered logistic regression was run on a sample of 197 students who had completed their baccalaureate degrees to study the relationship between admissions-to-enrollment timespan and the time elapsed to earn the baccalaureate degree (Table 21). The chi-square statistic was not statistically significant at the alpha level of .05, $\chi^2 (1) = .136$, $p = .713$. In addition, the Nagelkerke $R^2 = .001$, which indicated that the admissions-to-enrollment timespan explains only .1% of the variance in the time elapsed to earn a degree. This low $R^2$ showed that orientation-to-enrollment timespan is a poor predictor of how long students take to earn a baccalaureate degree. The ordered log-odds estimate for a one day increase in timespan was .002, meaning that the
ordered log-odds of a student being in a faster time elapsed category (where degree attainment is quicker) would increase by .2%. Additionally, the Wald statistic for the predictor orientation-to-enrollment timespan is .134 with p = .715. Using an alpha level of .05, the relationship between the dependent and independent variables was not statistically significant.

Conclusion

In this chapter, the results of the statistical analyses for each of the four research were presented. This study sought to study the relationships of admissions- and orientation-to-enrollment timespans to transfer student persistence and time elapsed to earn a baccalaureate degree at the university studied.

The first research question explored the relationship of admissions-to-enrollment timespan to persistence. Based on the logistic regression analysis, the relationship between these two variables was not statistically significant. However, a one unit increase in timespan increased the probability that a student would persist by .3%, indicating that there may be a small positive relationship worth exploring.

The second research question looked at the relationship of orientation-to-enrollment timespan to persistence. The logistic regression analysis indicated that the relationship between these two variables was statistically significant. Without controlling for extraneous variables, the analysis indicated that a one unit increase in timespan increased the probability that a student would persist by 1%. Three additional multiple regression analyses were conducted. The first one explored the relationship of orientation-to-enrollment timespans to persistence while controlling for the demographic variables of gender, age, and ethnicity. The relationship between the independent and dependent variables remained statistically significant. The second multiple regression analysis tested the relationship between the independent and dependent
variables while controlling for the pre-enrollment variables of Florida College System School attended and transfer Grade Point Average. The third multiple regression analysis investigated the relationship between the orientation-to-enrollment timespan and persistence while controlling for the enrollment variable of college in which the last major was declared. In all three multiple regression analyses, the relationship between the orientation-to-enrollment timespan and persistence remained statistically significant. This indicates that an increase in timespan increases the probability of a student persisting.

The third research question tested the relationship between admissions-to-enrollment timespan and time elapsed to earn the degree. The ordered logistic regression indicated that there was not a statistically significant relationship between these two variables. Therefore, it can be inferred that an increase in timespan does not increase the odds of completing a baccalaureate degree at a faster pace.

The fourth research question explored the relationship between orientation-to-enrollment timespan and time elapsed to earn the baccalaureate degree. The ordered logistic regression analysis demonstrated that there was not a statistically significant relationship between the independent and dependent variables. Consequently, it can be concluded that an increase in timespan does not increase the odds of completing a baccalaureate degree at a faster rate.
CHAPTER FIVE: DISCUSSION AND CONCLUSION

Chapter Five contains a summary of the research study, including the statement of the research problem, purpose of the study, research questions, and a review of the methods. Additionally, it presents the findings drawn from the data analysis from Chapter Four. Finally, it concludes with a discussion of implications for practice and recommendations for future research.

Summary of the Study

Statement of the problem. According to the American Association of Community Colleges, there are more than 12 million students enrolled in the 1,123 community colleges across the nation (AACC, 2015). Transfer students comprise a significant portion of the college and university system. In fact, of the 95,356 community college student respondents to the 2014 Survey of Entering Student Engagement, 77% reported that their reason for attending their community colleges was to transfer to a four-year college or university (Center for Community College Student Engagement, 2014). Despite their best intentions and successful academic performance at the community colleges, transfer students do not always make a smooth transition into the four-year university.

Due to the complexities of transferring from a two-year college to a four-year institution, transfer students need time to prepare for the transition. Those with greater timespans between admission and enrollment have the opportunity to attend an earlier orientation date, which may allow them to register for courses earlier. Those who are admitted closer to the beginning of the semester might be attending orientation as late as a few days before they begin classes at the
university. Furthermore, they do not have as much time to mentally, emotionally, and physically prepare for their transition into the university, which could increase stress and anxiety.

The first semester at the university has the potential to set up the academic future of a new student. A hastily created first-semester schedule could include unnecessary courses selected due to a lack of course availability, the omission of courses that are critical for timely progression in the chosen major, or unbalanced schedules that lead them not to perform well academically their first semester. These instances can lead to extra semesters at the university, increase the likelihood of accruing the financial penalties that accompany earning hours in excess of the credit hours required for the intended degree, and a loss of confidence in their academic abilities at the university. These scenarios may also cause students to voluntarily leave the university. Moreover, they may create an academic deficit from which they cannot recover, resulting in academic dismissal from the university.

There has been a great deal of research conducted on the social and academic transitions of transfer students; however, there has not been an exploration of how the pre-enrollment timespans of admission and orientation concern transfer students as they transition into the university. More specifically, the research has not investigated the relationship between admission and orientation timing and transfer student success as measured by persistence and time elapsed to complete the baccalaureate degree.

**Purpose of the study.** The research sought to explore the relationship between pre-enrollment timespans on transfer student success. Specifically, this study aimed to identify the relationship of both the admissions-to-enrollment timespan and the orientation-to-enrollment timespan to transfer student persistence and the length of time elapsed to earn a baccalaureate degree at the four-year university. The study was guided by the following research questions:
1. What is the relationship between transfer student persistence and the length of the admissions-to-enrollment timespan?

2. What is the relationship between transfer student persistence and the length of the orientation-to-enrollment timespan?

3. What is the relationship between the length of time taken for transfer students to complete a baccalaureate degree and the length of the admissions-to-enrollment timespan?

4. What is the relationship between the length of time taken for transfer students to complete a baccalaureate degree and the length of the orientation-to-enrollment timespan?

**Review of methods.** A large, public research institution located in a metropolitan area in Florida provided the setting for this research study. The university was selected as it enrolls a large transfer population. Moreover, the university requires an on-campus orientation for all new undergraduate students prior to registering for and attending courses. The institution has a main campus and two regional campuses; however, this study focused on students who transferred to the main campus. In fall 2014, the main campus reported an unduplicated headcount of almost 42,000 individual students with an undergraduate population of 30,324 students. It enrolled a total of 3,694 transfer students of which 2,447 were transfer students from the Florida College System (System Facts, 2014-2015).

The research population included 357 students who earned their Associate in Arts degrees at a Florida College System school and enrolled at the university in a fall term during the years 2007 – 2010. The students had earned their Associate in Arts degrees between April and mid-June immediately preceding their enrollment semesters. These students had been admitted
to the university no more than one year prior to enrolling and attended a transfer orientation session no more than six months prior to their first semester at the university. The population was limited to those who maintained a full-time course load (12-18 credit hours) in the fall and spring semesters. The researcher looked at the academic progress through the end of each participant’s third year at the university.

Of the transfer students included in the sample, 59.1% were female, 67.8% identified as White, and 80.1% were 24 years of age or younger when they enrolled at the university. At the end of the third year of enrollment, the majority of students (48.2%) had declared a major in the College of Arts and Sciences.

Twenty-five of the 28 state or community colleges in the Florida College System were represented in the research sample. The community college that was located in the same county as the university contributed the largest number of transfer students (23.5%). The mean transfer GPA was a 3.20, with 240 students (67.2%) transferring to the university with a community college GPA between a 3.00 and 4.00.

This quantitative research study followed a correlational research design. Correlational designs are often used in educational studies to explore the “degree and direction…of the relationship between two or more variables” (Gall, Gall, & Borg, 2007, p. 336). Additionally, this design fits with the non-experimental nature of the research study. The correlational design was selected to explore the degree and direction of the relationships between pre-enrollment timespans on persistence and the length of time elapsed in degree attainment, while allowing the researcher to control for extraneous variables. Moreover, this design uncovered whether any relationships existed.
The first two research questions were analyzed using a logistic regression analysis as the dependent variables were dichotomous and the independent variable was continuous (Gall, Gall, & Borg, 2007). Additionally, this statistical analysis is appropriate to determine the strength of the relationship between timespans and persistence. A multiple regression analysis was conducted to further explore the statistical relationships between orientation-to-enrollment timespan and persistence in Question Two. This analysis allowed the researcher to statistically control for demographic, pre-enrollment, and enrollment variables. The second two research questions used an ordered logistic regression analysis to determine the relationship between the pre-enrollment timespans and the time elapsed from the first term of enrollment to the graduation date. The next section will present a summary of the findings.

**Findings**

**Question One.** The first research question focused on the relationship of admissions-to-enrollment timespans and transfer student persistence. “What is the relationship between transfer student persistence and the length of the admissions-to-enrollment timespan?”

A logistic regression was used to explore the relationship of the admissions-to-enrollment timespan and persistence. Neither the model chi-square \( p = .083 \) nor the Wald statistic \( p = .085 \) were statistically significant at the alpha of .05. Both statistics indicate that the admissions-to-enrollment timespan does not have a significant relationship to transfer student persistence. However, the odds ratio of 1.003 implies when an admissions-to-enrollment timespan increases by one day, transfer students are 1.003 (.3%) times more likely to persist. Although there is a positive relationship between the admissions-to-enrollment timespan and transfer student persistence, this relationship is not statistically significant.
Even though the results were not statistically significant, there was a small positive relationship between the timespan and persistence. The descriptive statistics are also worth noting. The students who were admitted over 90 days before the beginning of the semester persisted at a higher rate as compared to the total percentage (59.7%). However, the students who were admitted 31 – 90 days prior to the beginning of the semester persisted at a lower percentage rate (49.5%) than the total persistence percentage (55.2%). The descriptive statistics coupled with the small increase in the odds of a student persisting by increasing the admissions-to-enrollment timespan relate to Flaga’s (2006) assertion that the admissions process needs to happen earlier to allow students the time they need to take care of university business and attend orientation.

The assumption underlying this research question was that students who were admitted earlier would take advantage of addressing university business earlier and have the ability to attend an earlier orientation date. However, whether or not a student started addressing university business earlier rather than later is not information that was captured in this study. Therefore, it may be that students who are admitted earlier may not take advantage of the increased timespan as one would assume. Students may have applied to multiple institutions and were waiting to hear the admissions decisions from all of the four-year institutions to which they applied before making their college decision. They potentially attended several intuitions’ orientations prior to making the decision of where to attend. Therefore, they would not address university business until making this decision.

Moreover, students may view their attendance at orientation as the time to begin their information gathering. Orientation may also be the impetus to find out about and address course articulation issues. The literature indicates that one of the most pressing concerns for transfer
students is how or if their credits will transfer to the university (Chin-Newman & Shaw, 2013; Chrystal, Gansemer-Topf, & Laanan, 2013). However, if transfer students are not aware of the articulation issues prior to orientation, they will not be able to address them regardless of the length of their admissions-to-enrollment timespan. Therefore, the most salient advantage of an earlier admission date would be the ability to register for an earlier orientation date. In this case, the timing of the admission date may be more critical than the length of the admissions-to-enrollment timespan. The implications of attending an earlier orientation date were addressed in Question Two.

**Question Two.** The second research question explored the relationship of orientation-to-enrollment timespans and transfer student persistence. “What is the relationship between transfer student persistence and the length of the orientation-to-enrollment timespan?”

A logistic regression was used to explore the relationship of the orientation-to-enrollment timespan and persistence. The model chi-square ($p = .013$) and the Wald statistic ($p = .016$) were statistically significant at the alpha of .05. Both statistics indicate that the orientation-to-enrollment timespan has a statistically significant effect on transfer student persistence. The odds ratio of 1.01 implies when an orientation-to-enrollment timespan increases by one day, transfer students are 1.01 (1%) times more likely to persist. To further explore this relationship, multiple logistic regression analyses were conducted to control for demographic, pre-enrollment, and enrollment variables. In each multiple logistic regression, the relationship between the orientation-to-enrollment timespan and persistence remained statistically significant which supported the initial logistic regression results.

Although not directly related to the research question, the multiple regressions analysis uncovered statistically significant extraneous variables that would be worth exploring in future
research. The multiple logistic regression analysis that controlled for demographic variables showed a statistically significant relationship between gender and transfer student persistence \((p = .018)\). This demonstrates that females tend to persist at a higher rate than males. The multiple regression analysis that controlled for pre-enrollment characteristics indicated a statistically significant relationship \((p = .006)\) between transfer grade point average and transfer student persistence, as well as between attendance at a Florida College System School \((p = .001)\) and persistence. This indicates that a higher transfer GPA increased the odds of persisting; however, transferring from a school outside of the immediate university area decreased the odds of persisting. The multiple regression analysis that controlled for the enrollment variable of the college in which the last major declared uncovered that students who pursued a major in Education were more likely to persist \((p = .001)\). Further statistical analysis could be conducted by combining the significant variables into one multiple logistic regression analysis to explore their impact on transfer student persistence.

The statistically significant positive relationship between the orientation-to-enrollment timespan and persistence relates to literature on the importance of taking time to transition into the university. Orientation can connect students with campus resources and with each other. It may be that the students who persisted established a social connection at orientation similar to what the students in Flaga’s (2006) study reported. Additionally, one of the primary purposes of orientation is to disseminate information to new students (Cawthon & Ward-Roof, 2004). Students who gather information about the transfer process prior to transferring have a more academically successful transition (Berger & Malaney, 2001; Flaga, 2006; Tobolowsky & Cox, 2012). The gathering of information can be identified as a coping strategy to assist with the transition (Schlossberg, 1984). Students who attend orientation have a longer amount of time to
process the information that they have gathered and more opportunities to seek clarification prior to enrolling. Additionally, the research study suggests that an earlier orientation may be associated with higher levels of persistence as students have more time to take care of their pre-enrollment tasks at the university, whereas the study by Tobolowsky and Cox (2012) denotes that late orientation sessions impede a students’ abilities to take care of their university business in a timely fashion.

In addition to giving students more time to gather information, attending an earlier orientation session allows students to address any course articulation issues that have arisen. They have more time to collect and submit transcripts, course descriptions, or syllabi to the university in order to facilitate the course articulation process if needed. An earlier orientation date leads to a larger orientation-to-enrollment timespan which gives students more time to resolve any lingering course articulation issues.

**Question Three.** The third question focused on the relationship of admissions-to-enrollment timespans to the time elapsed to earn a baccalaureate degree. “What is the relationship between the length of time taken for transfer students to complete a baccalaureate degree and the length of the admissions-to-enrollment timespan?”

Using a sub-sample of 197 transfer students who had completed their baccalaureate degrees, the researcher conducted an ordered logistic regression to study the relationship between the admissions-to-enrollment timespan and the time elapsed to earn the baccalaureate degree. The chi-square statistic ($p = .437$) was not statistically significant at the alpha of .05. The low Nagelkerke $R^2$ of .003 demonstrated that the admissions-to-enrollment timespan is a poor predictor of how long students take to earn a baccalaureate degree. Additionally, the Wald statistic for the predictor admissions-to enrollment timespan is .612 with $p = .434$. Using an
alpha level of .05, the relationship between the dependent and independent variables was not statistically significant.

The results indicate that a diminished admissions-to-enrollment timespan does not have a long-term relationship with transfer students’ ability to earn a baccalaureate degree within two years from enrollment. It may be that students who have a shortened timespan experience registration issues their first semester but are able to recover in subsequent semesters. This is akin to Hills’s (1965) study that observed lower transfer student GPAs during the first semester followed by GPA recovery in the following semesters. If students encounter any negative impacts related to a diminished admissions-to-enrollment timespan, many are able to recover from these issues and graduate in two years or fewer. Additionally, students may be using their coping strategies to modify their situation to work for them (Schlossberg, 2007).

One variable that was not taken into account when selecting the sample parameters was the amount of credits that students transferred in from the Florida College System School into the university. The sample parameters guaranteed that students would transfer in with at least 60 hours; however, there was not a limit on the maximum amount of hours a student could transfer in to be included in the sample. Therefore, students who transferred in with significantly more than 60 hours could potentially finish their baccalaureate degrees at a faster rate than those who earned the minimum 60 hours. This could have impacted the results in Questions Three and Four as both research questions looked at the time elapsed for students to earn their baccalaureate degrees. Therefore, if this study were to be replicated, this would be a parameter to build in to further homogenize the population.

**Question Four.** The fourth question focused on the relationship of orientation-to-enrollment timespans to the time elapsed to earn a baccalaureate degree. “What is the
The researcher conducted an ordered logistic regression to study the relationship between the orientation-to-enrollment timespan and the time elapsed to earn the baccalaureate degree. The chi-square statistic ($p = .713$) was not statistically significant at the alpha of .05. The low Nagelkerke $R^2$ of .001 demonstrated that the orientation-to-enrollment timespan is a poor predictor of how long students take to earn a baccalaureate degree. Furthermore, the Wald statistic for the predictor admissions-to-enrollment timespan is .134 with $p = .715$. Using an alpha level of 0.05, the relationship between the dependent and independent variables was not statistically significant.

The results infer that a diminished orientation-to-enrollment timespan does not have a relationship to transfer students’ ability to earn a baccalaureate degree within two years from enrollment. This may be a testament to the orientation program provided to transfer students. Additionally, the students in this study were able to navigate the university system, allowing them to persist and ultimately earn a degree. What is not in the scope of this study is an assessment of how much information students gathered prior to attending orientation which may have aided in their transition. As mentioned in the discussion of Question Three, it may be that students experience short-term registration issues as a result of a diminished orientation-to-enrollment timespan; however, they are able to recover the following semester using the resources they discovered in their first semester. Even though the late timing of orientation makes it difficult for students to complete pre-enrollment tasks (Tobolowsky & Cox, 2012), the students in this study were able to register for a full course load their first semester.
Even though the study limited the sample to those who took a full-time course load (12-18 credits hours) in the fall and spring, it did not control for summer hours earned. Students included in the sample could choose not to enroll in summer courses or could enroll in a maximum of 14 credit hours. Those who chose to enroll in summer hours could have completed their degrees in a shorter time while those who chose not to enroll in summer may have completed at a slower rate. This variable was not controlled for in this study which may have impacted the results. Future replication of this study should control for this extraneous variable through either statistical controls or further restricting the sample parameters.

**Implications for Practice**

This study addressed the two functional areas of admissions and orientation as well as the two student success aspects of persistence and the time elapsed to earn a baccalaureate degree. Therefore, there are several implications for practice that address these areas as they relate to transfer students.

Even though the admissions-to-enrollment timespan was found to not have a strong relationship to persistence and time-to-degree completion, it does have an impact on how early transfer students could register for orientation. As the orientation-to-enrollment timespan did have a significant relationship to persistence, there are some implications for practice that can be offered. Transfer application deadlines tend to be later than first-year student application deadlines. Institutions could look at making the application deadlines for transfer students earlier. Another suggestion would be to expedite the time taken to review the applications that are submitted later, allowing affirmative admissions decisions to be made earlier. This would give admitted transfer students the ability to start addressing pre-enrollment tasks sooner, as well as register for an earlier orientation session. This added time could allow students to employ the
coping mechanism of information seeking that Schlossberg (1984) identified as one of the strategies people use while experiencing a transition. Additionally, admissions offices would be given more time to communicate critical pre-orientation and pre-enrollment information to students which would aid them in their transition.

The orientation-to-enrollment timespan was found to have a statistically significant relationship to persistence. Therefore, there are several recommendations for practice that could be considered. The simplest suggestion would be to increase the orientation-to-enrollment timespans by offering orientation sessions earlier in the spring and summer for those enrolling in the fall. The study indicated that a one day increased in timespan increased the odds of persistence. However, due to the nature of late admissions decisions and the pressure to meet enrollment figures, this may not be possible. Therefore, another recommendation would be to offer more information and services to students prior to orientation attendance. Institutions could look at a model where transfer students could attend pre-orientation appointments or sessions with university departments such as academic advising, financial aid, and housing. This allows students to gather information and take care of university business sooner, which might help with the transition. When considering the transfer students orientation schedule, those who plan orientation should consider leaving time for students to address any remaining university business. Another suggestion would be to provide additional communication and support for students who attend later orientation sessions. This could be achieved through a targeted communication plan from orientation, academic advising, and other university partners. These communications could extend through the first semester.

To address transfer student persistence, universities could develop a statistical model which would identify transfer students who were more at risk of attrition. Using logistic
regression, Glynn, Sauer, and Miller (2003) developed a model to predict first-year student attrition based on pre-enrollment information. These students were identified at the beginning of their first fall semester, and university intervention strategies were employed to assist these students. A similar model could be developed for transfer students similar to Wang’s (2009) research that used transfer students pre-enrollment and college experience data to predict persistence and degree attainment. Universities could look at Wang’s (2009) research to develop a model specific to their transfer populations and could also employ intervention strategies that are geared towards the unique characteristics of the transfer population as noted in Glynn, Sauer, and Miller’s (2003) study.

Understanding that the first semester at the university can be difficult for transfer students both socially and academically, the institution could employ a person or establish an office that specifically works on behalf of the transfer student population. This entity could monitor the academic progress of cohorts of transfer students and provide specific outreach to that population. Specifically, this transfer support person or center could look at persistence and time-to-degree. Furthermore, this resource could provide individual assistance to transfer students who are experiencing challenges that impact their academic progression or persistence. Additionally, the university could provide a transfer-specific course akin to the first-year seminars offered on a multitude of campuses. Like the first-year seminar, this course could address topics such as university policies, academic advising, financial literacy, involvement, and transition issues. Since transfer students tend to use the classroom as a social space, this could assist students in both their academic and social transition (Flaga, 2006; Townsend & Wilson, 2006).
Recommendations for Future Research

The research study results demonstrated a relationship between orientation-to-enrollment timespans and transfer student persistence. However, one must be cautious in applying these findings without conducting future research to determine the intricacies of that relationship. To delve further into the experience of transfer students, a qualitative research study could be conducted to understand the transfer experience during orientation and the first semester to see how they felt going through the transition. Specifically, this study could examine the experiences of students who attended earlier orientation sessions to those who attended orientation sessions closer to the beginning of the semester. Information could be gathered on how the students felt going through orientation, how long they took to complete their pre-enrollment business, what their transition experience has been, and where they feel the university could improve to provide additional support. This qualitative research could add depth to the study presented in this paper, as well as inform practice.

Another aspect of this research that could be studied further is the notion of whether the timing of being admitted and attending orientation has any relationship to transfer student success. This study looked at the length of time between the pre-enrollment factors and enrollment; however, there may be merit in looking at when these pre-enrollment events occur in the students’ calendars. As mentioned earlier, students may not prepare for their transfer until they actually attend orientation; therefore, the length of the admissions-to-enrollment timespan would not be as critical as the actual date they were admitted. An earlier admissions date may allow students to attend orientation earlier, thereby allowing students to address any university business earlier. Moreover, the study could explore whether there is optimal timing of both admissions decisions and orientation attendance that might increase transfer student persistence.
As mentioned earlier, a statistical model could be created that would predict transfer student attrition in order to provide interventions for those students who are at-risk of not persisting. Using the first year retention model developed by Glynn, Sauer, and Miller (2003) and the transfer student prediction model used by Wang (2009) as foundations, researchers could use transfer student data to determine which demographic and pre-enrollment variables predict transfer student attrition. This could be useful in identifying those students who are most at-risk of not persisting. Additionally, the university could provide interventions and support programs that could assist these students in overcoming any barriers to persistence that they are experiencing. The impact of these interventions on transfer student persistence could be a continuation of this research.

The sample in this study only included students who had earned an Associate in Arts degree at a Florida State System school prior to enrolling at the four-year public institution. Students who transfer in with their Florida Associate in Arts degrees are guaranteed to transfer in as juniors with at least 60 credit hours and have their general education core requirements completed. The sample did not include out-of-state students or in-state students who have earned at least 60 hours but did not complete the requirements for the Associate’s degree. Therefore, these students may have transferred in without meeting the general education requirements for the university. This could result in students having to take additional courses upon transferring to fulfill these requirements. Future research could examine the differences in persistence and time-to degree of those who transfer in the Florida Associate in Arts degree and those who do not.

This sample was also limited to students who were awarded their Associate in Arts degrees between April and mid-June prior to their enrollment at the university. In theory, these
students did not take courses during the summer, which may have allowed them more time to prepare for their transfer into the university. Additionally, they would have been able to send their completed transcripts to the university earlier, allowing admissions and advisors to start evaluating courses earlier. However, there is a population of transfer students who do take courses in the summer prior to transferring to complete their Associate in Arts degrees. These students can still apply and attend orientation, but they are unable to provide a final transcript until the end of summer or early fall once the university semester has started. This can provide complexities as advisors are providing course recommendations based on incomplete information. Another area of research would be to compare persistence and time-to-degree of those transfer students who earned their Associate in Arts degrees at the end of the spring semester to those who transferred in the same semester but earned their Associate in Arts degrees at the end of the summer prior to their transfer. This study could also look at the comparison of the accumulation of excess credit hours of those who transfer in under the articulation agreement and those who do not.

To be included in this sample, transfer students had to maintain full-time enrollment (12-18 credit hours) in the fall and spring semesters until they voluntarily left the institution or graduated with their baccalaureate degrees. The sample was limited this way to homogenize the population to study the time elapsed to earn the degree. Part-time students often have conflicting priorities such as family obligations and/or full-time employment which could impact persistence. Additionally, part-time students do not get as socially involved or engaged on campus (Ishitani & McKitrick, 2010). Therefore, it may be worthwhile to look at the relationship between orientation-to-enrollment timespan and full-time transfer student persistence as compared to part-time students. If the timespan impacts one population
significantly more than the other, the institution could look at strategies to mediate this potential impact.

Based on the data presented in Question Two, another aspect to study would be the academic performance of students who transfer from the counties that the university immediately serves versus those who transfer from the counties outside of the university’s immediate area. These students may be either commuting from longer distances or living on their own for the first time. Additionally, they may be accustomed to a culture that is specific to their geographic region. Further research might help institutions identify if geographic location might play a role in transfer student persistence.

Conclusion

This quantitative study explored the relationships of both admissions-to-enrollment and orientation-to-enrollment timespans to transfer student success. Specifically, the study examined students who attended a Florida College System school, earned an Associate in Arts degree, and transferred to a public, metropolitan, four-year university. Transfer student success was measured by persistence and time elapsed to complete the baccalaureate degree.

Nancy Schlossberg’s (2007) transition theory provided a solid theoretical framework for this study. One of the factors students can use to cope with the transition from the community college to the four-year institution is support. By assisting transfer students before transfer though the admissions and orientation process, during the transition through first-week programming, and after the transition though departmental services, universities can provide stable support. Additionally, transfer students utilize the coping mechanism of information seeking to address their transition (Schlossberg, 1984). According to Berger and Malaney (2003), students who actively prepared for their transfer were more satisfied with their
experience and academically successful. Universities can make sure this information is accessible to students as they navigate the admissions and orientation processes.

Using secondary data from 357 transfer students, a statistically significant relationship was found between the orientation-to-enrollment timespans and transfer student persistence. However, there was not a significant relationship between admissions-to-enrollment timespans and persistence. Additionally, neither timespan was found to have a significant relationship to the time elapsed to complete the baccalaureate degree.

The current body of literature on transfer students does not include the analysis of pre-enrollment timespans on transfer student persistence and time elapsed to complete a baccalaureate degree; therefore, the findings in this study add to the existing knowledge base. Recommendations for future research include a qualitative study to examine the intricacies of the relationship between orientation-to-enrollment timespans and persistence. Additional comparative research could be done to look at sub-populations of transfer students to examine pre-enrollment and enrollment characteristics that relate to persistence. Further research on transfer students can assist institutions in providing the targeted support that these students need to persist and complete their degrees.
REFERENCES


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APPENDIX A: IRB LETTER OF APPROVAL

11/7/2014

Michelle Bombaugh, M.Ed.
L-CACHE - Leadership, Counseling, Adult, Career & Higher Education
4202 E Fowler Avenue SVC 2002
Tampa, FL 33620

RE: NOT Human Research Activities Determination
IRB#: Pro00019107
Title: The Relationship between Pre-enrollment Timing Factors on Persistence and Degree Attainment of Transfer Students at a Four-Year, Metropolitan University

Dear Ms. Bombaugh:

The Institutional Review Board (IRB) has reviewed the information you provided regarding the above referenced project and has determined the activities do not meet the definition of human subjects research. Therefore, IRB approval is not required. If, in the future, you change this activity such that it becomes human subjects research, IRB approval will be required. If you wish to obtain a determination about whether the activity, with the proposed changes, will be human subjects research, please contact the IRB for further guidance.

All research activities, regardless of the level of IRB oversight, must be conducted in a manner that is consistent with the ethical principles of your profession and the ethical guidelines for the protection of human subjects. As principal investigator, it is your responsibility to ensure subjects’ rights and welfare are protected during the execution of this project.

Also, please note that there may be requirements under the HIPAA Privacy Rule that apply to the information/data you will use in your activities. For further information about any existing HIPAA requirements for this project, please contact a HIPAA Program administrator at 813-974-5638.
We appreciate your dedication to the ethical conduct of human subject research at the University of South Florida and your continued commitment to human research protections. If you have any questions regarding this matter, please call 813-974-5638.

Sincerely,

Kristen Salomon, Ph.D., Vice Chairperson
USF Institutional Review Board
ABOUT THE AUTHOR

Michelle Bombaugh earned her undergraduate degree at Florida Southern College in Music Education and Music Performance and her M.Ed. in Curriculum and Instruction – College Student Affairs from University of South Florida. She also holds Graduate Certificates in Career Counseling and Leadership in Higher Education. She has worked at USF since 2005 when she coordinated the campus visit program in the Office of Undergraduate Admissions. In December 2008, she moved into her role as an Academic Advisor in the School of Mass Communications, where she served for five years. She is currently the First Year Retention Advocate in Undergraduate Studies at USF. In this position, she assists first year students who are experiencing barriers to their academic success. She is the mother to one daughter, Sydney. She and her husband Jason live in Riverview, Florida.