2+2: Academic Success Predictors of Two-Year Transfer Student Athletes

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2+2: Academic Success Predictors of Two-Year Transfer Student Athletes

A Dissertation

Submitted to the Graduate Faculty of the
University of New Orleans
in partial fulfillment of the
requirements for the degree of

Doctor of Philosophy
in
Education Administration

by
Shawn J. Waltz
B.S. Florida State University, 2009
MS.D. Florida State University, 2011
May, 2022
For my grandparents: Emmett and Jewell Waltz.

I miss both of you dearly.
Acknowledgments

Two decades ago, I was discussing the possibility of dropping out of a community college instead of being kicked out. Today I am writing the acknowledgments section of a dissertation. As I look back on the two decades between now and then, I often hear the words of my grandfather telling me, “You can do anything if you put your mind to it.” Well, Grandpa, I did it. My only regret is I am not able to tell you about it in person. However, when I see you again, I’m sure it will be a great conversation.

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Table of Contents

List of Figures ........................................................................................................... xiii
List of Tables ............................................................................................................. xiv
List of Graphs ........................................................................................................... xvi
Abstract ................................................................................................................... xvii

Chapter 1: Introduction and Research Problem ...................................................... 1

  Function of Two-year Post-secondary Institutions in Higher Education ............ 2
  Student Athlete Transfers .................................................................................... 3
    Student athlete academic success ................................................................. 4
  Eligibility ............................................................................................................. 5

Statement of the Problem ....................................................................................... 5

  Purpose of the study ......................................................................................... 6
  Research Methods ............................................................................................. 7
  Conceptual Framework ..................................................................................... 8
  Research Questions ........................................................................................... 8

Definitions of terms ............................................................................................... 9

Chapter 2: Literature Review and Theoretical Framework .................................. 11

  Literature review .............................................................................................. 11
    Path to Baccalaureate Completion ................................................................ 12
      Development of two-year institutions ....................................................... 12
      Evolving community college student bodies ........................................... 16
      Access to baccalaureate degree ................................................................. 17
2+2 programs ........................................................................................................19
Transfer Students ..................................................................................................20
Graduation and academic success .........................................................................22
Student Athletes .....................................................................................................24
Issues student athletes face ...................................................................................24
  Financial resources ..............................................................................................25
  Academic dishonesty ............................................................................................26
  Racism ..................................................................................................................27
  Individual stressors ...............................................................................................28
Transfer Student athletes .......................................................................................29
Summary of Literature ..........................................................................................29
Theoretical Framework ..........................................................................................30
  Schlossberg’s Transition theory .........................................................................31
    Transition ..........................................................................................................32
    Adaption ............................................................................................................33
Conceptual Framework ..........................................................................................34
Chapter 3: Research Design and Data Collection ..............................................37
Data Collection ......................................................................................................38
  Sample Population ...............................................................................................39
  Institutional Context ............................................................................................41
Variable Selection ..................................................................................................45
  Independent Variables .........................................................................................47
  Individual variables .............................................................................................47
Academic degree plan ................................................................. 48
Level of financial aid ................................................................. 49
Environmental ........................................................................... 49
Dependent Variable .................................................................. 51
Coding Scheme .......................................................................... 52
Research Design ......................................................................... 54
Data Analysis ............................................................................. 54
Summary of Methods .................................................................. 55

Chapter 4: Data Cleaning and Analysis ........................................ 57
Data Cleaning and Sorting ......................................................... 58
Description of Sample ............................................................... 62
  Student Athletes ....................................................................... 64
  Non-Athletes ........................................................................... 66
  Transfer Students ..................................................................... 67
  Native Students ........................................................................ 68
Binary Logistic Regression ....................................................... 69
  Model 1: Student Athlete Transfer Students ............................... 70
    Individual characteristics ...................................................... 72
    Institutional characteristics .................................................. 74
  Model 2: Transfer Student Athlete Status ................................. 75
    Individual characteristics ...................................................... 77
    Institutional characteristics .................................................. 78
Synthesis of Binary Logistic Regression ...................................... 80
Synthesis of Quantitative Findings ................................................................. 81

Chapter 5: Discussion and Implications .......................................................... 83

Discussion ........................................................................................................ 84

Native Student Athletes .................................................................................. 84

Gender ................................................................................................................. 86

Head count sport ............................................................................................... 86

Institutional Support ......................................................................................... 87

Full-time institutional staff ............................................................................... 88

Additional coaching staff .................................................................................. 89

Difference between Transfer Athletes and Non-Athletes .................................. 89

Implications for Policy and Practice ................................................................. 90

Assisting transfer students in degree completion .............................................. 91

Assisting transfer student athletes in degree completion ................................... 91

Articulation agreements ................................................................................... 93

Theoretical Implications ................................................................................. 93

Characteristics of the Post-transition Institution .............................................. 94

Characteristics of the Individual ...................................................................... 94

Limitations and Delimitations ........................................................................ 95

Limitations .......................................................................................................... 96

Delimitations ....................................................................................................... 97

Recommendations for Future Research .......................................................... 98

References ......................................................................................................... 101

Appendices ....................................................................................................... 128
List of Figures

Figure 1. Transition Theory Flow Chart .................................................................................. 46
List of Tables

Table 1. Independent Variables ........................................................................................................53
Table 2. Dependent Variable .............................................................................................................54
Table 3. Sample Data Set ...................................................................................................................63
Table 4. Sample Data Set Breakdown ..............................................................................................64
Table 5. Student Athlete Demographic and Transfer Status ..........................................................65
Table 6. NCAA Division I Allowable Coaches .................................................................................66
Table 7. Non-Athlete Demographic and Transfer Status .................................................................67
Table 8. Transfer Student Demographic and Athlete Status .............................................................68
Table 9. Native Student Demographic and Athlete Status ...............................................................69
Table 10. Student Athlete Model Summary .......................................................................................71
Table 11. Student Athlete Probability of Graduating .........................................................................72
Table 12. Student Athlete Probability of Graduating Results ............................................................72
Table 13. Student Athlete Individual Characteristics Model Summary ...........................................73
Table 14. Student Athlete Individual Characteristics Classification Table .......................................73
Table 15. Student Athlete Individual Characteristics Results ..........................................................74
Table 16. Student Athlete Institutional Characteristics Model Summary .........................................74
Table 17. Student Athlete Institutional Characteristics Classification Table ......................................75
Table 18. Student Athlete Institutional Characteristics Results .........................................................75
Table 19. Transfer Student Athlete Model Summary .......................................................................76
Table 20. Transfer Student Athlete Probability of Graduating .........................................................76
Table 21. Transfer Student Athlete Results .......................................................................................77
Table 22. Transfer Student Athlete Individual Characteristics Model Summary .......... 77
Table 23. Transfer Student Athlete Individual Characteristics Classification Table ....... 78
Table 24. Transfer Student Athlete Individual Characteristics Result ....................... 78
Table 25. Transfer Student Athlete Institutional Characteristics Model Summary ........ 79
Table 26. Transfer Student Athlete Institutional Characteristics Classification Table ..... 80
Table 27. Transfer Student Athlete Institutional Characteristics Results ..................... 80
List of Graphs

Graph 2. Athletic Department Expenditures ................................................................. 42
Graph 2. Monetary Athletic Expenditures .................................................................... 43
Graph 3. Institutional Academic Spending .................................................................. 44
Graph 4. Transfer Credit with Outliers ....................................................................... 59
Graph 5. Transfer Credit Outliers Removed ................................................................ 62
Abstract

This study addresses the academic success of upper division, NCAA Division I, student athletes who begin their post-secondary academic career at a two-year institution. It is motivated by two research questions: 1) Are predictors of academic success similar for transfer and non-transfer student athletes? 2) Are predictors of academic success similar for transfer student athletes and transfer non-athlete students? Schlossberg’s (1981) theory of transition aided in conceptually framing these research questions.

Data for this study was gathered from three regionally accredited four-year universities located in southern Louisiana, all housing an NCAA Division I athletic program. Multilevel binomial logistic regression was used to identify variables promoting, or inhibiting, academic success. Academic success, defined as graduation, was the dependent variable. Independent variables were selected based upon the “4’s” of Schlossberg’s theory: Situation, Self, Social Support, and Strategies for Coping.

Results of this research indicate transfer student athletes do not perform academically like their non-transfer, or native, peer athletes. Specifically, transfer students are slightly less likely to graduate than their native student athlete peers. The results further provide that participant sport and gender are the strongest predictors of academic success for transfer student athletes. Further, the number of full-time support staff and coaches also played a strong role in predicting academic success for transfer students. In particular, the more full-time staff members the athlete had access to the more likely the student was to graduate. However, the more coaches the athlete had access to, the less likely the student was to graduate. The results showed no statistically
significant difference in completion rates between the student athlete and non-athlete student transfer populations.

The results of this study add to the research by addressing how transfer student athletes move through post-secondary education on a path toward degree completion. The findings from this study are important because they can assist those working with transfer student athletes, especially academic advisors, to identify factors that promote academic success and degree completion.

Key words: transfer student; native student; student athlete: transfer student athlete: native student athlete: transfer non-athlete student
Chapter 1: Introduction and Research Problem

After high school, college attendance and the pursuit of a baccalaureate degree is the next step for almost 70% of Americans (Bureau of Labor Statistics, 2017). Typically, students wishing to complete a baccalaureate degree enter post-secondary education by enrolling at a four-year degree-granting institution (National Center for Education Statistics report, 2015; Shapiro et al., 2017; Shapiro, Dundar, Wakhungu, Yuan & Harrell, 2015). However, not all students will continue until completion of a baccalaureate degree: only 60% of all first-time freshmen enrolling at a four-year institution in pursuit of a baccalaureate will graduate from their initial institution of entrance (McFarland et al., 2017). Over 30% of students who initially enroll will drop-out or stop-out (National Center for Education Statistics, 2019b) due to life events that prohibit or delay their continued enrollment; others (37%) will transfer to a new institution (Shapiro et al., 2015).

The number of students transferring from one institution to another during their academic careers has increased over the last decade. According to a recent report from the National Student Clearing House (Shapiro et al, 2018), student transfer rates for the 2011 student cohort entering post-secondary education increased to 38% from slightly over 37% for the 2008 entering student cohort. According to the report, “The fall 2011 cohort consisted of 2.8 million first-time students. Within their first six years, over one million of them continued their studies at a different institution” (Shapiro et al, 2018, p.21). Of those students who enter their post-secondary studies at the four-year institution, almost 39% will transfer to a new post-secondary institution. A little over half of those (59.5%) transfers will transfer to a two-year institution (Shapiro et al., 2018). Comparatively, of those who enter a two-year institution a little over 37%
will transfer out (Shapiro et al., 2018). Of those who transfer out of the two-year institution, 50.5% will do so with a four-year institution as their primary destination (Shapiro et al., 2018). Additional research suggests students are moving through post-secondary institutions as they need to increase access, boost GPA, earn credentials to advance to the next level, and off-set high tuition costs at four-year institutions (Bach, Banks, Blanchard, Kinnick, Ricks, & Stoering, 1999; Wang & Wickersham, 2014). According to numbers released by the National Student Clearing House, it appears one-way students are addressing these concerns is through initial enrollment at two-year institutions (Shapiro et al, 2015). These statistics provided just a cursory glimpse of how students are currently using the transfer process of higher education. This research specifically intends to provide a more detailed view of academic success as it relates to student athletes who use a similar transfer process as their peers.

**Function of Two-year Post-secondary Institutions in Higher Education**

Initially, two-year institutions evolved through secondary school systems as open admission institutions to provide the local community with continued education past the completion of high school (Beach, 2012; Cohen, Brawer, & Kisker, 2014; Walker, 2015). At the beginning of the 20th century, two-year institutions began to take on a new mission of preparing students for upper division coursework at four-year institutions. Through the new mission of transfer two-year institutions took on the new role of providing accessibility to those students who might not otherwise gain admission to completion of a four-year degree (Fletcher, 2014). Over the last half-century, the accessibility role in some instances has turned the two-year institution into what might be considered a “steppingstone” on the path to completion of a baccalaureate degree.
In response to the “steppingstone” approach to college completion, many states are adopting formalized articulation agreements between two and four-year institutions. These agreements, known as 2+2 programs, increase access to completion of post-secondary education for many students who otherwise might not be able to attend college (Office of Program Policy Analysis and Government Accountability, 2002). 2+2 programs offer individuals a way to complete the first two years of general education college requirements and transfer them toward completion of a baccalaureate degree. Students who might not possess the academic credentials—or financial capital—to gain admission to a four-year institution can use 2+2 programs as a “steppingstone” to gain access to admission at a four-year institution upon completion of a specified course of study at a two-year institution (Callan, 2017; Desai, 2012; Wickersham, 2014). Student athletes, like other students, may also use 2+2 programs to gain access to four-year institutions due to a lack of financial resources or academic credentials. However, student athletes may also find they do not meet the initial eligibility requirements for National Collegiate Athletic Association (NCAA) participation and choose to enroll at a two-year institution and compete at the National Junior College Athletic Association (NJCAA) level.

**Student Athlete Transfers**

Currently, 480,000 students participate in the NCAA. Concurrently, there are an additional 70,000 plus students participating in athletics as part of the NJCAA (NJCAA 2016). Of those student athletes participating at two-year institutions, a portion will transfer to four-year institutions where they will continue their participation in athletics. According to the literature, currently, 10.5% of those students who participated in NJCAA athletics enrolled and now are participating in a varsity sport at an NCAA Division I institution. However, rates of two-year transfer student athlete participation at the DI level differed greatly based upon sport. For men’s
basketball alone roughly 10% of the 4,433 NCAA Division I scholarships awarded went to transfer student athletes (Auerbach & Prisbell, 2012). Nevertheless, these numbers do not account for non-basketball student athletes—or those students not receiving athletic-related financial aid—who transfer to a four-year institution in pursuit of a baccalaureate. When including all transfer student athletes participating in basketball at the NCAA Division I level regardless of scholarship, the participation rate moves from 10% to 14.5%. Yet, wrestling (1.8%), men’s cross country (1.9), women’s cross country (1.8), field hockey (0.0%), and volleyball (4.3%) all saw rates less than 5.0%.

**Student athlete academic success.** Research conducted by the NCAA shows student athletes at four-year institutions graduate at a higher rate than students not participating in intercollegiate athletics (Hosick, 2014). The NCAA reported an 86% graduation rate for the student athlete cohort entering college during the 2009-2010 academic year (NCAA, 2012). During the same time, the overall student graduation rate was 53% (Shapiro et al., 2015). At first appearance these rates look vastly different, however, they are misleading due to the difference in measurements used to achieve each. The U.S. Department of Education (DOE) uses the Federal Graduation Rate (FGR) while the NCAA uses the Graduation Success Rate (GSR). Each measurement tracks an entering post-secondary student cohort from entrance until graduation. Students are labeled as a successful graduate if they graduate from the same institution within 6 years of initial full-time enrollment. However, unlike the DOE’s FGR, the NCAA’s GSR tracks those students who transfer to a new institution. The NCAA posts a 2% higher graduation rate (65%) than the general student population (63%) when using FGR as a measure (Southall, 2012). However, most of the differences in graduation rates between the FGR and GSR are due to those students who do not graduate at their initial institution of entrance. This difference helps
illustrate the count loss of those students who graduate but transfer to a new institution before completion. Therefore, these differences suggest the need to study the academic success of students who transfer between institutions as this is a large population.

**Eligibility.** The NCAA and NJCAA both have initial eligibility standards that must be met in order for an individual to receive athletically related aid from the institution. While the initial eligibility for NJCAA athletes follows a more open access model similar to the mission of the two-year institution (NJCAAC, 2016), the initial academic standards of the NCAA for entering freshmen are more rigorous (NCAA, 2012; NCAA, 2016). The added rigor not only helps ensure the individual’s academic preparedness for college-level curriculum; it can also serve to exclude individuals not possessing the required qualifications. Those student athletes excluded from four-year institutions may in turn look toward the two-year institutions to gain access to financial, educational, or other resources they are currently excluded from receiving. However, little is known about the academic success of student athletes who choose to initially enroll at a two-year institution and utilize 2+2 programs. Specifically, the current literature is largely silent regarding how two-year transfer student athletes perform academically after transferring into upper division course work at a four-year college or university.

**Statement of the Problem**

Research indicates differences in post-secondary success between student sub-groups (Comeaux, 2010; Cooper & Hawkins, 2014; Pascarella & Terenzini, 2005). Identifiers of student sub-groups commonly researched include race, gender, ethnicity, transfer status, first-generation, and student athlete, among others (Cooper, 2012; Cooper & Hawkins, 2012; Pascarella & Terenzini, 2005). Research regarding the academic success of student athletes has been mentioned in the literature numerous times (Harper, 2009; Horton, 2009a; Horton, 2009b; Huml,
Bergman, Newell & Hancock, 2019). It shows student athletes at all levels are just as academically successful as their peer non-athlete students. Further, research regarding the academic success of transfer students has also been widely studied (Bailey, Jenkins, Fink, Cullinane & Schudde, 2016; Casey, Kennedy, Pinkley & Worden, 2019; Marlowe, Tincher-Ladner, King & Boggs, 2016). These studies show favorable academic outcomes for students who transfer to complete their studies at a four-year institution. Interestingly, for both previously mentioned groups, institutional support plays a key role in the individual’s academic success (Hatteberg, 2020; Maliszewski Lukszo & Hayes, 2020). However, research regarding the academic success of students who transfer to a new institution and participate in athletic events sponsored by the institution remains elusive. Most research concerning student athletes as a student sub-group does not delineate initial college entrance points for transfer student athletes (Cooper & Hawkins, 2014; Harper 2009; Richards, Holden, & Pugh, 2016). Specifically, the gap in the literature leaves speculation on the academic success of transfer student athletes who begin their post-secondary academic journey at two-year institutions. Specifically, how do two-year transfer student athletes compare to their native student athlete peers entering post-secondary education entering through the four-year institution.

Purpose of Study

Currently, academic literature is lacking regarding how transfer student athletes compare to their native student athlete peers in baccalaureate degree completion. Specifically, the literature is lacking in information to assist practitioners in understanding what promotes or inhibits the academic success of transfer student athletes. Issues such as academic performance, persistence, and institutional support have been shown to promote or inhibit transfer student athletes' realization of academic success after transfer (Brosh, 2020; Brecht & Burnett, 2019;
Rubin & Lewis, 2020; Richards, Holden, & Pugh, 2016). However, the discussions homogenize transfer student athletes into one group; no delineation of the type of transfer—or from where the student transferred—is discussed. This research intends to fill that gap in the literature by identifying differences—if any—in what factors aid two-year transfer student athletes in completing their academic course of study when compared to their native student athlete peers. Therefore, the purpose of this study is to examine the academic success rates of upper division transfer student athletes who entered post-secondary education through a two-year institution to their peer native student athletes entering at four-year institutions. Specifically, this research examined how the student athlete’s initial post-secondary entrance point plays a role in the future academic success of student athletes.

**Research Methods**

For the purposes of this research quantitative analysis was used. Multilevel logistic regression was the method of identifying variables that assist in predicting the academic success of transfer student athletes. Academic success is defined as *graduate or not graduate*. Therefore, academically successful students were those students who graduate or complete their course of study. Data for this study came from three regionally accredited four-year post-secondary institutions housing an NCAA Division I athletic program. Each athletic program has on average 350 student athletes, ranging from about 150 students to roughly 450 students, per semester. Each institution has on average 10,600 total students ranging from roughly 6,300 to 17,500 per semester. Specifically, information related to the transfer/native classification, athletic participation, and graduation status was requested for student athletes over the last decade. Students who participate in athletics and are classified as transfers were compared to their native student athlete peers. Further, student athletes, transfer, and native, were compared to the general
non-athlete student population based on the transfer and native status of the student. Each student and student athlete subgroup was analyzed to include demographic indicators such as race, gender, and level of financial aid.

**Conceptual Framework**

This study relied on the theoretical foundations of Schlossberg’s (1981) Transition Theory. Transition theory attempts to explain how individuals respond to different stressors felt during the transition, or movement, from one life stage to the next. Using this theory helped explain how stressors involved in a student athlete transitioning to a new institution affect the outcome of the student as they “move in, move through, and move out of” (Gamez, 2017, p. 72) the institution. Originating from the field of psychology, Haviid and Zittoun (2008) describe transitions as “catalyzed change due to rupture, and aiming at a new sustainable fit between the person and current environment” (p. 123). Key ideas of transition theory are transition, anticipated or unanticipated events, nonevents, crisis, role, and impact. When applied to student development, transition theory can assist in the understanding of how a student progresses, or transitions, from one educational institution to another.

**Research Questions**

Two questions, and four sub-questions, emerge regarding the academic success of transfer student athletes:

1) How do upper division transfer student athletes compare academically to their peer native student athletes?

   A) What effect, if any, does race, gender, socioeconomic status, and major play in these differences?

   B) What effect, if any, does institutional support have on these differences?
2) How do upper division transfer student athletes compare to their peer upper division non-athlete transfer students?

A) What effect, if any, does race, gender, socioeconomic status, and major play in these differences?

B) What effect, if any, does institution support have on these differences?

**Definition of Terms**

1. **Native Student:** Any student who remains enrolled at the initial enrollment institution.

2. **Transfer Student:** Any student enrolling in an institution after previous enrollment in a different institution.

3. **2+2 Transfer:** Any student who enters post-secondary education at a junior or community college and then transfers to a four-year college or university.

4. **Non-athlete student:** Any student enrolled in a post-secondary institution who does not participate in an NJCAA or NCAA sponsored sport.

5. **Student athlete:** Any individual who receives athletically related financial aid while attending a post-secondary institution regardless of type.

6. **Athletic eligibility:** baseline requirements defined by the institution, athletic conference, or national athletic association that a student must meet to compete athletically and/or receive athletic-related financial aid.

7. **Athletically related financial aid:** Also known as Grant in Aid, is any financial aid awarded to a student where the receipt of aid requires the student to participate in the issuing institution’s intercollegiate athletics program.

8. **Participant sport:** Sport in which the student athletes participates or competes.
9. **Head Count sport:** Any NCAA sport where participants can receive the full cost of attendance in aid.

10. **Equivalency sport:** Any NCAA sport where the participant can receive less than the full cost of attendance in aid.
Chapter 2: Literature Review and Theoretical Framework

This chapter examines the current literature related to the academic success of transfer and native student athletes as defined in chapter 1. Literature related to current issues in higher education, student athletes, and transfer students is discussed. Further academic eligibility, academic support, and graduation are the main ideas discussed throughout the following sections. The intent of this review of the literature is to present the reader with a deeper understanding of how students move through the post-secondary education system on a course toward completion of a baccalaureate degree. Further, how the two-year institution is used by students moving through the post-secondary education system is addressed. Additionally, a new sub-group will be examined closely. Specifically, how two-year institutions provide access to completion of a baccalaureate degree for transfer student athletes will be discussed.

The chapter concludes with an overview and explanation of the theoretical framework used to assist in describing the research question. This framework lies at the intersection of Transition Theory by Schlossberg (1981) as applied to education. The main ideas of Schlossberg’s (1981) theory are used to construct a theoretical foundation that is used to assist in explaining the academic success differences, if any, between transfer and non-transfer student athletes.

Literature Review

This literature review examines the areas related to two-year transfer and non-transfer student athletes. The focus of this study, presented in chapter 1, pertains to the academic success of two-year transfer versus four-year native student athletes (Craig, 2019; Witteveen & Attewell, 2019). They also address academic success issues related to two-year transfer student athletes.
versus transfer non-student athletes. This literature review explores areas of student athletes and academics, access to a baccalaureate degree, transfer student athletes as a subgroup, and student athlete eligibility.

**Path to Baccalaureate Completion**

There are multiple means to gain access to completion of a baccalaureate degree. All post-secondary pathways begin with entrance to a post-secondary institution. However, initial entrance points can vary by institutional type. Four-year colleges or universities, two-year junior or community colleges, and technical or vocational schools can serve as institutional entrance points to post-secondary education for individuals seeking to complete a baccalaureate degree (Geiger, 2017; Handel, 2012; Handel, 2013; Roderick, Coca & Nagaoka, 2011; Whitmire & Esch, 2010).

Entrance requirements for each type of post-secondary institution vary with four-year institutions generally having higher academic requirements compared to the open-access admission policies of their two-year counterparts (Boggs, 2011; Callan, 2017; Meier, 2012). Open access admission policies are non-selective admission criteria that provide for an individual’s acceptance and enrollment with nothing more than a high school diploma, acceptable placement test scores, or a GED (Mullin, 2017). Open access admission policies of junior and community colleges may motivate some students to pursue initial college enrollment through this institutional type. However, open-access two-year institutions have not always existed. Two-year institutions and their open-access mission are a recent post-secondary educational development over the last hundred years.

**Development of two-year institutions.** Prior to the foundation of community colleges, the only way to access a baccalaureate degree in the United States was through a four-year
institution. In the early 17th century, the first post-secondary institutions began operation in the newly colonized continent with the first being Harvard College in 1636 (Geiger, 2014). These early institutions were modeled after those in Oxford and Cambridge, England. Their initial missions were the education of individuals wanting to enter the clergy or fields of medicine and law (Thelin, 2011).

In the postbellum era, the landscape of post-secondary education began to change. With the passage of the Morrill Land Grant Act of 1862, the scope of universities expanded to include the fields of agriculture, engineering, and the arts and sciences (Brubacher, 2017). A few decades later post-secondary institutions expanded once again with the advent of extension schools. Extension schools were a product of the Smith-Leaver Act of 1914 and helped further open the door of post-secondary education to the broader public (Collins, 2012). At the beginning of the 20th century, a new form of institution emerged, the junior or “community” college (Beach, 2012).

Ideas about expanding the scope of the high school to offer a 13th and 14th-grade covering course work that transferred to the college as the first two years of post-secondary instruction had been discussed since the 1850s (Cohen, Brawer, & Kisker, 2014). In fact, Monticello Seminary, an institution operating similar to today’s two-year colleges, had been in operation since 1835 (Geller, 2001). However, it was not until 1901 that the first public junior college was established in Joliet, Illinois (Joliet Junior College, n.d.). The institution, Joliet Junior College, was founded to increase access to post-secondary instruction for students graduating from Joliet Township High School (Phillippe, & Sullivan, 2005; Walker, 2015). Throughout the early 1900s, other communities followed the lead of Joliet in establishing their own institutions offering transferable post-secondary coursework and classes. Initial advocates of two-year institutions
often described them as “America's democracy colleges” (Franco, 2002, p. 1) “giving thousands of worthy students who would otherwise have been excluded a chance to attend higher education” (Brint and Krabel, 1989, p.10 as cited in Franco, 2002, p.1). According to Cohen, Brawer, and Kisker (2014), by the 1920s there were 207 similar institutions and by 1930 the number of two-year institutions more than doubled to 440.

The transfer function of the community college has been a part of the institutional mission of two-year institutions since their inception (Cohen, 1984). It is described by Cohen, Brawer and Kisker (2014) as “the linear aspect of community colleges – the idea that the institution assists students in bridging the freshman and sophomore years” (p. 39). The idea of access to post-secondary education was a shared ideal in the newly established institutions throughout the early decades of the 20th century (Dougherty & Townsend, 2006; Gilbert & Heller, 2013). Regardless of the access mission of the newly formed junior colleges, these institutions faced challenges. Issues related to lack of respect from four-year institutions (Barrington, 2019; Drury, 2003) and enrollment (Cohen, Brawer and Kisker, 2014) plagued these post-secondary institutions during the early years of their formation. However, around the middle of the 20th century, an enrollment shift occurred, and more students began entering two-year institutions.

In the middle of the 1960s, post-secondary institutions experienced increased and shifting enrollment trends. According to the National Center for Education Statistics (2019d), it was during this time two-year institutions saw their enrollment of first-time freshmen go beyond 30% of the total first-time college enrollees. In the following decades, the pattern of students using two-year institutions as an initial entry point to post-secondary education has continued. Around the same time as enrollment shifted some states implemented educational policies that reflected
the central historical “transfer function” mission of two-year institutions (Townsend, 2001; Dougherty & Townsend, 2006). Such policies lead to an increase in the number of articulation agreements between two-and four-year institutions; by 1975 seven states had officially adopted articulation agreements (Mosholder & Zirkle, 2007).

Articulation agreements align institutional curricula to offer students a seamless pathway through different levels of education (Kim, Barnett & Bragg, 2003; Montague, 2012; Nelson & Waltz, 2019). At the post-secondary education level these agreements, more commonly known as 2+2 programs, assist students transferring from two-year to four-year institutions through the process of curriculum alignment. Curriculum alignment assists the student in transferring to a new institution by providing an avenue to “facilitate the transfer of academic credits” (Montague, 2012, p. 2). Articulation agreements and curriculum alignment reduce credit loss and assist the student in accessing upper division course work and degree completion (Fletcher, 2014; Joseph, 2021; Stern, 2016).

According to the National Center for Education Statistics, there are currently more than 2.8 million first-time students who were enrolled for the fall 2017 school term (National Center for Education Statistics, 2019a). Of that number, almost 1.1 million were enrolled at two-year institutions (National Center for Education Statistics, 2019a). Recent reports show a percentage of the recent graduating student cohort utilized the transfer function of two-year institutions (Shapiro et al., 2015; Shapiro et al., 2017; Shapiro et al., 2018). When looking at the 6-year enrollment trends for the 2016 graduating cohort, Shapiro et al. (2017) found that of the first-time entering cohort of 2010, excluding those high school students who were dual enrolled in post-secondary courses, 31.5 percent transferred to a four-year institution within 6 years of initial enrollment. However, of that same 2010 cohort entering post-secondary education through a
two-year institution, only 13% earned a baccalaureate degree within that same time span. These overall completion rates look low at first glance. However, an explanation of the history and how students use community college will enable the reader to more fully understand their nuances as they pertain to transfer and completion of a baccalaureate degree.

**Evolving community college student bodies.** Historically, two-year institutions have held the mission of open access. Such open access policies provided a gateway for many students of baccalaureate degree completion (Kasper, 2002). Per the America Association of Community Colleges (2004) report *About Community Colleges*, the mission of community colleges was to be “centers of educational opportunity… inclusive institutions that welcome all who desire to learn, regardless of wealth, heritage, or previous academic experience” (p.1). This mission has allowed access to workforce training and upward mobility in educational attainment for socioeconomic groups that historically have not had access to a college education. This mission is still relevant today with education beyond a high school diploma being needed to gain the mobility to enter and stay in the middle class (Fry & Parker, 2012). Such a broad mission has had a dramatic effect on the composition of the student body of two-year institutions.

Enrollment trends of two-year institutions have changed greatly over the past century. A major indicator of such changes is the percentages of students enrolled at either two or four-year institutions. According to Kasper (2002) between 1965 and 1999, enrollment at two-year institutions nearly quadrupled while enrollment at four-year institutions only doubled. In addition, the National Center for Education Statistics (2019d) reports twenty-three percent of all first-time students enrolled in post-secondary education in 1960 were at two-year institutions. The percentage of all first-time students enrolled in post-secondary education at two-year institutions increased to 54% just two decades later. While that percentage has since dropped, as
of the fall of 2015, almost 38%, or roughly 1.143 million students, enrolled as first-time freshmen at a two-year institution (National Center for Education Statistics, 2019d). This statistic indicates students are continuing to utilize the resources at two-year institutions at high levels as they have done over the past few decades.

Furthermore, the gender gap has reversed over almost the same time period. In 1970, roughly 60 percent of all students at two-year institutions were male (Kasper, 2002). By the 1980s, enrolled women had surpassed men. As of the most recent report, women represent 56.8% percent of students enrolled in two-year institutions with a total population of over 3.3 million students (National Center for Education Statistics, 2019c).

The racial composition of two-year institutions has also shifted during the same time span. According to the National Center for Education Statistics (2019b), in 1976, whites composed 80.2% of the total population. Currently, white students still represent the largest percentage of the two-year student population. However, non-white enrollment has doubled since the original measure in 1976 to encompass 49.6% of the total 2015 enrollment at two-year institutions. When broken down into categories, minority enrollment at two-year institutions of those students identifying as Hispanic saw the largest increase of almost 500% (5.5% - 24.3% since 1976 (National Center for Education Statistics, 2019b).

**Access to a baccalaureate degree.** Community and junior colleges have served many functions in higher education. One of those functions is to provide access to a four-year college education to underserved populations (Desai, 2012; Wang & Wickersham, 2014). Community colleges do this through open admission policies, remedial courses, dual enrollment with nearby colleges or universities, and Associate in Arts degrees that satisfy general transfer requirements (Callan, 2017; Levin, 2000). These programs are designed to allow students to transfer into
upper division courses at a four-year university after earning an Associate of the Arts Degree (Mullin, 2012) and have been described as an expanding part of the state mission of two-year institutions (Harper, 2009).

Community colleges are being challenged with the daunting task of filling an increasing gap between the normal K-12 school system and the four-year university (Bricker, 2008). Research indicates students entering college are highly mobile, transferring between the two and four-year systems to achieve their academic goals (Bach, Banks, Blanchard, Kinnick, Ricks, & Stoering, 1999; Clinedinst, & Koranteng, 2017; Friedel & Wilson, 2015; Wang & Wickersham, 2014). Many students do not have a grade point average (GPA) or test scores high enough to be accepted to the four-year university and use the community college to receive remedial courses to gain access to the four-year university. Once they achieve the needed GPA, the student then transfers to the four-year institution (Bahr, 2013). In one college system studied, Bach, et al. (1999), found that transcripts showed students “used the community college as an academic turnaround” (p. 52). This finding supports the belief that community colleges are a foundation to academically prepare students for the rigors of academic life in upper division courses at four-year universities. The academic preparation allows students who could not otherwise obtain admission to the university to transfer to the four-year institution after successfully completing the first two years of post-secondary instruction. This type of transfer, known as 2+2, is increasingly being offered at junior and community colleges as specific transfer degree pathways. These transfer programs are referred to as “2+2 programs” (Fincher, Sharp, Burks, Lyon, Parker, Ward, Hall, Wilson, & Washington, 2013; Fletcher, 2014; Garcia Falconetti, 2009).
**2+2 programs.** The 2+2 programs are designed to allow students to complete their first two years of college before transferring to upper division courses at a four-year institution. These programs are defined by Ignash and Townsend (2000, 2001) as being the policies at state and institutional levels that align community college graduation requirements with program requirements at a four-year institution. The 2+2 program agreements generally include the courses needed to be completed at the community college, or pre-requisites required for admission to upper division study (Just & Adams, 1997). Junior and Community College 2+2 programs have been said to be important policies fundamental to access to higher education (Wellman, 2002). This type of educational pathway is identified in the literature as being used by all student subgroups—including student athletes—in pursuit of a baccalaureate degree (NCAA, 2012).

In a study conducted on the 2+2 programs in the state of Florida, Falconetti (2009) found that such programs lead to the intended goal of access to baccalaureate degrees. However, Falconetti’s (2009) results should be taken lightly. Florida is unique in how post-secondary institutions are structured. Florida operates under a K-20 system of education and has highly articulated transfer agreements between two and four-year institutions throughout the state (Office of Program Policy and Analysis and Government Accountability, Report No. 02-05, 2002). Per Cohen & Brawer (2003), “articulation and transfer agreements are enhanced considerably when programs are closely coupled” (p. 329). The close coupling of the education system may be the indicator that affects transfer and persistence in Florida in such a positive manner. In other states, the results of 2+2 programs may be quite different. For example, 32 states have no common course number system while 18 do. (Education Commission of the States. n.d.). However, some states like California (Cal. Educ. Code § 66725.3), Virginia (VCCS
Policy 5.03), and Ohio (Ohio Rev. Code Ann. § 3333.16), have policies in place to address their lack of a higher education common course numbering system. See Appendix A.

**Transfer Students**

Understanding how students progress from entrance to completion of college is important in understanding how students utilize college pathways. Previous research has been conducted on how the transfer process assists students in accessing a baccalaureate degree (Bragg & Durham, 2012; Bound, Lovenheim & Turner, 2009; Bowen, Chingos, & McPherson, 2009; Doyle, 2009; Goldrick-Rab, 2010; Horn & Nevill, 2006; Offenstein & Schulock, 2009). The findings suggest only 1 in 5 students entering post-secondary education at a two-year institution will transfer to a four-year college (Fain, 2012). However, a recent report by the National Student Clearing House Research Center (Shapiro et al., 2013) suggests that students who begin their post-secondary careers at two-year institutions prior to transferring to a four-year institution are successful in completing a baccalaureate degree. When compared to their native peers in the fall 2003 cohort, students who transferred to a four-year institution after beginning at a two-year institution had higher completion rates at the eight-year mark after initial enrollment than students who began their academic careers at a four-year institution (Shapiro et al., 2013). While the diverse missions of a two-year college mean that some of the students who enroll do not plan on pursuing a baccalaureate degree, community college students who do make it to the point of transfer to a four-year institution are completing baccalaureate degrees with high rates. Further, Shapiro et al. (2013 p. 5) notes that more than 70% of students who transfer from a two-year to a four-year institution complete a baccalaureate degree within 8 years of transfer compared to only 65% who entered at a four-year institution.
Additionally, academic success hinged on full-time enrollment at the institution after transferring. Like their native student peers, once at the four-year institution, completion rates for two-year transfer students varied by hours enrolled. Shapiro et al. (2013) noted full-time transfer students completed a baccalaureate degree at a rate of 80% while exclusively part-time students dropped to 25% completion rate.

Research from different studies has also shown the benefit of transferring. Doyle (2009) states about 40% of students who pursue a baccalaureate degree first enroll at a community college. Of that group of students enrolling in a two-year post-secondary institution, only 31.5% transfer to a four-year institution. However, if the student planned to transfer to a four-year institution after completing their academic studies at a two-year institution, the percentage of students transferring to a four-year institution is roughly 50% (Hoachlander, Sikora, & Horn, 2003). Of those students who successfully transfer to the four-year institution, 70% eventually complete a baccalaureate degree (Boswell, 2004), with 42% earning a baccalaureate degree within six years of initial enrollment at the two-year institution (Shapiro et al., 2017; Shapiro et al., 2018; Shapiro et al., 2015; Shapiro et al., 2013). Similar to their peer non-athlete transfer students, student athletes who intend to transfer to a four-year institution after completing their academic studies or athletic eligibility at a two-year institution should experience similar results.

Multiple issues may affect the successful transition—and subsequent degree completion—for students who utilize the 2+2 pathway program offers at junior and community colleges. Programs that improve upper division preparation, and provide seamless pathways, have been shown to ease the transition process. State mandates that require two and four-year institutions to work together have also been identified as positively affecting student success in
transferring between institutions (Boswell, 2004). However, some of the issues affecting the successful transition from two to four-year institutions are innate to the individual.

**Graduation and academic success.** A myriad of factors contribute to the successful completion of a baccalaureate degree for students who transfer to a four-year institution after the student's initial entry to post-secondary education at a two-year institution. Variables such as gender, race, full-time/part-time status, and previous degree completion all affect how a student will perform academically after transferring from a two-year to a four-year institution (Melguizo & Dowd, 2009). Further where a student transferred had a direct correlation to the successful outcomes for the individual student (Shapiro et al, 2018). Institutional type, (public, private nonprofit, private for-profit) and Carnegie Classification (baccalaureate granting, masters/doctoral-granting) all affected the successful outcomes for the individual student in similar manners as the demographic factors previously mentioned (Jacobs & King, 2002; Jenkins & Fink, 2016). Most notably, students who completed an Associate’s degree prior to transfer and subsequently enrolled full-time at a public four-year masters/doctoral degree-granting institution graduate with a baccalaureate degree at substantially higher rates than other transfer students who began their post-secondary careers through a two-year institution and did not earn a degree or credential prior to transferring (Crook, Chellman, & Holod, 2012; Ehrenberg & Smith, 2004; Kopko & Crosta, 2016; Shapiro et al., 2013).

Students who transfer from a two-year institution to a public four-year institution make up the largest portion of the transfer student cohort. Roughly 73% of all students who transferred from a two-year to a four-year in the Fall 2019 student cohort did so to a public four-year institution (Shapiro et al., 2017). The success of students who transfer from a public two-year institution to a public four-year institution may be due in part to increased articulation
agreements in place in many states between the two institutional types (Anderson, Sun, & Alfonso, 2006). Anderson, Sun, & Alfonso (2006) indicated that full-time students have a 50% higher chance than their part-time counterparts of completing their degree by the six-year enrollment mark after transferring to the four-year institution.

Of all students’ transferring to a four-year institution after the initial entry of post-secondary education at a two-year institution for the Fall 2010 cohort, those who transferred to a public four-year institution saw baccalaureate completion rates of 46% within six years of enrolling at the community college (Shapiro et al., 2018; Shapiro et al., 2017). Slightly lower completion rates (39%) are reported for the same entering cohort of students transferring to private nonprofit four-year institutions (Shapiro et al. 2013). However, students transferring to four-year for-profit institutions have the worst completion rates (9%) of all students who utilize the transfer process to access baccalaureate degree completion. The completion rate numbers for students transferring to private for-profit colleges are strikingly different than those reported above for students transferring to public or private nonprofit institutions. The disparity in completion rates between the nonprofit and for-profit institutional models might be due to a lack of acceptance of previous course work toward a degree by the for-profit institutions or a lack of institutional programming to support the student in the transition process. Not allowing a student to receive credit for previous course work may inhibit or lengthen the time toward degree completion deterring the student from enrolling for a subsequent semester (Maliszewski Lukszo & Hayes, 2020). Further, a lack of support programming geared toward transfer students may inhibit the student from successfully assimilating into their new environment (Umbach, Tuchmayer, Clayton & Smith, 2019). Lack of successful assimilation may lead the student to leave the institution and not persist until completion of a degree.
Student Athletes

Currently, at all levels of NCAA participation, almost half a million students participate in NCAA sponsored sports (NCAA Media Center (2018). In the highest level, Division I, over 180,000 individuals participated in the 2018-2019 academic year (NCAA, n.d.). Of all the student athletes participating in Division I related activities in the 2017-2018 academic year, a portion will do so at an institution other than where they began their post-secondary career. In the most recent report (NCAA, 2019), 25.9% of all Division I student athletes were listed as transfer students. Of those 11.1%, or more than 5,000, began their post-secondary careers at a two-year institution (NCAA, 2019). Additionally, with the advent of the NCAA transfer portal in 2018, these numbers are growing and are bound to only grow larger (Johnson, 2019). Therefore, student athletes may face challenges similar to their peers when transferring to a new institution and are not immune to various challenges associated with working toward the completion of a baccalaureate degree. See Appendix B.

Issues student athletes face. There are many challenges student athletes face on their path to degree completion. Issues related to financial resources (Desrochers, 2013), academic dishonesty (Baker, 2008; Christy, Seifried & Pastore, 2008), racism (Brooks & Althouse, 2013), and individual stress (Stevens, Loudon, Yow, Bowden & Humphrey, 2013) all affect the success and academic outcome of the individual athlete.

A vast array of literature addresses these concerns at colleges and universities across this nation (Comeaux & Harrison, 2011; Fowler & Maldonado, 2015; Gayles & Hu, 2009; Gill, 2015; Horton, 2009a; Horton, 2009b; Stone, Harrison, & Mottley, 2012). The literature suggests in some instances collegiate athletic participation helps mitigate some of the previously mentioned issues for the student athlete. Specifically, participation in collegiate athletics may
provide financial incentives or additional avenues for individuals who historically choose not to attend college (Boulard, 2008). For these individuals, such as those from under-represented backgrounds, athletic participation has been argued to be the positive factor in their decision to attend college (Boulard, 2008; Castaneda, Katsinas, and Hardy, 2006; Horton, 2009a). In addition, participation in athletic programs at a college or university provides student athletes a support system not offered to other students (Cigliano, 2006; Horton, 2009a; Horton, 2009b). Support systems include mentoring by coaches and other athletic administrative staff (Horton, 2009a) and have been argued to assist in the social integration of the student into the institutional community (Astin, 1975; Tinto, 2012). Even with these support networks, student athletes experience some unique hurdles in the successful transition to the institution and completion of their academic course. These hurdles are related to financial resources, academic dishonesty, racism, and individual stressors.

**Financial resources.** A recent report by the Delta Cost Project (2013) noted that Division I athletics at public four-year institutions spent 6 billion dollars in the fiscal year 2010. When broken down per student this expenditure represented over $90,000 being spent per student athlete compared to $14,000 per non-athlete student. Studies show increased spending on academic support programs per student helps promote academic success and persistence toward degree completion (Millea, Wills, Elder & Molina, 2018; Ryan, 2004). While a portion of the finances being spent by colleges and universities is directed toward student athlete academic services (Thamel, 2006), much of the money spent is used to improve athletic facilities and other related costs (Denhart & Ridpath, 2011; Tsitsos & Nixon, 2012). In a time of increasing budget cuts in higher education (Mitchell, Leachman & Masterson, 2017; Olliff, Palacios, Johnson & Leachman, 2013; Webber, 2017), it has become harder to justify the large expenditures on
collegiate athletics and student athletes without justification. Higher education budgetary challenges—combined with other issues faced by student athletes—may force institutions and athletic departments to address current academic policies or further justify expenditures for programing geared toward student athletes, transfer and non-transfer alike.

**Academic dishonesty.** Academic dishonesty is a problem that plagues not only the general student population, but also the student athlete population. Recent academic scandals have rocked many institutions. Over the last 5 years at least 30 institutions have received public reprimands related to NCAA academic misconduct investigations (New, 2016). Examples of these institutions are the University of North Carolina (NCAA, 2017) involving “paper course” that did not meet or require students to submit academic deliverables, the University of Louisiana Monroe (NCAA, 2018) where coaches completed course work for multiple students, and the University of Southern Mississippi (NCAA, 2016) where coaches traveled to the homes of prospective Junior College student athletes to complete their course work and ensure their academic eligibility for future NCAA DI completion after transfer. Student athletes may feel pressured by coaching staff or administrators to engage in academically dishonest actions. Such actions, or inactions, by the student athlete, may be connected to pressures to perform academically combined with the pressure to balance their academic, athletic, and social life. Transfer student athletes may feel increases in these pressures due to adjusting to a new schedule, new coaches and teammates, and academic policies at the new institution.

In response to academic dishonesty, the NCAA has placed more scrutiny on academic eligibility (NCAA, 2016). The NCAA has raised the academic performance standard student athletes must meet in order to remain eligible for athletic participation. This affects not only which individuals may participate and where they participate but might also affect which
academic majors student athletes choose and in what courses they enroll (Grasgreen, 2012). This may have a direct effect on how the individual student performs academically and if that student graduates.

**Racism.** Collegiate athletics is not immune to the external social forces of racism. In 2015, multiple instances of racism affected the University of Missouri campus community. Students at the university protested the administration's lack of action regarding the acts of racism demanding the president of the institution step down. After no response from administrators, the University of Missouri football team refused to participate in any further games until the current president of the institution stepped down (Nadkarni, 2015). While this may be the first instance of an entire high-profile collegiate sports team refusing to participate in intercollegiate athletic events, it is not the first instance of racism in collegiate sports. Previous studies have examined the issues of racism in collegiate athletics (Agyemang, Singer, & DeLorme, 2010; Beamon, 2014). These studies concluded that negative experiences associated with racism were related to stereotyping and name-calling by spectators (Beamon, 2014). Further, the studies found that little meaningful interaction beyond competition was experienced by minority student athletes (Beamon, 2014; Sato, Hodge, & Eckert, 2017). The lack of interaction harkens back to the early 20th century concerning minority participation in collegiate athletics. Even though a few African American athletes were able to attend public colleges and universities as far back as the 1920s and 1930s, most if not all were withheld from participation against southern teams (Brooks & Althouse, 2013). While it has been argued that athletics can open the door to post-secondary education for individuals of minority status, many may feel exploited by the institution after their playing days are over (Beamon, 2008; Gatmen, 2011). Further, they may feel it is part of their job as a student athlete to advocate for the civil right of
others (Agyemang, Singer, & DeLorme, 2010) further aggravating an already stressful experience.

**Individual stressors.** Finally, student athletes feel the stressors of any college student. However, their levels of stress may increase due to time constraints of having to balance class, practice, study schedules, and other athletic-related activities. (Downs & Ashton, 2011).

According to the literature (Dubuc-Charbonneau & Durand-Bush, 2015; Watson, 2016; Wilson & Pritchard, 2005), student athletes may also experience increased stress due to the additional demands placed upon them through academic eligibility requirements for NCAA participation and competition, poor performance, or the loss of star status, and season or career-ending injuries. Unlike their non-athlete peers, student athletes need to account for not only practice time, but also time for travel and competition time in their weekly schedules. While practice, completion, and travel for athletic competitions can make it more difficult to schedule time for study, other factors associated with mental well-being (poor performance, loss of star status, injury) may make it difficult to concentrate or focus when trying to study.

A recent study by Malinauskas Dumciene and Lapeniene (2014) found that an increase in stress resulted in a decrease in life satisfaction. The study suggested the decrease in life satisfaction was related to decreases in social connectedness. Another study showed depression related to decreases in social connectedness is a major concern in college athletic departments (Armstrong & Oomen-Early, 2009). These two issues, depression and loss of social connection, may have a dramatic effect on the academic success of student athletes and their chance of successful completion and graduation from college.
Transfer Student Athletes

Research indicates not all student sub-groups fair the same when addressing academic success (Comeaux, 2010; Cooper & Hawkins, 2014; Pascarella & Terenzini, 2005). While student athletes have previously been studied as a student sub-group, such studies often only delineate the student athlete population by demographic identifiers. (Cooper & Hawkins, 2014; Harper, 2009; Horton, 2009a; Horton, 2009b). Limited research has been found addressing two-year transfer student athletes as the subject group (Cooper & Hawkins, 2014). Most research concerning student athletes as a student sub-group does not delineate initial college entrance points for transfer student athletes (Cooper & Hawkins, 2014; Harper 2009; Richards, Holden, & Pugh, 2016). By not addressing where a student entered post-secondary education the current literature views all transfer student athletes as a homogenous group.

In general, participation in collegiate athletics can lead to academic persistence (Le Crom, Warren, Clark, Marolla, & Gerber, 2009). However, research concerning how the initial point of entry to post-secondary education affects the academic success of student athletes in their pursuit of completing a baccalaureate degree remains elusive. This gap in the literature ignores the issues that may face transfer student athletes on their path to completion of a baccalaureate degree such as academic performance, persistence, and institutional support (Richards, Holden, & Pugh, 2016).

Summary of Literature

Students are increasingly choosing to enter post-secondary education through two-year institutions, with roughly a quarter of those students transferring to four-year institutions (Fletcher, 2014). Those students choosing to initially enter post-secondary education at a two-year institution and utilize the transfer process to access baccalaureate degree completion have
previously been studied. The results of the research provides positive results in support of the
transfer process in aiding access to baccalaureate degree completion.

Athletics are an integral part of the post-secondary experience at both two-year and four-
year institutions. Athletic participation provides an increased incentive for students of
historically disadvantaged backgrounds to choose to attend college (Boulard, 2008). This group
of students has generally been studied as a homogenous group. When the student athlete group
has been studied by delineation of demographic factors, where the student athlete entered post-
secondary education is rarely addressed. More specifically, even though the transfer student
athlete sub-group has been mentioned in the literature it is rarely been done so in more than
passing. Currently, the sub-group transfer student athlete has rarely been the subject group of any
scholarly literature. Subsequently, there still remains a gap in the research literature concerning
the transfer student athlete sub-group. Therefore, comparisons of two-year transfer student
athletes to non-transfer student athletes remain a viable research topic (Cooper & Hawkins,
2012).

**Theoretical Framework**

This study relies on the theoretical foundations of Schlossberg’s (1981) Transition
Theory. Transition theory attempts to explain how individuals respond to different stressors felt
during the transition, or movement, from one life stage to the next. Using this theory will help
explain how stressors involved in a student moving between levels of education affect the
outcome of the student as they “move in, move through, and move out of” (Gamez, 2017, p. 72)
the institution.

The individual’s movement through different life stages is an ongoing process. The
movement from one life stage to another is known as a transition (Schlossberg, 1981). As the
individual progress through life, they experience many transitions. Often the individual will experience multiple transitions simultaneously. Starting a new job, marriage, or divorce, moving to a new town, graduating high school, or entering college are all examples of life transitions. These transitions can be expected or unexpected, negative, or positive, and are unique to the interpretation of the individual experiencing the transition (Schlossberg, Lynch, & Chickering, 1989).

When applied to student development, transition theory can assist in the understanding of how a student progresses, or transitions, from one educational institution to another. Gayles and Baker (2015) used transition theory to address challenges in the transition of student athletes from high school to college. Similar to all students, the challenges student athletes faced in transition were related to social adjustments, loneliness, and stress (Gayles & Baker, 2015). On top of these stressors, student athletes transitioning from high school to college also faced additional stressors of academic requirements for athletic academic eligibility, athletic participation, and increased social role due to athletic status on campus. The current study addresses a similar student athlete movement between institutions but at a different point along the educational pipeline. While Gayles and Baker (2015) looked at student athletes transitioning from high school to post-secondary institutions, this study identifies student athletes transitioning from two-year post-secondary institutions to four-year postsecondary institutions and enrolling as upper division (juniors and seniors) students.

**Schlossberg’s Transition Theory**

Originating from the field of psychology, Haviid and Zittoun (2008), describe transitions as “catalyzed change due to rupture, and aiming at a new sustainable fit between the person and current environment” (p. 123). In the case of transfer students, the “catalyzed change” or
“rupture” is the exit of one institution and entrance to another. Like their peer nonathlete students, and similar to the student athletes studied by Gayles and Baker (2015), student athletes transitioning from a two-year to a four-year institution will experience multiple “ruptures” simultaneously as they transition to their new environment (Gayles and Baker, 2015; Haviid and Zittoun, 2008).

Schlossberg believed her theory to be a “vehicle to analyzing human adaptation to transition” (Evans, Forney, & Guido-Dibrito, 1998, p.110; Schlossberg, 1981) and a means to assist those in transition in “connecting to the help they need to cope with the ordinary and extra ordinary process of living” (Schlossberg, 1984, p. vii). To better understand Schlossberg’s (1981) theory, a few terms need to be defined. As defined by Goodman, Schlossberg, and Anderson, (2006), and Anderson, Goodman, and Schlossberg (2011), the key terms to define are: transition, anticipated, unanticipated, nonevent, crisis, role, and impact. According to Goodman et al. (2006, p. 33-39), the definition of each is as follows:

- Transition – any event, or nonevent, resulting in changed relationships
- Anticipated Transition – transitions that are predictable
- Unanticipated Transitions – transitions that are not predictable
- Nonevent – transitions that are expected but do not happen
- Role of perception – a transition only happens if the individual perceived to experience it
- Impact – is the degree to which an individual determines a transition affects an individual’s daily life

**Transition.** An individual’s response to transitions is as diverse as those experiencing the transition. Schlossberg (1981) believes individuals not only react differently to similar changes
but the “same person may react differently to different types of changes or even to the same type of change occurring at different times in life” (p.2). A student transitioning from high school to college may respond differently at a later date to a similar educational transition of transitioning from a two-year institution to a four-year institution. Similarly, holding all variables constant, a student athlete may respond differently than the non-athlete student when transferring to, and from, the same schools.

Often transitions have both positive and negative effects. For example, an individual transitioning from high school to college would experience the positive outcome of graduating high school and enrolling in college. However, if the individual needs to move away from home to enroll in college they may experience the negative outcomes of loss of familial support groups and loneliness. Similarly, a student athlete transitioning from a two-year institution to a four-year institution may feel the positive outcomes of increased levels of competition but also the negative outcome of loss of teammates, new team rules, and/or not being the star athlete.

**Adaptation.** Adaptation as defined by, Schlossberg (1981), is the “process during which an individual moves from being totally preoccupied with the transition to integrating the transition into his or her life” (p. 7). Indicating adaptation is a process, Schlossberg (1981), breaks away from previous static psychological views measuring an individual in their environment at a single place and single time. Because transition takes place over a period of time, it is inadequate to measure it at a single point in time. Hill (1965) explains human adaptation by stating the “event occurs, the individual ‘dips down’ into a period of disorganization, gradually ‘rises up’ again, and levels off into a period of reorganization” (as cited in Schlossberg. 1981. p. 7). This statement indicates, that through transition and adaptation, individuals are constantly feeling disruptions in their environments while seeking to regain
stability, or social equilibrium. Further, Schlossberg (1981) believes “ease of adaptation to a transition depends on one’s perceived and/or actual balance of resources to deficits in terms of the transition itself, the pre-post environment, and the individual’s sense of competency” (p. 7). When applying this to student athletes the transition from one institution to another may create additional “shifts, ruptures, or relocations” (Haviid & Zittoun, 2008, p. 2) in the perceived world of the individual. Due to the added academic demands of being a student–athlete, these individuals may further need to navigate additional issues of adaptation as compared to their native or non-athlete peers. Similar to other transfer students, student athletes matriculating to an institution after their entrance with a first-time freshman cohort may feel stressors related to navigating a new institutional process, building relationships with faculty, and creating a new support network. However, similar to student athletes who transition from high school to a four-year institution, a collegiate transfer student athletes transition from two-year to four-year institutions may also face the additional stressors related to loss of star status, lack of playing time, adapting to new coaching styles, and building new team relationships (Wilson & Prichard, 2005).

**Conceptual Framework**

There are many models to assist in explaining the academic performance of students who utilize the transfer process in accessing a baccalaureate degree (Bonanni, 2015; Melguizo & Dowd, 2009; Reid & Moore, 2008). Students moving through post-secondary education have been a topic of research for decades (Tinto, 1975; Tinto, 1992; Tinto 1993). Transfer students have also been a topic of study (Jenkins & Fink, 2015; Laanan, 2007; McLaughlin, McLaughlin, McLaughlin, Howard & Whalen, 2016). Further, transition theory has been used to address student athletes’ transition from high school to college (Flowers, Luzynski & Zamani-Gallaher,
This research takes into account previous research regarding how students progress through post-secondary institutions. However, this research will use transition theory as a framework to specifically address those student athletes who transfer to a four-year institution after initially enrolling at a two-year institution.

Previous research has used the ideas of Schlossberg’s (1981; 1985) Transition Theory as a foundation to explain the academic outcomes of students who choose to enter post-secondary education (Adelman, 2006; Horton, 2009, Lawrence, Mullin & Horton, 2009). Further, research has indicated how transition theory plays a role in the academic outcomes of student athletes entering post-secondary education at post-secondary institutions (Gamez, 2017; Gayles & Baker, 2015; Volet & Jones, 2012). However, the previous research falls short in how the transfer process from a two-year institution to a four-year institution affects the individual as they move through post-secondary education. Transition theory will be used to address these issues and serve as an approach to conceptualize its meaning.

Based upon the literature review of this study, transition theory is an ideal framework to address how transfer students perform academically compared to their native student athlete peers. The desired effect of such expenditures is to provide the student athletes with the tools necessary for the successful completion of their desired degree program. An increasing number of students are beginning their initial post-secondary careers at two-year campuses and utilizing the transfer pathway to access four-year institutions. Similar to their peers, student athletes are using this pathway to access four-year institutions as well. Further, similar to the stressors addressed in previous studies (Gayles & Baker, 2015) student athletes who begin at two-year institutions may also face a state of crisis upon the event of transferring to a four-year institution in order to continue competing athletically at the collegiate level. Therefore, the needs of two-year
transfer student athletes may be vastly different than their peer non-transfer counterparts. Transition theory will assist institutions and athletic departments in better understanding the needs of transfer student athletes and assisting them in moving through, (persisting until graduation) and moving out of (completion of academic plan) the institution.
Chapter 3: Data Collection and Research Design

For this study, transition theory was used as a conceptual lens in addressing how upper division students at four-year colleges and universities compare academically based on transfer status. Students who enroll at a two-year institution prior to classification as a junior or senior at a four-year university were compared to those students who entered at a four-year university and did not transfer prior to being classified as a junior or senior. Each group was further divided into sub-groups based on demographic characteristics, level of financial aid, and environmental factors. Identifying these individual characteristics, environmental, and financial variables will help further explain the transfer experience of student athletes. This study conceptualized academic success as those students who graduate or do not graduate. To achieve this end, this study used logistic regression to better understand:

- individual demographic predictors of academic success,
- the influence of race, gender, major, level of financial aid, socioeconomic status, and environment have on the academic success of transfer student athletes, and
- the pre and post-college entry predictors of that attrition.

Next, this chapter describes the data collection process. Data sources are included in the discussion of the collection process followed by the identification and explanation of the dependent and independent variables. Justification for each selected variable is provided in the discussion. Next, the coding of the collected data is explained. This section includes a brief description of variable types. Additionally, how they are coded is provided along with an explanation of the research design. It includes a description of the statistical test that is used for this research. The following two research questions guide the study:
1) How do upper division transfer student athletes compare academically to their peer native student athletes?
   A) What effect, if any, does race, gender, socioeconomic status, and major play in these differences?
   B) What effect, if any, does institutional support have on these differences?

2) How do upper division transfer student athletes compare to their peer upper division non-athlete transfer students?
   A) What effect, if any, does race, gender, socioeconomic status, and major play in these differences?
   B) What effect, if any, does institutional support have on these differences?

**Data Collection**

Secondary data is analyzed for the purposes of this study. A request was made with three regional public university registrar’s offices for student data. The researcher was required to make a formal request to acquire the needed data from each institution. All institutions included in this study routinely collect and store the required student data for this study. Institutional collection not only increases the ease at which the required data can be collected, but also increases the reliability and validity of the data used for this research. All three institutions are member institutions of the same statewide university system and are therefore bound by similar policies concerning the collection of student data. Two of the institutions utilize the same student data management software: Ellucian BANNER database, a proprietary student information system. The employment of similar database management systems increases the likelihood of similar methods of data collection and delivery and ease of access for the researcher. The third institution uses PeopleSoft as a database management tool. Data was gathered from this
institution in a similar fashion to the other two institutions. However, special care was given to ensure data sets are constructed in an identical fashion for all three institutions.

With the assistance of staff members in each institution’s registrar’s office, the requested data was extracted from the databases. To achieve the extraction of student data, individual database queries at each institution were created and processed. Data for this study was requested as a snapshot of the fall 2016 semester cohort for the 2016-2017 academic year. The data query includes categories for individual student level characteristics of race, gender, major, athlete/non-athlete status, participant sport, and financial aid status. Major was used to identify an individual’s academic degree plan. Participant sport was used to identify the level of financial aid by identifying head count versus equivalency sports as per NCAA rules (NCAA, 2016). Finally, financial aid was used to identify awarding of a Pell Grant. Pell Grant status data was used to conceptualize identified characteristics of SES.

In addition, a public records data request was made to the appropriate individual or office at each institution. The public information request included information requests for names and titles of all athletic department staff for each semester for the same academic year (2016-2017) as the request for student data. The public information request was used to identify the numbers of full-time athletic academic support staff and full-time coaching staff for the sample years identified for this study.

Sample Population

The sample in this study is all former students who attended three regionally accredited institutions in Louisiana. Specifically, longitudinal data for all former students who enrolled in their 3rd (junior) year at each of the participating institutions in the fall 2016 cohort was requested. Requested data included students entering their 3rd or junior year until departure from
institution, graduation, or otherwise. Because student athletes are not allowed to receive athletically related financial aid for more than 5 years, non-athlete students not completing academic studies by the end of their 5th year were considered non-completers for this study. Additionally, because this research focuses on the academic success of student athletes who have transitioned from two-year to four-year institutions, students in their 1st and 2nd years of post-secondary enrollment were excluded. While it is possible for students to transfer after the beginning of their 3rd year of enrollment, institutional and NCAA rules governing academic progress and eligibility greatly decrease the chance of this occurring. Further, focusing on former upper division students at four-year institutions assists the researcher in capturing those students who successfully completed general coursework requirements at a two-year institution and subsequently transferred to a four-year institution in continuation of their academic pursuits.

Once the sample population for this study is identified, additional data related to transfer status was added to the sample. This data allowed the researcher to divide the sample population into transfer and native populations. The name, or institution code, of the previous institution attended was requested. The previous institution name variable assisted the researcher in identifying which transfer students attend a two-year institution immediately before matriculating to the four-year institution. Additionally, the number of transferable credit hours was also requested for each individual. The number of transferable credit hours further assisted the researcher in narrowing down which transfer students were viable candidates for the purposes of this study. Lastly, in the sample population data collection process the researcher collected individual level demographic and characteristic data related to the independent variables identified for this research. Individual level variables include athlete status, race, sex,
academic degree plan, financial aid, full-time equivalent athletic academic advisors, and the number of coaches per individual.

**Institutional Context**

Data for this study originated at three regional institutions in the southeastern portion of the United States, the University of New Orleans (UNO), the University of Louisiana at Lafayette (ULL), and Nicholls State University (NSU). UNO and ULL are regionally accredited doctoral-granting institutions, while NSU is a masters granting institution. UNO and ULL are classified by the Carnegie foundation as R2 Doctoral Universities: High Research Activity. NSU is classified as a master’s granting institution. All three institutions also house an NCAA Division I athletic program. UNO and NSU participate as members of the Southland Conference. ULL participates as a Sun Belt Conference member. ULL and NSU both have football programs. UNO does not offer football. However, UNO is the only institution that participates as a non-football member.

UNO sponsors 14 athletic teams, 7 men’s and 7 women’s teams, and is a member of a Football Championship Subdivision (FCS) conference. ULL and NSU sponsor 16 sports, 8 men’s and 8 women’s. ULL is a member of a Football Bowl Subdivision (FBS) non-autonomous, conference, while NSU participates in a Football Championship Subdivision (FCS) conference. The level of NCAA Athletic competition is important as it helps the researcher better understand the resources, financial or otherwise, that are available within a particular athletic department. Similar to their parent institutions, athletic departments make operational decisions based on available revenue.

According to data collected from the Knight Commissions (College Athletics Financial Information Database, 2019) Collegiate Athletics Financial Database for the years 2005 to 2017,
the selected institutions, while all sponsoring athletic teams participating at the NCAA DI level, do so with vastly different financial support. When looking at total athletic department expenditures per institution (refer to Graph 1), there are major variations in the total expenditures between the three institutions where data was collected. It should be noted Graph 1 shows two instances where UNO reported no expenditures for their athletic programs: 2009 and 2011. In 2009 UNO received an exemption from reporting due to Hurricane Katrina. In 2011, UNO participated at the NCAA DII level, and therefore information for athletic expenditures is not included in the College Athletics Financial Information Database.

Graph 1. Athletic Department Expenditures

On average, the variation in athletic department expenditures correlates to the overall financial differences between football and non-football institutions, and FBS vs FCS programs (refer to Graph 2). Further, the financial differences in athletic department expenditures are similar to total institutional expenditures on academics (refer to Graph 3). However, in the instance of the three selected institutions, the institution that does not sponsor an NCAA DI
football program (UNO) is spending more on academics than its sister NCAA DI counterpart (NSU) that sponsors football at the FCS level.

Graph 2. Monetary Athletic Expenditures

It should be noted that Athletic department revenues as reported by the Knight Commission (College Athletics Financial Information Database, 2019) includes all athletic department expenditures, including staff and administrative salaries, medical expenses, travel, academic support, team expenses, and other operational expenditures. While it is not possible to delineate exact athletic departmental expenditures related to academic support and programming to assist those student athletes in transition, the data from the Knight Commission (Knight Commission (College Athletics Financial Information Database, 2019) provides a good sightline of departmental and institutional access to financial resources. Access to financial resources was used to address the pre and post-transition environments as described in Schlossberg’s (1981) Transition Theory. This application of this data will be expanded upon in the Variables section of this chapter.
Similar to Athletic Department expenditures, institutions spend financial resources on academic related expenses. These expenditures provide a similar insight into resources available to students regardless of athlete status. All three institutions being studied for the purposes of this research are members of the University of Louisiana System (ULS). ULS hosts a “Data Dashboard” (Data Dashboard, 2019) on its website containing the operating budgets of its member institutions as self-reported by the institution to the Integrated Postsecondary Education Data System (IPEDS) (refer to Graph 3).

**Graph 3. Institutional Academic Spending**

While all three institutions have data related to institution expenditures for the date range (2005-2017) similar to data related to athletic expenditures from the College Athletics Financial Information Database (2019), data for UNO does not begin until 2010. Prior to 2011 UNO was a member of the Louisiana State University System, one of the 4 post-secondary education systems in the state of Louisiana. In the summer of 2011, the state legislature of Louisiana approved Act 419 of the Regular 2011 Louisiana Legislative Session which “provided for the transfer of the University of New Orleans to the University of Louisiana System” (2011, p. 1).
Therefore, institution operational budget data was not collected by the ULS for UNO prior to this date.

**Variable Selection**

When selecting variables for this study, the researcher was guided by Schlossberg’s (1981) Transition Theory. While closely following her outline of variables, this research departs in various ways. Most notably, the variables selected for this study differ slightly from those identified by Schlossberg to better address issues related to post-secondary education transfer and student athletes. The departures and variable selection will be explained in the following paragraphs.

Schlossberg (1981) identified three major influences affecting the successful adaptation of the individual in transition: perceptions of the transition, characteristics of the pre-transition and post-transition environments, and characteristics of the individual (refer to Figure 1). Of the three, only two were addressed by this study: characteristics of the pre-transition and post-transition environments and characteristics of the individual. These two influences of Schlossberg’s theory can be measured quantitatively and therefore were included in this research. The primary focus of this research will be how the characteristics of the individual affect successful adaptation after transfer. However, because of data availability, how institutional differences affect transfer was also analyzed.

Tinto (1982) argued, “current theory cannot do or explain everything” (p. 688). As such, some of Schlossberg’s transition theory variables were left out of this study. Data regarding individual perceptions were not being collected for this research. Therefore, the perceptions of the individual, while important in successfully adapting after transferring, are not discussed in this study.
Figure 1. A model for analyzing human adaptation to transition (from Schlossberg, 1981, p.5).
Independent Variables

The motivation of this research is to understand the academic success differences, if any, between two-year transfer and native four-year student athletes. According to Schlossberg (1981), individual and institutional characteristics influence how an individual adapts to the transition process. Similar to Schlossberg’s theory, individual student characteristics will be included as independent variables in this study. The inclusion of individual characteristics as variables is also justified by current literature on degree completion suggesting a relationship between race, gender, major, sport of choice, and SES (Doughtery & Kienzl, 2006; Bailey, Calcagno, Jenkins, Leinbach, & Kienzl, 2006; Pascarella & Terenzini, 2005). Independent variables associated with student characteristics were dummy coded with the majority representation serving as the reference group.

**Individual variables.** Variables identified to assist the researcher in conceptualizing the characteristics of the individual followed the same variables as outlined by Schlossberg (refer to Figure 1). Variables identifying an individual’s sex, race/ethnicity, and socioeconomic status were collected to align with how Schlossberg identifies her listed characteristics. Schlossberg’s (1981) variables of age and state of health were not used for this research. Due to NCAA rules, the majority of students participating at the NCAA DI level will more than likely be of a homogenous age and level of health. While variations to these two variables do exist, they are few and far between.

Other individual characteristic variables not specifically listed by Schlossberg but of importance were also identified and collected. They replaced the variables excluded in this research to provide a more holistic view of the characteristics of the individual student. Because this research focuses on transitions of student athletes in post-secondary education, those
variables related to an individual’s academic degree plan, level of financial aid, number of the full-time coaching staff for the individual, and number of full-time equivalent academic staff in the athletic department were also collected. These additions to the variables listed by Schlossberg (1981) make transition theory more applicable to the transition of student athletes in the post-secondary educational setting.

**Academic degree plan.** Due to the large number of majors from which to choose, the academic degree plan was constructed as dichotomous variable. Dummy variables were constructed to represent those students who pursue a general studies degree and those who do not. Each institution studied as a part of this research has a general studies degree. ULL offers the Bachelor of General Studies (BGS), Nicholls State offers the Bachelor of Interdisciplinary Studies (BIS), and UNO offers the Interdisciplinary Studies degree (IDS). These degrees are designed to be more fluid in curriculum design offering the student “cross-disciplinary connections across all disciplines to help students realize their academic, personal, and professional aspirations (NSU, n.d.)”, the ability to “get the education you want by customizing your curriculum (ULL, n.d.)”, and “the flexibility of a curriculum designed to balance work and life responsibilities with educational opportunities (UNO, n.d.).” For students transitioning to a new institution, especially student athletes who have NCAA eligibility requirements to meet, the general studies major becomes a viable option to gain admission and retain eligibility for athletic competition.

The major designation General Studies was chosen due to NCAA eligibility requirements for competition. Flowers, Luzynski, and Zamani-Gallaher (2014) note, “Although it is not unusual for transfer students in general to experience issues related to credits not transferring, NCAA requirements placed an additional burden on these students” (p114). Students who enter
their third year of post-secondary attendance must have completed at least 40% of the academic requirements for their degree of choice. In most cases, this equates to 48 semester credit hours completed in a 120-credit semester hour major. For a student transferring from a two-year to a four-year institution, this requirement combined with GPA requirements makes general studies majors a viable option for many students (McCormick 2010; Schneider, Ross & Fisher, 2010). Therefore, the academic degree variable was conceptualized into 2 categories: general studies and not general studies.

**Level of financial aid.** Participant sport information was collected for each individual. This data provided information regarding the level of athletically related financial aid offered to the student athlete. The NCAA defines athletically related financial aid, or grants-in-aid (GIA), as, “financial aid based in any degree on athletics ability” (NCAA, 2020). Currently, the NCAA defines two types of GIA: head count and equivalency (NCAA, 2020). Head count sports offer full cost-of-attendance scholarships based on the allowable “counters” or individuals per team. Equivalency sports have a set number of GIA’s, however, each GIA can be divided among more than one player. Specifically, where the star quarterback on the football team (head count sport) and the punter will both have full GIA, the starting pitcher on the baseball team (equivalency sport) may have a GIA covering 90% of his college attendance costs while the backup catcher only receives a stipend for books.

**Environmental variables.** In her theory, Schlossberg (1981) indicates pre and post-transition environments influence successful adaptation after transition. In this instance, the environments Schlossberg describes are the post-secondary institutions where the individual student athlete is enrolled. The sample for this study includes only those students enrolled in the fall 2016 cohort whose last institution of attendance was a two-year institution. No information
regarding the pre-transition institution was requested outside of the institution's name or institutional code. Therefore, this study focuses only on the student’s assimilation into the post-transition environment.

Research has shown the correlation between the financial resources of an institution and the academic success of its students (Carhart, 2016; Cobb-Clark & Jha, 2016; Ryan, 2004). Institutional supports such as academic support programming and programming designed to assist students in transferring to a new institution may be offered at the new institution. Such programming, academic, transition, or otherwise, has been shown (Acevedo & Zerquera, 2016; Messineo, 2012) to assist students in acclimating, and thereby successfully transitioning, into their new environments. These types of support programs are accessible to all transfer students. However, Flowers, Luzynski and Zamani-Gallaher (2014) state student athletes “operate[d] in a self-contained world of family and athletics and venture out to engage with the wider university community only when they attend class” (p.13). Additionally, they (Flowers et al., 2014) suggests transfer student athletes rely on athletic departmental staff as their institutional support group. Therefore, for the purpose of this study, access to full-time athletic departmental staff will be used to conceptualize the post-transition environment.

As more financial resources are needed by the institution to hire and retain coaches and support staff, this study will use access to support staff as a means to identify increased access of the individual to various institutional supports as described by Schlossberg (1981). Specifically, this research will use the total number of full-time equivalent student athlete academic support staff and the total number of the full-time coaching staff, per sport, to conceptualize the post-transition environment. The respective number of full-time athletic department academic staff and full-time coaches will each be their own independent variable as each group may have
differing effects on the outcome of academic success for the student. These variables are independent of each other because literature regarding the academic success of student athletes often delineates between either the coach (Avery, Cadman & Cassar, 2016; Banwell & Kerr, 2016; Kim, Bloom & Bennie, 2016) or the academic advisor (Huml, Hancock & Bergman, 2014; Otto, Martinez & Barnhill, 2019; Vaughn & Smith, 2018) suggesting coaches and advisors build different relationships with student athletes regarding academic success (Rubin & Moses, 2017; Tashenberg, 2016). Which may lead to different motivations for promoting the academic success of their student athletes.

**Dependent Variable**

The dependent variable in this study is academic success. For the purposes of this research, graduation was used to conceptualize academic success. Therefore, any student who enters post-secondary education and earns a four-year degree was considered successful. There are no other alternatives than graduate or non-graduate. The dependent variable is binary, or “consisting of two things” (Binary, n.d.). Therefore, academic success was labeled as 0 or 1 to signify non-completion or completion of a degree or certificate. A maximum of nine semesters (3 years) from academic classification as a junior was used to measure academic success. The 3-year time frame was chosen for multiple reasons.

First, NCAA policy regulates the amount of time a student athlete can remain eligible for participation. Individuals have 5 years of eligibility from their initial entrance to post-secondary education (NCAA, 2016; NJACC, 2016). The 5-year eligibility rule paired with academic progress toward degree rules (NCAA, 2016) provides a strict guiding policy to compel student athletes to complete their course of study within the 5-year time frame regardless of where the individual student athlete entered post-secondary education.
In addition, student athletes are required to be enrolled as full-time degree-seeking students. All three institutions that are a part of this study have similar definitions for full-time status: 9 and 12 credit hours for graduate and undergraduate students respectively (Nicholls State University, n.d.; University of Louisiana at Lafayette, n.d.; University of Louisiana at Lafayette, n.d.; University of New Orleans, n.d.). Unlike student athletes, non-athlete students do not have a requirement to be enrolled full-time. Because of this difference, only those individuals enrolled as full-time status students were included in the non-athlete student data set.

Coding Scheme

In order to analyze the collected data, all nominal variables (transfer, race, gender, SES, financial aid, and athlete) were dummy coded. The implementation of dummy coding is a traditional means to address nominal variables when addressing nominal variables in a regression analysis (Osborne, 2015). All nominal variables were coded as a 1, 0 dichotomy except for race and academic degree plan. Race, while having more than two listings, was first condensed into white and non-white due to the limited number of instances of race and ethnic identifiers other than white and African American and then converted to a 1, 0 dichotomous variable. Academic major was also first condescended into general studies, not general studies and then converted to a 1, 0 dichotomous variable due coding to NCAA eligibility requirements discussed previously in this chapter.

Lastly, to best capture the environmental aspect of access to athletic department staff, the actual number of student athletes and athletic departmental staff were converted to an independent variable. More specifically, the independent variables full-time athletic academic staff and full-time coaching staff were combined to form a new independent variable. Analyzing the full-time academic staff and full-time coaches’ variables independently provides this research
insight into how access to each of the types of athletic staff member affects the chance of academic success of the student athlete. However, by combining the full-time athletic department staff member into one variable to represent the support provided by this institution. This research can better understand how institutional support affects the chance of a student athlete’s academic success.

Table 1. Independent Variables

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<td>Sex</td>
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<td>Full time Coaching Staff</td>
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Similar to the independent predictor variables, the outcome (dependent) variables will also be dummy coded. The outcomes of academic success will be coded as graduate (1 = yes), not graduate (0 = no).
Table 2. Dependent Variables

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</table>

Research Design

The discussed research relies on the usage of logistic regression to predict the possibility of a student athlete’s academic success after transition. Multilevel binomial logistic regression is a statistical method of regression to assist the researcher in “predict[ing] categorical outcomes based on predictor variables” (Field, 2009, p. 265). In this study, Multilevel binary logistic regression was appropriate as there are only two possible outcome variables to conceptualize academic success, graduate or not graduate. To simplify this, the researcher used Multilevel binary logistic regression to predict the likelihood of academic success (graduation) for student athletes transferring to a new institution.

Data Analysis

Data were analyzed in multiple stages. A preliminary analysis was conducted to describe the collected data. The preliminary analysis consisted of a simple descriptive analysis of the data simple of the student characteristics of the provided data sample. (Field, 2013). The simple descriptive statistics provided a rough overview of the collected data and assisted the researcher in more fully understanding any major variances between characteristics of one student group and another. Second, a Chi Squared analysis was conducted to determine the goodness of fit of the data set to the logistic regression model. The Chi Squared test indicated if the sample is representative of the full population (Field, 2013).
Next, two predictive models utilizing multilevel binomial logistic regression analysis were conducted. One analysis focused on differences between transfer and native student athletes. The other model focused on differences between athlete and non-athlete transfer students. These models address baseline predictive differences between the groups analyzed. Additionally, an additional two multilevel logistic regressions including all variables related to characteristics of the individual were conducted. These “individual characteristic” regressions conjoined the individual characteristic variables to the transfer/native status of student athletes and the athlete/non-athlete status of transfer students. These two models address the predictive difference between the characteristic of the individual combined with their transfer/native status of student athletes and the athlete/non-athlete status.

Lastly, and similar to the individual characteristic models, a final two multilevel logistic regressions including all variables related to characteristics of the institution were conducted. These “institutional characteristic” regressions conjoined the institutional characteristic variables to the transfer/native status of student athletes and the athlete/non-athlete status of transfer students. These two models address the predictive difference between the characteristic of the institution combined with the transfer/native status of student athletes and the athlete/non-athlete status.

**Summary of Methods**

Logistic regression is preferred when analyzing data that has dichotomous dependent variables (Cabrera 1994, Field, 2013; Hellevik, 2009). Logistic regression was conducted to identify the effect of post-secondary entrance points, athletic participation, and student characteristic of the academic success of students who pursue completion of a baccalaureate degree. As such the dependent variable has two possible levels, graduate or non-graduate.
Individual characteristics of students (transfer status, race, participant sport, etc.) were addressed to identify what factor or factors have the greatest impact on the successful adaptation, as measured by academic success and graduation, of those students transitioning to a new institution. Because the study's purpose was to predict *what* factors assist students in successfully adapting after transition, quantitative analysis is the appropriate method of research. Specifically, because the purpose of this research is to identify what characteristics *predict* academic success, binomial logistic regression is the appropriate quantities analysis for this study.
Chapter 4: Research Findings

The purpose of this quantitative study was to examine the success indicators of 2+2 transfer student athletes. The data sample came from the fall 2016 enrolled cohort with at least 60 hours of earned credit at three regionally accredited public institutions. After data collection, the data was cleaned to remove outliers, incomplete data, and unreliable entries. Once cleaned, the received data were sorted based upon the athletic (athlete or non-athlete) and transfer status (transfer student or non-transfer student) of the individual. Other variables collected included race, gender, socioeconomic status, athletic-related aid, degree plan, full-time academic staff, and full-time coaching staff.

This chapter discusses the results of the data in four sections. First, a brief description of data cleaning and sorting is discussed. Second, a descriptive analysis of the data is presented. Descriptive analysis was conducted to illustrate the composition of the entire sample as well as a comparison of the primary group (athlete /non-athlete, transfer/non-transfer) composition. Descriptive statistics aided the reader in understanding the composition of the sample data. Third, a goodness of fit test was conducted utilizing chi squared to determine the effect of the data on the results of the study. Chi Squared is an appropriate measure to determine the goodness of fit for binary logistic regression (Field, 2009; William, 1994). Finally, logistic regression analysis was used to identify the best predictors of academic success. Specifically, logistic regression was conducted to answer the questions:

1) How do upper division transfer student athletes compare academically to their peer native student athletes?
A) What effect, if any, does race, gender, socioeconomic status, and major play in these differences?

B) What effect, if any, does institutional support have on these differences?

2) How do upper division transfer student athletes compare to their peer upper division non-athlete transfer students?

A) What effect, if any, does race, gender, socioeconomic status, and major play in these differences?

B) What effect, if any, does institutional support have on these differences?

Two main models and 4 sub-models were examined for the purpose of this study. The first model analyzed the predictors of academic success for transfer athletes vs native athletes. The second model analyzed the predictors of academic success for transfer athletes vs transfer non-athlete. Individual or institutional characteristic variables were conjoined to the variables contained in the main logistic regression models. The sub-models provided information regarding how the individual or institutional characteristics affect the academic success of the four groups of concern in this study. However, before conducting any analysis, the data contained in the sample needs to be screened and cleaned (Osborne, 2013) to ensure the sample is representative of the population.

**Data Cleaning and Sorting**

The purpose of this study was to identify those factors assisting in the academic success of transfer student athletes. Therefore, this study relies on two specific indicators (Transfer and Athlete status of the individual) resulting in four main variables of the study; transfer student, native student, athlete, and non-athlete. To assist in identifying the target population for the purposes of this study only students who had earned at least 60 earned credits by the Fall 2016
term were included in the data set resulting in an initial sample population of 13,658 (n=13,657).

In addition to data identifiers of transfer status, information related to the number of transfer credit hours earned was requested for the data set. Earned transfer hours ranged from zero hours earned (n=4038) to 1 transferable credit hour to 410 transferable credit hours earned (n=9619).

The distribution of the data is presented in Graph 4.

**Graph 4. Transfer Credit with Outliers**

Osborne (2013) states, “it is in the best interest of everyone concerned to screen and clean data and test assumptions” (p. 8). In this instance, data cleaning served to assist the researcher in identifying and eliminating extreme scores, or outliers, contained within the collected sample population data. Hawkins (1980) describes outliers as data or scores that deviate “so much from other observations as to arouse suspicion that it was generated by a different mechanism” (p. 1).
Initial review of earned transfer credit hours listed in the presented such data outliers. A non-athlete saw the highest transfer credit accumulation at 410 credits. The highest transfer credit for a student athlete was 130. Both groups saw individuals with 0 transferable credits. Therefore, earned transfer credit for the sample ranged from 0 to 410. Analysis of the distribution of earned transfer credit hours presented a high positive skew (1.081) and kurtosis of 1.440 falling within the acceptable range of normal distribution (George & Mallery, 2010). However, to address possible issues related to data skew the researcher removed participants who fell outside the assumptions required for the purposes of this study. Specifically, to increase the possibility transfer students (athletes and non-athletes) were a homogenous group those individuals with earned transfer credits outside the norm for student athletes transferring from a two-year to a four-year institution were removed from the sample and excluded from the logistic regression analysis. In doing so the researcher removed all instances of transfer credits earned of less than 48 for the transfer student population (n=4614). This was done due to the NCAA academic eligibility policy requiring student athletes to have completed at least 48 credits prior to entering their 5th semester, or junior year, of full-time enrollment. Student athletes transferring from a two-year institution to upper division status at a four-year institution would need to meet this requirement to be eligible for athletic-related participation at an NCAA Division I institution.

In addition, all instances of transfer credit earned above 110 credits (n=1566) were removed for three reasons; first, credit above 110 presented high value outliers (beyond 1 standard deviation) skewing the outcome of the performed analysis. While it is likely a two-year student athlete might transfer to a four-year institution with more than the 60 hours required for completion of an Associate’s degree, it is highly unlikely they will do so with more than 1
standard deviation (or a total of 110 transfer credit hours) from the average number of transferable earned credits present in the current sample.

Second, most four-year institutions limit the number of junior or community college transfer credits they will accept. The three institutions studied for this research limit the number of transferable credits from a two-year institution accepted toward a baccalaureate degree to 60. While it is true a student athlete may complete more than 60 credit hours at a community college before departure, only 60 would be accepted by the four-year institution.

Third, all three institutions participating in this study have resident requirements for degree completion. The residency requirements ranged from completion of 24 credits to completion of 25% of the total credits required for the degree in residence at the institution. Due to institutional residency requirements is it unlikely a student will transfer with more than slightly over 75% of credits needed for degree completion. When transfer credits earned below 48 and above 110 are removed, the sample size decreases (n=13,657 to n=7477) but becomes more representative by reducing the occurrence of outliers and increasing sample instances in the middle two quartiles (See Graph 5).

In addition, individuals missing any of the requested variables were also removed. After the above analysis was performed, the data set contained an additional 1038 instances of missing information related to degree plan (n = 41) and first-time enrollment (n = 997). All 1038 were removed from the data sample. Once removed, the total sample population was n = 6439. The new sample highlighted those students with transfer credit in the 3rd and 4th quartiles and removed all outliers (See Graph 5). By doing so, the new data set provided a more robust sample by focusing on the population of interest for this study.
When Pearson’s Chi Square test was performed to determine goodness of fit, the remaining data provided values of $p < 0.001$ indicating values were statistically significant and within the range to provide meaning for the outcome.

**Graph 5. Transfer Credit Outliers Removed**

![Graph showing Transfer Credit distribution with outliers removed](image)

**Description of Sample**

This study utilizes primary indicators of transfer and athlete status to identify academic success predictors. Secondary indicators of academic success were also analyzed related to race, gender, socioeconomic status, athletic-related aid, academic degree plan, full-time athletic academic advisor, and full-time coaching staff. The usable data set for this study consisted of
6439 participants. Of that data, the cleaned sample included 6,439 individuals including 2466 (38.3%) transfer and 3973 (61.7%) native students, and 253 (3.9%) athletes and 6186 (96.1%) non-athlete students. When combined the data produces 3,799 (59%) native non-athlete students, 174 (3%) native student athletes, 2,387 (37%) transfer non-athlete students, and 79 (1%) transfer student athletes. See Table 3.

**Table 3. Sample Data Set**

<table>
<thead>
<tr>
<th></th>
<th>Athlete</th>
<th>Non-Athlete</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transfer Student</td>
<td>79</td>
<td>2387</td>
<td>2466</td>
</tr>
<tr>
<td>Native Student</td>
<td>174</td>
<td>3799</td>
<td>3973</td>
</tr>
<tr>
<td>Totals</td>
<td>253</td>
<td>6186</td>
<td>6439</td>
</tr>
</tbody>
</table>

A likelihood Chi Squared test (\[ \chi^2 = \sum (O_i - E_i)^2 / E_i \]) where \(O_i\) is the observed value and \(E_i\) is the expected value) was run to determine the goodness of fit for the recorded data. Chi-Squared is an appropriate means to determine goodness of fit and power when binary logistic regression is the means of statistical analysis (Cabrera 1994, Field, 2013; Hellevik, 2009). The Chi Squared test returned a score of \(p < 0.001\) indicating strong power leading to a rejection of the null hypothesis, or that there is no significant difference between the academic success of transfer vs native student athletes.

Across the entire sample, less than half the population were transfer students at 38.3% \((n=2466)\). However, only 3.9% \((n=253)\) of the entire sample were athletes. In addition, of the entire population 64.8% \((n=4174)\) were white, 41% \((n=2641)\) were male, 38.76% \((n=2492)\) received Pell grants, and 96.1% \((n=6188)\) were in a major other than one categorized as “General Studies.” See Table 4.
Table 4. Sample Data Set Breakdown

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transfer Student</td>
<td>2466</td>
<td>38.3</td>
</tr>
<tr>
<td>Native Student</td>
<td>3973</td>
<td>61.7</td>
</tr>
<tr>
<td>Athlete</td>
<td>253</td>
<td>3.9</td>
</tr>
<tr>
<td>Non-Athlete</td>
<td>6186</td>
<td>96.1</td>
</tr>
<tr>
<td>White</td>
<td>4174</td>
<td>64.8</td>
</tr>
<tr>
<td>Not White</td>
<td>2265</td>
<td>35.2</td>
</tr>
<tr>
<td>Male</td>
<td>2641</td>
<td>41</td>
</tr>
<tr>
<td>Female</td>
<td>3798</td>
<td>59</td>
</tr>
<tr>
<td>Pell</td>
<td>2492</td>
<td>38.7</td>
</tr>
<tr>
<td>No Pell</td>
<td>3974</td>
<td>61.3</td>
</tr>
<tr>
<td>General Studies</td>
<td>6188</td>
<td>3.9</td>
</tr>
<tr>
<td>Not General Studies</td>
<td>251</td>
<td>96.1</td>
</tr>
<tr>
<td>Graduate</td>
<td>5335</td>
<td>82.9</td>
</tr>
<tr>
<td>Did not graduate</td>
<td>1104</td>
<td>17.1</td>
</tr>
</tbody>
</table>

Students Athletes

Student athletes represent 3.2% (n=253) of the total population. Regarding race, most student athletes were non-white (55.3%, n = 140) and a higher percentage of males participated in athletics than females (65.6% to 34.4%). Comparative to the entire population, the rates of
non-white males are overrepresented in the student athlete population. Athletes receiving Pell grants were slightly lower than the entire sample at 34% (n = 86) compared to 38.7% (n = 2492). However, 34.4% of the student athletes participated in an NCAA Division I “Head Count” sport (FBS Football, Men’s and Women’s Basketball, Women’s Tennis, Women’s Gymnastics and Women’s Volleyball, etc), or a sport where NCAA Division I rules stipulate a 100% cost of attendance scholarship must be awarded to the individual student. Similar to the general student population, student athletes are free to select their major of choice. However, the data set showed student athletes declared majors categorized as “general studies” at rates over six times higher (19.4%) than the entire sample population (3.2%). Out of all 4 specific groups (athlete, non-athlete, transfer, native), student athletes had the highest rate of graduation, 89.3%. See Table 5.

Table 5. Student Athlete Demographic and Transfer Status

<table>
<thead>
<tr>
<th>Student Athletes (n=253)</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transfer</td>
<td>31.2%</td>
<td>68.8%</td>
</tr>
<tr>
<td>White</td>
<td>44.7%</td>
<td>55.3%</td>
</tr>
<tr>
<td>Male</td>
<td>65.6%</td>
<td>34.4%</td>
</tr>
<tr>
<td>Pell Grant</td>
<td>34.0%</td>
<td>66.0%</td>
</tr>
<tr>
<td>General Studies</td>
<td>19.4%</td>
<td>80.6%</td>
</tr>
<tr>
<td>Head Count</td>
<td>34.4%</td>
<td>65.6%</td>
</tr>
<tr>
<td>Graduated</td>
<td>89.3%</td>
<td>10.7%</td>
</tr>
</tbody>
</table>

In addition to the academic support staff provided to all students at the institution, student athletes also have dedicated academic support staff as well as coaches, providing guidance and oversight of the student’s educational pursuits. Dedicated athletic academic support staff was
either 1 or 4 persons depending on where the student was enrolled. Due to NCAA Division I rules, the number of coaches was dependent on which team the student athlete participated in. See Table 6.

**Table 6. NCAA Division I Allowable Coaches**

<table>
<thead>
<tr>
<th>Sport</th>
<th>Full-time Coach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Men's Baseball</td>
<td>3</td>
</tr>
<tr>
<td>Men's Basketball</td>
<td>4</td>
</tr>
<tr>
<td>Women's Basketball</td>
<td>4</td>
</tr>
<tr>
<td>Men's Football</td>
<td>11</td>
</tr>
<tr>
<td>Men's Golf</td>
<td>2</td>
</tr>
<tr>
<td>Women's Golf</td>
<td>2</td>
</tr>
<tr>
<td>Men's Tennis</td>
<td>2</td>
</tr>
<tr>
<td>Women's Tennis</td>
<td>2</td>
</tr>
<tr>
<td>Men's Track</td>
<td>3</td>
</tr>
<tr>
<td>Women's Track</td>
<td>3</td>
</tr>
<tr>
<td>Women's Soccer</td>
<td>3</td>
</tr>
<tr>
<td>Women's Softball</td>
<td>3</td>
</tr>
<tr>
<td>Women's Volleyball</td>
<td>3</td>
</tr>
</tbody>
</table>

**Non-Athletes**

Compared to the student athlete group, non-athletes represent 96.8% (n=6186) of the total population. Regarding race and gender, non-athlete students differed greatly from student athletes with most being white (65.6%) and a higher percentage of females (60%) than males (40%). However, once again non-athletes received similar rates of Pell grants to athletes and the entire sample population (38.9%). However, non-athletes declared majors categorized as “general studies” at rates slightly lower than the general student population (3.3%). Non-athletes saw slightly lower rates of graduation than athletes at 82.6%. See Table 7.
Table 7. Non-Athlete Demographic and Transfer Status

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transfer</td>
<td>38.6%</td>
<td>61.4%</td>
</tr>
<tr>
<td>White</td>
<td>65.6%</td>
<td>34.4%</td>
</tr>
<tr>
<td>Male</td>
<td>40.0%</td>
<td>60.0%</td>
</tr>
<tr>
<td>Pell Grant</td>
<td>38.9%</td>
<td>61.1%</td>
</tr>
<tr>
<td>General Studies</td>
<td>3.3%</td>
<td>96.7%</td>
</tr>
<tr>
<td>Graduated</td>
<td>82.6%</td>
<td>17.4%</td>
</tr>
</tbody>
</table>

Transfer Students

Transfer students represent 50.5% of the total population. Regarding race, most transfer students were white (57.8%) and saw a higher percentage of females transferring than males (54.8% to 45.2%). Transfer students received Pell grants at higher rates (44.7%) than any other group. However, transfer students had rates (6.2%) almost double the rate of the entire student population (3.2%) regarding declared majors categorized as “general studies”. In addition, the rate of transfer students declaring general studies as a major was the highest out of all the 4 sub-groups except student athletes (19.4%). Transfer students graduated at the lowest rates (77.2%) of any of the groups in this study. See Table 8.
Table 8. Transfer Student Demographic and Athlete Status

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Athlete</td>
<td>3.2%</td>
<td>96.8%</td>
</tr>
<tr>
<td>White</td>
<td>57.8%</td>
<td>42.2%</td>
</tr>
<tr>
<td>Male</td>
<td>45.2%</td>
<td>54.8%</td>
</tr>
<tr>
<td>Pell Grant</td>
<td>44.7%</td>
<td>55.3%</td>
</tr>
<tr>
<td>General Studies</td>
<td>6.2%</td>
<td>93.8%</td>
</tr>
<tr>
<td>Graduated</td>
<td>77.2%</td>
<td>22.8%</td>
</tr>
</tbody>
</table>

Native Students

Native students represent 49.5% (n=4038) of the total population. Similar to all other groups except athletes, native students were comprised of white (69.2%) females (61.6%). Native students received Pell grants at slightly lower rates (35%) than the entire population but almost 10 points lower than the rates for transfer students receiving Pell grants (44.7%). Native students saw the lowest percentage of students enrolling in General studies programs at 2.5%. The rate at which native students enrolled in general studies programs was nearly seven times that of student athletes. Similarly, native students graduated at higher rates (86.4%) than their transfer student counterparts but at lower rates than student athletes. See Table 9.
Table 9. Native Student Demographic and Athlete Status

<table>
<thead>
<tr>
<th></th>
<th>Native Students (n=3973)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Athlete</td>
<td>4.4%</td>
<td>95.6%</td>
</tr>
<tr>
<td>White</td>
<td>69.2%</td>
<td>30.8%</td>
</tr>
<tr>
<td>Male</td>
<td>38.4%</td>
<td>61.6%</td>
</tr>
<tr>
<td>Pell Grant</td>
<td>35.0%</td>
<td>65.0%</td>
</tr>
<tr>
<td>General Studies</td>
<td>2.5%</td>
<td>97.5%</td>
</tr>
<tr>
<td>Graduated</td>
<td>86.4%</td>
<td>13.6%</td>
</tr>
</tbody>
</table>

Binary Logistic Regressions

Following the descriptive statistics, two initial binary logistic regressions were conducted to answer the main research questions. The first logistic regression addressed the research question: “How do upper division transfer student athletes compare academically to their peer native student athletes?” Only students listed as athletes were included in this model. The predictor variables for this regression were transfer and native. The dependent variable was academic success defined as graduate or not graduate. The second logistic regression addressed: “How do upper division transfer student athletes compare to their peer upper division non-athlete transfer students?” Only students listed as transfers were included in this model. The predictor variables for the second regression were athlete and non-athlete. The dependent variable was academic success defined as graduate or not graduate.

Although the primary variables investigated for this study are the transfer and athlete statuses of the student, additional logistic regressions were conducted to address how individual and institutional characteristics affect the chance of academic success. Two additional logistic regressions were conducted for each main model described in the preceding paragraph. Each
sub-model conjoined individual or institutional variables with the main variables previously mentioned above. Individual variables included ethnicity, gender, Pell grant, degree plan, sports, and support staff. Institutional variables included sport, full-time coaching staff, and full-time support staff.

Individual characteristic sub-models were the same for both the transfer vs native student athlete model and the athlete vs non-athlete transfer model. The institutional characteristic sub-models for the transfer vs native student athlete and athlete vs non-athlete transfer models were different. The transfer vs native student athlete institutional sub-model conjoined the participant sport, full-time academic staff, and full-time coach variables. Because non-athlete transfer students would not be participating in a sport, this variable was not included in the athlete vs non-athlete transfer sub-model. However, because it was assumed every student would have at least one academic advisor, a full-time academic advisor was included in this sub-model. Additionally, because student athletes had access to their athletic department advising and coaching staff to assist them in the advising process, full-time athletic department advising staff was combined with the full-time coaching staff to provide the total number of institutional support staff for student athletes in the athlete vs non-athlete transfer sub-model.

The intent of including these additional variables is to identify what other factors combine with the transfer/athlete status of the student and help promote—or impede—academic success. Knowing what other factors help promote—or impede—graduation help answer the sub-questions associated with the main research questions.

Model 1: Student Athlete Transfer Status

Following the descriptive statistics, a binary logistic regression was performed to answer the first research question. The first research question asked if the transfer status of a student
athlete influenced their chances of graduating. Therefore, the first binary logistic regression performed included the outcome variable graduate and predictor variable transfer. The logistic regression consisted of 253 student athletes for the 2016 cohort. The null hypothesis stated there would be no significant difference between the two populations of student athletes. The alternative hypothesis stated if there are differences native student athletes would be a better predictor of the outcome variable graduate. Table 10 contains the model’s summary.

**Table 10. Student Athlete Model Summary**

<table>
<thead>
<tr>
<th>Step</th>
<th>-2 Log likelihood</th>
<th>Cox &amp; Snell R Square</th>
<th>Nagelkerke R Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>166.259&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.022</td>
<td>0.044</td>
</tr>
</tbody>
</table>

The initial test of this model against the constant model statistically significantly predicted graduation, (Omnibus $X^2 = 5.579$, $df = 1$, $p < .05$). The omnibus chi-square test was significant. Therefore, the null hypothesis of no significant difference in graduation between transfer and native student athletes was not accepted. However, the model accounted for between 2.2% and 4.4% (Table 8) of the variance in graduation and predicted 89.3% (Table 9) of academic success outcomes for student athletes correctly. However, 100% of the predictions for academically successful (graduated) student athletes were accurate, but none of the students predicted as not graduating were correct. See Table 11.
Table 11. Student Athlete Probability of Graduating

<table>
<thead>
<tr>
<th>Probability of Graduating</th>
<th>Observed</th>
<th>Graduated</th>
<th>Predicted Percentage Correct</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Step 1 Graduated</td>
<td>No</td>
<td>0</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>0</td>
<td>226</td>
</tr>
<tr>
<td>Overall Percentage</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The Wald score (or z score) indicated transfer status of the student athlete does contribute to the prediction of graduation at statistically significant levels \( (p < 0.05) \). Specifically, transfer student athletes were 3.75% less likely to graduate than their native student athlete counterparts \( (\text{Exp}(B) = 0.375, p < 0.05) \). See Table 12.

Table 12. Student Athlete Probability of Graduating Results

<table>
<thead>
<tr>
<th>Variables in the Equation</th>
<th>( B )</th>
<th>S.E.</th>
<th>Wald</th>
<th>( df )</th>
<th>Sig.</th>
<th>\text{Exp}(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1 Transfer</td>
<td>-0.98</td>
<td>0.41</td>
<td>5.664</td>
<td>1</td>
<td>0.017</td>
<td>0.375</td>
</tr>
<tr>
<td>Constant</td>
<td>2.516</td>
<td>0.29</td>
<td>76.17</td>
<td>1</td>
<td>0</td>
<td>12.385</td>
</tr>
</tbody>
</table>

**Individual characteristics.** The first sub-question is related to how upper division transfer student athletes compare academically to native student athletes and addresses how characteristics of the individual affect academic success. Individual characteristics for the purpose of this study were ethnicity, gender, socioeconomic status, and major. The initial test of this model against the constant model did not produce statistically significant results, \( \text{Omnibus } X^2 = 6.53, df = 4, p = 0.163 \). (See Table 11). The omnibus chi-square test was not significant; therefore, the null hypothesis of no significant difference in graduation between transfer and native student athletes based upon individual characteristics was accepted. Table 13 contains the model’s summary.
Table 13. Student Athlete Individual Characteristics Model Summary

<table>
<thead>
<tr>
<th>Step</th>
<th>-2 Log likelihood</th>
<th>Cox &amp; Snell R Square</th>
<th>Nagelkerke R Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>165.308a</td>
<td>0.025</td>
<td>0.052</td>
</tr>
</tbody>
</table>

The model only accounted for between 2.5% and 5.2% of the variance in graduation (Table 11) and predicted 89% of academic success outcomes for student athletes correctly (Table 12). However, 100% of the predictions for academically successful (graduated) student athletes were accurate, once again, none of the students predicted as not graduating were correct. See Table 14.

Table 14. Student Athlete Individual Characteristics Classification Table

<table>
<thead>
<tr>
<th>Classification Table</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observed</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Step 1 Graduated</td>
</tr>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>Overall Percentage</td>
</tr>
</tbody>
</table>

In addition, coefficient scores were not significant for any of the variables except for gender (Table 15). The Wald score for gender by transfer indicated a positive relationship to graduation. The combined influence of these two variables contributes to the prediction of graduation at statistically significant levels (p < 0.05). Specifically, female transfer student athletes were 2.96% more likely to graduate than their male student athlete counterparts ($Exp(B) = 0.296$, $p < 0.05$).
Table 15. Student Athlete Individual Characteristics Results

<table>
<thead>
<tr>
<th>Variables in the Equation</th>
<th>B</th>
<th>S.E.</th>
<th>Wald</th>
<th>df</th>
<th>Sig.</th>
<th>Exp(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethnicity by Transfer</td>
<td>-0.03</td>
<td>0.685</td>
<td>0.002</td>
<td>1</td>
<td>0.966</td>
<td>0.971</td>
</tr>
<tr>
<td>Gender by Transfer</td>
<td>-1.216</td>
<td>0.595</td>
<td>4.183</td>
<td>1</td>
<td>0.041</td>
<td>0.296</td>
</tr>
<tr>
<td>Pell Grant by Transfer</td>
<td>0.083</td>
<td>0.597</td>
<td>0.019</td>
<td>1</td>
<td>0.889</td>
<td>1.087</td>
</tr>
<tr>
<td>Degree Plan by Transfer</td>
<td>0.239</td>
<td>0.607</td>
<td>0.155</td>
<td>1</td>
<td>0.694</td>
<td>1.27</td>
</tr>
<tr>
<td>Constant</td>
<td>2.463</td>
<td>0.271</td>
<td>82.568</td>
<td>1</td>
<td>0</td>
<td>11.738</td>
</tr>
</tbody>
</table>

**Institutional characteristics.** The second sub-question related to how upper division transfer student athletes compare academically to native student athletes addresses how characteristics of the post-transition institution affect academic success. Institutional characteristics for the purpose of this study were sport, the number of full-time coaching staff, and the number of full-time academic advising staff. The initial test of this model against the constant model did produce statistically significant results, (Omnibus $X^2 = 13.904$, $df = 3$, $p < .05$). The omnibus chi-square test was significant; therefore, the null hypothesis of no significant difference in graduation between transfer and native student athletes based upon individual characteristics was accepted. Table 16 contains the model’s summary.

Table 16. Student Athlete Institutional Characteristics Model Summary

<table>
<thead>
<tr>
<th>Model Summary</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Step</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-2 Log likelihood</td>
<td>157.934a</td>
<td>0.053</td>
<td>0.108</td>
</tr>
</tbody>
</table>

The model only accounted for between 2.5% and 5.2% of the variance in graduation (Table 14) and predicted 89% of academic success outcomes for student athletes correctly (Table 15). The model correctly predicted 99.6 of students who graduated but failed to predict those students who did not. However, the accuracy of the model in predicting academically successful student athletes did drop slightly from 89% to 88.9%. See Table 17.
In addition, only the sport and full-time coaching staff coefficient scores were statistically significant in their interaction with transfer and predicting graduation (Table 18). Interestingly, sport by transfer indicated a student participating in a head count sport was 40.4 times more likely (p < 0.046) to graduate than their peer transfer or native student athletes participating in equivalency sports. The coefficient for full-time coaching staff by transfer was also statistically significant (p < 0.006) but showed a negative relation to academic success, reducing the chance of graduation by 0.539 for each additional coach. The combination of these two variables indicates more coaches decrease the likelihood of graduation, especially for transfer students (Exp (B) = 0.539, p < 0.006).

Table 18. Student Athlete Institutional Characteristics Results

<table>
<thead>
<tr>
<th>Variables in the Equation</th>
<th>B</th>
<th>S.E.</th>
<th>Wald</th>
<th>df</th>
<th>Sig</th>
<th>Exp(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step Sport by Transfer</td>
<td>3.701</td>
<td>1.858</td>
<td>3.969</td>
<td>1</td>
<td>0.046</td>
<td>40.477</td>
</tr>
<tr>
<td>1 Fulltime Coach by Transfer</td>
<td>-0.62</td>
<td>0.224</td>
<td>7.604</td>
<td>1</td>
<td>0.006</td>
<td>0.539</td>
</tr>
<tr>
<td>Fulltime Academic Staff by Transfer</td>
<td>0.366</td>
<td>0.226</td>
<td>2.623</td>
<td>1</td>
<td>0.105</td>
<td>1.442</td>
</tr>
<tr>
<td>Constant</td>
<td>2.354</td>
<td>0.263</td>
<td>80.065</td>
<td>1</td>
<td>0</td>
<td>10.531</td>
</tr>
</tbody>
</table>

Model 2: Transfer Student Athlete Status

The second research question asked if the athlete status of a transfer student influenced their chances of graduating. Therefore, the second binary logistic regression performed included
the outcome variable graduate and predictor variable athlete. The logistic regression consisted of 2466 transfer students for the 2016 cohort. The null hypothesis stated there would be no significant difference between the two populations of transfer students. The alternative hypothesis stated if there are differences transfer student athletes would be a better predictor of the outcome variable graduate. Table 19 contains the model’s summary.

Table 19. Transfer Student Athlete Model Summary

<table>
<thead>
<tr>
<th>Model Summary</th>
<th>Step 1</th>
<th>-2 Log likelihood</th>
<th>Cox &amp; Snell R Square</th>
<th>Nagelkerke R Square</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>2648.290a</td>
<td>0.001</td>
<td>0.001</td>
</tr>
</tbody>
</table>

The initial test of this model against the constant model did not provide statistically significant predictions of graduation, (Omnibus $X^2 = 1.279, df = 1, p = .28$). The omnibus chi-square test was not significant; therefore, the null hypothesis of no significant difference in graduation between transfer and native student athletes was accepted. The model accounted for less than 0.1% of the variance in graduation (Table 17) and only predicted 77.2% of academic success outcomes for transfer students correctly (Table 18). However, 100% of the predictions for academically successful (graduated) transfer students were accurate but at the same time failed to correctly predict any of the transfer students who did not graduate. See Table 20.

Table 20. Transfer Student Athlete Probability of Graduating

<table>
<thead>
<tr>
<th>Probability of Graduating</th>
<th>Observed</th>
<th>Graduated</th>
<th>Predicted Percentage Correct</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Graduated</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Step 1</td>
<td>Graduated</td>
<td>No</td>
<td>563</td>
</tr>
<tr>
<td></td>
<td>Graduated</td>
<td>Yes</td>
<td>1903</td>
</tr>
<tr>
<td>Overall Percentage</td>
<td>Graduated</td>
<td>77.2</td>
<td></td>
</tr>
</tbody>
</table>
The model did indicate transfer student athletes were slightly more likely to graduate \((\text{Exp}(B) = 1.387)\) than their transfer non-athlete student counterparts (Table 21), however, it did not do so at statistically significant levels \((p = 0.274)\). Therefore, the null hypothesis of no significant difference in graduation between transfer students based upon athlete status was accepted.

**Table 21. Transfer Student Athlete Results**

<table>
<thead>
<tr>
<th>Variables in the Equation</th>
<th>(B)</th>
<th>S.E.</th>
<th>Wald</th>
<th>(df)</th>
<th>Sig.</th>
<th>\text{Exp}(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td>Athlete</td>
<td>0.327</td>
<td>0.299</td>
<td>1.199</td>
<td>1</td>
<td>0.274</td>
</tr>
<tr>
<td></td>
<td>Constant</td>
<td>1.208</td>
<td>0.049</td>
<td>617.22</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

**Individual characteristics.** The first sub-question related to how upper division transfer student athletes compare to upper division non-athlete transfer students addresses how characteristics of the individual affect academic success. Individual characteristic variables for this sub-question were ethnicity, gender, socioeconomic status, and major. The initial test of this model against the constant model did not produce statistically significant results, \((\text{Omnibus } X^2 = 1.85, df = 4, p = 0.763)\). The omnibus chi-square test was not significant; therefore, the null hypothesis of no significant difference in graduation between transfer students based upon athlete status and individual characteristics was accepted. Table 22 contains the model’s summary.

**Table 22. Transfer Student Athlete Individual Characteristics Model Summary**

<table>
<thead>
<tr>
<th>Model Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
Similar to the previous model, the inclusion of individual factors on athlete status for transfer students accounted for less than 0.001% of the variance in graduation (Table 20) and it showed slightly lower predictive power at 77.2% (Table 21). However, 100% of the predictions for academically successful (graduated) student athletes were accurate while none of the predictions for not graduate were accurate. See Table 23.

**Table 23. Transfer Student Athlete Individual Characteristics Classification Table**

<table>
<thead>
<tr>
<th>Classification Table</th>
<th>Observed</th>
<th>Graduated</th>
<th>Predicted</th>
<th>Percentage Correct</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Graduated</td>
<td>No</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Step 1</td>
<td>Graduated</td>
<td>0</td>
<td>563</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>0</td>
<td>1903</td>
<td>100</td>
</tr>
<tr>
<td>Overall Percentage</td>
<td></td>
<td></td>
<td></td>
<td>77.2</td>
</tr>
</tbody>
</table>

Coefficient scores for individual characteristics were not significant for any of the variables (Table 24). Therefore, once again, the null hypothesis of no significant difference in graduation between transfer and native student athletes based upon individual characteristics was accepted.

**Table 24. Transfer Student Athlete Individual Characteristics Results**

<table>
<thead>
<tr>
<th>Variables in the Equation</th>
<th>B</th>
<th>S.E.</th>
<th>Wald</th>
<th>df</th>
<th>Sig.</th>
<th>Exp(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Athlete by Ethnicity</td>
<td>0.105</td>
<td>0.677</td>
<td>0.024</td>
<td>1</td>
<td>0.877</td>
<td>1.11</td>
</tr>
<tr>
<td>Athlete by Gender</td>
<td>-0.239</td>
<td>0.511</td>
<td>0.218</td>
<td>1</td>
<td>0.641</td>
<td>0.788</td>
</tr>
<tr>
<td>Athlete by Pell Grant</td>
<td>0.485</td>
<td>0.553</td>
<td>0.768</td>
<td>1</td>
<td>0.381</td>
<td>1.624</td>
</tr>
<tr>
<td>Athlete by Degree Plan</td>
<td>0.445</td>
<td>0.579</td>
<td>0.591</td>
<td>1</td>
<td>0.442</td>
<td>1.561</td>
</tr>
<tr>
<td>Constant</td>
<td>1.211</td>
<td>0.049</td>
<td>622.012</td>
<td>1</td>
<td>0</td>
<td>3.357</td>
</tr>
</tbody>
</table>

**Institutional characteristics.** The second sub-question related to how upper division transfer student athletes compare to upper division non-athlete transfer students is how
characteristics of the post-transition institution affect academic success. Institutional characteristic variables for the purpose of this study were formed based on the athlete status of the individual transfer student. For athletes, a combination of the number of full-time coaching staff and the number of full-time academic advising staff represent institutional characteristics. For non-athletes the institutional characteristics were assigned a value of “1”. Institutional characteristic variables were constructed in this manner for two reasons: 1) it is assumed all students have access to at least 1 academic advisor regardless of athlete status. 2) Student athletes have access to not only academic advisors specifically for student athletes but also their coaches who have an express interest in the academic success of their students. The initial test of this model against the constant model did not produce statistically significant results, (Omnibus $X^2 = 1.175, df = 1, p = 0.278$). The omnibus chi-square test was not significant; therefore, the null hypothesis of no significant difference in graduation between transfer students based upon athlete’s status and institutional characteristics was accepted. Table 25 contains the model’s summary.

**Table 25. Transfer Student Athlete Institutional Characteristics Model Summary**

<table>
<thead>
<tr>
<th>Step</th>
<th>-2 Log likelihood</th>
<th>Cox &amp; Snell R Square</th>
<th>Nagelkerke R Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2644.403*</td>
<td>0.000</td>
<td>0.001</td>
</tr>
</tbody>
</table>

Similar to the previous models for research question 2, the inclusion of institutional factors on athlete status for transfer students accounted for less than 0.001% of the variance in graduation (Table 23) and it showed similar predictive power at 77.2% (Table 26). However, once again, 100% of the predictions for academically successful (graduated) student athletes were accurate while none of the predictions for not graduate were accurate. See Table 26.
In addition, no variable for institutional characteristics shows statistically significant results. Athletes by full-time coach/full-time academic advisor posted a “p” value of 0.3 (Table 27). Interestingly, however, the full-time coach/full-time academic advisor variable did indicate a positive correlation to graduation ($\text{Exp}(B) = 1.04$). This indicates transfer students are 1.04 times more likely to graduate with each additional support staff they are assigned. However, the results of the model did not provide statistically significant results for this coefficient ($p = 0.3$) therefore, the null hypothesis is accepted. See Table 27.

**Table 27. Transfer Student Athlete Institutional Characteristics Results**

<table>
<thead>
<tr>
<th>Variables in the Equation</th>
<th>$B$</th>
<th>S.E.</th>
<th>Wald</th>
<th>df</th>
<th>Sig.</th>
<th>$\text{Exp}(B)$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step Institutional Support Staff</td>
<td>0.04</td>
<td>0.04</td>
<td>1.08</td>
<td>1</td>
<td>0.3</td>
<td>1.04</td>
</tr>
<tr>
<td>1 Constant</td>
<td>1.21</td>
<td>0.05</td>
<td>621</td>
<td>1</td>
<td>0</td>
<td>3.35</td>
</tr>
</tbody>
</table>

**Synthesis of Binary Logistic Regressions**

Two primary binary logistic regression models and four associated sub-models were conducted on data related to students enrolling in the fall 2016 cohort at three regionally accredited institutions of higher education. The primary logistic regressions were designed to answer the first-level research questions present as part of this research. The four associated sub-models were designed to answer the sub-questions associated with each first-level question.
The primary models showed relatively little to no difference in the predictability of graduation between transfer students based on their athlete/non-athlete status. The model did indicate the student athlete was a better predictor of academic success for transfer students ($Exp (B) = 1.387$) it did not do so at statistically significant levels ($p = 0.274$). No individual or institutional characteristic variables for transfer students by athlete status were statistically significant. However, socioeconomic status ($Exp (B) = 1.624$) and degree plan ($Exp (B) = 1.561$) were strong predictors of academic success but not to statistically significant levels ($p = 0.381$ and $p = .442$ respectively).

However, the models did show a statistically significant difference in predicting graduation between student athletes based on their transfer/native status. Specifically, the athletes by transfer status model indicate transfer student athletes enrolled in the fall 2016 cohort were 3.75% less likely to graduate than their native peers. Additionally, gender, participant sport, and full-time coach provided statistically significant predictors of graduation for this cohort. Full-time coach was the most significant ($p = 0.006$) but sport was the strongest predictor ($Exp (B) = 40.477$). Gender and full-time coach, while statically significant, were not as strong of a predictor at $Exp (B) = 0.296$ and as $Exp(B) = 0.539$ respectively.

**Synthesis of Quantitative Findings**

Two research questions with four sub-questions and two hypotheses were examined using binary logistic regression performed in SPSS. The results from these analyses show native student athletes outperform their transfer student athlete peers at statistically significant levels. In addition, the analysis also showed transfer student athletes performed better than their transfer non-athlete peers, but not at statistically significant levels. Chapter five will discuss these findings in further detail. Possible explanations for the results will be provided and implications
and limitations will be reviewed. Lastly, recommendations for future research will be offered and briefly discussed.
Chapter 5: Discussion and Implications

The purpose of this quantitative study was to offer an analysis of two-year college student athletes who transfer to a four-year institution in pursuit of completing a baccalaureate degree. To inform this discussion a snapshot of student data was retrieved from three regionally accredited institutions to identify and compare the four student subgroups of interest in this study: Transfer student athletes, transfer non-athlete students, native student athletes, and native non-athlete students. The four student subgroups were compared using logistic regression along with various demographic and other demographic, academic, and athletic factors including race, gender, socio-economic status, participant team, number of coaches, number of academic staff, and declared major. In summary, the native student status—specifically, the native student athlete status—was the best predictor of academic success out of all four student sub-groups studied. In addition, there was no significant difference in the academic success of transfer students based solely on their athlete/non-athlete status. However, when factoring in Pell Grant, degree plan, and institution support, transfer student athlete status was a better predictor of success than non-athlete transfer student.

Most notable is how financial support emerged as the strongest predictor of academic success across all student groups studied; increases in the number of coaches, number of institutional support staff, and scholarship amount all played a statistically significant role in academic success. Specifically, this chapter will provide a more in-depth analysis of the finding of this study. It will begin with a brief discussion of the results presented in the previous chapter. Next, it will discuss theoretical and professional implications. Then, the limitations and
delimitations of the current study will be addressed. Finally, recommendations for future research will be analyzed.

Discussion

The results of the data set showed differences in the academic success of the four student sub-groups studied. The observed differences became more apparent when factoring in other varying factors known to predict academic success—demographic, academic, socioeconomic—and significantly enhanced these predictors. Specifically, the logistic regression results indicated that more coaches, staff, or scholarship dollars—all tied to money spent—provided statistically significant predictors of the student’s chance of achieving academic success. The monetary trends presented in this discussion illustrate the role increased institutional financial support of athletic departments plays in assisting a student to persist until graduation. Overall, native student was a better predictor than transfer student for the student athlete cohort. Additionally, student athlete was a better predictor than non-student athlete for the transfer student cohort. However, unlike the student athlete group results, the transfer student group results were not statistically significant. The initial results of each model fit into Schlossberg’s theory of transition (1981) which holds individuals transferring to a new group will experience stressors that hinder their incorporation into that group. The individual’s belief that support is provided from the institution and other factors can mitigate what Schlossberg refers to as transfer stressors.

Native Student Athletes

The results of the study indicate that the native student athlete identifier is a better predictor of academic success than the transfer student athlete identifier. Specifically, the results indicate transfer student athletes are 3.75% less likely to graduate than their native student
athlete counterparts. The idea transfer students—regardless of athlete status—do not graduate at similar levels as native students is not lost on the current body of research (Bailey, Jenkinsm and Fink, and Cullinane & Schudde, 2016; Monaghan & Attewell, 2015; Umbach, Tuchmayer, Clayton, & Smith, 2019; Shapiro, 2013). Research has suggested the difference in rates of graduation may be due to the stressors involved in the transition to a new institution (Gomez, 2017). Most notably, while transfer student athletes have the team bond and social integration sports offer, they have still missed key bonding times of their freshman and sophomore years when compared to their native student athlete peers. Therefore, transfer student athletes can be said to be, “late to the party,” and experience all the stressors of transfer with the slight benefits of athletic participation provided by team bonding and in-place support structures.

The results provided by this research study provide support the ideas from previous research. Specifically, this research indicates native student athlete groups may graduate at higher rates than their transfer student athlete peers. While this could occur for numerous reasons, it is believed to be related to native student athletes not experiencing transfer shock like transfer student athletes. Stated differently, unlike their peer native student athletes, transfer student athletes may experience “ruptures” (Haviid & Zittoun, 2008), in their academic environments as they move from one institution to the next. Such ruptures require transfer student athletes to navigate new institutional processes, form new relationships with academic and other institutional staff, and build new support networks. Native students have similar ruptures, however, institutional programming like First-Year Experience, Freshman Year Advising, and College Success courses greatly help to address these ruptures for native students. Transfer student athletes may not have access to similar programs due to their advanced academic standing when entering the institution. Additionally, along with having the credentials
to initially gain admission to a four-year institution—and due to their previous experience at the institution—native student athletes are better equipped than their transfer student athlete counterparts to navigate the academic path to degree completion.

**Gender.** Additionally, gender plays a role in predicting the outcome of academic success for transfer student athletes. The research suggests female transfer student athletes are slightly more likely (0.296%) to graduate than their male transfer student athlete counterparts. This finding is similar to what Shapiro (2017) reported that female transfer students persist until graduation at slightly higher rates than their male counterparts. The findings of this study are consistent with the findings of Shapiro with female transfer student athletes being more likely than their male transfer student athlete counterparts to persist till graduation.

**Head count sports.** Head count sports, or those sports providing the student a full scholarship for the cost of attendance (football, men’s and women’s basketball, gymnastics, volleyball, and women’s tennis), provided the strongest predictions about academic success. Previous research has suggested money to be a factor in a student’s decision to enroll in a post-secondary institution (Boulard, 2008) and in some instances may be a deciding factor in an individual’s decision to attend college. Additionally, the possibility of earning a scholarship, especially one that covers all costs associated with attendance, may greatly influence where a student decides to initially enroll. In this instance, the value of the scholarship awarded represents institutional financial support of the student related to covering the student athlete's cost of attendance. Consequently, athletics participation with the chance of earning a scholarship may not only promote the chance of an individual attending college but may also play a role in (1) where the student chooses to initially enroll, (2) subsequent enrollment when transferring, and (3) the student athlete’s persistence through to baccalaureate degree completion. As such,
financial issues, such as scholarships or lack thereof, may be a key factor in a student's decision to continue their enrollment until baccalaureate degree completion. Specifically, research has shown the value of a scholarship and the cost of tuition and fees to be major deciding factors for college student athletes (Meulemans, Romsa & Romsa, 2019).

Additionally, research has shown increases in financial certainty provide decreased stress experienced by the individual (Arendt, 2013; Baker & Montalto, 2019; Chen & Des Jardins, 2010; Lim, Heckman, Montalto & Letkiewicz; 2014). Therefore, when combining the two ideas and applying them to student athletes, an increase in the value of an athletic scholarship award may help the student lower their experienced stress and provided them with positive results related to achieving academic success. The results of this research support this idea indicating transfer student athletes are over 40 percent more likely to graduate when participating in a sport that provides a full scholarship.

Institutional Support

Institutional support plays a large role in academic success. Much research has illustrated the connection between financial resources and academic success (Bennett, McCarty & Carter, 2021; Gándara & Rutherford, 2018; Gansemer-Topf, Downey, Thompson & Genschel, 2018; Roksa & Kinsley, 2019; Sublett & Taylor, 2021). The results of this study fall in line with the previous research related to academic success and financial resources. For example, sport was the best predictor of academic success. The variable sport was a division of those student athletes who received a full cost of attendance scholarship and those who did not. Specifically, the results of this study show a student athlete who receives a full cost of attendance scholarship is over 40 times more likely to graduate than a student who does not.
Additionally, the number of institutional academic supports staff assisted the student in reaching graduation. Research has shown student engagement with institutional faculty and staff is a good predictor of a student’s academic success (Alzen, Burkhardt, Diaz-Bilello, Elder, Sepulveda, Blankenheim & Board, 2021; Caruth, 2018; Johnson & Stage, 2018; Martinez & Elue, 2020; Yang, Pimparkar, Graterol, Kased & Love, 2021). The results of this study support previous research that show the students’ ability to engage with more institutional staff members is a statistically significant predictor of the students’ academic experience. However, an institution's financial resources directly impact how many additional support staff members the institution can hire.

**Full-time institutional staff.** Full-time institutional staff also played a key role in the academic success of transfer student athletes. The results indicate each additional athletic department full-time academic staff member provided an increased likelihood of academic success or graduation. Specifically, the student was 1.44 times more likely to achieve graduation for every additional academic support staff member present in the department. While this initial number may not seem substantial, when multiplied for each full-time institutional staff member the number quickly increases. For example, for the purposes of this study, full-time academic staff and coaches were used to measure institutional support for the transfer student subgroup. Both ULL and UNO had four total full-time academic support staff during the cohort year measured. Additionally, ULL sponsored a football program with eleven NCAA permissible coaches. Fifteen institutional support staff, or staff other than faculty concerned with the student's academic progress, provide an increased 15.6% chance a student will graduate. When factoring in the total coaching staff and total full-time academic staff, the result of this research
supports the idea that increasing the number of stakeholders in a transfer student’s academic career greatly increases their likelihood of experiencing academic success.

Additional coaching staff. Interestingly, when addressing only student athletes, the number of full-time coaching staff had a negative effect on the transfer student athlete’s academic success. Unlike the addition of full-time institutional support staff, the addition of each full-time coaching staff negatively affected the academic outcome of transfer student athletes. Specifically, the likelihood a transfer student athlete would graduate decreased with each additional coaching staff member by .539% for each coach present. The NCAA sets limits on the number of permissible full-time coaching staff by team. However, when a student participates on a team with a large coaching contingent, like football with 11 allowable coaches, the multiplier effect is dramatic. In the instance of football, the negative effect of coaching staff on academic success equated to a transfer student athlete football player being 5.929 times less likely to graduate than his native football student athlete peers.

Difference between Transfer Athletes and Non-Athletes

Initially, there is no statistically significant difference in the graduation rates between transfer student athletes and transfer non-student athletes. This could be due to both groups experiencing similar “transfer shock” when attempting to assimilate into their new institution. However, transfer student athletes did better than their peer transfer students when factoring in Pell Grant, degree plan, and institution support staff. Once again, the idea of "institutional financial support for athletics increases academic success" is raised by Pell Grant and Institutional support staff variables. While neither variable provided statistically significant results, both were the best predictors of success (1.624 and 1.04, respectively) in their individual models. In addition, the degree plan with which the student enrolled also had more of an effect
on transfer student athletes when compared to other transfer students (1.561) than it did when compared to other athletes (1.27) but neither did so at a statistically significant level. Differences between athletes and non-athletes in the transfer group could be due to the support structure already in place assisting the transfer student athlete through the assimilation process. Transfer orientation, degree audits for NCAA eligibility, teammates, athlete specific advising staff could all provide the student athlete with an immediate support group when entering the institution and thereby greatly reduce the amount of transfer shock the student experiences upon transfer. Providing such programs or support groups for all transfer students might assist non-athletes in their transition and assimilation like their transfer athlete peers.

Implications for Policy and Practice

The importance of this research is twofold. First, increasing numbers of students and student athletes are beginning their path to completion of a baccalaureate degree at two-year institutions. Of the students who do transfer to four-year institutions, athletes or otherwise, less than half persist until graduation (Shapiro, 2013). Much literature (Bailey, Jenkins, Fink, Cullinane & Schudde, 2016; Brown & Rhodes, 2016; Monaghan & Attewell, 2015; Umbach, Tuchmayer, Clayton, & Smith, 2019) has been written about transfer students who use the 2+2 transfer pipeline to gain access to completion of a baccalaureate degree. This study adds to the body of literature regarding the academic outcomes for transfer students. Specifically, this research addressed questions related to the academic success and degree completion of transfer student athletes who begin their academic career at a two-year institution and transfer to a four-year institution in pursuit of a baccalaureate degree completion. By addressing the above question, this study provides university professionals, athletic and non-athletic alike, insight into
the academic needs of transfer student athletes when they decide to continue their education at a four-year institution after previously enrolling at a two-year institution.

**Assisting Transfer Students in Degree Completion**

The literature suggests transitioning to a new institution can be a stressful experience for all students, athletes, and non-athletes alike. Issues related to the new institutional environment (Ishitani & McKitrick, 2010), new academic expectations (Laanan, Starobin & Eggleston, 2010), and lack of credit mobility (Hodara, Martinez-Wenzl, Stevens & Mazzeo, 2017) are all additional stressors faced by transfer student athletes in addition to those also faced by their native student athlete peers. Understanding how these additional stressors affect successful transition practitioners working with transfer student athletes can better assist them in successfully completing degree requirements. Institutions can use the information contained in this study to provide support mechanisms to assist transfer student athletes on a path to degree completion. It is understood that institutional and NCAA policies, rules, and regulations may not allow a broad application of the information contained in this research (eg. cannot give all transfer student athletes full cost of attendance scholarships), it does, however, provide a good starting point. With the results of this research institutions and individuals in their employ can better identify other allowable support, such as university success courses or transfer student orientations similar to those offered to entering freshmen, to promote transfer student athletes’ degree completion and academic success.

**Assisting Transfer Student Athletes in Degree Completion**

NCAA athletic departments are spending increasing amounts on their student athletes (Berkowitz & Schnaars, 2017). While much of this is spent on athletic-related expenses, increasing amounts are spent on academic support programs designed to assist the student athlete
in progress toward degree and degree completion. A report from 2006 indicated that the NCAA DI programs spent roughly $48 million on academic support programs for student athletes. According to a recent report by the NCAA (Durham, 2018), as of 2017 DI institutions spent a combined $58 million on academic support initiatives including, improvements to academic facilities and increases in academic support and tutoring staff or resources. However, that is less than 0.6% of the over 10 trillion in expenditures across all NCAA Division I athletic departments. Findings from this study support the importance of expenditures on student athlete academic support staff and programs.

The findings from this study can also be used to help inform collegiate athletic departments to create stronger academic policies for their student athletes. These policies could address possible barriers to degree completion faced by transfer student athletes. Additionally, policies can be created to academically assist student athletes regardless of transfer or non-transfer status. Specifically, colleges and universities need to create sound transfer course articulation policies. Additionally, they need to create a catalog of previously evaluated transfer courses. With constantly changing curriculums, it might be impossible to have a complete list of all courses offered at all institutions, but efforts should be made to have a transfer catalog that is as comprehensive as possible.

Further institutions should employ teams to evaluate and articulate transfer course work. The University of Louisiana at Lafayette has addressed these concerns and created a transfer team within its registrar’s office. The transfer team is tasked with evaluating the transfer coursework students bring with them when they matriculate. Currently, the evaluation process is retroactive, or transfer work gets evaluated after the student enrolls in the institution. However, the institution's NCAA Academic Certification Officer works closely with the transfer evaluation
team and pro-actively evaluates transfer work for potential student athletes. Pro-active transfer course evaluations are done for potential student athletes before the student enrolls in the institution due to NCAA Academic eligibility purposes. However, by conducting course evaluations before the student even enrolls in the institution transfer credit loss is reduced and academic advisors, coaches, and other institutional stakeholders know how to assist the student if they choose to enroll. Providing similar resources to non-athlete transfer could arguably provide the same benefit.

**Articulation agreements.** The results from this research support the need for reevaluation of statewide articulation agreements and common course numbering systems for post-secondary education systems. Articulation agreements and common course numbering systems help provide the transfer student—athlete or otherwise—a seamless academic transition from one institution to the next. Specifically, the results support the findings of previous research (Cohen & Brawer, 2003; Falconetti, 2009; Ignash and Townsend, 2000, 2001) that show articulation agreements and common course numbering systems help promote transfer students—athlete or otherwise—academic success because they reduce the students transfer credit loss. For student athletes, reducing transfer credit loss may mean the difference between being eligible and non-eligible for athletically related aid (scholarship). Simply put, eligibility for athletic-related aid may be the difference between the student persisting through until graduation or simply dropping out.

**Theoretical Implications**

The results of this study are consistent with the theories presented by Schlossberg (1981). In particular, Schlossberg’s theory of transition helps explain the finding contained in this study. Of importance in the theory are the three main factors Schlossberg (1981) considers to heavily
influence the successful adaptation—in this instance academic success—of the individual into their new environment. Those factors are 1) perception of the individual, 2) characteristics of the pre and post-transition institution, and 3) characteristics of the individual. Of these three factors, this study was able to study two: Characteristics of the post-transition institution and characteristics of the individual.

**Characteristics of the Post-transition Institution**

This study focused on the characteristic of the post-transition institution. Stated differently, while the main characteristic of the post-transition institution was known (four-year institution), characteristics of the pre-transition are unknown. For this study, the variable characteristics of the post-transition institutions are all related to institutional support. Institutional support was conceptualized as the number of individual stakeholders concerned with the student’s successful assimilation into the institution. The findings of this study confirm the findings in the literature (Picton, Kahu & Nelson, 2018; Tinto 2012, Thomas, 2013) that an increase in institutional support is a predictor of successful assimilation into the new environment. Here, successful assimilation into the new environment was materialized as academic success or graduation. Therefore, an increase in the predictability of graduation should result as an increase in institution support is realized. The findings of this research show these increases. More specifically, the findings of this research support the idea that the more stakeholders are involved in the transition of the student the more likely the student is to assimilate into their new environment and persist until graduation.

**Characteristics of the Individual**

Transition theory suggests the characteristics of the individual also play a key role in a successful transition into their new environment. Specifically, this study confirms the current
literature regarding transfer in higher education (Schlossberg, Lynch, & Chickering, 1989) especially as it relates to student athletes in transition (Gayles & Baker, 2015). Specifically, the findings of this research show support for the current literature related to the academic impediment faced by individual student athletes based on their demographic characteristics (Beamon, 2014; Sato, Hodge, & Eckert, 2017). The results of this study indicate that the characteristics of the individual predict the likelihood of the student graduating. While only gender provided statistical signification results, race and socioeconomic status showed large discrepancies in predicting who did and did not graduate. These findings are consistent with the literature. Further, the results of this study support the theory of transition and support the theoretical assertion that the characteristics of the individual play a vital role in the successful assimilation of the individual into their new environment (Gayles & Baker, 2015).

Lastly, the results of this study support the idea that student athletes adapt more successfully to their new environment. Previous research has shown student athletes may not suffer from loneliness and social adjustments like their peer transfer students (Gayles & Baker, 2015). The results of this study confirm this idea and show the student athlete variable assists in predicting graduation.

**Limitations and Delimitations**

Research limitations are the aspects of a study in which the researcher has no control. (Newton & Rudestam, 2007; Ross & Zaidi, 2019). Additionally, delimitations refer to what the researcher chose to do regarding how the research was conducted and developed (Theofanidis & Fountouki, 2018). Multiple limitations impacted this study. The ability and reliability of institutional data reporting, the number of transfer student athletes contained within the data set studied, and the inability to determine enrollment prior to, if any, previous enrollment at the
institutions selected to be a part of this study. Of these, a major limitation was the lack of ability of one of the institutions to provide data concerning students before the fall 2016 enrolled cohort.

Delimitations, or limitations based on how the researcher conducted the research, are also present. Because this research focused on only three regionally accredited institutions, the data set received for the study was a delimitation that should be considered when assessing the result of this research. Additionally, while the researcher took careful consideration when identifying the variables for study in this research, the variable chosen to identify the student's characteristics each have their limits. Specifically, which students are labeled as transfer and academically successful, has a direct effect on the results of this study.

**Limitations**

The limits of this study are bounded by how the institutions collect and report their data. Data released from the institution may not be complete. Many institutions rely on data management software to store student information. If an institution changes its data management software some information may become lost or is unable to transfer to the new software program. In these instances, the data released for study would be incomplete or not reliable prior to the implementation of the new data management software.

Research has shown students in higher education utilize the transfer process in various ways (Bach, Banks, Blanchard, Kinnick, Ricks & Stoering, 1999). Students transfer for many reasons and those transfers may not be as simple as transfers from a two-year to a four-year institution. Community college to university (two-four), university to university (Four-Four), and university to community college back to university (Four-Two-Four), are just a few examples of how students transfer between institutions. The multiple ways in which students utilize the transfer function of higher education is referred to as the “swirling effect” (Bach, Banks,
Blanchard, Kinnick, Ricks & Stoering, 1999). Specifically, this research cannot identify or speak to the “swirling effect” of students who transfer multiple times among or between institutions. Similar to their peers, student athletes may also utilize the transfer function of higher education.

This study is further limited to how the transfer student athlete performs academically while at the four-year institution. Academic performance, withstanding the fulfillment of NCAA transfer eligibility requirements, of the individual student athlete prior to transferring to the four-year institution is unknown. Transfer student athletes may complete an Associate’s degree at their previous institution while others may not. Due to NCAA academic eligibility rules, the only assumption possible is the transfer student must have completed 48-semester credits and have been a full-time student while enrolled at the two-year institution. Further, assumptions should not be made as to the reason for entering post-secondary education at a two-year institution. Some student athletes academically eligible for competition at the four-year institutional level may choose to still enter post-secondary education through a two-year institution.

In addition, the actual graduation of student athletes in upper division course work, transfer or non-transfer, may not be the best measure of academic success. Student athletes, transfer or non-transfer, academically qualified for graduation may leave college early for professional careers. It is difficult to adequately capture the academic success of student athletes who left college early for professional careers but otherwise would have completed their degrees. Those students who do leave college for professional careers will be counted as non-completers. Being counted as a non-completer—leaving for a professional career or otherwise—will skew the results of the logistic regressions but to what degree is unknown.

**Delimitations**

The region in which the institutions of study are located also limits the scope of this study. It is possible to gain a glimpse of the academic success of transfer student athletes
compared to peer students; however, the results of this study are geographically limited to the southern Louisiana region of the United States. Educational policies of other states or university systems throughout the United States may have differing effects on the academic success of transfer students and thereby transfer student athletes.

The size of the institution is another limitation of this study. The institutions in this study had enrollments that ranged from just south of 8,000 to over 17,500 students. Additionally, each institution received differing amounts of state budgetary support and have large variances in annual institutional spending. Caution should be used when comparing this study to the national post-secondary landscape. The largest four-year institutions in the United States have enrollment levels of 60,000 plus students. Institutions of this size arguably have vastly different financial resources than the institutions included in this research. Access to increase—or decreased—financial resources can have a direct effect on a student’s academic experiences and academic success.

In addition, because this study focused only on a sample of all NCAA DI athletes from three institutions, the findings in this research should not be generalized to the entire population of student athletes competing at the NCAA DI level. Further students participating in other NCAA Divisions, or non-NCAA sports, are also not addressed in this research. Therefore, precautions should be taken when analyzing the results of the proposed research.

**Recommendations for Future Research**

Understanding how transfer affects the student sub-group population remains a viable topic of research. With the addition of the NCAA transfer portal and increasing numbers of student athletes moving from institution to institution, the viability of transfer student athlete research has only increased. Future research addressing the varying ways students use the
Transfer process should be conducted. Since student athletes use the transfer process like their non-athlete peers, research exploring the academic outcome of all student athlete transfer types (2-2, 4-4, 4-2-4, etc.) could be conducted to better understand what promotes the academic success of these students.

Additionally, future research would be well served in a larger more comprehensive data set. A data set including more identifiable might provide increased detail regarding how transfer student athletes far when adapting to their new institution. In addition, a larger data set might also provide results that have more significant findings than the results provided by the analysis of this research.

Further, the sample of institutions for future research should be larger and more inclusive. The sample of institutions for this study were all regionally accredited four-year institutions. Choosing to only request data from public institutions was done for convenience. Acquisition of data at public institutions is relatively easy through a public records request. Acquisition of data at a private institution may be just as easy, however, it may also come with an increased barrier to access. While a sample of public institutions provided a glimpse into the academic success of transfer student athletes, a sample of only public regional accredited institutions is not representative of the institution of higher education as a whole and therefore cannot adequately capture the entire picture of transfer student athlete success.

In addition, and like the institutional sample, future research should address those students who transfer to non-NCAA Division I athletic programs. While the results of this research help illustrate how transfer affects the academic success of those student athletes transferring to NCAA Division I programs, no information can be generalized to those transfer student athletes who may transfer to any other collegiate athletic association or NCAA Division.
Finally, and possibly most importantly, future research should address the individuals’ perceptions of the transfer process. Schlossberg’s theory of transition describes three influences in a person’s successful adaptation to their new environment. Two—characteristics of the pre-transition and post-transition environments, and characteristics of the individual—are addressed in this study. The third—perceptions of the transition—was not addressed in this study. An individual’s perceptions of their transition require qualitative analysis, an analysis this study was not designed to conduct. A future qualitative study addressing the same subject matter as this research should be conducted to fully round out how Schlossberg’s theory of transition informs the transition and assimilation process of two-year transfer student athletes.
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# Appendix A. State Common Course Numbering

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<th>State</th>
<th>Common Course Numbering</th>
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<td>Ark. Code Ann. § 6-61-1401</td>
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<tr>
<td>Georgia</td>
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<td>No</td>
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<td>Board Policy III.N.6.B</td>
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<td>Ind. Code Ann. § 21-18-9-7</td>
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<td>No</td>
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<td>Me. Rev. Stat. tit. 20-A, § 10907, Board</td>
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<td>Status</td>
<td>Code or Policy Details</td>
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Total: Yes: 18 | No: 33

## Appendix B. Transfer rates by team NCAA Division I 2016 cohort

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<tr>
<th>NCAA Division I</th>
<th>M</th>
<th>F</th>
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</thead>
<tbody>
<tr>
<td>Baseball</td>
<td>19.2</td>
<td>-</td>
</tr>
<tr>
<td>Beach Volleyball</td>
<td>-</td>
<td>4.7</td>
</tr>
<tr>
<td>Basketball</td>
<td>14.6</td>
<td>8.5</td>
</tr>
<tr>
<td>Bowling</td>
<td>-</td>
<td>1.7</td>
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<tr>
<td>Cross Country</td>
<td>2.1</td>
<td>1.2</td>
</tr>
<tr>
<td>FBS Football</td>
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<td>-</td>
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<tr>
<td>FCS Football</td>
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<td>-</td>
</tr>
<tr>
<td>Fencing</td>
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<td>0.0</td>
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<tr>
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<td>Gymnastics</td>
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<td>Ice Hockey</td>
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<td>0.3</td>
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<td>Rifle</td>
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<td>1.0</td>
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<tr>
<td>Rowing</td>
<td>-</td>
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</tr>
<tr>
<td>Skiing</td>
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<td>3.8</td>
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<td>Swimming &amp; Diving</td>
<td>1.2</td>
<td>0.5</td>
</tr>
<tr>
<td>Tennis</td>
<td>2.1</td>
<td>1.0</td>
</tr>
<tr>
<td>Track &amp; Field</td>
<td>4.1</td>
<td>2.4</td>
</tr>
<tr>
<td>Volleyball</td>
<td>2.3</td>
<td>3.7</td>
</tr>
<tr>
<td>Water Polo</td>
<td>5.3</td>
<td>0.7</td>
</tr>
<tr>
<td>Wrestling</td>
<td>1.6</td>
<td>-</td>
</tr>
</tbody>
</table>

(NCAA. (2018) *Transfer Rate Averages and Trends*)
The IRB has deemed that the research and procedures of the above-named protocol are compliant with the University of New Orleans and federal guidelines and meets the standard for being exempt from further IRB review according to:

CFR 46.104 (d)(2): Research that only includes interactions involving educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior (including visual or auditory recording) and at least one of the following criteria is met:

(i) The information obtained is recorded by the investigator in such a manner that the identity of the human subjects cannot readily be ascertained, directly or through identifiers linked to the subjects;

(ii) Any disclosure of the human subjects’ responses outside the research would not reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects’ financial standing, employability, educational advancement, or reputation; or

(iii) The information obtained is recorded by the investigator in such a manner that the identity of the human subjects can readily be ascertained, directly or through identifiers linked to the subjects, and the IRB has conducted a limited IRB review and determined that there are adequate provisions to protect the privacy of subjects and maintain the confidentiality of data.

Researchers maintain the responsibility for ethical research practices in exempt research. Any changes to the procedures or protocols that change the eligibility of the study for exemption must be reviewed and approved by the IRB prior to implementation.
I wish you much success with your research project. If you any questions, please do not hesitate to contact me at 280-7386.

Sincerely,

[Signature]

Ann O’Hanlon, Chair
UNO Committee for the Protection of Human Subjects in Research
VITA

Shawn J. Waltz was born in Hollywood, Florida, and moved to Tallahassee Florida when he was ten. He enrolled in Tallahassee Community College upon graduating from Lincoln High School in 2000. In 2007 he graduated and enrolled in Florida State University earning a bachelor’s degree in 2009 and a master’s degree in 2011. Shawn has over a decade worth of experience working in higher education with the last eight years working with collegiate athletics. Currently, he is the NCAA Athletic Certification Officer at the University of Louisiana at Lafayette and is responsible for determining academic eligibility for athletic competition. Prior to his work at the University of Louisiana at Lafayette, he served as a student athlete academic counselor at the University of New Orleans and the University of South Dakota.

Shawn is currently working toward the completion of a Juris Doctorate at Mitchell Hamline School of Law. He hopes to use his legal and research backgrounds to assist student athletes as they move through their own transitions into and out of post-secondary education.