An Examination of Academic and Athletic Integration:

A Case Study of a NCAA Division III Institution.

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DEDICATION

To the student-athletes who truly embody the best of both the student AND the athlete, and to the institutions who support their growth as a complete person, this is respectfully dedicated.

ABSTRACT

Critics caution intercollegiate athletic administrators and university officials that the goals and missions of intercollegiate athletics and higher education not aligned. These individuals feel there is a disconnect between the experience college student-athletes are having and the experience that we owe them as students of higher education. It is crucial that we truly understand the climate of academic and athletic integration at all types of colleges and universities, if we are to ensure that athletics and academics are traveling on the same path.

The primary purpose of this study was to determine if student-athletes are truly integrated into the general student body at this NCAA Division III institution. Specifically, this project analyzed a variety of variables associated with students during the admission process, student life and campus experiences, and student success outcomes. By studying the relationship between student-athletes and non-student-athletes, this study provides a framework for analyzing academic and athletic integration on college campuses.

This study analyzed 7,855 students over a four-year period at a private college located in the Midwest. The athletic sub-group was compared to the non-athlete sub-group on a variety of metrics and additional analysis was conducted by dividing male and female athletes and non-athletes, as well as sport specific queries. Although statistically significant differences were found between male and female athletes and their non-athlete counterparts, the findings did not have a large amount of practical significance. Overall, student-athletes at this institution were found to be integrated into the general student body and academic experience.

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CHAPTER I

Introduction

As long as intercollegiate athletics has been present on college and university campuses, there has been debate about the role that athletics can and should play as part of the academic mission of these institutions. Those that support the role of intercollegiate athletics on college campuses point to the annual NCAA Graduation-Rate Report (NCAA, 2013) which shows student-athletes graduating at higher rates than the general student body. These individuals also cite research that demonstrates athletes have greater self-esteem, greater levels of social connectedness and lower levels of depression than their non-athlete counterparts (Armstrong & Oomen-Early, 2009). Additionally, athletic supporters point to the visibility that an athletic department brings to campus, often referencing athletics as the "front porch" of the university.

Critics of the current intercollegiate athletics model, including those on the Knight Commission and members of the Drake Group, argue that the current model of intercollegiate athletics has become disconnected with the aims of higher education. According to their respective websites, the Drake Group and Knight Commissions both were formed in response to scandals in intercollegiate athletics and have the purpose of realigning college athletics with the educational missions of their respective institutions and higher education as a whole. Critics claim that maintaining academic integrity must be at the forefront of what athletic departments are attempting to accomplish. These individuals feel that the commercialization of athletics cannot and should not under any circumstance, compromise academic integrity.

In a speech given at the Annual Meeting of North Central Association, Barbara Uehling, Chancellor and Professor of Psychology at the University of Missouri-Columbia addressed this very issue in her message called, "Academics and Athletics: Creative Divorce or Reconciliation." She concluded her remarks with, "I do not know whether reconciliation is possible, but I do know that the situation in major intercollegiate athletics is critical, and requires bold action" (Uehling, 1983).

Over the past decade, media has drawn attention to numerous cases of NCAA infractions, scandals and academic fraud not only by individual athletes but also by institutional staff and entire athletic departments. These issues have been cited at major universities in both the admissions process and the progress toward degree and graduation standard areas. Critics argue that the intercollegiate athletics system is broken and that the academic integrity of institutions and higher education is being called into question.

Researchers point to studies which shows athletes clustering in "easier" majors (Bergeron, 2012; Calhoun, 2012; Capriccioso, 2006; Fountain & Finley, 2009; Johnson, 2012; Lederman, 2003; McCormick, 2010; McGinn & O'Brien, 2004; Otto, 2012; Sanders & Hildenbrand, 2010; Schneider, R. G., Ross, S. R. & Fisher, 2012; Steeg, Upton, Bohn, & Berkowitz, 2008; Suggs, 2013; Upton and Novak, 2008). They point to research of select universities who admit student-athletes with academic qualifications that fall below those of their non-athlete counterparts (Shulman and Bowen, 2001). These critics point to conflicting evidence as to what graduation rate research actually tells us about what is happening at individual institutions and with individual sport programs (Ferris, Finster and McDonald, 2004). Some even go so far as to claim that athletes

receive favoritism from faculty members who are presumed to be overseeing the integrity of the academic process (Capriccioso, 2006).

Even as far back as the 1980s, researchers were pointing to the differing directions of athletics and academics.

> *College athletics and higher education have come to a fork in the road. The path we choose will make all the difference for re—establishing and maintaining integrity in higher education. One road leads to separate and distinct priorities, mutually exclusive in terms of goals, purpose and mission. The other leads to integrity, credibility and accountability, where students, faculty and alumni can be proud of the institutions that mean so much to our nations' future, as cited in Eitzen (1987, p.26).*

Purpose of Study

The primary purpose of this study was to analyze many of the concerns raised by critics of intercollegiate athletics by looking at a case study of a NCAA Division III institution. Much of the research available comparing athletes to the general student body centers on NCAA Division I athletic programs and/or uses specific high profile sports in major conferences. Shulman and Bowen (2001) and Bowen and Levin (2003) chose to analyze primarily academically elite colleges and Universities, but other than their work, very little has been published outside the sphere of major NCAA Division I sports programs.

This study aimed to provide an in-depth look at a private Division III institution in the Midwest. According to the NCAA, "Division III athletics provides a well-rounded collegiate experience that involves a balance of rigorous academics, competitive athletics,

and the opportunity to pursue the multitude of other co-curricular and extra-curricular opportunities offered on Division III campuses" by utilizing "playing season and eligibility standards that minimize conflicts between athletics and academics, allowing student-athletes to focus on their academic programs and the achievement of a degree" (NCAA, 2012).

By answering the research questions cited later in this chapter, this study strove to demonstrate that student-athletes at this NCAA Division III institution are truly integrated into the general student body – as the NCAA Division III mission claims – and that they have similar backgrounds, educational experiences and outcomes as their non-athlete counterparts. An additional aim of this work has been that other institutions will continue to use this framework to analyze the athletic programs at their institutions and that a more complete picture of intercollegiate athletics can develop, not merely a picture painted by the largest institutions with the largest financial resources.

Significance of Study

Attention continues to be drawn to the growing commercialization and professionalism of the intercollegiate athletic model in higher education, there is at the same time additional scrutiny being placed on the missions of intercollegiate athletics departments and the institutions offering these sports programs as to whether or not these missions can achieve common goals and objectives. Can institutions achieve their missions to educate students while still providing competitive athletic experiences at the highest levels? And furthermore can these two objectives be integrated harmoniously or do they work in opposition? While there are numerous studies that analyze specific variables comparing athletes to the general student body, there is very little work that has

attempted to bring the entire concept of athletic and academic integration into one study. Knowing that the sport administration research is lagging behind in this area, this study is significant in filling that void.

In addition to the unique manner in which this study approached academic and athletic integration, this study is also significant because it examined a type of institution that is not commonly included or referenced in the literature. Despite Division III being the largest of the three NCAA divisions, both in number of institutions and student-athletes, it is by far the least referenced in the literature. Research specific to NCAA Division III institutions that has been published, (Robst & Keil, 2000; Shulman & Bowen, 2001, Bowen and Levin, 2003) has all focused primarily on East Coach institutions and above-average institutions in terms of admissions standards and elite rankings. The college in this case study is a Midwest institution that is considered average in regard to entrance scores and therefore may provide new insights to the literature.

In addition to the previously mentioned areas of significance, this study is also important because it attempts to provide evidence toward a long-standing claim that Division III student-athletes are able to have the best of both the academic and athletic environments and that there is an appropriate balance of the two endeavors. Until this research, the institution of this case study has made these claims based on anecdotal evidence, but now bears the statistical research to stand with these claims. This institution has also prioritized athletics as a recruiting pipeline propitious with an increased enrollment strategy. Truly understanding how athletes correlate to the general student body will be an important factor as the college moves forward in shaping its future

incoming classes. The following research questions guided the direction of this investigation.

Research Questions

RQ1: How does the profile (ethnicity, first generation college status, high school, religious affiliation, ACT and high school GPA) of an incoming student-athlete look similar to, or different from, that of a non-athlete at this Midwest NCAA Division III college?

RQ2: How are student-athletes integrated (academic major, credits attempted per-term, TRiO/SSS, and campus housing) into the campus community and experience?

RQ3: How do student-athlete outcomes (GPA and graduation rates) compare to that of the general student body?

CHAPTER II

Review of the Literature

This chapter provides a summary of the literature in the sport management field, while adding applicable references to higher education and business. The review of literature process consisted of an extensive search utilizing the following research tools: Sport Discus, Google Scholar, Business Source Premier and Academic Search Premier.

The review of literature chapter is divided into four sections for additional clarity and enhanced understanding. As the aim of this research study was to create a broad picture of the integration of student-athletes into the general campus student body, the researcher felt the most in-depth understanding of the current literature could be garnered by dividing the literature into the following sections: History and current climate of the National Collegiate Athletic Association (NCAA), Admissions/Entrance Standards and Processes on College Campuses, Student Campus Experiences, and Student Outcomes. The first section provides a history of the National Collegiate Athletic Association (NCAA) as well as an update on the current state of the association. The next section analyzes the current state of literature examining the admission processes for athletes compared to non-athletes, describing both similarities and difference between the two groups. The second section assesses the on-campus activities and experiences that student's take part in, comparing the athletic population to the non-athletic population. Finally, the last section addresses student outcomes, with specific emphasis on major clustering, graduation rates and GPAs.

History of the National Collegiate Athletic Association

The National Collegiate Athletic Association (NCAA), currently the largest governing body of intercollegiate athletics in the United States, has a history that dates back to the early 1900's. The roots of the NCAA can be traced back to the Intercollegiate Athletic Association of the United States, or the IAAUS, which formalized its first constitution and bylaws in 1906 (Crowley, 2006). The IAAUS was formed as a result of two conferences that were conducted by the football-playing institutions of the time period and by the encouragement of President Theodore Roosevelt, with the purpose of reforming intercollegiate football. The pressure to reform, or possibly even abolish, intercollegiate football had reached a climax after the 1905 season resulted in 18 deaths and nearly 150 serious injuries (Crowley, 2006). Faculty were also up in arms regarding the lack of control over intercollegiate sports teams which were often run by either student groups or alumni organizations and often included non-students, players being paid or given incentives and players with no academic standards or expectations. Although football was the primary concern of the time period, after influence by President Roosevelt, the IAAUS was formed as a joint committee that would deal with the rules of more than just the sport of football. Four years later the IAAUS changed its name, and the NCAA as we know it today officially began (Crowley, 2006).

Despite the fact that the NCAA is known today as the primary regulatory and enforcement body of intercollegiate athletics, it took the organization nearly 50 years before they would play a significant role in the enforcement aspect, that was previously left up to "home rule" (Crowley, 2006). Prior to 1951, the NCAA had policies that established expectations of "fair play" but the authority to uphold these principles was left up to the member institutions themselves. When Walter Byers became the NCAA's

first Executive director in 1951, he provided leadership and guidance based on a philosophy of service to the membership and enforcement of rules (Crowley, 2006). It was during this time that the NCAA established enforceable rules related to playing seasons, financial assistance and eligibility that governed the association.

Over its history, the NCAA has added additional institutions, conferences and committees as it continues to expand to this day. In 1921 the NCAA sponsored its first championship, the National Collegiate Track and Field Championships, and has continued to broaden championship opportunities to the current total of 89 national championships offered by the Association in 2013. As the NCAA grew, so did the differences between its member institutions. In 1957 the Association initiated championships in a new "College Division" and by 1968 the NCAA had asked all member institutions to indicate belonging to either the "College Division" or the "University Division" (Crowley, 2006). Although institutions were in different divisions, they were still governed by the same rules. After much debate about the size and differences of the member institutions, the NCAA was able to put in place its current three-divisional framework in 1973 with each division able to make its own rules and membership requirements, which marked a significant turning point in the history of the Association.

The 1980's also marked a time of great change for the NCAA – a time of reform, organization and enforcement. After many years debate about the connectedness of academics and athletics, the NCAA passed the controversial reform legislation known as "Proposition 48" which established minimum criteria for initial athletic eligibility. First-year student-athletes would now be required to have a 2.0 minimum GPA in core

curriculum classes and a minimum score of 700 on the SAT and 15 on the ACT in order to be immediately eligible to compete in intercollegiate athletics (Crowley, 2006). Over the decade, the NCAA formalized the role of Presidential oversight of intercollegiate athletics with the creation of the Presidents Commission. This commission proceeded to tackle numerous policy and reform issues in the areas of "Institutional Control and Responsibility," eligibility, playing seasons, punishment of both institutions and individual coaches for NCAA infractions, reductions to grant-in-aid and elimination of part-time coaches in basketball (Crowley, 2006).

Although the NCAA has a long and proud history, much of that history is specific to that of white males. According to Crowley, "the journeys to acceptance at overwhelmingly white NCAA colleges and universities were long for most minority athletes, and longer for women" (p. 115). Women battled numerous stereotypes in their fight to take part in sport -- those surrounding femininity, intelligence, perception of physical ability and desire, and cultural norms around dress to name some of the more notable.

For many years women's sport remained firmly in control of the female physical education faculty and they purposefully and intentionally chose to move in a different direction than men's sport (Crowley, 2006). The Women's Division of the National Amateur Athletic Federation (NAAF), founded in 1923, governed and guided women's sport for the next 50 years. The NAAF held to principles focused on protecting health and discouragement of intercollegiate competition (Crowley, 2006). The majority of women's athletic opportunities transitioned through a period of the "telegraphic approach," where schools would simply compete at their own institutions and send each other the results, to

the period of "play-days" where many schools would come together at one location for a date of physical activity and recreation (Crowley, 2006). Over the next few decades, the number of college women wanting more competitive opportunities grew, and a variety of organizations would play a role in the governing of women's athletics – from the Division of Girls and Women's Sports (DGWS) to the American Association for Health, Physical Education and Recreation (AAHPER) to the Commission on Intercollegiate Sports for Women (CISW) which later changed its name to the CIAW and began sponsoring national championships for women in the late 1960's and early 1970's. Due to a lack of interest and desire by the NCAA to sponsor women's championships, the first formal national championship governing body for women's athletics was founded in 1971, as the Association of Intercollegiate Athletic for Women (AIAW), which began just prior to the landmark Title IX legislation passed in 1972 (Wu, 2000).

In the 1960's the NCAA began conversations with the women's sport governing bodies of the time, but it took until the 1976 NCAA convention, despite controversy, for proposals to be brought forward for the NCAA to offer the same championship experiences to females that it offered to males. After defeated proposals in 1976, 1978 and 1979, the NCAA formally approved five women's championship for Division II and III members in 1980 (Crowley, 2006). The historical division of separate men's and women's athletic departments was changing and despite opposition from the AIAW, the NCAA moved forward with examining how to accommodate females into its governance structure (Crowley, 2006). At the 1981 convention, the NCAA officially approved national championships for women in all three divisions. Later that year, the AIAW filed legal action against the NCAA seeking to prevent the Association from moving forward

with their plans for women's championships. The suit claimed that the NCAA was in violation of antitrust laws. The U.S. District Court for the District of Columbia found in favor of the NCAA. The AIAW proceeded to take its case to the U.S. Court of Appeals for the District of Columbia where the appeal was denied in May 1984 (Crowley, 2006). Not long after this decision, the AIAW formally ended (Wu, 2000; Shulman & Bowen, 2001, Crowley, 2006), while the NCAA's history with women's athletics was just beginning.

While women were fighting their own battles to participate in collegiate sport, African Americans who had been making gains in college sports in the late 1800's and early 1900's, changed direction in the 1920's after the Supreme Court decision that established the constitutionality of "Separate but Equal" (Crowley, 2006). Historically Black Colleges and Universities (HBCU's) proceeded to play an important role in providing competitive intercollegiate competition for these students in the early part of the century, producing not only many great athletes, but coaches as well. The NCAA has never had a specific prohibition of black players or black college/university membership, but prior to the 1940's only a small number of HBCU member institutions were included. It was the period between 1949 and 1958 where 40 HBCU's became NCAA members that marked a major shift in intercollegiate athletics (Crowley, 2006). As the years progressed, more and more minority student-athletes found their way not only on HBCU teams but also on the campuses of historically predominately white institutions, forever changing the landscape of intercollegiate athletics in the NCAA.

Current State of the National Collegiate Athletic Association

In January of 2003, Myles Brand took over as the fourth President of the NCAA. He was the first University President to serve as head of the association and he pushed a platform of advocacy and reform during his tenure. He was a strong advocate for Presidential leadership, diversity and inclusion and Title IX (NCAA, 2012). Brand was a key leader behind the academic reforms of 2003 that mandated reporting of graduation rates. At the same time, he also introduced a new method of completion tracking for Division I and II student-athletes, called the Graduation Success Rates (GSR), which addressed serious issues in the federal reporting method, including issues surrounding transfer student-athletes. In addition to required reporting, there were also penalties established for those institutions who did not meet required minimums (Crowley, 2006). Brand's tenure also marked the strengthening of continuing eligibility requirements for Divisions I and II, where it now mandated that student-athletes must complete 40 percent of their degree by the conclusion of their third year, 60 percent by the end of their fourth year and 80 percent by the end of their fifth year (Crowley, 2006). Also instituted at the Division I level, each team is assigned a figure called their Academic Progress Rate (APR) and those teams who fall below the established criteria, face penalties. President Brand passed away in 2009 and was succeeded by Mark Emmert, another former University President, who has continued to stress the academic values established by Brand (NCAA, 2012).

While the NCAA Division I level has established the academic standards referenced previously, that is not necessarily the case at the Division III level, which is the focus of this study. Division III, the largest of the three divisions, has approximately 450 members, comprising 40% of the NCAA's membership. The Division is very

diverse, with both public (20%) and private institutions (80%) and undergraduate enrollments ranging from 363 to 20,483 (NCAA, 2011). There are more than 178,000 student-athletes participating at the Division III level, while institutions sponsor on average 17 sports. At the Division III level, the NCAA sponsors 14 championships for men, 14 for women and 8 all-division championships. Despite the size of the division, Division III accounts for only 3.18 percent of the NCAA budget (NCAA, 2011).

While student-athletes who wish to compete at the NCAA Division I and II levels are required to register with the NCAA eligibility center to verify that they have met initial eligibility requirements, this is not the case at the NCAA Division III level. One of the guiding principles of Division III is that student-athletes should be treated like the general student body, and therefore it is left up to the discretion of the individual institutions who they wish to admit and who is initially eligible for intercollegiate athletics. According to the 2012-13 NCAA Division III rules manual, "To be eligible to represent an institution in intercollegiate athletics competition, a student-athlete shall be enrolled in at least a minimum full-time program of studies, be in good academic standing and maintain satisfactory progress toward a baccalaureate or equivalent degree."

The definitions of "in good academic standing" and "satisfactory progress toward degree" are terms that are left up to the individual institutions and the authorities at those institutions who define those terms for all students. Conferences do have the authority to make additional, more restrictive requirements of student-athletes at its member institutions. Despite the differing academic standards, the Division III philosophy regarding athletic financial aid, is a principle that is held consistently among all members.

Division III institutions may not provide financial aid to any student on the basis of athletic participation, leadership, ability or performance (NCAA, 2012).

Admissions Standards and Practices

As mentioned in the preceding section, NCAA Division III institutions have "institutional autonomy" to admit the incoming class they feel best meets the goals and objectives of shaping the class that they believe best fits with the mission and priorities of their institution. In Shulman and Bowen's much discussed *The Game of Life* (2001), they devote an entire chapter to what they refer to as the "Admissions Game." Admissions offices across the country are currently faced with many difficult decisions – attempting to balance alumni, who want their children or grandchildren to get into the institution, with local high schools and community members who want to attend; and the goals and benefits that a diverse incoming class can add. Include the role of intercollegiate athletics and sport-specific recruiting and now admissions officers truly have a difficult task in meeting all of these objectives.

Fried (2007) points to three main areas of concern with athletic recruits in the admissions process: preferential treatment, absolute numbers enrolled and academic performance. Shulman & Bowen (2001) specifically set out to assess the difference in academic qualifications of incoming athletes and their non-athlete counterparts. The authors looked at both Division I public and private universities, Ivy League universities and Coed Liberal Arts colleges and found that SAT scores for athletes in all types of universities studied were lower than that of students at large. Furthermore, "high profile" athletes had lower SAT scores than "lower profile" athletes.

In looking at longitudinal data from the 1951, 1976 and 1989 cohorts, there have always been differences between the academic preparation of athletes and non-athletes but the gap has increased over time. For example, the SAT score gap between high profile male athletes and male students at-large in the 1989 cohort ranged from 125 points at the Ivy leagues to 284 points at Division I Private Universities (Shulman & Bowen, 2001). Not only was this academic gap apparent at all the different types of institutions studied, but it was also clear in nearly every sport studied. At the NCAA Division III institutions studied (male data only), SAT divergence from students at large ranged from 32 points above for crew student-athletes to 126 points below for football student-athletes (Shulman & Bowen, 2001). Despite the differences outlined between athletes and non-athletes, Shulman & Bowen also indicated that it is important to keep the broader perspective in mind when analyzing this data.

> *"The mean SAT scores of male athletes at the Division III coed liberal arts colleges and Ivy League universities in the study were above the 80th percentile of all male test-takers nationally; the mean scores of athletes at the Division IA private and public universities were above the 70th percentile and the 55th percentile, respectively" (p. 47).*

From this look at the broader perspective, it is clear that this data is from academically elite institutions and that individuals should be cautious about generalizing these findings to other types of colleges and universities. Although the athletes studied in this research were clearly above average, there were still very real differences between these athletes and their non-athlete counterparts.

This finding has been corroborated by the work of Eitzen (1987) who assessed the preparedness of college athletes compared to their non-athlete counterparts at Colorado State University by looking at a combination of SAT, ACT and high school GPA. Eitzen found that male athletes were less prepared than male non-athletes but female athletes were very similar to the general student body. Eitzen also concluded that black athletes were less prepared than their white counterparts and there were significant differences found between specific sports.

The next area of admissions research that focuses on athletics as a subset of the student body is what has come to be referred to as "athletic preference" in the admission process (Fried, 2007; Lederman, 1991; Shulman & Bowen, 2001). According to the College and Beyond data studied by Shulman & Bowen (2001) which considered admissions probabilities for students at large, minorities, legacies and athletes, they found that despite minorities having the largest advantage for male sub groups (49%) in the 1976 cohort (compared to just 23% for athletes), by the 1999 cohort, athletes were now receiving the largest advantage (48%) in the admissions process (compared to just 18% for minorities). The advantages for female athletes were even greater. According to Shulman & Bowen (2001), after adjusting for differences in SAT scores, women athletes received a 53% admissions advantage in the non-scholarship schools studied.

Lederman (1991) also looked at the special treatment given to athletes in major college sports programs. Lederman reported that according to a survey done by the Chronicle of Higher Education, 27% of all football and basketball players admitted to NCAA Division I-A universities in the 1989 cohort were characterized as "special-authority admissions," compared to only 4% of the general student-body. These findings

also extended to other sports, although only at the 18% level. Overall, the study found athletes were about four times more likely to have been given special consideration in the admission process (Lederman, 1991).

The importance of the previous two sections is brought to light when consideration is given to what percentage of the student body are athletes. Despite perceptions of the general public, schools that sponsor "big-time" Division I sports often tend to have relatively few athletes on campus compared to the general student body. While institutions that offer broad based programs, like many Division III institutions, often times have a much larger percentage of the student body involved in intercollegiate athletics. Shulman & Bowen (2001) found that between the 1951 and 1989 cohorts, approximately 5-8% of all male students were athletes at Division IA public universities, while between 29-33% of all male students were athletes at coed Liberal Arts colleges. This information is particularly important to college and university administrators as they move forward with their admissions processes and goals, because if a particular segment of the student body looks significantly different than the rest of the student body, it should be taken into account as the institution moves forward with shaping its incoming class.

Shulman & Bowen (2001) claim that in addition to the previously mentioned differences in academic preparation and likelihood of being admitted, athletes also differed in their background, goals and outlook on the world. After analyzing data from the 1989 cohort, they found that athletes in high profile sports, such as football, basketball and hockey added significant socioeconomic diversity to the institution. Ironically, the same could not be said for athletes in lower profile sports, who in three of

the four types of institutions studied were actually more likely to have come from a higher socioeconomic background (Shulman & Bowen, 2001). In addition to socioeconomic status, they also studied the enrollment effect of athletics on African American students.

Similar to the previous findings, there were significant differences between the student body at large and high profile African American male student-athletes, but a relatively small difference between lower profile African American student-athletes and the general student body (+/- 2%). The largest difference found was at Division I private universities where among males in the 1989 cohort 39% of high profile male athletes were African American whereas only 5% of the general student body was reported as African American (Shulman & Bowen, 2001). This effect was not nearly as pronounced when looking at data for female student-athletes. In the five types of institutions studied by Shulman & Bowen (2001), only Division IA Private Universities had a higher percentage of African American athletes than students at-large. Despite the fact that athletics was found to increase racial diversity on these campuses, the overall effect was predicted to be fairly small.

Finally, when it came to goals and outcomes, Shulman & Bowen (2001) found that male athletes tended to be more conservative than their male classmates and were much more likely to emphasize the importance of achievement of financial success, even when family background was taken into account. There were also differences found between the sexes regarding attitudes and goals. When it came to political views, female student-athletes were less likely to consider themselves in the “liberal” category and were more likely to consider themselves “conservative” than female students in general

(Shulman & Bowen, 2001). Additionally, female athletes did not show the same tendencies as their male counterparts in reporting that it is "Very Important" or "Essential" to "Be Very Well off Financially" (Shulman & Bowen, 2001). Only women at Division I institutions (both public and private) were more likely than women students at-large to indicate the importance of financial outcome, whereas at the Ivy League institutions, coed liberal arts colleges and women's only liberal arts colleges, student-athletes were actually less likely than their non-athlete counterparts to rate the importance of being well off financially. Many believe that the student's views and opinions in regard to goals and outcomes are what influence their experiences as a student and ultimately what they do after college.

Student Experiences

The previous section highlighted many of the differences between athletes and non-athletes in the admission process and in the types of students admitted to colleges and universities. The current section focuses on how the experiences of these students are similar or different after they arrive on campus; and how these students become involved in the campus community and in student life in general.

Academic Fit

The NCAA, as well as numerous outside institutions and researchers, have attempted to analyze the question about whether, or not, student-athletes "fit" academically with their non-athlete peers. The NCAA Research Report: Academic Characteristics of Prospective Student-Athletes (1999-02) assessed the 1997 and 1998 cohorts of prospective students who had submitted data with the NCAA clearinghouse. The NCAA clearinghouse is utilized by NCAA Division I and Division II institutions to

determine the initial eligibility status of incoming student-athletes. It is important to note that NCAA Division III institutions do not utilize the NCAA Clearinghouse and instead are governed by institutional autonomy to admit and determine the initial eligibility of the students they feel best fit the needs and goals of their institution. NCAA (2002) research indicates that "test scores, and to some extent grades, for prospective-student-athletes are slightly better than the national averages in 1997 and 1998 as reported by The College Board and ACT."

Contradictory to these findings, Ferris, Finster and McDonald (2004) found that there were actually several different answers to the question of athletes being a good academic "fit". One of their most interesting findings revealed there was actually less variation among incoming student-athletes than the general student body, and that athletes were as a whole "more average" than their counterparts. The authors attributed this "more average" finding to the fact the academic credentials of student-athletes tend to be underrepresented at the top and bottom of the student distribution (Ferris, Finster, & McDonald, 2004).

Also important to note in the area of academic fit, is the work of Adler & Adler (1985) and Meyer (1990). A study of major college men's basketball student-athletes found that these athletes entered college with an early sense of idealism about their academic experiences and progressed to an eventual state of pragmatic detachment (Adler & Adler, 1985). The authors suggest that there is something about big-time sports programs that significantly affect the athletes' behaviors and orientations. Meyer (1990) attempted to replicate the Adler & Adler study using a sample of female student-athletes. Unlike the male athletes in the Adler study who lost interest in school after the first year,

the female student-athletes in Meyer's study demonstrated that the majority of women were motivated to take their studies more seriously than in the past. Another difference between the two studies was in the expectations of treatment as an athlete. The male student-athletes in the Adler study often relied on the belief that they would be taken care of or advantaged because of their status as an athlete, whereas all but one of the females in the Meyer study did not expect to receive special treatment due to being a student-athlete. Directly related to an athlete's beliefs and behaviors surrounding their academic experiences, is the experience they have in selecting a major degree program, which is detailed in the following section.

Major Clustering

Within the past decade, there has been a great deal of attention brought the concept of academic "major clustering" among college student-athletes both by researchers and the media (Bergeron, 2012; Calhoun, 2012; Capriccioso, 2006; Fountain & Finley, 2009; Johnson, 2012; Lederman, 2003; McCormick, 2010; McGinn & O'Brien, 2004; Otto, 2012; Sanders & Hildenbrand, 2010; Schneider, R. G., Ross, S. R. & Fisher, 2012; Steeg, Upton, Bohn, & Berkowitz, 2008; Suggs, 2013; Upton and Novak, 2008). Despite the recent awareness brought to this topic, the term "academic clustering" was first introduced by Case, Greer, & Brown in 1987. These researchers defined the phenomenon as 25% or more student-athletes in a particular major. Their study found that over 50% of men's and women's teams who responded to their survey reflected clusters. Their results demonstrated that clusters were more common among men than women, clusters were more common among blacks than whites and that clustering was

more common among “big-time” schools than smaller schools (Case, Greer, & Brown in 1987).

Despite the growing attention to this topic, there have been relatively few scholarly articles devoted to major clustering among student-athletes (Schneider, Ross & Fisher, 2010). The majority of literature available has focused on analyzing information contained in athletic media guides of NCAA Division I institutions. Furthermore, the analysis has predominately focused on experiences of upper-class (junior and senior) student-athletes in ‘high profile’ or ‘revenue generating’ sports, such as football and basketball. Additionally, very little academic work has been devoted to assessing the effects of other variables on major clustering or the specific reasons why clustering is occurring. One of the few studies examining other variables was done by Fountain & Finley (2009), who found in their examination of Division I football players that nearly every school in their study had minority football student-athletes clustering into a single major at a higher rate than their white teammates.

There are multiple theories as to why academic clustering occurs among specific populations. One of the most common explanations as to why student-athletes cluster into specific majors deals with the flexibility, or lack thereof, of student-athlete schedules (Schneider, Ross & Fisher, 2010; Suggs, 2003). Most student-athletes have afternoon or evening practices, and the vast majority of sports requires evening and weekend competitions and travel. Majors that offer primarily evening classes or late afternoon labs for example, are often difficult for athletes work around their athletic pursuits. According to Schneider, Ross and Fisher (2010), “selecting a major that allows for more unrestrictive electives (classes outside the department), multiple class times and multiple

study options (i.e. online, independent study) allows the athlete to tailor a major to their athletic schedule. Some majors are easier to tailor than others." Institutions vary greatly in the types of majors offered, number of course offerings and course times available. At the time of this study, no research was located analyzing major clustering at liberal arts colleges, which may provide insight into different findings due to the wide-variety of courses students are required to take as part of the required liberal arts curriculum.

Another possible explanation as to why student-athletes cluster in particular majors has to do with what Lederman (2003) suggests as "the path of least resistance." After the NCAA put in place its current APR (Academic Progress Rate) legislation, student-athletes at the Division I and Division II levels were mandated to be "making progress toward their degree" and maintaining specific GPAs at predetermined points in their academic career at the institution. Many involved in the daily workings of intercollegiate athletics as well as those looking in from the outside, fear that APR requirements, although well intentioned, will encourage student-athletes to continue to find "easier" majors and cluster around programs that the athletes feel will meet their minimum eligibility requirements with the least adverse affect on their athletic pursuits -- regardless of their academic interests or abilities (Suggs, 2013). It is important to note that NCAA Division III institutions are not bound to the same APR requirements that Division I and II institutions are held to. Division III student-athletes must still be making "progress toward a degree" and must be "in good academic standing" – but these are definitions established and enforced by the individual institutions themselves. It is possible that the flexibility of Division III student-athletes to change their major at later

points in their academic career, could reduce the effect of pressure for these students to find the path of least resistance, but this has not yet been studied.

McGinn and O'Brien (2004), who studied major clustering at Harvard, suggest that another reason for academic major clustering may be related to the traits that coincide with athletic participation such as competitiveness, work ethic, and thriving on high-pressure, high-stress environments. These authors felt that it was possible that specific traits could explain why student-athletes gravitated toward majors with the revenue making potential and work environments similar to the business world -- possibly explaining why there is a cluster of economics majors among male student-athletes at Harvard. Johnson (2012) and Bergerson (2012) both suggest that many students select their major because it is a subject they are interested in and is something they would like to make a career of – so neither was surprised to find athletes gravitating toward sport management majors. The issue arises if these majors are created or specifically tailored to give athletes an easy path towards graduating within a specific degree (Case, Greer, & Brown, 1987).

There is also currently a significant lack of literature examining academic clustering from the perspective of the student-athlete. The only study that could be located was a dissertation by Calhoun (2012) who used qualitative methods to look at the clustering phenomenon through the lens of the student-athlete. Calhoun's research utilized in-depth interviews with seven former NCAA Division I football student-athletes from a large public university on the East Coast. Calhoun's research came to five conclusions (p.128):

1) Academic clustering is one consequence of the required athletic schedule

2) Academic clustering is one method used to maintain athletes' eligibility
3) Academic clustering facilitated indifference toward academic achievement
4) Academic clustering further isolated student-athletes from the general student population and a traditional college experience; and
5) Student-athletes lacked in-depth academic support to help realize their academic potential.

Otto (2012) brought to light some of the issues with current literature surrounding the accuracy of reporting in results when it comes to the study of major clusters. The original definition of "academic cluster" proposed by Case, B., Greer, S., & Brown, J. (1987) assessed athletes clustering in a particular "major." According to Otto, there have been discrepancies in the analysis and reporting of clustering in subsequent studies surrounding "majors" being actually grouped into more broad "areas of study" (p. 302). Otto (2012) also cautioned about the importance of comparing cluster findings to that of the general student body. For example, if 35% of the football team is majoring in Business Management but 35% of the general student body also majors in Business Management, this, while meeting the definition of a cluster, is not a significant finding and must be viewed in context of the larger picture.

One drawback to the existing research is that in attempting to analyze majors from multiple institutions, to make association- and division-wide decisions and policy recommendations, researches must take into account that schools have different major selections and therefore researchers must "group" particular majors together in an attempt to make generalizations about their findings. This process of combining majors in order

to generalize data across institutions may be problematic and misleading due to the complex nature of the academic offerings of individual institutions.

Another issue identified with current studies, is that researchers have often chosen to structure their analysis by gathering data from media guides and noting the majors of student-athletes with junior and senior standing. This is potentially problematic because often times the information provided in a media guide is self-reported by the student-athlete to the sports information office. A more accurate comparison would compare the actual majors declared in the official academic record of the student-athletes, to that of the general student body. This information is much more difficult to obtain due to student privacy laws and is likely why the media guide method was selected.

A final critique of current research in this area focused on a lack of study outside "major NCAA Division I" institutions and conferences. Very little consideration has been given to Division II and Division III institutions and furthermore there has been no attempt made to make comparisons of public and private institutions, or institutions of specific sizes or academic focus. Additionally, other factors such as race, gender and type of sport (i.e. high profile sports) need to be further researched. Sanders & Hildenbrand (2010) considered both race and gender in a longitudinal study spanning eight semesters and found the greatest risk of clustering was for African American males in high profile sports. The study also found that the magnitude of clustering increased over time (Sanders & Hildenbrand, 2010).

Student Engagement

In addition to analyzing what students study while they are pursuing an academic degree, it is also import to look at how engaged these students are in the campus

experience. A study by Umbach, Palmer, Kuh et al. (2006) analyzed data from The National Survey of Student Engagement (NSSE) in order to evaluate the experiences of college student-athletes and those experiences of the general student body. The researchers found that student-athletes are at least "as engaged" overall in comparison to non-athletes and in fact in some areas were "more engaged" (Umbach, Palmer, Kuh et al., 2006). The researchers found very little difference in results between types of institutions and only found a slight difference between divisions, that being that all Division III students were, on average, more engaged, supported, and reported greater gains than peers at other types of schools. A related study by (Armstrong & Oomen-Early, 2009) found that athletes not only had greater levels of social connectedness but that they also had significantly higher levels of-self-esteem and significantly lower levels of depression than their non-athlete counterparts.

Watt & Moore (2001) point to the importance of understanding who athletes really are, so that student affairs professionals can best assist this demographic in finding success in higher education and feel like a part of the overall campus community and experience. The researchers suggest real differences between athletes and their non-athlete counterparts when it comes to benefits, negative consequences, scheduling, sense of identity, and isolation from other students (Watt & Moore, 2001). They recommend that student affairs professionals educate faculty and coaches about the truly unique and difficult balance that exists for students between their academic and athletic lives. They also recommend designing specific programs to assist athletes with balancing, while being flexible and creative when offering this type of programming. Additionally, they

suggest offering networking/mentoring relationships with former student-athletes (Watt & Moore, 2001).

Extra Curricular Behaviors and Activities

Student-athletes have also been compared to their non-athlete counterparts in the literature on a variety of social metrics, as well as the indicators previously mentioned. Current studies evaluating student-athletes have reviewed subjects such as drinking and drug use (Doumas, Turrisi, Coll, & Haralson, 2007; Ford, 2008 NCAA, 2007; Wilson, Pritchard, & Jamie, 2004; Yusko, Buckman, White, & Pandina, 2008), social support, stress and life satisfaction (Malinauska , 2010), psychopathology (Storch, Storch, Killiany, & Roberti, 2005), eating disorders and symptoms (Holm-Denoma, Scaringi, Gordon, Van Orden, & Joiner, 2009) and career planning and identity (Killeya-jones, 2005; Lally & Kerr, 2005). The researcher felt it important to note these studies due to the potential connectedness to this study of integration of athletics and academics, and although the research mentioned in this section is an important part of the sport literature, this study will not be specifically focusing on or analyzing any of these variables and the review of literature will not describe these studies in detail.

Student Outcomes

Grade-Point Averages

Numerous studies have looked at the grade-point averages of student-athletes compared to the general student body with mixed findings (Eitzen, 1987; Hildenbrand, Sanders, Leslie-Toogood, & Benton, 2009; Maloney & McCormick, 1993; Purdy et al., 1982). Eitzen (1987) references a Colorado State University sample in which athletes as a whole performed worse than their non-athlete counter parts, a 2.56 GPA for athletes

compared to a 2.74 GPA for non-athletes. It is significant to note that when the athlete data was further broken down, female athletes actually outperformed their non-athlete counterparts, a 2.88 GPA for female athletes and a 2.84 GPA for non-athletes. It was also found and that black athletes recorded lower GPAs than their white counterparts, a 2.06 GPA compared to a 2.61 GPA. This finding corroborated a previous study (Purdy et al., 1982) that found student-athletes performing at a level lower than the general student body. Additionally, (Purdy et al., 1982) found that scholarship athletes performed worse than non-scholarship or partial scholarship athletes, and those athletes in male revenue generating sports had a much lower probability of receiving a degree (Purdy et al., 1982).

Maloney & McCormick (1993) had similar findings to Etizen (1987), after conducting an extensive study looking at a four year period of students from Clemson University. The researchers concluded that college athletes at this institution did not perform as well as their non-athlete counterparts. Even after taking into account numerous background factors, student-athletes still performed at a level below the general student body. Maloney & McCormick (1993) found that average GPA for athletes was 2.38, while the average GPA of non-athletes was 2.68; and much of this they believed was due to a strong background, in other words, high school performance. Not only did Maloney & McCormick (1993) find a statistically significant difference in GPA between athletes and non-athletes, but they also found a negative relationship between athlete grades and courses occurring during their declared playing season.

In contrast, Hildebrand, Sanders, Leslie-Toogood, & Benton (2009) found that being a student-athlete was associated with a 0.197 increase in cumulative GPA. Though the authors of this study report this finding as a statistically significant result, the authors

also caution that in the bigger picture of the college, findings pointed to more of a similarity than an actual difference.

In regard to academic performance specific to NCAA Division III student-athletes, only a study by (Robst & Keil, 2000) was located. The researchers in this study found that athletic participation in Division III athletics at Binghamton University did not impair students' academic performance. Additionally, after controlling for ability variables, this study found that sport participation did not pose a significant cost to student-athletes, and that results actually contradicted many stereotypes in today's society about college athletic participation. Specifically, this study found that athletes had higher GPA's, took more credits per-academic year and had a harder course load than the general student body (Robst & Keil, 2000).

While the findings comparing athletes to non-athletes in the area of GPA have been conflicting, it is important to note an additional consideration policy makers should keep in mind if and when they attempt to predict GPA as a student outcome; socioeconomic status. Sellers (1992) conducted a study after the NCAA tightened up initial eligibility standards and found that there were different predictors of college academic achievement for black and white student-athletes. They found that on average, black male student-athletes in revenue producing sports entered college with a poorer background -- both educational and socioeconomic and that they had lower GPAs (Sellers, 1992). High School GPA and occupation of the student's mother were found to be the only significant predictors for black student-athletes, while for white student-athletes, high school GPA, socioeconomic status and SAT/ACT were significant

predictors (Sellers, 1992). It will serve readers well to keep a socioeconomic lens in mind when looking at graduation rates in the following section.

Graduation Rates

When discussing graduation rates it is important to begin with common language. Ordinarily, when the term graduation rate is used, it is referencing the Federal Graduation Rate, which assesses only first-time, full-time, first year students in a cohort; and only considers those individuals an academic success if they graduate from their initial institution of enrollment within a six-year timeframe (NCAA, 2011). This rate is currently limited in its true representation because it does not take into account either transfers into the institution who graduate, nor transfers who leave the institution and graduate from other schools. The Federal Graduation rate is currently the only direct comparison between athletes and the general student-body.

In contrast to the Federal Graduation Rate, the NCAA has developed a Graduation Success Rate, sometimes referred to as GSR, which adds transfer students and those who enroll mid-year into the sample. A student-athlete who left an institution in good academic standing is removed from their initial cohort at that institution and no longer penalizes that institution if they departed on good academic terms. This method presents a much more complete picture of student-athlete success by increasing the sample to take into account transfers and non-scholarship athletes (NCAA, 2011). For example, in 2011, the NCAA research office noted in a presentation that the GSR added 104,813 students or 36.9 percent to the sample size, drastically changing the picture at some institutions (NCAA, 2011).

There was a healthy amount of literature available in the area of student-athlete graduation rates. Interestingly, the numerous studies conducted comparing the graduation rates of student-athletes and non-athletes had differing outcomes (Eitzen, 1987; Eckard, 2010; Ferris, Finster, & McDonald, 2004; Hildenbrand et al., 2009; Mangold, Bean, & Adams, 2003).

Hildebrand, et al. (2009) conducted a study with a sample of nearly 14,000 students from a land grant university in the Midwest and found that athletic status was positively associated with graduating. In fact, 68.4 percent of athletes were expected to graduate, compared to 58.7 percent of the general study body (Hildebrand, et al., 2009). Although athletes in this study were found to be more likely to graduate than their non-athlete counterparts, there was also a relationship found between athletic status and number of semesters prior to graduating. Athletic status was found to be associated with an additional 0.336 semesters enrolled prior to graduation. In other words, athletes were more likely to graduate but had advanced toward their degree more slowly than non-athletes (Hildebrand, et al., 2009). Overall these researchers concluded that there was a positive association with athletic participation and academic performance.

This study supported NCAA (2011) research that demonstrated student-athletes graduated two percent higher than the general student body. Furthermore, African-American student-athletes graduated 11 percent higher than African-Americans in the general student body and more specifically, African-American females graduated 20 percent higher than non-athletes. The only demographic that underperformed compared to the general student body was white males, who graduated at 62 percent compared to 63 percent for white male non-athletes. The 2013 NCAA research reports specific to the

Division III institutions reported a 61 percent graduation rate for all students (2006 cohort), while student-athletes were found to have a graduation rate of 69% (NCAA, 2013).

Eitzen (1987) referenced studies from Michigan State University, the University of Utah, the University of Notre Dame and Duke University that all point to student-athletes, both males and females, graduating at higher rates than the general student body. Yet Eitzen (1987) also referenced examples of departments, such as Tulane University and Colorado State University, with graduation rates much worse than that of the general student body, including findings that were much more pronounced when individual sport programs were assessed. Also mentioned were programs such as the University of Minnesota, which only graduated 9 percent of its men's basketball players over a period between 1978 and 1983, and the University of Georgia, which only graduated 17 percent of its black athletes from 1976-1985 (Eitzen, 1987).

Interestingly, Ferris et al. (2004) identified an assessment dilemma when they were examining their findings of graduation rates. Their contradictory results found for example Stanford University, which posted student-athlete graduations rates of 87 percent and non-athlete graduation rates of 93 percent. In contrast, San Jose State University only posted a student-athlete graduation rate of 43 percent, but this was a graduation rate 9 percent higher than the general study body. One institution graduated their student-athletes at a higher rate than non-athletes but the other institution graduated at over a 40 percent greater rate. So, who did a better job graduating student-athletes? This was a fundamental question that Ferris et. al. (2004) posed to those studying graduation rates. This further highlighted questions about comparing institutions with

divergent missions and goals and further reinforced an institution-by-institution case study analysis method.

Eckard (2010) brought to light two very important issues that are often overlooked in graduation rate studies. The first issue highlighted the fact that many studies compared a male-athlete sub-set to that of the entire general study body. The problem with this comparison was that male college graduation rates have been in general six percentage points lower than female rates (Eckard, 2010). In order to make a fair comparison it became most appropriate to compare male athletes to the male non-athlete population. The second issue highlighted by Eckard (2010) pertained to part-time students and the role they played in calculating federal graduation rates. In the federal rate, if a student began as full-time degree seeking in their first semester, they were included in that cohort whether they remained full-time in subsequent terms or not. Athletes in comparison must maintain full-time status in every term in order to be eligible for practice and competition. Part-time status should therefore either be compensated for or mentioned as a limitation. After having made adjustments for this part-time issue, Eckard (2010) found the gap in graduation rates for football and men's basketball players increased 17.7 and 34.3 percentage points respectively (Eckard, 2010).

Despite studies pointing to athletes graduating at higher rates than the general student body, there was research that also pointed to the fact that these graduation rates are still very low, noticeably when it comes to high-profile athletes. Eitzen (1987) referenced studies conducted with major profession sports teams. At the time of Eitzen's article, only 33 percent of National Football League players had graduated, 20 percent of

National Basketball Association players, 16 percent of professional baseball players and only eight percent of professional hockey players had earned their degrees.

In summary, after combining the multiple areas of discussion in this literature review, this section attempted to provide an in-depth look at many of the facets that play into the academic and athletic integration at this NCAA Division III institution.

CHAPTER III

Methodology

A case study was selected for this research project due to the nature of the type of research questions the author was attempting to answer. According to Gray (2004), case studies should be used when asking 'how' or 'why' questions and when a researcher does not have control over a contemporary set of events. Case studies allow researchers to explore many themes and subjects on a focused set of individuals and can prove important in adding to the understanding about a subject (Gray, 2004). In addition to the type of research questions the author was attempting to answer, the case study approach was also selected because as Gray (2004) points out, "The approach is particularly useful when the researcher is trying to uncover a relationship between a phenomenon and the context in which it is occurring" (p. 124), which directly aligns with the goal of examining athletic and academic integration within NCAA institutions.

One drawback to case studies is that it is often difficult to generalize the results of one specific case (Gray, 2004). Despite this limitation, when we look at most scientific studies, they need to be replicated many times before their findings are accepted, and that would be the hope of this researcher as well. Furthermore, a secondary goal of this work is that more institutions, particularly non-Division I institutions, would take part in a similar type of case study analysis. Only after the data from multiple case studies is drawn together and analyzed as a whole, will a more accurate picture of athletic and academic integration develop. If additional institutions elected to do institution-specific case studies, it would then be possible to look at the breadth of work and decide whether or not it was appropriate to make generalizations about findings.

In addition to selecting a case study approach, the researcher also selected to utilize a quantitative approach. Despite the fact that the case study approach is more often used qualitatively, it can be used quantitatively as well (Gray, 2004). Due to the fact that both categorical and quantitative variables needed to be analyzed to answer the research questions, the researcher utilized both simple cases of causal-comparative and correlational research to explore and determine potential relationships between variables. A simple case of causal-comparative research is defined as having an independent variable that is categorical and a dependent variable that is quantitative (Johnson & Christensen, 2004). Once a difference between variables is determined, the appropriate statistical test (Independent-Samples t-test) is used to determine if the findings are statistically significant, in other words that the finding is more than likely not attributable to chance (Johnson & Christensen, 2004). A simple case of correlational research is defined when there are both a quantitative independent and dependent variable and correlation coefficients are calculated to determine significance (Johnson & Christensen, 2004). Due to the many confounding extraneous variables often associated with student outcomes and performance, drawing any sort of cause-effect relationship is difficult and cautioned. The remainder of this chapter will outline a description of the case study design, the setting and participants, the data collection procedures, analysis and summary.

Case Study Design

After the case study and quantitative approaches were selected, the theoretical framework developed by Shulman and Bowen (2001) served as a guide to determine if the findings from their research would hold for a different type of NCAA institution. The institutions studied in Shulman and Bowen's (2001) work were primarily East-Coast

institutions and institutions at the Division I-A level (both public and private), Ivy League Universities and academically elite liberal arts colleges. The institution selected for this case study was a coed liberal arts college in the Midwest and not one considered to be academically elite. Therefore the selection of this type of institution would fit into the category of an institution type that had not been previously analyzed using this method. The college selected for the case study was also chosen because of the primary researcher's connection and access to data at that institution.

The type of case study selected was a single case study, embedded. This type of case study was selected because of the numerous layers and different units of analysis (Gray, 2004). The data analysis involved in this study examined similarities and differences in the admission process, the campus experience and student outcomes -- which would justify the embedded approach. According to Gray (2004), there are six main sources of case study data and strengths and weaknesses of each. The source of data selected for this case study was archival records, college student records to be precise. The strength of this type of evidence is that it is precise, quantitative and unobtrusive to the participants. A weakness of this type of data is that there is the potential for reporting bias as the individual entering the information is unknown and in the case of student records, there likely has been multiple individuals entering data that has come from multiple sources (i.e. admissions file, academic record, etc.).

In case study research, and in this study in particular, there is reliance on a single data set, which highlights the importance of validity and reliability (Gray, 2004). The main concern for internal validity occurs with causal studies, where the researcher is trying to prove that variable A caused variable B. Since this study is attempting to

describe relationships and correlations between variables, not cause and effect, this is not a concern. The other primary threat to internal validity arises when a researcher attempts to draw inferences from the data without actually observing an event (Gray, 2004). In order to increase the confidence of making an inference in this study, the researcher chose to utilize explanation building, which bases inferences off a previously established theoretical framework, in this case the framework provided by Shulman and Bowen (2004). External validity is one of the primary concerns with case study research because it looks at whether the findings can be generalized beyond the study (Gray, 2004). According to Gray (2004) there are to two key efforts that can improve the empirical generalizability of a case study. First is to provide evidence to the fit of the characteristics of the case study and the population. If this cannot be done, a warning should be provided about the risk of generalizing from the research, which is done in Chapter V in the limitations section. Lastly, Gray (2004) advises using a systematic selection process, not one of convenience, to ensure that the case is representative of the population. The selection of this case was done both systematically, in other words specifically chosen as a different type of institution than in the Shulman and Bowen (2001) study, and of convenience as the primary researcher had a connection to this institution. Therefore this will also be listed as a limitation in Chapter V.

Finally, in addressing the reliability of this research design, Gray (2004) indicates that conditions for reliability are met if the conclusions of one researcher can be replicated by another. By utilizing the framework laid out by Shulman and Bowen (2001), this researcher attempted to take into account the need for reliability. It will also be discussed in additional detail in Chapter V, in the recommendations for future research

section, the author recommends additional case studies using this same framework to increase the reliability of the findings. The next section serves to describe a detailed setting of the case study and the participants being analyzed.

Setting and Participants

The setting for this study was a private NCAA Division III institution in the Midwest. The institution is a liberal arts college with a religious affiliation that has more than a 100 year history. Recent enrollment figures for the institution have fluctuated between 3,700 and 4,000, including both undergraduate and graduate students. The institution offers over 50 undergraduate majors and nine graduate degrees. The institutions athletic department offers more than 20 varsity intercollegiate sports that all compete at the Division III level and also compete in a competitive conference.

The participants analyzed in this study were limited to all undergraduate first-time degree-seeking students. The data looked at variables for both student-athletes and non-athletes alike. Student-athletes were defined as those individuals on a team roster on the date of the first competition. A particular student-athlete could be associated with as many as three sports per-academic year, although for specific tests, student-athletes were associated with only their "primary" sport due to the potential to skew the data analysis if an individual student was counted on multiple occasions.

Data Collection

The data collection process began by seeking approval from the Vice President of Academic Affairs and Dean of the College and the Assistant Vice President and Dean of Graduate and Professional Studies. Once permission was granted to use the data by these authorities, Institutional Review Board (IRB) approval was sought at the institution

where the case study was conducted, guaranteeing that institution would not be specifically identified and there would be no personal identifiers included in the data (all ID numbers, social security numbers, names and birth dates would be removed from the data set). Since all individual data identifiers were removed, the researcher did not need to take any additional specific measures to protect human subjects.

IRB approval was granted by the case study institution and then a formal IRB request was made to the University of Minnesota. Once IRB approval was obtained by the University Minnesota, the researcher began working with the information technology staff at the institution being studied to generate the necessary data for this research project. The case study institution does not have an office of institutional research, but had that office existed, that would have been the researcher's next step as opposed to Information Technology. Although the institution has always had access to the data being analyzed, due to the lack of an institutional research office, up to this point, no one had chosen to look at the data in this manner or analyzed it in comparison to an existing theoretical framework.

The information technology staff was able to use the college enterprise software to develop a data set that included all undergraduate students and specific variables related to demographic information, admission/pre-college statistics, credits, major, GPA, student involvement in campus life and student-athlete status. All data was provided to the researcher in an Excel spreadsheet, stripped of all individual identifiers, and was then uploaded into IBM SPSS Statistics 19 for analysis.

In addition to the data set provided by the college information technology staff, one additional resource needed to be utilized. Since the data set included only

information for the four-year period between 2009 and 2012 it was not possible to use this information to study graduation rates as the common four, five and six-year cohort method could not be utilized. Therefore, a 2011-12 College FACTBOOK (Erchul, 2012) was located and served as the primary method for the examination of graduation rates of athletes and non-athletes.

Data Analysis

The data analysis process began by reviewing the Excel data set for any potential issues or problems and by combining separate tabs into one large spreadsheet with a newly added column for year. The researcher had to follow-up with the college IT staff to ask for additional clarification where codes had been utilized. For example, in the initial data set, academic major and ethnicity were listed by numeric and alpha codes respectively. Once the researcher requested the coding matrixes for these instances, that information was input into the values column of the variable view of the SPSS system.

Additionally, for statistical analysis purposes, the researcher had to change the sex codes of M/F to M=1 and F=2. The ethnicity variable was also changed from a categorical variable to numeric values 1 through 8, while the campus housing and first generational college variables were originally Y = yes and N = No, and these required recoding to N = 0 and Y = 1.

Further review of the data set revealed that there were 110 cases that needed to be removed as these students were classified as ‘non-degree seeking’ students and the researcher felt they did not match the profile of the analysis. Furthermore, an additional 16 cases were removed as they were classified ‘second-degree seeking’ which needed to be done in order to create a fair comparison to student-athletes who are not allowed to

compete after the completion of their first degree, due to a conference specific rule. The decision was made to keep 269 students identified as part-time. According to NCAA rules, student-athletes during their final semester before graduation are allowed to compete if they need less than a full-time load in order to graduate. When specifically reviewing the data, the vast majority of the part-time students were designated as 'seniors' and therefore the researcher decided they should be included in the analysis.

The data set allowed for up to three sports to be designated per-case, but in nearly every analysis conducted the researcher felt it was most appropriate and most accurate to represent the data by classifying an individual student according to their 'primary sport' or SPORT1 as listed in the data set.

Additional issues were identified with the ACT and GPA variables. When reviewing the ACT variable it was noted that there were a small number of cases where it was necessary to convert SAT scores to corresponding ACT values. The following website was used to convert scores: http://www.act.org/solutions/college-career-readiness/compare-act-sat/. There were also multiple issues with the undergraduate GPA variable that had to be solved prior to the data analysis. The original data set was generated from 10th day reporting, so in theory, any first year student should not have a GPA at this point because they have not earned any grades at this early time in the term. This was also the case for new transfer students because despite the fact that a student received transfer credit(s), the GPA of a previous institution is not factored into the GPA at the certifying institution. Therefore, there were approximately 150 cases where a .000 GPA needed to be corrected to a no-value so as to not skew the analysis.

Finally, new variables needed to be created for student-athlete (SA=1) and non-student-athlete (NSA=0), for male non-athlete (MNA=1), female non-athlete (FNA=2), male athlete (MSA=3) and female athlete (FSA=4).

The research questions listed below drove the statistical analysis both on a year-by-year basis as well as looking at the four-year period as a whole:

RQ1: How does the profile (ethnicity, first generation college status, high school graduated from, religious affiliation, ACT and high school GPA) of an incoming student-athlete look similar to or different from that of a non-athlete at this Midwest NCAA Division III college?

RQ2: How are student-athletes integrated (academic major, credits attempted per-term, TRIO/SSS, and campus housing) into the campus community and experience?

RQ3: How do student-athlete outcomes (GPA and graduation rates) compare to that of the general student body?

The following variables were analyzed using SPSS descriptive statistics for frequencies: Student Body Proportions, Ethnicity, First Generation, High Schools, Religions, Majors and Housing. Frequencies were run year-by-year and in aggregate for the years 2009-20012. Analysis was done with the two groups (athlete and non-athlete) and for the four sub-groups (male non-athlete, female non-athlete, male athlete and female athlete). SPSS was also used to create descriptive statistics and Independent-Samples T-Tests for significance were run for the following variables: ACT, High School GPA, Credits attempted per-term and undergraduate GPA. Finally, the data was exported back into Excel and the appropriate tables and graphs were created.

Summary

In summary, this research project utilized a quantitative case study design. This research attempted to utilize the framework provided by Shulman and Bowen (2001) to guide its structure and findings. The great benefit of using the aforementioned framework with a new case study design focusing on only one institution is that there is a greater ability to provide specific findings that the institution can use in making data-informed decisions. For example, when Shulman and Bowen (2001) were analyzing the many institutions in their study, they were forced to group sports together into 'high profile' and 'lower profile' sports to account for the fact that not all institutions offer the same varsity sports at the intercollegiate level. By utilizing data from one institution, findings about specific sports programs and variables, such as major, are allowed to develop.

CHAPTER IV

Results of the Study

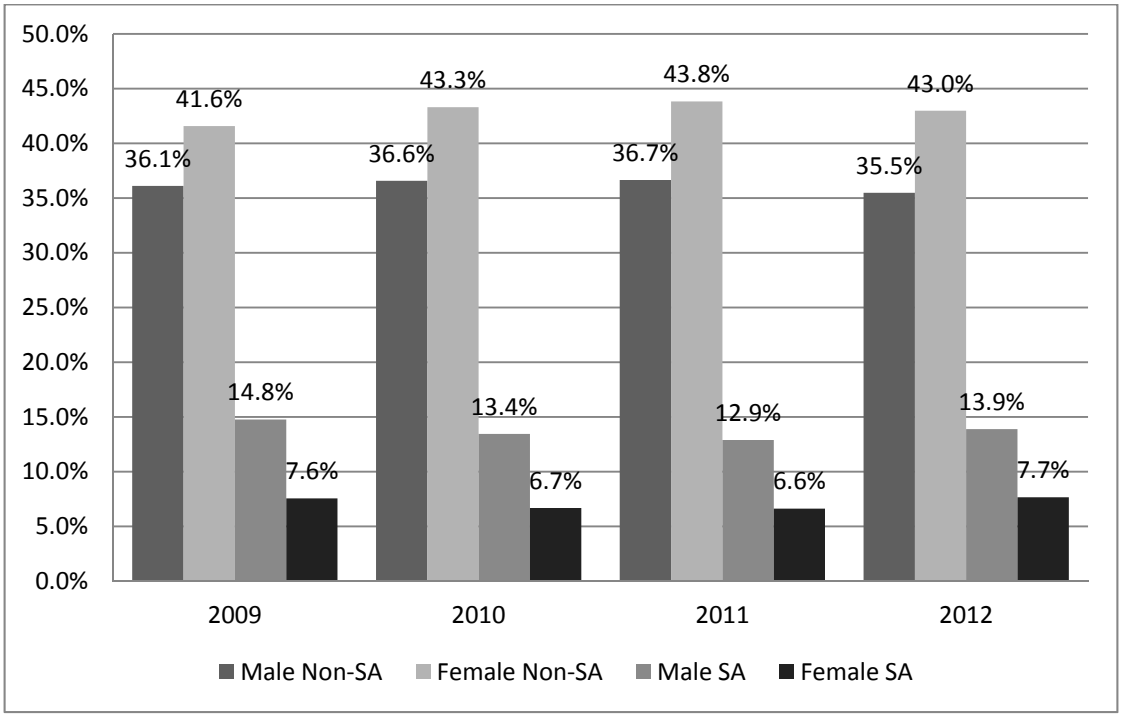
This chapter presents the results of this study in terms of the research questions specified in Chapter 1. For clarity and best communication of results, this section is divided into three general sections. The first section details the profiles of students at this institution by assessing ethnicity, first generation college status, high school graduated from, religious affiliation, ACT and high school GPA in order to compare and contrast athletes and non-athletes. The second section presents the data in terms of campus integration by looking at major, credit attempt per-term, TRiO/SSS participation and campus housing. The final section analyzes student outcomes with respect to GPA and graduation rates in order to compare and contrast the four sub-groups of analysis.

Enrollment Profile and Indicators

The first important part of understanding the impact of intercollegiate athletics at an institution is to understand the size of the impact. Figure 1 displays the proportions of the student body by analyzing the following four sub-groups: male non-student-athletes, female non-student-athletes, male student-athletes and female student-athletes, over the four-year period between 2009 and 2012. The total number of degree-seeking undergraduate students at this institution ranged from 1,886 to 2,023 during any given year of the period studied. The number of male student-athletes ranged from 257 to 291, while the number of female student-athletes ranged from 132 to 149. At this institution, the proportion of athletes (male and female combined) in comparison to the general student body ranged from low of 19.5 percent in 2011 to a high of 22.3 percent in 2009. When looking at the trend of male and female enrollment as a whole at this institution

(athletes and non-athletes combined) the proportion of male students dropped slightly every year of the analysis from a high of 50.9 percent in 2009 to a low of 49.4 percent in 2012, while the opposite trend held true for female enrollment which was at its lowest point (49.1 percent) in 2009 and increased to a high of 50.6 percent in 2012. Enrollment proportions are displayed in detail in Figure 1 as well as in Appendix A.

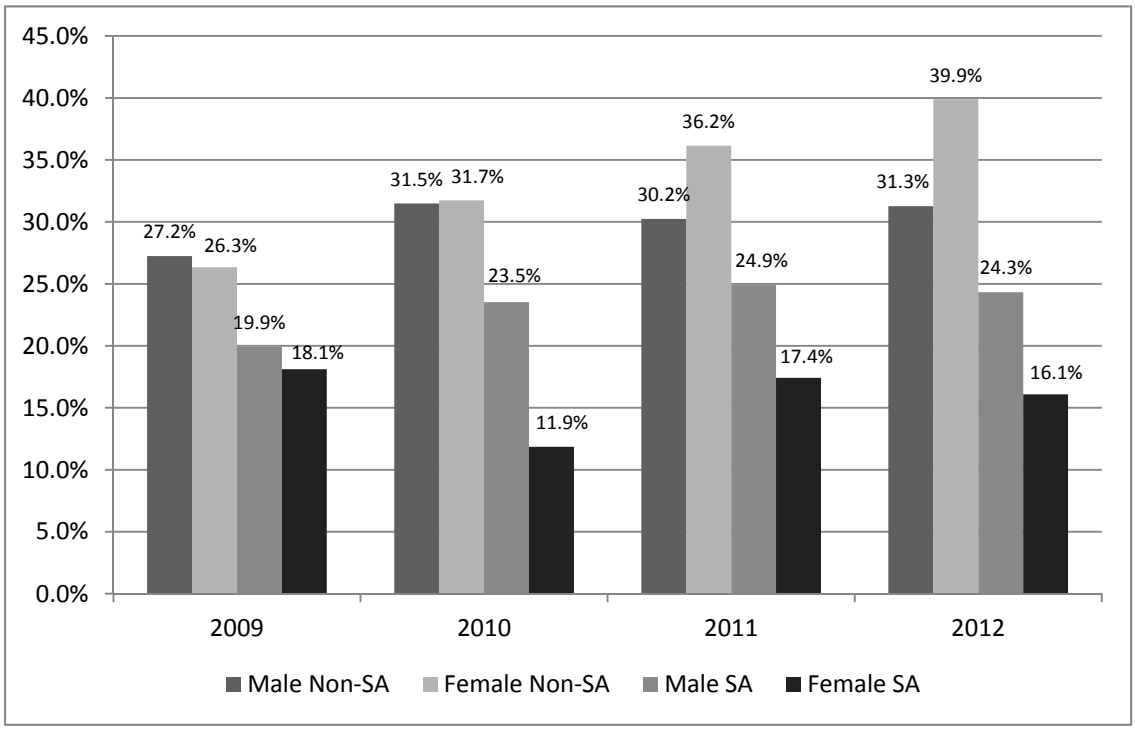
Figure 1: Student Body Proportions by Sub-Group (Male Non-Student-Athlete, Female Non-Student-Athlete, Male Student-Athlete, Female Student-Athlete)



The institution being examined in this study is a fairly diverse institution for a private college located in the Midwest. Figure 2 shows the percentage of minority students for each of the four respective sub-groups, defined as the total of all Asian-Pacific Islands, Black-Non-Hispanic, Hispanic, American Indian/Alaskan and Multi-Racial groups, over each of the four years being examined. The female non-student-athletes sub-group contained the largest proportion of minority students in three of the

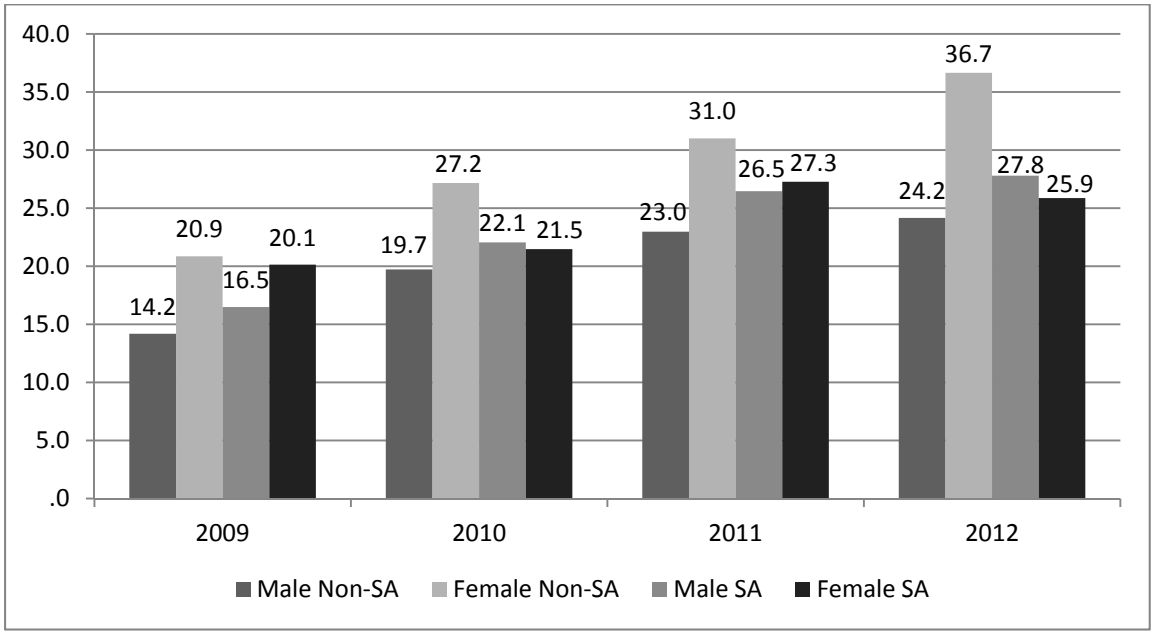
four years examined, while male non-student-athletes had the greatest proportion in 2009. Ethnic diversity reached its highest proportion in 2012, with nearly 40 percent of female non-student-athletes considered minority students. At this institution, as athletes were less diverse than their non-athlete counterparts. Of all sub-groups analyzed, female student-athletes contained the smallest proportion of minority students, which included a four-year low of 11.9 percent in 2010. Over the four-year period studied, an average of 30.1 percent of male non-student-athletes were considered minority students, while an average of 33.5 percent of female non-student-athletes were considered an ethnic minority. From an athletic standpoint, over the four-year period studied, an average of 23.2 percent of male student-athletes were considered minority, while an average of 15.9 percent of female student-athletes were considered an ethnic minority.

Figure 2: Minority Proportions by Sub-group (Male Non-Student-Athlete, Female Non-Student-Athlete, Male Student-Athlete, Female Student-Athlete)



Another important indicator for many college admission departments when attempting to shape their incoming class is to assess first generation status. Figure 3, shows the proportion of first generation college students in each of the respective sub-groups. Similarly to minority status, female non-student-athletes had the highest proportion of first generation college students. Unlike the minority findings previously referenced, male student-athletes had a higher proportion of first generation college students than male non-athletes. In fact, male non-athletes had the lowest proportion of first generation students in each of the four years studied. Furthermore, female student-athletes had a higher proportion of first generation students than male student-athletes in two of the four years studied, including a high of 27.3 percent in 2011.

Figure 3: Proportion of First Generation College Students by Sub-group (Male Non-Student-Athlete, Female Non-Student-Athlete, Male Student-Athlete, Female Student-Athlete)



Another important tool for both college admission departments and athletic coaches when recruiting students to their institutions is to understand which high schools matriculate the most students. This information allows staff members to maximize their efforts during the recruitment process. When analyzing all data over the four-year period of 2009-2012, for each of the respective sub-groups, some interesting trends emerged. A complete sub-group breakdown can be found in Appendix E.

High School 241675 was found to yield the greatest number of students in three of the four sub-groups -- male non-student-athletes, female non-student-athletes and male student-athletes, and was in the top-five for female student-athletes. An interesting finding was that the top producing high school for female student-athletes, High School 242209, was not among the top-10 for any of the other sub-groups. It was also interesting to note that, High School 241150 and High School 242367 both finished in the top-10 in

three of the four sub-groups. Athletes and non-athletes were also found to have divergent results for High School 242121, which was in the top-10 for both athlete sub-groups but was not included in the top-10 for either of the non-athlete groups. Table 1 details the top-10 high school producers for this institution when restricting the analysis to athletes and non-athletes over the four-year period. High School 241675 remained the top school in this analysis but that was the only commonality between the two reports.

Table 1: Top-10 Producing High Schools – Athlete-Non-Athlete Comparison (2009-12)

High School - Athlete vs. Non-Athlete (2009-2012)						
SA 2 Groups			Frequency	Percent	Valid Percent	Cumulative Percent
Non-Athlete	Valid	High School 241675	160	2.6	2.7	49.4
		High School 241870	136	2.2	2.3	70.3
		High School 241645	126	2.0	2.2	45.2
		High School 241150	105	1.7	1.8	29.0
		High School 242650	97	1.6	1.7	87.7
		HS 241627	95	1.5	1.6	42.4
		High School 241153	91	1.5	1.6	30.5
		High School 241680	91	1.5	1.6	50.9
		High School 240708	83	1.3	1.4	20.9
		High School 242255	81	1.3	1.4	73.6
		Total	5825	93.7	100.0	
	Missing	System	392	6.3		
	Total		6217	100.0		
Athlete	Valid	High School 241675	40	2.4	2.5	48.8
		High School 242121	38	2.3	2.4	66.5
		High School 240452	33	2.0	2.1	22.0
		HS 242367	31	1.9	2.0	81.0
		High School 241325	27	1.6	1.7	34.7
		HS 240268	26	1.6	1.6	15.8
		High School 242035	25	1.5	1.6	61.2
		HS 241489	23	1.4	1.5	38.7
		High School 240537	22	1.3	1.4	24.5
		High School 241930	22	1.3	1.4	59.1
		Total	1584	96.7	100.0	
	Missing	System	54	3.3		
	Total		1638	100.0		

Since the institution in this case study is a religiously affiliated institution, it was also important to examine any religious similarities/differences between student-athletes and non-student-athletes. Table 2 represents the top-10 religious affiliations among the four sub-groups found by SPSS frequency calculations. An ELCA affiliation was the most frequent among male non-athletes, female non-athletes and female athletes with Roman Catholic coming in second in all three of these sub-groups. Male athletes had the same top- two religions, but juxtaposed, where nearly 21 percent of male student-athletes

indicated a Roman Catholic affiliation, whereas an ELCA affiliation made up 18.2 percent of male student-athletes. Although female athletes indicated an ELCA affiliation as the most common religion, it is important to note that the frequency was eight percent greater than the other two sub-groups. Another interesting finding was that Islamic/Muslim was the eighth most common religion among male and female non-athletes, making up 2.2 and 3.5 percent of these groups respectively. In contrast, an Islamic/Muslim affiliation was only stated by 0.8 percent of male student-athletes and not a single female student-athlete.

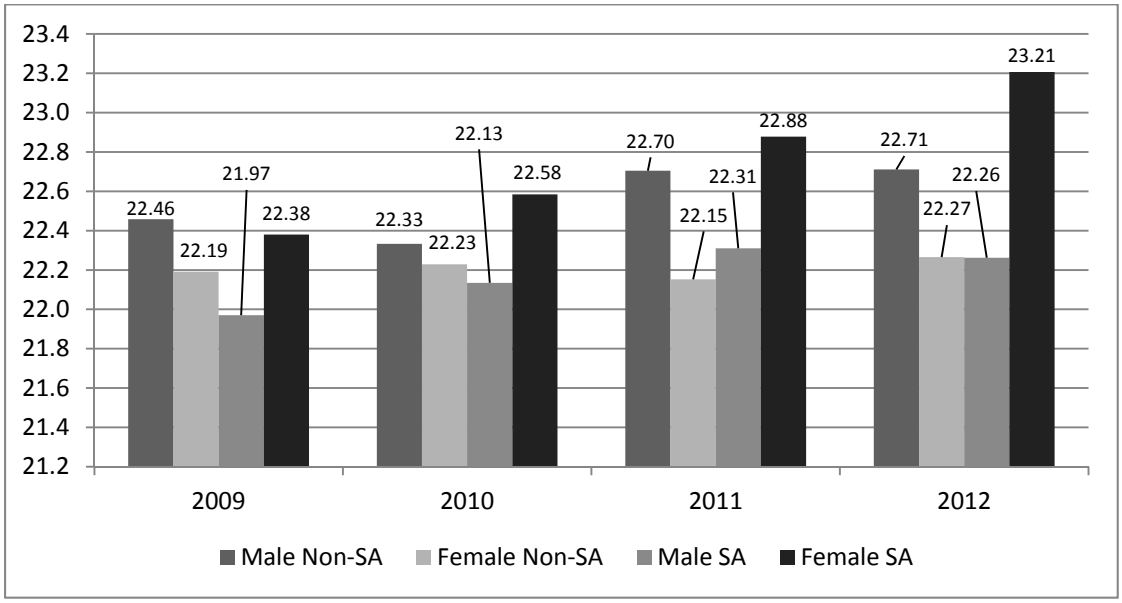
Table 2: Top-10 Religious Affiliations – By Sub-Group (2009-12)

Religious Distribution						
SA 4 Groups			Frequency	Percent	Valid Percent	Cumulative Percent
Male Non-Athlete	Valid	ELCA	554	19.5	24.8	63.0
		Roman Catholic	385	13.5	17.2	19.7
		Christian (Non-denominational)	220	7.7	9.8	34.6
		No Response	196	6.9	8.8	86.8
		No Affiliation	195	6.9	8.7	100.0
		Lutheran - Other	135	4.7	6.0	71.1
		Other (Non-Christian)	75	2.6	3.4	90.1
		Islamic/Muslim	62	2.2	2.8	37.4
		Methodist	58	2.0	2.6	74.5
		Missouri Synod Lutheran	45	1.6	2.0	65.0
	Missing	System	610	21.4		
	Total		2845	100.0		
Female Non-Athlete	Valid	ELCA	658	19.5	24.0	63.1
		Roman Catholic	429	12.7	15.6	19.8
		Christian (Non-denominational)	248	7.4	9.0	33.5
		No Response	219	6.5	8.0	86.9
		No Affiliation	203	6.0	7.4	100.0
		Lutheran - Other	194	5.8	7.1	71.9
		Other (Non-Christian)	124	3.7	4.5	91.4
		Islamic/Muslim	119	3.5	4.3	37.9
		Methodist	92	2.7	3.4	76.1
		Baptist	89	2.6	3.2	4.2
		Total	2746	81.4	100.0	
	Missing	System	626	18.6		
	Total		3372	100.0		

Male Athlete	Valid	Roman Catholic	226	20.9	25.9	29.9
		ELCA	196	18.2	22.5	70.9
		Christian (Non-denominational)	101	9.4	11.6	47.0
		No Response	62	5.7	7.1	91.9
		Lutheran - Other	52	4.8	6.0	79.9
		No Affiliation	46	4.3	5.3	100.0
		Missouri Synod Lutheran	27	2.5	3.1	74.0
		Baptist	24	2.2	2.8	4.0
		Methodist	20	1.9	2.3	82.2
		Covenant	15	1.4	1.7	33.7
		Total	872	80.8	100.0	
	Missing	System	207	19.2		
	Total		1079	100.0		
Female Athlete	Valid	ELCA	160	28.6	33.0	75.7
		Roman Catholic	132	23.6	27.2	31.8
		Lutheran - Other	39	7.0	8.0	86.4
		Christian (Non-denominational)	32	5.7	6.6	42.3
		No Response	20	3.6	4.1	94.4
		Baptist	19	3.4	3.9	4.5
		No Affiliation	16	2.9	3.3	100.0
		Missouri Synod Lutheran	13	2.3	2.7	78.4
		Methodist	9	1.6	1.9	88.2
		Other (Non-Christian)	9	1.6	1.9	96.3
		Total	485	86.8	100.0	
	Missing	System	74	13.2		
	Total		559	100.0		

The next section analyzes three of the most common preparation and success indicators for college admissions counselors and athletic coaches – ACT score, high school GPA and high school class rank. In three of the four years, SPSS descriptive statistics revealed that female student-athletes had the highest mean ACT score of the four sub-groups as shown in Figure 4 and detailed in Appendix F. Female student-athletes consistently outperformed female non-athletes but in contrast, male non-athletes consistently outperformed male athletes.

Figure 4: Mean ACT score by Sub-group (Male Non-Student-Athlete, Female Non-Student-Athlete, Male Student-Athlete, and Female Student-Athlete)

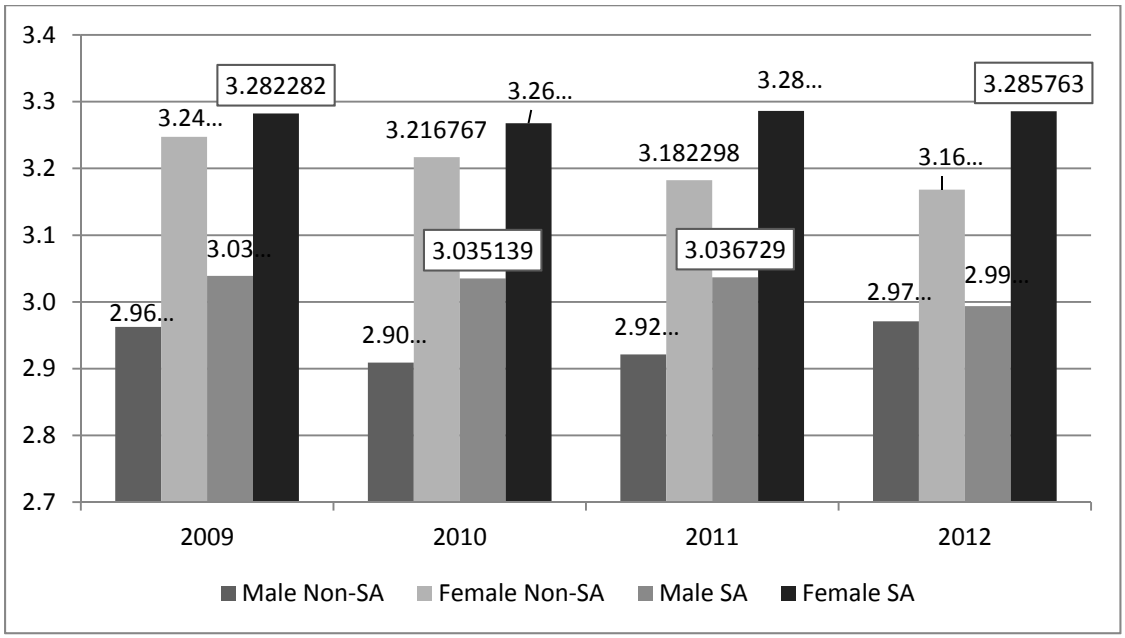


When looking at the data set as whole and comparing athletes to non-athletes, the mean ACT score for student-athletes was 22.37 with a standard deviation of 3.642 and the mean ACT score for non-athletes was 22.36 with a standard deviation of 4.129, which was not found to be a statistically significant at the p = .05 level. When further analyzing the data over the four-year period, it was discovered that the mean ACT score for female athletes was 22.75 with a standard deviation of 3.605, while the mean ACT score for female non-athletes was 22.21 with a standard deviation of 4.097, which was found to be statistically significant at the p=.05 level. When comparing males, the non-athlete group had a mean ACT score of 22.54 with a standard deviation of 4.161, while male athletes had a mean ACT score of 22.16 with a standard deviation of 3.647, again this was found to be significant at the p=.05 level. There were also statistically significant differences found between male and female athletes and male and female non-athletes. Although

statistical significance was determined using an independent-samples t-test, mean scores for all groups were within one point. Therefore it is cautioned that results may not be practically significant for policy making decisions of the college.

The next area of analysis compared and contrasted high school GPAs and is detailed in Figure 5. SPSS descriptive statistics revealed in all four years studied, female student-athletes had the highest mean GPA and that they also outperformed their female non-athlete counterparts in each year of the analysis. The same held true for male student-athletes outperforming their male non-athlete counterparts in every year of the analysis. It was also determined that females as a whole, outperformed males as a whole, in each of the four years studied.

Figure 5: Mean High School GPA by Sub-group (Male Non-Student-Athlete, Female Non-Student-Athlete, Male Student-Athlete, Female Student-Athlete)



When analyzing the four years of data set, student-athletes had a mean GPA of 3.115, while non-student-athletes had a mean GPA of 3.088, which was not found to be

statistically significant at the p=.05 level by utilizing Independent Sample T-Tests within SPSS statistics. When comparing male non-athletes to male athletes, the non-athletes had a mean GPA of 2.940, while the male athletes had a mean GPA of 3.027, which was found to be statistically significant. There was also a statistically significant difference found between female non-athletes and female athletes. The female student-athletes had a 3.281 mean GPA, while the female non-athletes had a mean GPA of 3.204. There was also statistical significance found when comparing the means of male and female athletes and when comparing male non-athletes and female non-athletes as noted in Appendix H.

When exploring the data for high school class rank, it was noted this particular variable had more missing or not available data than any of the other variables examined. Missing data ranged from 20 percent for female student-athletes up to 40 percent missing for male non-student-athletes. The researcher therefore chose not to do a year-by-year analysis of this variable and instead look at the data in aggregate only. SPSS descriptive statistics revealed that the mean class rank for non-athletes was 61.68, while the mean class rank for athletes was 60.73. Independent-Samples T-Test revealed that similarly to ACT, and High School GPA, this was not a statistically significant finding. When conducting significance tests for the four sub-groups, it was found that the mean high school rank for female non-athletes (67.98) did not differ at a significant level from female athletes (69.78) but that there was a significant difference between the mean scores for males. Male non-athletes had a mean High School class rank of 53.66, while male student-athletes had a mean rank of 55.99, which was significant at the p=.05 level.

Another interesting finding related to class rank was determined when assessing the percentiles and Interquartile Range (IQR) for the four respective groups. The middle

50 percent of male non-athletes had a class rank that fell between 35 and 72, while IQR for male athletes was between 38 and 76. Strikingly, the middle 50 percent of female non-athletes fell in the range between 53 and 86, while the IQR for female student-athletes was found to be 58 and 87. Complete percentiles, descriptive data and significance tests can be found in Appendix G.

Campus Integration Indicators

The previous section reported on many of the factors that determine the enrollment profile and status of incoming students to an institution. The current section explored if and how student-athletes have similar or different experiences than their non-student-athlete counterparts once they arrive on campus. The first area examined is academic major. Due to multiple teams with small squad sizes ($n < 10$), the researcher decided to evaluate the data in aggregate, in other words, all four years of the data set in one analysis. SPSS was used to analyze descriptive statistics for the major variable and frequency reports were generated for both athletes and non-athletes. Results, listed fully in Appendix H, found that the most common major for both athletes and non-athletes was General Studies – Undeclared, which was not unexpected as all students were included in the analysis not just upperclassmen. Even though both athletes and non-athletes had the same top major, athletes had a higher percentage of their sub-group that fell in this major -- 18.4 percent, compared to just 11 percent for non-athletes. Athletes and non-athletes also had the same second most common major, Biology. In this instance athletes had a slightly higher percentage, 9.0 percent of athletes selecting this major as opposed to 8.3 percent of non-athletes. Results showed that athletes and non-athletes had four of the top-five majors in common, which in addition to the previously mentioned majors included

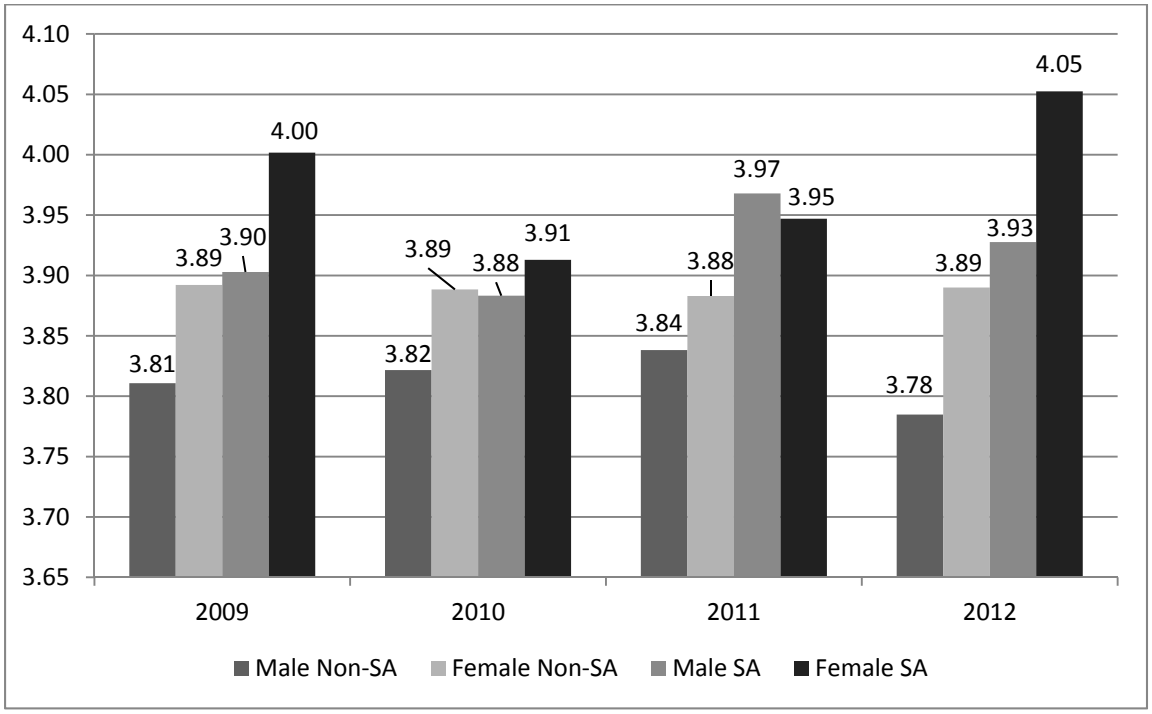
Psychology and Management. In fact, when studying the top 25 majors for both athletes and non-athletes, it was discovered that 18 majors appeared on the top-25 lists for both sub-groups. It was also interesting to note that student-athletes majored in Mathematics, Chemistry, Biology, Engineering and Physics at equal to or higher frequencies than their non-athlete counterparts. Social Work, Film and Music Therapy all appeared on the non-athlete top-25 list but were not included in the top majors for athletes. In contrast, Exercise Science, Physical Education and Health Fitness all appeared on the athlete top-25 list but not on the non-athlete list of top majors.

Major data was also studied over the four year period in an attempt to determine if any major clusters were present among specific teams. Using the definition established by Case, Greer, & Brown (1987), where 25% or more athletes on team with the same major would constitute a cluster, one cluster was identified. The women's cross country team had a major cluster in General Studies –Undecided at 26.5 percent, which was representative of nine individuals over the four-year period. Although only one team met the threshold of 25 percent, there were three teams that had between 24 and 25 percent of their athletes in the same major. Men's Basketball had 24.4 percent of its student-athletes majoring in Management, while men's soccer had 24.6 percent majoring in General Studies – Undecided and the women's soccer program had 24.7 percent of its athletes majoring in Biology.

The previous section discussed student's majors, while the next section delves into the academic world of students with an examination of how many credits they attempt per-term. SPSS was utilized to create descriptive statistics for the variable Total Credits. Figure 6 details a year-by-year comparison of the number of credits attempted

per-term for each of the four respective sub-groups. Female student-athletes attempted the most credits in three of the four years examined with male student-athletes attempting the most credits in 2011. Female student-athletes had a greater mean number of credits attempted per-term than their non-athlete counterparts in every year studied and this trend was also found to be true for male student-athletes and non-athletes.

Figure 6: Mean Credits Attempted per Term by Sub-group (Male Non-Student-Athlete, Female Non-Student-Athlete, Male Student-Athlete, Female Student-Athlete)



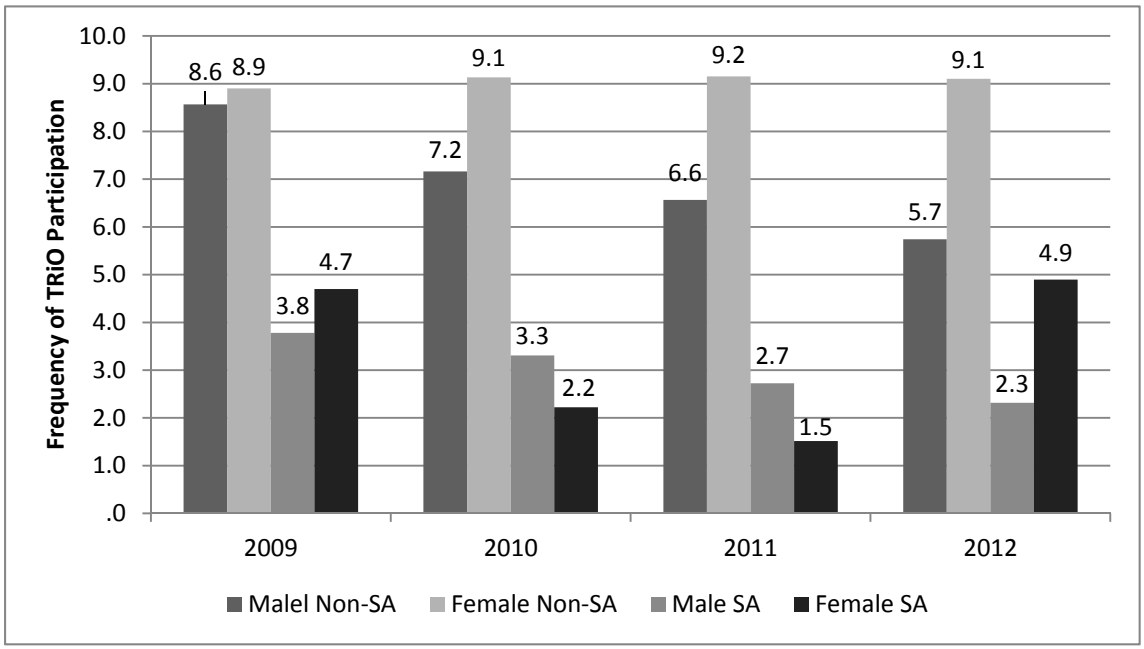
When the data was analyzed for the four year period and mean number of credits tested for significance using an independent-samples t-test, there was found to be a statistically significant difference at the p=.05 level between athletes and non-athletes, between female athletes and female non-athletes and between male athletes and male non-athletes. On average, athletes as a whole attempted 3.9402 credits per-term, while non-athletes as a whole attempted a mean number of 3.8546 credits per-term. It is

important to note that the institution in this study counts credits on a 1-to-4 ratio, therefore four credits at this institution is equal to 16 semester hours.

Male student-athletes recorded a mean number of 3.9194 credits per-term, while male non-athletes attempted a mean number of 3.8146 credits per-term. Female student-athletes attempted a mean of 3.9803 credits per-term, while their non-athlete counterparts attempted a mean of 3.8883 credits per-term, again which was found to be a statistically significant difference at the p=.05 level.

In addition to evaluating the credit load of students at this institution, it was deemed important to evaluate one of its student support programs, TRIO/Student Support Services (SSS) as well, in order to determine if athletes and non-athletes were utilizing this service available to the entire student body. The TRIO/SSS program has the objective of helping students overcome class, social, and cultural barriers to complete their college education. Figure 7 displays the frequency of participation in this student support program by each of the four sub-groups studied.

Figure 7: TRIO/SSS participation by Sub-group (Male Non-Student-Athlete, Female Non-Student-Athlete, Male Student-Athlete, and Female Student-Athlete)



The data displayed in Figure 7 shows that student-athletes are utilizing this campus student support program much less frequently than their non-athlete counterparts. Over the four year period as a whole, only 3.2 percent of student-athletes took part in the TRIO/SSS program, while 8.1 percent of non-athletes took part in this program. The year-by-year analysis shows that female non-athletes utilized this service more than any other sub-group over the four-year period studied. It also shows that participation by athletes ranged from a low of 1.5 percent for female athletes in 2011 to a high of 4.9 percent for this same sub-group in 2012.

The final area of analysis in regard to campus integration looks at the rate at which each of the subgroups do or do not live on campus. Frequency statistics were generated using SPSS software to determine the rate at which each sub-group lived on campus. Results, listed in full in Table 3, revealed that female student-athletes lived on

campus at the greatest frequency, followed by male athletes, then male non-athletes and finally by female non-athletes. Female student-athletes lived on campus at a frequency 28.5 percent greater than their female non-athlete counterparts. Interestingly, male student-athlete also lived on campus at a higher frequency than male non-athletes but only a difference of 8.1 percent.

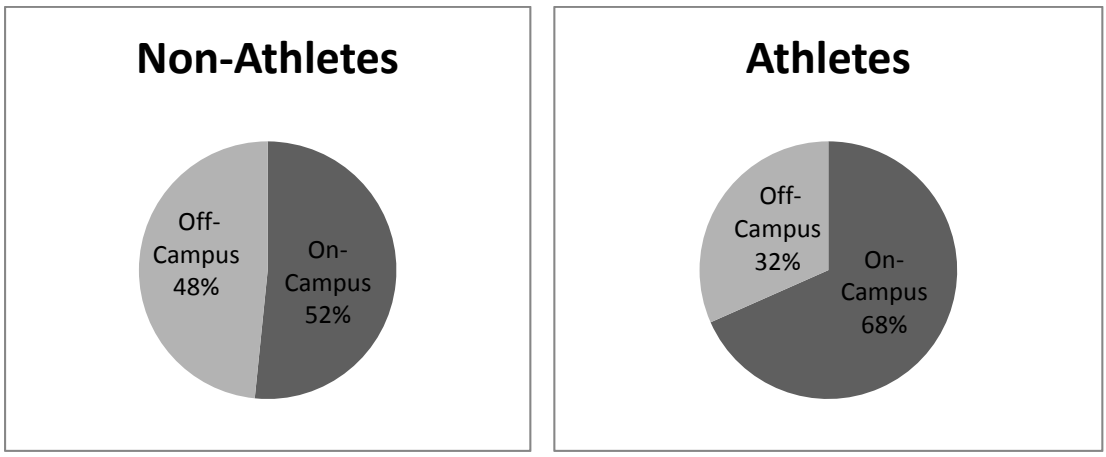
Table 3: Campus Housing – By Sub-Group (2009-12)

Campus Housing

SA 4 Groups			Frequency	Percent	Valid Percent	Cumulative Percent
Male Non-Athlete	Valid	No	1552	54.6	54.6	54.6
		Yes	1293	45.4	45.4	100.0
		Total	2845	100.0	100.0	
Female Non-Athlete	Valid	Yes	1716	50.9	50.9	50.9
		No	1656	49.1	49.1	100.0
		Total	3372	100.0	100.0	
Male Athlete	Valid	Yes	676	62.7	62.7	62.7
		No	403	37.3	37.3	100.0
		Total	1079	100.0	100.0	
Female Athlete	Valid	Yes	444	79.4	79.4	79.4
		No	115	20.6	20.6	100.0
		Total	559	100.0	100.0	

When looking at student-athletes as a whole and comparing them to the non-athlete population, 68.4 percent of athletes lived on campus between 2009 and 2012, while only 51.6 percent of non-athletes lived on campus. This finding is further displayed in Figure 7 and Appendix J.

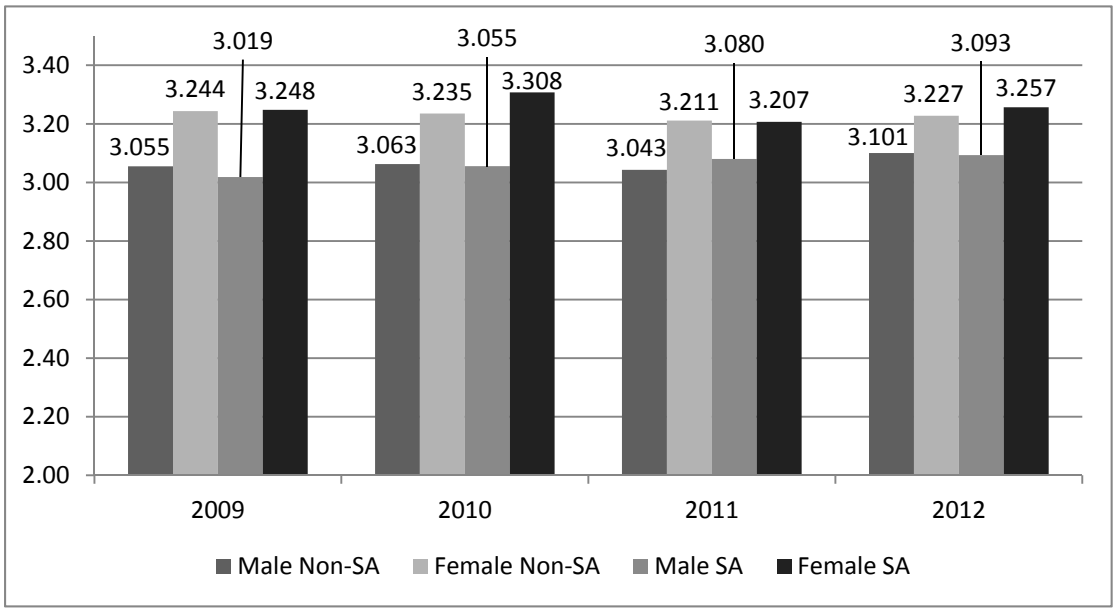
Figure 8: Campus Housing – Student-Athlete vs. Non-Athlete



Student Outcome Indicators

The final section of the results chapter discusses student outcomes by assessing GPA and graduation rates. SPSS software was utilized to explore the variable of undergraduate GPA, and descriptive statistics and tests for significance were conducted. Results revealed that female students, both athletes and non-athletes, consistently had a higher mean GPA than male students, both athletes and non-athletes. This was the only consistent finding in the year-by-year analysis shown in Figure 8.

Figure 9: Mean Undergraduate GPA by Sub-group (Male Non-Student-Athlete, Female Non-Student-Athlete, Male Student-Athlete, Female Student-Athlete)



When looking at the data set as a whole, over the four-year period, non-athletes had a mean undergraduate GPA of 3.153, while athletes had a mean GPA of 3.125, this result was not found to be statistically significant at the p=.05 level. Male non-student-athletes were found to have a mean GPA of 3.065, while male athletes were found to have a mean GPA of 3.059. When comparing females, athletes recorded a 3.256 mean GPA, while female non-athletes had a 3.229 mean GPA. Neither the mean difference between male athletes and their non-athlete counterparts nor female athletes and non-athletes were found to be statistically significant.

The final area of assessment of this study analyzed graduation rates. Due to the fact that the original data set only contained four years of data (2009-2012), another data source was needed to study graduation rates due to the fact that graduation rates reported to the federal government are analyzed in four- five- and six-year cohorts. The institution

annually produces a FACTBOOK for faculty and staff and this document served as the source of the graduation rate data (Erchul, 2012). Figures 9, 10 and 11 display graduation rates reported from the most recent Integrated Postsecondary Education Data System (IPEDS) reporting cohorts. Figure 9 specifically represents all freshman/first-years who entered the institution as full-time degree seeking students in the Fall of 2007 and the percentage that had graduated four years later. Figure 10 in turn represents all freshman/first-years who entered the institution in Fall 2006 and how many had graduated five years later, while Figure 11 represents all freshman/first-years who entered in the Fall of 2005 and how had many graduated six years later.

Figure 10: Four Year Graduation Rate: First Year Cohort 2007

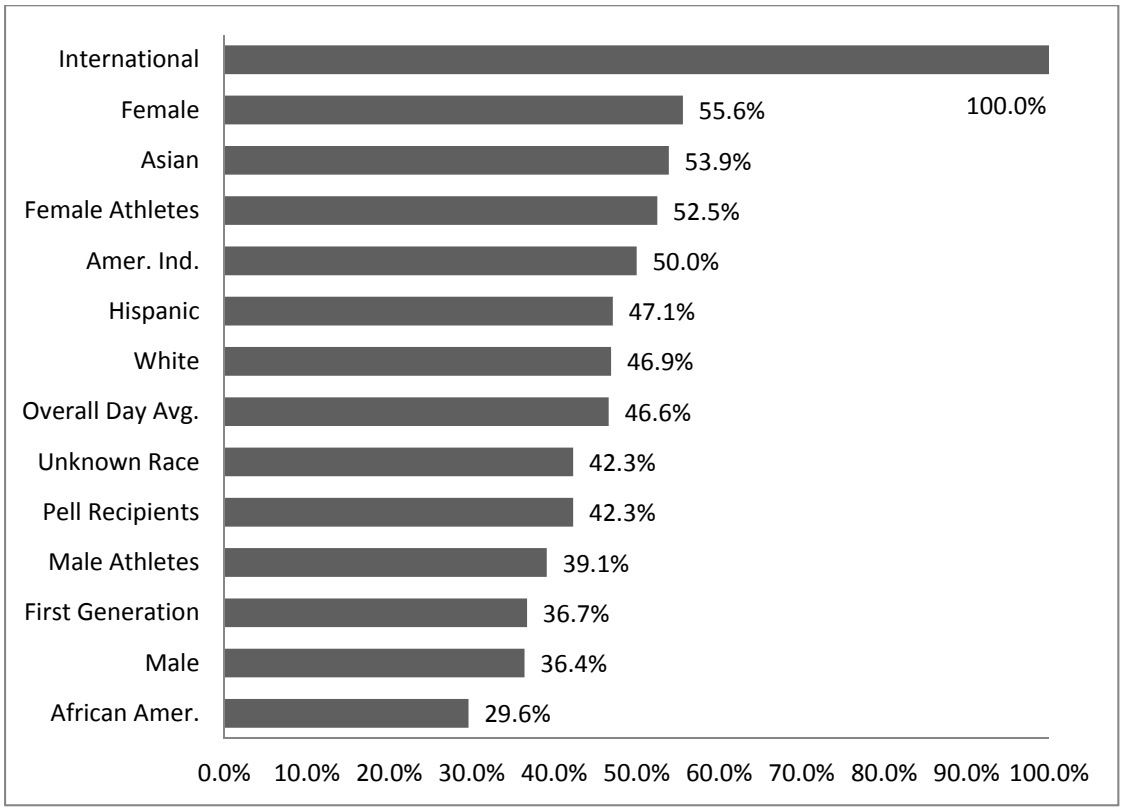


Figure 11: Five Year Graduation Rate: First Year Cohort 2006

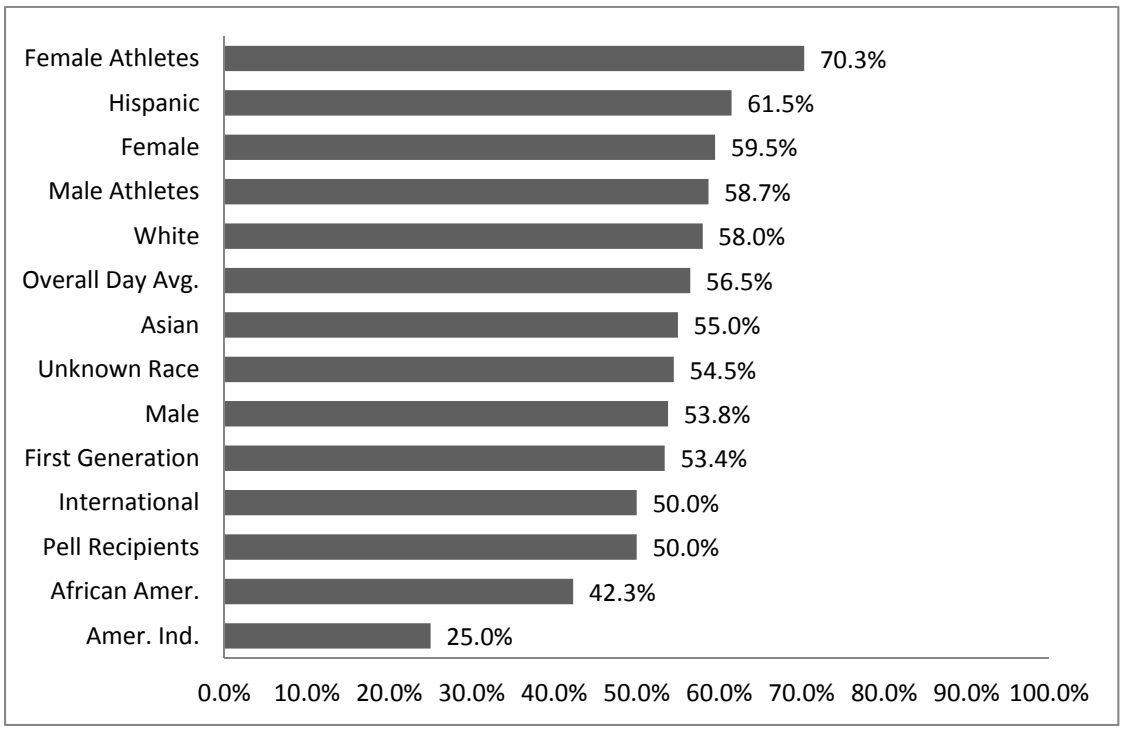
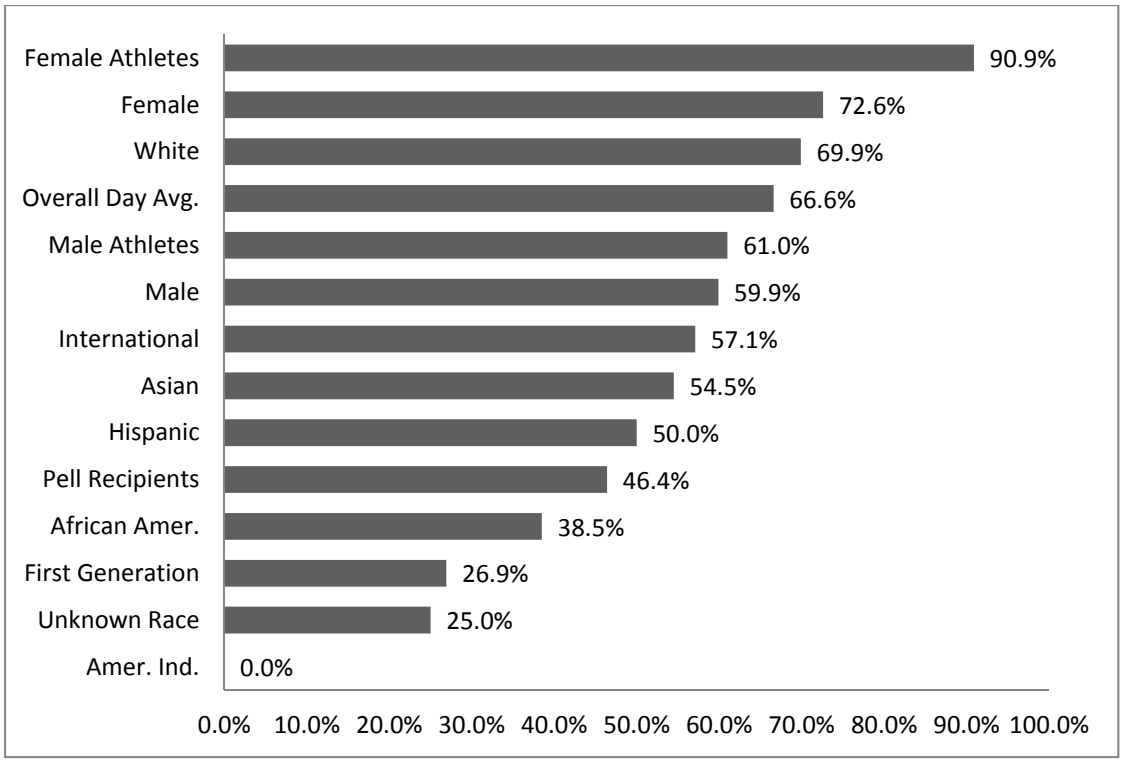


Figure 12: Six Year Graduation Rate: First Year Cohort 2005



The graduation data in figures 9-11 show that female student-athletes had the highest graduation rates of any sub-group tracked by the college when analyzing the 2005 and 2006 cohorts respectively. In all three of the cohorts studied, male student-athletes graduated at higher rates than male non-athletes, despite graduating at a much lower rate than female athletes. Finally, when comparing athletes to the overall college graduation rates, female-athletes graduated at a higher rate than the overall student average in all cohorts, while male athletes were above the overall student rate in the five-year graduation rate analysis but were below the overall rate in the other two cohorts.

CHAPTER V

Discussion, Conclusions and Recommendations

This chapter discusses the significance of the results of this study in the context of the current literature as well as the practical implications for the institution in the study. Major conclusions are presented and recommendations for future research are discussed. This chapter is introduced by a brief overview of the study, and subsequently the chapter is divided into sections based on answering each of the three research questions. Finally, limitations and challenges are discussed, followed by future recommendations.

Overview of the Study

The purpose of this study was to examine the relationship between student-athletes and non-athletes and how they are integrated into the higher education environment and experience. In particular, this study attempted to answer whether student-athletes look similar to non-athletes in the type of student admitted to the institution, the experiences they have while on campus and the learning outcomes upon their leaving the institution. By utilizing the academic records of students at this NCAA Division III institution, the researcher was able to analyze data that had always been available to the institution, but that had never been previously studied in this manner. By examining the relationships between athletes and non-athletes, the institution's admissions department and athletic staff can begin to make more data-informed decisions as they structure their recruitment and retention strategies. Additionally, by using the framework established by Shulman & Bowen (2001) the researcher had the opportunity to assess if the results presented in *The Game of Life* would apply to a different type of institution in a different geographic location. An additional benefit of the structure of the

study as a case study was that the institution can draw very specific sport and program conclusions as well as make recommendations for the future direction of the college.

Discussion

The results of this study have both practical implications for the institution involved, as well as for adding to the literature. From the admissions standpoint, there are a number of important findings to discuss. First, the results of this study found that student-athletes at this institution were actually less diverse than the general student body, which was contrary to the findings of Shulman & Bowen (2001). Results from this study found that despite the percentages of minority female non-athletes increasing nearly 15 percent over the time period studied, the percentage of minority female athletes remained fairly consistent during that same time frame. Additionally, the number of minority males in the general student body was consistently about five percent higher than the percentage of minority male student-athletes. This trend of increasing minority enrollment in the general student body is in line with current trends in K-12 education in the state (MMEP, 2012). This institution primarily recruits in-state with a small amount of in-region recruiting, which means understanding and being ahead of current K-12 trends will be vital to the success of the institution.

For the institution this means one of two things. First, the institution could accept the fact that student-athletes are less diverse than the general study body and could elect to shape its incoming class with other more diverse segments (i.e. male and female non-athletes). The other option would be for the athletic department to create and implement a recruiting strategy which emphasizes increased minority recruitment and matriculation of

minority student-athletes to keep the percentage of minority student-athletes proportional with that of the general student body

When discussing diversity in higher education, first generation college status often becomes an additional variable in the conversation. When assessing first generation college status in this study, a consistent pattern was found demonstrating steady increases, nearly 15 percent over four years, within the female non-athlete population, which paced all other groups studied. In contrast to the diversity findings previously mentioned, male student-athletes, unlike their female counterparts were actually more likely than male non-athletes to be first generation college students. Diversity in this area is predicted to continue to grow until 2035 (MMEP, 2012), directly impacting the number of first generation college students entering higher education over this time frame. How the institution and the athletic department react to these trends may make a drastic impact on their recruiting success over the upcoming years.

It seems logical that as an institution becomes more ethnically diverse, it would also become more religiously diverse. This assumption, in combination with the school's history as a religious affiliated institution, raised some important items to note in this discussion. First, while the top two religious affiliations were consistent among all four sub-groups analyzed in this study, the magnitude should be an important discussion topic for the college's recruitment strategy. With nearly 33 percent of non-athletes, nearly 40 percent of male student-athletes and just over 52 percent of female student-athletes indicating either ELCA or Roman Catholic as their identified religion, how are college recruiters using this in their conversations with prospective students and their parents/guardians? Perhaps this should become a more significant part of the recruitment

conversation due to the frequency noted in these findings. Due to the recent trend of increases in diversity at the institution, it may serve the institution well to delve further into its Islamic/Muslim students to determine why this is a growing segment in the non-athlete population but not in the athletic segment? Are there current practices and or policies in the athletic department that do not align with the beliefs of this religion, particularly the female students which did not have a single athletic participant? The institution should be asking itself, do these students have athletic interests that they are not accommodating? And if so, how can the institution move forward in a positive direction with student-athletes of all faith backgrounds.

Another important area to discuss from the admissions standpoint is the high schools in which students are matriculating from. This study found that the top-producing high school was the same for both athletes and non-athletes, but none of the other top-10 producing high schools for athletes and non-athletes were same. This can and should be viewed as an opportunity for this institution to look critically at its recruitment strategy. The institution should be asking detailed questions about how the athletic department and the admissions department are bringing students into the institution. If the athletic and admissions departments were given the opportunity to discuss these findings and work together to refine current recruiting strategies, there is potential to not only increase enrollment but also efficiency in the recruitment process. For example, if a particular athletic team had created a recruiting niche in an out-state city, coaching staff could bring an admissions counselor with on the visit and reach out to a larger range of students perhaps attracting more prospective students to the college. This example could also work in reverse, if the admissions office has a strong relationship with a particular high

school that the athletic department is not well connected with, the athletic staff could capitalize on the work of the admissions department to recruit new and perhaps more diverse student-athletes.

The final variables that are important to discuss from an admissions standpoint are the ACT score, high school GPA and high school class rank. Shulman & Bowen (2001) found that athletes had significantly lower SAT scores than their non-athlete counterparts. The results of this study did not support that finding. As a whole, student-athletes performed slightly better than their non-athlete counterparts, although the finding was not statistically significant. Additionally, in terms of academic preparation, results found that student-athletes had slightly higher high school GPAs but slightly lower class ranks than their non-athlete counterparts, although neither finding was at a statistically significant level. This conveys to the institution that overall, athletes and non-athletes are very similar when it comes to academic preparation for college. These results show that faculty concerns about student-athletes being underprepared compared to their non-athlete counterparts are not warranted at this institution. Furthermore, these results should be kept in mind for academic advisors when preparing schedules for incoming students as they attempt to provide a balanced classroom experience. Additionally, this could prove a significant selling point for athletic staff during the recruitment process. To be able to communicate this finding to a prospective student-athlete and their parents/guardians during the recruiting process, speaks to the integration of student-athletes into the campus community.

The findings presented in this study in the area of campus integration provide the athletic department at this institution with additional tools for recruiting student-athletes

to the campus as well as for athletic administrators to leverage their program and department on campus. Specifically, when it came to academic major, the discovery of only one academic major cluster among all athletic teams sponsored by this institution over the four-year period studied was contrary to the research previously cited in the review of literature (Bergeron, 2012; Calhoun, 2012; Capriccioso, 2006; Fountain & Finley, 2009; Johnson, 2012; Lederman, 2003; McCormick, 2010; McGinn & O'Brien, 2004; Otto, 2012; Sanders & Hildenbrand, 2010; Schneider, R. G., Ross, S. R. & Fisher, 2012; Steeg, Upton, Bohn, & Berkowitz, 2008; Suggs, 2013; Upton and Novak, 2008). Student-athletes at this institution were not only selecting the same majors as their non-athlete counterparts, but the data demonstrated that student-athletes were found at higher frequencies in nearly all of the science majors. Although the data speaks clearly to the fact that athletes are not choosing to "cluster in easy majors," compared to their non-athlete counterparts, there may be other clustering variables yet to investigate. Do student-athletes cluster in specific classes within their major? Do they only take classes with certain faculty members? Are athletes gravitating towards specific academic advisors? If the answer to any of these questions is yes, it is important to understand the context around the situation. For example, if there are only two Biology labs offered at this institution and one is at 8 a.m. and the other is at 4 p.m., it is likely that nearly all of the athletes would select the morning lab as the afternoon lab would likely conflict with practice times. This would be an example of athletes "clustering" for a logistical reason, not a matter of academic integrity, such as a professor showing favoritism towards athletes. These questions were outside of the scope of available data for this research project but would certainly contribute to the knowledge base and allow the institution to

continue to examine its commitment to academic integrity. All of these questions would also likely create a great deal of conversation among faculty and should be viewed as a unique opportunity for athletic staff members and faculty to discuss the academic experience of all students on campus.

In addition to the results regarding academic major, the finding that student-athletes take more credits per-term and that they are more likely to live on campus than their non-athlete counterparts further attests to the integration of athletics and academics on this campus. It could be argued that the reason student-athletes take more credits per-term, is due to NCAA eligibility rules (NCAA, 2012b) mandating that students be making satisfactory progress toward their degree, which for this institution is defined as earning 24 credits over a student's most recent two full-time terms – a rule that does not govern non-athletes. On the other hand, it could be argued that student-athletes are forced to have better time management and organizational skills than their non-athlete counterparts due to balancing practice and competition schedules with class schedule and other work and family commitments. Unfortunately, until additional research is done asking students, why they enroll in the number of credits they do, there are too many confounding variables to determine a cause and effect relationship with athletic participation and number of credits taken per-term. In regard to on campus living, the same notion could also be true. Do athletes live on campus at a higher rate that the non-athlete population because they want to be more integrated into the campus life or do they choose to live on campus out of convenience for early morning and late night practice times? Until survey research is undertaken, the reason why athletes elect to live on campus more often that non-athletes will remain unclear.

When discussing student outcomes, the literature review presented mixed findings in regard to the outcomes of GPA and graduation rates for athletes and non-athletes. The findings of this study support the research of Eitzen (1987) and Maloney & McCormick (1993) that showed non-athletes performing slightly better than athletes when mean GPA was analyzed, although the finding in this study was not statistically significant. Without a statistically significant finding, this institution should continue to study this variable to determine if there are changes in this trend over time. At the time of this study, it would appear that GPA is actually more of a similarity than a difference between athletes and non-athletes.

Furthermore, graduation rate results demonstrated that male and female student-athletes both graduated at higher rates than their non-athlete counterparts. Additionally, female student-athletes graduated at the highest frequency of any demographic studied in both the five and six-year cohorts. One could argue that this outcome is a direct result of the previously mentioned finding that athletes take more credits per-term than their non-athlete counterparts. It would be logical to conclude that if a student was taking more credits per-term, they would graduate more quickly than a student taking less credits per-timer. Ironically, when looking at the four-year graduation rates, this did not hold true for female athletes, who actually graduated at a lower rate than females overall. Perhaps it speaks to the persistence and work ethic of student-athletes that both male and female athlete graduation rates were higher that male and female non-athlete averages in both the five- and six-year graduation rate analysis.

This discussion should serve not only to add to the literature but also for the athletic department at this institution to be able to communicate these finding to other

college personnel and to prospective student-athletes during the recruitment process. Additionally, this discussion may likely guide future researchers as they continue to delve into the question of academic and athletic integration.

Conclusions

While there have been numerous studies published comparing athletes to non-athletes in many facets of higher education, this study attempted to bring together many of those components to gain a more complex understanding of academic and athletic integration at this private NCAA Division III institution.

When looking at the primary indicators of college achievement, high school GPA and ACT score, there was no statistically significant difference when comparing athletes to non-athletes. The interesting finding within these variables came to light when the demographic was further separated by sex. In regard to both high school GPA and ACT score, female student-athletes performed better than female non-athletes at a statistically significant level. In contrast, when it came to the study of GPA, male athletes outperformed their non-athlete counterparts at a statistically significant level but in consideration of ACT, male non-athletes outperformed male athletes at a statistically significant level.

When looking at all of the admission and pre-college data and statistical findings, student-athletes are fairly similar to the general student body on these indicators. Although slightly less diverse, athletes as a whole did not differ in a statistically significant manner on outcome predicting variables such as High School GPA and ACT. However, there were specific variances between athletes and non-athletes when assessing the top-10 producing high schools and the top-10 religious affiliations.

The top producing high school was similar for both athletes and non-athletes but that was where the similarities ended as neither had an additional commonality among the next top-nine schools. Although outside the scope of this study, it will be important for future studies to determine if and why this trend is occurring. When assessing the religious affiliation variable, there was similarity between the top-10 lists with three of the top four choices – ELCA, Roman Catholic and Christian (Non-denominational) – being consistent among all four sub-groups.

When assessing integration and outcome variables, the researcher concluded there were differences revealed between athletes and non-athletes. Similar to other studies, student-athletes were found to take more credits per-term than their non-athlete counterparts. Athletes were also more likely to live on campus than non-athletes and were less likely to be involved with the college's TRiO Student Support Services program. Athletes at this institution majored in similar majors to the general student body and in fact were more likely than the general student body to major in many of the sciences – Biology, Chemistry, Engineering, Physics and Mathematics.

Finally, when assessing outcome variables, student-athletes and non-athletes did not show statistically significant differences when it came to college GPA. On the other hand, when it came to assessing graduation rates, student-athletes were more likely to graduate than their non-athlete counterparts in both the five and six year cohorts.

In summary, at this institution, athletes as a whole are integrated into the general student body in the areas within the scope of this study. Even in areas where statistically significant differences were revealed between the athletic and non-athletic populations, the practical significance of these findings was very small and therefore not likely to

change college policy or direction in the admission process or to influence retention and student support efforts.

Limitations

While this study positively contributes to the literature in the area of intercollegiate athletics and integration in higher education, throughout conducting the study, the researcher noted several limitations in the data analysis and collection processes. These limitations did not hinder the analysis that was able to occur, but it is important to be addressed for future studies that may be conducted in this area.

One aim of this research was to assess similarities and differences in the profile of incoming students to the college. The college studied did not require certain information during the application and admission process for transfer students that it did for traditional first year students. As such, ACT score, high school GPA and high school class rank were not included for the majority of the transfer students, potentially influencing the results. As this institution does have a fairly significant transfer population, this left a gap in the data set that did not allow for complete analysis of all students and their appropriate scores.

Another limitation of this work dealt with multi-sport student-athletes. In the majority of the analysis conducted, it was deemed most appropriate for athletes to only be counted once, using their primary sport as recorded in the college records system. The integrity of future research in this area will need to look very closely if multi-sport student-athletes should be counted with only their primary sport or with the two or three sports that they are affiliated with. This researcher also chose to only count indoor and outdoor track and field once, as opposed two twice per NCAA Championship policy.

This decision was made when reviewing eligibility lists for the years studied and noting that there was only a difference in one, at most two, student-athletes per-season, otherwise all athletes who participated in indoor track and field, also participated in outdoor track and field. The researcher therefore felt it was most appropriate to not duplicate these athletes. This may not be the case at all institutions looking to conduct similar research and should be taken into account when setting up the research project design.

Throughout the process of analyzing the college records database, it was noted that some of the initial areas the researcher hoped to study were not currently tracked in that system. Originally, the researcher had wanted to look at student activities participated in, such as study abroad and internship participation. Due to how these experiences are tracked and documented at this institution, it was not deemed possible with the current system to gather this type of information. Additionally, the researcher had wanted to track admissions advantage as laid out in Shulman & Bowen (2001) but due to a transition to a new system during the time period analyzed, it was not possible to have all of the information assessable in one location. Lastly, the researcher had considered looking at experiences after college – i.e. job type or graduate school – also as laid out in Shulman & Bowen (2001) but the institution does not presently have the systems and processes in place to track and analyze this information for all students.

An additional limitation of this project is the need for rich qualitative research to enhance the present findings. Qualitative data would allow for researchers to garner the thoughts and perceptions of the students currently enrolled at NCAA institutions and to examine how these students perceive their integration, or perhaps lack thereof.

Finally, due to the nature of this research being structured as a single case study of one institution, generalizing the findings to other institutions must be cautioned. Additional case studies of other types of institutions and/or conferences will need to be conducted before results could confidently be generalized to a larger population. Furthermore, the case study institution was partially selected due to the researcher's connection with the institution and access to data. Since the case study was not randomly selected, again caution must be made about generalizing the results to other NCAA institutions or groups of institutions.

Recommendations for Future Research

This study adds to the literature in both the higher education and intercollegiate athletics fields. A lack of substantial research focusing on multiple areas of integration in the same study, as well as a focus on non-Division I institutions, is on one hand disappointing but on the other hand can be seen as an opportunity for researchers to fill in this void and create a more in-depth and more encompassing picture of the role of intercollegiate athletics in higher education. The following are recommendations for future research:

1. Conduct a qualitative study probing into the perceptions of college students, both athletes and non-athletes, in regard to their feelings and perceptions of athletic and academic integration. Additionally, a qualitative study could investigate the reasoning behind why athletes choose particular majors, take a particular number of credits, etc.
2. Replicate this study using other variables of comparison for enrolled student-athletes and non-athletes. For example, if study abroad is an important part of the

mission of the institution, this should likely be added as a variable of comparison. Other examples of variables for consideration could be participation in honors programs, campus work study, campus volunteer programs and participation in campus clubs/organizations.

3. Replicate this study using other types of institutions as case studies. Examining other Division III institutions as well as Division II institutions will continue to add to the breadth and scope of research and to assist with the understanding of other types of institutions in other geographic locations.

4. Replicate this study on a conference basis. Many Division III conferences are aligned based on similar-types of institutions with similar philosophies about the role of intercollegiate athletics. This could possibly allow for conference policies, and rules and regulations to be altered in areas such as eligibility and playing seasons.

5. Conduct a similar study that focuses on how winning influences athletic and academic integration. In other words, are institutions that are more successful when it comes to wins and losses, more or less likely to have student-athletes that are integrated into the general student body?

5. Replicate this study but change the time period examined. For example, instead of looking at a four year consecutive period, perhaps look at one year over each of the past four decades to see if different trends may emerge.

In conclusion, due to the lack of research incorporating multiple areas of academic/athletic integration into the same study, this project has begun to fill a void in the literature. It has also provided solid data for the institution in this case study for

decision making for administrators, coaches, faculty and staff. There is clearly a need for additional research and case studies in this area and it is the hope of this researcher that other institutions can utilize the framework of this study to replicate this analysis on other campuses. In order for the missions of athletic departments to coincide with that of their institutions, colleges and university must take a critical look at how their student-athletes are integrated into the general student body. Only when athletics and academics have unified goals and visions can the athletic experience truly enhance the overall educational experience of all students.

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Appendix A

Student Body Proportions

2009

4 Groups			Frequency	Percent	Valid Percent	Cumulative Percent
Male Non-Athlete	Valid	NONE	712	100.0	100.0	100.0
Female Non-Athlete	Valid	NONE	820	100.0	100.0	100.0
Male Athlete	Valid	MBA	40	13.7	13.7	13.7
		MBB	20	6.9	6.9	20.6
		MCC	16	5.5	5.5	26.1
		MFB	87	29.9	29.9	56.0
		MGO	13	4.5	4.5	60.5
		MIH	26	8.9	8.9	69.4
		MSO	30	10.3	10.3	79.7
		MTI	17	5.8	5.8	85.6
		MWR	42	14.4	14.4	100.0
		Total	291	100.0	100.0	
Female Athlete	Valid	WBB	22	14.8	14.8	14.8
		WCC	7	4.7	4.7	19.5
		WGO	6	4.0	4.0	23.5
		WIH	38	25.5	25.5	49.0
		WSB	21	14.1	14.1	63.1
		WSO	19	12.8	12.8	75.8
		WSW	8	5.4	5.4	81.2
		WTI	12	8.1	8.1	89.3
		WVB	16	10.7	10.7	100.0
		Total	149	100.0	100.0	

Appendix A cont.

2010

4 Groups			Frequency	Percent	Valid Percent	Cumulative Percent
Male Non-Athlete	Valid	NONE	740	100.0	100.0	100.0
Female Non-Athlete	Valid	NONE	876	100.0	100.0	100.0
Male Athlete	Valid	MBA	44	16.2	16.2	16.2
		MBB	20	7.4	7.4	23.5
		MCC	18	6.6	6.6	30.1
		MFB	72	26.5	26.5	56.6
		MGO	14	5.1	5.1	61.8
		MIH	25	9.2	9.2	71.0
		MSO	30	11.0	11.0	82.0
		MTI	9	3.3	3.3	85.3
		MWR	40	14.7	14.7	100.0
		Total	272	100.0	100.0	
Female Athlete	Valid	WBB	24	17.8	17.8	17.8
		WCC	9	6.7	6.7	24.4
		WGO	8	5.9	5.9	30.4
		WIH	23	17.0	17.0	47.4
		WSB	22	16.3	16.3	63.7
		WSO	18	13.3	13.3	77.0
		WSW	7	5.2	5.2	82.2
		WTI	10	7.4	7.4	89.6
		WVB	14	10.4	10.4	100.0
		Total	135	100.0	100.0	

Appendix A cont.

2011

4 Groups			Frequency	Percent	Valid Percent	Cumulative Percent
Male Non-Athlete	Valid	NONE	731	100.0	100.0	100.0
Female Non-Athlete	Valid	NONE	874	100.0	100.0	100.0
Male Athlete	Valid	MBA	38	14.8	14.8	14.8
		MBB	22	8.6	8.6	23.3
		MCC	11	4.3	4.3	27.6
		MFB	80	31.1	31.1	58.8
		MGO	13	5.1	5.1	63.8
		MIH	15	5.8	5.8	69.6
		MSO	31	12.1	12.1	81.7
		MTI	6	2.3	2.3	84.0
		MWR	41	16.0	16.0	100.0
		Total	257	100.0	100.0	
Female Athlete	Valid	WBB	20	15.2	15.2	15.2
		WCC	11	8.3	8.3	23.5
		WGO	8	6.1	6.1	29.5
		WIH	18	13.6	13.6	43.2
		WSB	16	12.1	12.1	55.3
		WSO	23	17.4	17.4	72.7
		WSW	15	11.4	11.4	84.1
		WTI	8	6.1	6.1	90.2
		WVB	13	9.8	9.8	100.0
		Total	132	100.0	100.0	

Appendix A cont.

2012

4 Groups			Frequency	Percent	Valid Percent	Cumulative Percent
Male Non-Athlete	Valid	NONE	662	100.0	100.0	100.0
Female Non-Athlete	Valid	NONE	802	100.0	100.0	100.0
Male Athlete	Valid	MBA	37	14.3	14.3	14.3
		MBB	24	9.3	9.3	23.6
		MCC	6	2.3	2.3	25.9
		MFB	84	32.4	32.4	58.3
		MGO	12	4.6	4.6	62.9
		MIH	27	10.4	10.4	73.4
		MSO	27	10.4	10.4	83.8
		MTI	11	4.2	4.2	88.0
		MWR	31	12.0	12.0	100.0
		Total	259	100.0	100.0	
Female Athlete	Valid	WBB	20	14.0	14.0	14.0
		WCC	7	4.9	4.9	18.9
		WGO	9	6.3	6.3	25.2
		WIH	23	16.1	16.1	41.3
		WSB	20	14.0	14.0	55.2
		WSO	21	14.7	14.7	69.9
		WSW	17	11.9	11.9	81.8
		WTI	14	9.8	9.8	91.6
		WVB	12	8.4	8.4	100.0
		Total	143	100.0	100.0	

Student Body Breakdown (2009-2012)					
	Male Non-SA	Female Non-SA	Male SA	Female SA	Total
2009	712	820	291	149	1972
2010	740	876	272	135	2023
2011	731	874	257	132	1994
2012	662	802	259	143	1866

Student Body Proportion (2009-2012)							
	Male Non-SA	Female Non-SA	Male SA	Female SA	Total	Non-SA	SA
2009	36.1%	41.6%	14.8%	7.6%	100.00%	77.69%	22.31%
2010	36.6%	43.3%	13.4%	6.7%	100.00%	79.88%	20.12%
2011	36.7%	43.8%	12.9%	6.6%	100.00%	80.49%	19.51%
2012	35.5%	43.0%	13.9%	7.7%	100.00%	78.46%	21.54%

Appendix B

Ethnicity

Ethnicity - 2009

SA 4 Groups			Frequency	Percent	Valid Percent	Cumulative Percent
Male Non-Athlete	Valid	Asian - Pacific Islands	73	10.3	10.3	10.3
		Black - Non-Hispanic	66	9.3	9.3	19.5
		No Response	31	4.4	4.4	23.9
		Hispanic	34	4.8	4.8	28.7
		American Indian/Alaskan	10	1.4	1.4	30.1
		Multi-Racial	11	1.5	1.5	31.6
		White Non-Hispanic	487	68.4	68.4	100.0
		Total	712	100.0	100.0	
Female Non-Athlete	Valid	Asian - Pacific Islands	82	10.0	10.0	10.0
		Black - Non-Hispanic	63	7.7	7.7	17.7
		No Response	39	4.8	4.8	22.4
		Hispanic	36	4.4	4.4	26.8
		American Indian/Alaskan	14	1.7	1.7	28.5
		Multi-Racial	21	2.6	2.6	31.1
		White Non-Hispanic	565	68.9	68.9	100.0
		Total	820	100.0	100.0	
Male Athlete	Valid	Asian - Pacific Islands	9	3.1	3.1	3.1
		Black - Non-Hispanic	28	9.6	9.6	12.7
		No Response	11	3.8	3.8	16.5
		Hispanic	6	2.1	2.1	18.6
		American Indian/Alaskan	3	1.0	1.0	19.6
		Multi-Racial	12	4.1	4.1	23.7
		White Non-Hispanic	222	76.3	76.3	100.0
		Total	291	100.0	100.0	
Female Athlete	Valid	Asian - Pacific Islands	3	2.0	2.0	2.0
		Black - Non-Hispanic	11	7.4	7.4	9.4
		No Response	2	1.3	1.3	10.7
		Hispanic	4	2.7	2.7	13.4
		American Indian/Alaskan	4	2.7	2.7	16.1
		Multi-Racial	5	3.4	3.4	19.5
		White Non-Hispanic	120	80.5	80.5	100.0
		Total	149	100.0	100.0	

Appendix B cont.

Ethnicity - 2010

SA 4 Groups			Frequency	Percent	Valid Percent	Cumulative Percent
Male Non-Athlete	Valid	Native Hawaiian, Pacific Islander	1	.1	.1	.1
		Asian - Pacific Islands	96	13.0	13.0	13.1
		Black - Non-Hispanic	75	10.1	10.1	23.2
		No Response	33	4.5	4.5	27.7
		Hispanic	33	4.5	4.5	32.2
		American Indian/Alaskan	9	1.2	1.2	33.4
		Multi-Racial	19	2.6	2.6	35.9
		White Non-Hispanic	474	64.1	64.1	100.0
		Total	740	100.0	100.0	
Female Non-Athlete	Valid	Native Hawaiian, Pacific Islander	3	.3	.3	.3
		Asian - Pacific Islands	98	11.2	11.2	11.5
		Black - Non-Hispanic	94	10.7	10.7	22.3
		No Response	44	5.0	5.0	27.3
		Hispanic	45	5.1	5.1	32.4
		American Indian/Alaskan	11	1.3	1.3	33.7
		Multi-Racial	27	3.1	3.1	36.8
		White Non-Hispanic	554	63.2	63.2	100.0
		Total	876	100.0	100.0	
Male Athlete	Valid	Native Hawaiian, Pacific Islander	1	.4	.4	.4
		Asian - Pacific Islands	8	2.9	2.9	3.3
		Black - Non-Hispanic	31	11.4	11.4	14.7
		No Response	9	3.3	3.3	18.0
		Hispanic	9	3.3	3.3	21.3
		American Indian/Alaskan	1	.4	.4	21.7
		Multi-Racial	14	5.1	5.1	26.8
		White Non-Hispanic	199	73.2	73.2	100.0
		Total	272	100.0	100.0	
Female Athlete	Valid	Black - Non-Hispanic	7	5.2	5.2	5.2
		No Response	2	1.5	1.5	6.7
		Hispanic	2	1.5	1.5	8.1
		American Indian/Alaskan	2	1.5	1.5	9.6
		Multi-Racial	5	3.7	3.7	13.3
		White Non-Hispanic	117	86.7	86.7	100.0
		Total	135	100.0	100.0	

Appendix B cont

Ethnicity - 2011

SA 4 Groups			Frequency	Percent	Valid Percent	Cumulative Percent
Male Non-Athlete	Valid	Native Hawaiian, Pacific Islander	2	.3	.3	.3
		Asian - Pacific Islands	77	10.5	10.5	10.8
		Black - Non-Hispanic	73	10.0	10.0	20.8
		No Response	27	3.7	3.7	24.5
		Hispanic	35	4.8	4.8	29.3
		American Indian/Alaskan	9	1.2	1.2	30.5
		Multi-Racial	25	3.4	3.4	33.9
		White Non-Hispanic	483	66.1	66.1	100.0
		Total	731	100.0	100.0	
Female Non-Athlete	Valid	Native Hawaiian, Pacific Islander	4	.5	.5	.5
		Asian - Pacific Islands	111	12.7	12.7	13.2
		Black - Non-Hispanic	107	12.2	12.2	25.4
		No Response	42	4.8	4.8	30.2
		Hispanic	53	6.1	6.1	36.3
		American Indian/Alaskan	13	1.5	1.5	37.8
		Multi-Racial	28	3.2	3.2	41.0
		White Non-Hispanic	516	59.0	59.0	100.0
		Total	874	100.0	100.0	
Male Athlete	Valid	Native Hawaiian, Pacific Islander	1	.4	.4	.4
		Asian - Pacific Islands	6	2.3	2.3	2.7
		Black - Non-Hispanic	35	13.6	13.6	16.3
		No Response	5	1.9	1.9	18.3
		Hispanic	9	3.5	3.5	21.8
		American Indian/Alaskan	1	.4	.4	22.2
		Multi-Racial	12	4.7	4.7	26.8
		White Non-Hispanic	188	73.2	73.2	100.0
		Total	257	100.0	100.0	
Female Athlete	Valid	Asian - Pacific Islands	1	.8	.8	.8
		Black - Non-Hispanic	9	6.8	6.8	7.6
		No Response	3	2.3	2.3	9.8
		Hispanic	4	3.0	3.0	12.9
		American Indian/Alaskan	1	.8	.8	13.6
		Multi-Racial	8	6.1	6.1	19.7
		White Non-Hispanic	106	80.3	80.3	100.0
		Total	132	100.0	100.0	

Appendix B cont.

Ethnicity - 2012

SA 4 Groups			Frequency	Percent	Valid Percent	Cumulative Percent
Male Non-Athlete	Valid	Native Hawaiian, Pacific Islander	1	.2	.2	.2
		Asian - Pacific Islands	74	11.2	11.2	11.3
		Black - Non-Hispanic	68	10.3	10.3	21.6
		No Response	29	4.4	4.4	26.0
		Hispanic	31	4.7	4.7	30.7
		American Indian/Alaskan	8	1.2	1.2	31.9
		Multi-Racial	25	3.8	3.8	35.6
		White Non-Hispanic	426	64.4	64.4	100.0
		Total	662	100.0	100.0	
Female Non-Athlete	Valid	Native Hawaiian, Pacific Islander	4	.5	.5	.5
		Asian - Pacific Islands	107	13.3	13.3	13.8
		Black - Non-Hispanic	111	13.8	13.8	27.7
		No Response	38	4.7	4.7	32.4
		Hispanic	53	6.6	6.6	39.0
		American Indian/Alaskan	11	1.4	1.4	40.4
		Multi-Racial	34	4.2	4.2	44.6
		White Non-Hispanic	444	55.4	55.4	100.0
		Total	802	100.0	100.0	
Male Athlete	Valid	Native Hawaiian, Pacific Islander	2	.8	.8	.8
		Asian - Pacific Islands	4	1.5	1.5	2.3
		Black - Non-Hispanic	36	13.9	13.9	16.2
		No Response	8	3.1	3.1	19.3
		Hispanic	9	3.5	3.5	22.8
		American Indian/Alaskan	1	.4	.4	23.2
		Multi-Racial	11	4.2	4.2	27.4
		White Non-Hispanic	188	72.6	72.6	100.0
		Total	259	100.0	100.0	
Female Athlete	Valid	Asian - Pacific Islands	3	2.1	2.1	2.1
		Black - Non-Hispanic	7	4.9	4.9	7.0
		No Response	5	3.5	3.5	10.5
		Hispanic	5	3.5	3.5	14.0
		American Indian/Alaskan	1	.7	.7	14.7
		Multi-Racial	7	4.9	4.9	19.6
		White Non-Hispanic	115	80.4	80.4	100.0
		Total	143	100.0	100.0	

Ethnicity Break Down (2009-2012)													
	Male Non-SA			Female Non-SA			Male SA			Female SA			Total
	White	Minority	No-Response	White	Minority	No-Response	White	Minority	No-Response	White	Minority	No-Response	
2009	487	194	31	565	216	39	222	58	11	120	27	2	1972
2010	474	233	33	554	278	44	199	64	9	117	16	2	2023
2011	483	221	27	516	316	42	188	64	5	106	23	3	1994
2012	426	207	29	444	320	38	188	63	8	115	23	5	1866

Ethnicity Proportion (2009-2012)												
	Male Non-SA			Female Non-SA			Male SA			Female SA		
	White	Minority	No-Response	White	Minority	No-Response	White	Minority	No-Response	White	Minority	No-Response
2009	68.4%	27.2%	4.4%	68.9%	26.3%	4.8%	76.3%	19.9%	3.8%	80.5%	18.1%	1.3%
2010	64.1%	31.5%	4.5%	63.2%	31.7%	5.0%	73.2%	23.5%	3.3%	86.7%	11.9%	1.5%
2011	66.1%	30.2%	3.7%	59.0%	36.2%	4.8%	73.2%	24.9%	1.9%	80.3%	17.4%	2.3%
2012	64.4%	31.3%	4.4%	55.4%	39.9%	4.7%	72.6%	24.3%	3.1%	80.4%	16.1%	3.5%

Appendix C

First Generation College Students

First Generation - 2009

SA 4 Groups			Frequency	Percent	Valid Percent	Cumulative Percent
Male Non-Athlete	Valid	No	611	85.8	85.8	85.8
		Yes	101	14.2	14.2	100.0
		Total	712	100.0	100.0	
Female Non-Athlete	Valid	No	649	79.1	79.1	79.1
		Yes	171	20.9	20.9	100.0
		Total	820	100.0	100.0	
Male Athlete	Valid	No	243	83.5	83.5	83.5
		Yes	48	16.5	16.5	100.0
		Total	291	100.0	100.0	
Female Athlete	Valid	No	119	79.9	79.9	79.9
		Yes	30	20.1	20.1	100.0
		Total	149	100.0	100.0	

First Generation - 2010

SA 4 Groups			Frequency	Percent	Valid Percent	Cumulative Percent
Male Non-Athlete	Valid	No	594	80.3	80.3	80.3
		Yes	146	19.7	19.7	100.0
		Total	740	100.0	100.0	
Female Non-Athlete	Valid	No	638	72.8	72.8	72.8
		Yes	238	27.2	27.2	100.0
		Total	876	100.0	100.0	
Male Athlete	Valid	No	212	77.9	77.9	77.9
		Yes	60	22.1	22.1	100.0
		Total	272	100.0	100.0	
Female Athlete	Valid	No	106	78.5	78.5	78.5
		Yes	29	21.5	21.5	100.0
		Total	135	100.0	100.0	

Appendix C cont.

First Generation - 2011

SA 4 Groups			Frequency	Percent	Valid Percent	Cumulative Percent
Male Non-Athlete	Valid	No	563	77.0	77.0	77.0
		Yes	168	23.0	23.0	100.0
		Total	731	100.0	100.0	
Female Non-Athlete	Valid	No	603	69.0	69.0	69.0
		Yes	271	31.0	31.0	100.0
		Total	874	100.0	100.0	
Male Athlete	Valid	No	189	73.5	73.5	73.5
		Yes	68	26.5	26.5	100.0
		Total	257	100.0	100.0	
Female Athlete	Valid	No	96	72.7	72.7	72.7
		Yes	36	27.3	27.3	100.0
		Total	132	100.0	100.0	

First Generation - 2012

SA 4 Groups			Frequency	Percent	Valid Percent	Cumulative Percent
Male Non-Athlete	Valid	No	502	75.8	75.8	75.8
		Yes	160	24.2	24.2	100.0
		Total	662	100.0	100.0	
Female Non-Athlete	Valid	No	508	63.3	63.3	63.3
		Yes	294	36.7	36.7	100.0
		Total	802	100.0	100.0	
Male Athlete	Valid	No	187	72.2	72.2	72.2
		Yes	72	27.8	27.8	100.0
		Total	259	100.0	100.0	
Female Athlete	Valid	No	106	74.1	74.1	74.1
		Yes	37	25.9	25.9	100.0
		Total	143	100.0	100.0	

First Generation Status Year-By-Year (2009-2012)

	Male Non-SA	Female Non-SA	Male SA	Female SA
2009	14.2%	20.9%	16.5%	20.1%
2010	19.7%	27.2%	22.1%	21.5%
2011	23.0%	31.0%	26.5%	27.3%
2012	24.2%	36.7%	27.8%	25.9%

Appendix D

Top-10 Producing High Schools

High Schools - Top 10 (including ties) per Sub-Group (2009-2012)

SA 4 Groups			Frequency	Percent	Valid Percent	Cumulative Percent
Male Non-Athlete	Valid	High School 241675	74	2.6	2.8	49.3
		High School 241645	62	2.2	2.3	45.0
		High School 241627	53	1.9	2.0	42.0
		High School 241473	52	1.8	1.9	69.1
		High School 241150	49	1.7	1.8	28.0
		High School 241680	47	1.7	1.8	51.1
		HS 242683	45	1.6	1.7	90.1
		High School 240708	43	1.5	1.6	19.9
		High School 241153	40	1.4	1.5	29.5
		High School 242650	40	1.4	1.5	87.3
		Total	2680	94.2	100.0	
	Missing	System	165	5.8		
	Total		2845	100.0		
Female Non-Athlete	Valid	High School 241675	86	2.6	2.7	49.4
		High School 241473	84	2.5	2.7	71.3
		High School 241645	64	1.9	2.0	45.3
		High School 242650	57	1.7	1.8	88.1
		High School 241150	56	1.7	1.8	29.8
		High School 241153	51	1.5	1.6	31.4
		High School 241685	50	1.5	1.6	53.0
		High School 242255	50	1.5	1.6	74.7
		High School 240419	49	1.5	1.6	15.7
		High School 241680	44	1.3	1.4	50.8
		High School 242256	44	1.3	1.4	76.1
		High School 242367	44	1.3	1.4	82.7
		Total	3145	93.3	100.0	
	Missing	System	227	6.7		
	Total		3372	100.0		

Appendix D cont.

Male Athlete	Valid	High School 241675	30	2.8	2.9	50.4
		High School 242121	30	2.8	2.9	69.1
		High School 240452	29	2.7	2.8	22.5
		HS 240268	24	2.2	2.3	15.3
		High School 241325	24	2.2	2.3	36.6
		High School 242092	22	2.0	2.1	65.6
		High School 242367	21	1.9	2.0	83.3
		High School 241489	20	1.9	1.9	40.8
		High School 242035	19	1.8	1.8	62.9
		High School 240537	16	1.5	1.5	24.9
		High School 241627	16	1.5	1.5	45.8
		Total	1048	97.1	100.0	
	Missing	System	31	2.9		
	Total		1079	100.0		
Female Athlete	Valid	High School 242209	12	2.1	2.2	66.4
		High School 241150	11	2.0	2.1	29.1
		High School 240080	10	1.8	1.9	10.3
		High School 241658	10	1.8	1.9	43.8
		High School 241675	10	1.8	1.9	45.7
		High School 242367	10	1.8	1.9	76.5
		High School 242450	10	1.8	1.9	79.1
		High School 240215	9	1.6	1.7	15.1
		High School 240320	9	1.6	1.7	56.0
		High School 241326	8	1.4	1.5	32.3
		High School 241650	8	1.4	1.5	42.0
		High School 241775	8	1.4	1.5	50.7
		High School 242121	8	1.4	1.5	61.6
		High School 242675	8	1.4	1.5	84.5
		Total	536	95.9	100.0	
	Missing	System	23	4.1		
	Total		559	100.0		

Appendix E

Religious Distributions

Religious Distribution						
SA 4 Groups			Frequency	Percent	Valid Percent	Cumulative Percent
Male Non-Athlete	Valid	ELCA	554	19.5	24.8	63.0
		Roman Catholic	385	13.5	17.2	19.7
		Christian (Non-denominational)	220	7.7	9.8	34.6
		No Response	196	6.9	8.8	86.8
		No Affiliation	195	6.9	8.7	100.0
		Lutheran - Other	135	4.7	6.0	71.1
		Other (Non-Christian)	75	2.6	3.4	90.1
		Islamic/Muslim	62	2.2	2.8	37.4
		Methodist	58	2.0	2.6	74.5
		Missouri Synod Lutheran	45	1.6	2.0	65.0
		Presbyterian	45	1.6	2.0	77.2
		Baptist	44	1.5	2.0	2.4
		Buddhism	28	1.0	1.3	21.8
		Episcopal Anglican	23	.8	1.0	23.7
		United Church of Christ	20	.7	.9	91.3
		Shamanism/Animism	18	.6	.8	71.9
		Christian Disciples	16	.6	.7	20.5
		Judaism	15	.5	.7	38.2
		Protestant	14	.5	.6	77.9
		Evangelical Free Church in America	13	.5	.6	24.3
		Orthodox	12	.4	.5	75.0
		Hinduism	10	.4	.4	24.7
		Assemblies of God	9	.3	.4	.4
		Covenant	8	.3	.4	22.7
		Congregational	6	.2	.3	22.3
		Unitarian Universalist	6	.2	.3	90.4
		Church of God	5	.2	.2	22.1
		Pentecostal	5	.2	.2	75.2
		Buddhist	3	.1	.1	2.5
		Jehovah Witness	3	.1	.1	37.5
		Seventh Day Adventist	3	.1	.1	78.0
		Baha'i	2	.1	.1	19.8
		Christian Reformed	1	.0	.0	21.8
		Latter Day Saints (Mormon)	1	.0	.0	38.2
		Total	2235	78.6	100.0	
	Missing	System	610	21.4		
	Total		2845	100.0		

Appendix E cont.

Female Non-Athlete	Valid	ELCA	658	19.5	24.0	63.1
		Roman Catholic	429	12.7	15.6	19.8
		Christian (Non-denominational)	248	7.4	9.0	33.5
		No Response	219	6.5	8.0	86.9
		No Affiliation	203	6.0	7.4	100.0
		Lutheran - Other	194	5.8	7.1	71.9
		Other (Non-Christian)	124	3.7	4.5	91.4
		Islamic/Muslim	119	3.5	4.3	37.9
		Methodist	92	2.7	3.4	76.1
		Baptist	89	2.6	3.2	4.2
		Missouri Synod Lutheran	48	1.4	1.7	64.9
		Presbyterian	32	.9	1.2	78.1
		Judaism	31	.9	1.1	39.0
		Christian Disciples	27	.8	1.0	20.8
		Episcopal Anglican	25	.7	.9	23.8
		Assemblies of God	24	.7	.9	.9
		Shamanism/Animism	23	.7	.8	72.8
		Buddhism	18	.5	.7	21.5
		United Church of Christ	18	.5	.7	92.6
		Evangelical Free Church in America	17	.5	.6	24.4
		Unitarian Universalist	15	.4	.5	92.0
		Covenant	14	.4	.5	22.9
		Pentecostal	14	.4	.5	76.9
		Protestant	14	.4	.5	78.6
		Christian Reformed	13	.4	.5	22.1
		Orthodox	6	.2	.2	76.4
		Seventh Day Adventist	6	.2	.2	78.9
		Church of God	4	.1	.1	22.2
		Congregational	4	.1	.1	22.4
		Latter Day Saints (Mormon)	4	.1	.1	39.1
		Christian Missionary Alliance	3	.1	.1	21.6
		Hinduism	3	.1	.1	24.5
		Friends (Quaker)	3	.1	.1	78.7
		Buddhist	2	.1	.1	4.2
		African Methodist Episcopal	1	.0	.0	.9
		Mennonite	1	.0	.0	72.8
		Nazarene	1	.0	.0	76.4
		Total	2746	81.4	100.0	
	Missing	System	626	18.6		
	Total		3372	100.0		

Appendix E cont.

Male Athlete	Valid	Roman Catholic	226	20.9	25.9	29.9
		ELCA	196	18.2	22.5	70.9
		Christian (Non-denominational)	101	9.4	11.6	47.0
		No Response	62	5.7	7.1	91.9
		Lutheran - Other	52	4.8	6.0	79.9
		No Affiliation	46	4.3	5.3	100.0
		Missouri Synod Lutheran	27	2.5	3.1	74.0
		Baptist	24	2.2	2.8	4.0
		Methodist	20	1.9	2.3	82.2
		Covenant	15	1.4	1.7	33.7
		Other (Non-Christian)	15	1.4	1.7	93.6
		Assemblies of God	11	1.0	1.3	1.3
		Evangelical Free Church in America	9	.8	1.0	35.4
		Islamic/Muslim	9	.8	1.0	48.1
		Presbyterian	8	.7	.9	84.5
		United Church of Christ	7	.6	.8	94.7
		Church of God	6	.6	.7	31.7
		Episcopal Anglican	6	.6	.7	34.4
		Christian Disciples	5	.5	.6	30.5
		Orthodox	5	.5	.6	82.8
		Pentecostal	4	.4	.5	83.6
		Buddhism	3	.3	.3	30.8
		Congregational	3	.3	.3	32.0
		Nazarene	3	.3	.3	83.1
		Unitarian Universalist	3	.3	.3	93.9
		Latter Day Saints (Mormon)	2	.2	.2	48.4
		Protestant	2	.2	.2	84.7
		Christian Reformed	1	.1	.1	31.0
		Judaism	1	.1	.1	48.2
		Total	872	80.8	100.0	
	Missing	System	207	19.2		
	Total		1079	100.0		

Appendix E cont.

Female Athlete	Valid	ELCA	160	28.6	33.0	75.7
		Roman Catholic	132	23.6	27.2	31.8
		Lutheran - Other	39	7.0	8.0	86.4
		Christian (Non-denominational)	32	5.7	6.6	42.3
		No Response	20	3.6	4.1	94.4
		Baptist	19	3.4	3.9	4.5
		No Affiliation	16	2.9	3.3	100.0
		Missouri Synod Lutheran	13	2.3	2.7	78.4
		Methodist	9	1.6	1.9	88.2
		Other (Non-Christian)	9	1.6	1.9	96.3
		Christian Disciples	7	1.3	1.4	33.2
		Presbyterian	5	.9	1.0	89.3
		Protestant	5	.9	1.0	90.3
		Assemblies of God	3	.5	.6	.6
		Christian Reformed	3	.5	.6	33.8
		Church of God	3	.5	.6	34.4
		Covenant	3	.5	.6	35.1
		Episcopal Anglican	2	.4	.4	35.5
		Latter Day Saints (Mormon)	2	.4	.4	42.7
		United Church of Christ	2	.4	.4	96.7
		Evangelical Free Church in America	1	.2	.2	35.7
		Total	485	86.8	100.0	
	Missing	System	74	13.2		
	Total		559	100.0		

Appendix F

ACT Scores

ACT Descriptive Statistics - 2009

SA 4 Groups		N	Minimum	Maximum	Mean	Std. Deviation
Male Non-Athlete	ACT	585	12	34	22.46	4.075
	Valid N (listwise)	585				
Female Non-Athlete	ACT	659	14	33	22.19	4.018
	Valid N (listwise)	659				
Male Athlete	ACT	266	13	33	21.97	3.782
	Valid N (listwise)	266				
Female Athlete	ACT	142	15	32	22.38	3.500
	Valid N (listwise)	142				

ACT Descriptive Statistics - 2010

SA 4 Groups		N	Minimum	Maximum	Mean	Std. Deviation
Male Non-Athlete	ACT	609	12	36	22.33	4.103
	Valid N (listwise)	609				
Female Non-Athlete	ACT	725	14	34	22.23	4.092
	Valid N (listwise)	725				
Male Athlete	ACT	245	14	32	22.13	3.686
	Valid N (listwise)	245				
Female Athlete	ACT	125	15	31	22.58	3.406
	Valid N (listwise)	125				

ACT Descriptive Statistics - 2011

SA 4 Groups		N	Minimum	Maximum	Mean	Std. Deviation
Male Non-Athlete	ACT	566	12	36	22.70	4.283
	Valid N (listwise)	566				
Female Non-Athlete	ACT	714	14	34	22.15	4.142
	Valid N (listwise)	714				
Male Athlete	ACT	229	14	34	22.31	3.595
	Valid N (listwise)	229				
Female Athlete	ACT	123	16	33	22.88	3.697
	Valid N (listwise)	123				

Appendix F cont.

ACT Descriptive Statistics - 2012

SA 4 Groups		N	Minimum	Maximum	Mean	Std. Deviation
Male Non-Athlete	ACT	496	13	34	22.71	4.188
	Valid N (listwise)	496				
Female Non-Athlete	ACT	663	13	34	22.27	4.141
	Valid N (listwise)	663				
Male Athlete	ACT	225	15	32	22.26	3.507
	Valid N (listwise)	225				
Female Athlete	ACT	126	16	33	23.21	3.804
	Valid N (listwise)	126				

ACT - Descriptive Statistics (2009-2012)

SA 4 Groups		N	Minimum	Maximum	Mean	Std. Deviation
Male Non-Athlete	ACT	2256	12	36	22.54	4.161
	Valid N (listwise)	2256				
Female Non-Athlete	ACT	2761	13	34	22.21	4.097
	Valid N (listwise)	2761				
Male Athlete	ACT	965	13	34	22.16	3.647
	Valid N (listwise)	965				
Female Athlete	ACT	516	15	33	22.75	3.605
	Valid N (listwise)	516				

Mean ACT Score				
	Male Non-SA	Female Non-SA	Male SA	Female SA
2009	22.46	22.19	21.97	22.38
2010	22.33	22.23	22.13	22.58
2011	22.70	22.15	22.31	22.88
2012	22.71	22.27	22.26	23.21

Appendix F cont.

Group Statistics

	SA 2 Groups	N	Mean	Std. Deviation	Std. Error Mean
ACT	Non-Athlete	5017	22.36	4.129	.058
	Athlete	1481	22.37	3.642	.095

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
ACT	Equal variances assumed	43.937	.000	-.060	6496	.952	-.007	.119	-.240	.226
	Equal variances not assumed			-.065	2701.171	.948	-.007	.111	-.225	.211

Appendix F cont.

Group Statistics

SA 4 Groups		N	Mean	Std. Deviation	Std. Error Mean
ACT	Female Non-Athlete	2761	22.21	4.097	.078
	Female Athlete	516	22.75	3.605	.159

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
ACT	Equal variances assumed	20.249	.000	-2.804	3275	.005	-.541	.193	-.919	-.163
	Equal variances not assumed			-3.060	785.120	.002	-.541	.177	-.888	-.194

Appendix F cont.

Group Statistics

SA 4 Groups		N	Mean	Std. Deviation	Std. Error Mean
ACT	Male Non-Athlete	2256	22.54	4.161	.088
	Male Athlete	965	22.16	3.647	.117

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
ACT	Equal variances assumed	27.249	.000	2.471	3219	.014	.381	.154	.079	.684
	Equal variances not assumed			2.604	2062.840	.009	.381	.146	.094	.669

Appendix F cont.

Group Statistics

	SA 4 Groups	N	Mean	Std. Deviation	Std. Error Mean
ACT	Male Non-Athlete	2256	22.54	4.161	.088
	Female Non-Athlete	2761	22.21	4.097	.078

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
ACT	Equal variances assumed	.098	.754	2.845	5015	.004	.333	.117	.104	.563
	Equal variances not assumed			2.840	4787.946	.005	.333	.117	.103	.563

Appendix F cont.

Group Statistics

SA 4 Groups		N	Mean	Std. Deviation	Std. Error Mean
ACT	Male Athlete	965	22.16	3.647	.117
	Female Athlete	516	22.75	3.605	.159

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
ACT	Equal variances assumed	.162	.688	-2.975	1479	.003	-.589	.198	-.978	-.201
	Equal variances not assumed			-2.986	1062.946	.003	-.589	.197	-.977	-.202

Appendix G

High School GPAs

HS GPA Descriptive Statistics - 2009

SA 4 Groups		N	Minimum	Maximum	Mean	Std. Deviation
Male Non-Athlete	High School GPA	523	1.2990	4.0110	2.962488	.5481861
	Valid N (listwise)	523				
Female Non-Athlete	High School GPA	608	1.5500	4.1530	3.247424	.5090735
	Valid N (listwise)	608				
Male Athlete	High School GPA	246	1.3700	4.0000	3.039077	.5827505
	Valid N (listwise)	246				
Female Athlete	High School GPA	124	2.1100	4.0000	3.282282	.4954073
	Valid N (listwise)	124				

HS GPA Descriptive Statistics - 2010

SA 4 Groups		N	Minimum	Maximum	Mean	Std. Deviation
Male Non-Athlete	High School GPA	532	1.2990	4.0000	2.909147	.5568840
	Valid N (listwise)	532				
Female Non-Athlete	High School GPA	657	1.5500	4.0000	3.216767	.5074027
	Valid N (listwise)	657				
Male Athlete	High School GPA	223	1.3700	4.0000	3.035139	.5784224
	Valid N (listwise)	223				
Female Athlete	High School GPA	112	1.8700	4.0000	3.267607	.4908102
	Valid N (listwise)	112				

HS GPA Descriptive Statistics - 2011

SA 4 Groups		N	Minimum	Maximum	Mean	Std. Deviation
Male Non-Athlete	High School GPA	476	1.3800	4.0000	2.921330	.5562085
	Valid N (listwise)	476				
Female Non-Athlete	High School GPA	641	1.5100	4.0000	3.182298	.5076492
	Valid N (listwise)	641				
Male Athlete	High School GPA	210	1.3700	4.0000	3.036729	.5662365
	Valid N (listwise)	210				
Female Athlete	High School GPA	114	2.1200	4.0000	3.286228	.4800321
	Valid N (listwise)	114				

Appendix G cont.

HS GPA Descriptive Statistics - 2012

SA 4 Groups		N	Minimum	Maximum	Mean	Std. Deviation
Male Non-Athlete	High School GPA	417	1.4700	4.0000	2.970993	.5730845
	Valid N (listwise)	417				
Female Non-Athlete	High School GPA	603	1.5300	4.0000	3.168093	.5030305
	Valid N (listwise)	603				
Male Athlete	High School GPA	206	1.3800	4.0000	2.993786	.5756025
	Valid N (listwise)	206				
Female Athlete	High School GPA	118	1.5100	4.0000	3.285763	.5217056
	Valid N (listwise)	118				

Mean High School GPA				
	Male Non-SA	Female Non-SA	Male SA	Female SA
2009	2.962488	3.247424	3.039077	3.282282
2010	2.909147	3.216767	3.035139	3.267607
2011	2.921330	3.182298	3.036729	3.286228
2012	2.970993	3.168093	2.993786	3.285763

HS GPA Descriptive Statistics (2009-2012)

SA 4 Groups		N	Minimum	Maximum	Mean	Std. Deviation
Male Non-Athlete	High School GPA	1948	1.2990	4.0110	2.939684	.5581036
	Valid N (listwise)	1948				
Female Non-Athlete	High School GPA	2509	1.5100	4.1530	3.203692	.5074388
	Valid N (listwise)	2509				
Male Athlete	High School GPA	885	1.3700	4.0000	3.026985	.5754253
	Valid N (listwise)	885				
Female Athlete	High School GPA	468	1.5100	4.0000	3.280609	.4958854
	Valid N (listwise)	468				

HS GPA Descriptive Statistics (2009-2012)

SA 2 Groups		N	Minimum	Maximum	Mean	Std. Deviation
Non-Athlete	High School GPA	4457	1.2990	4.1530	3.088303	.5460564
	Valid N (listwise)	4457				
Athlete	High School GPA	1353	1.3700	4.0000	3.114713	.5621391
	Valid N (listwise)	1353				

Appendix G cont.

Group Statistics

	SA 2 Groups	N	Mean	Std. Deviation	Std. Error Mean
High School GPA	Non-Athlete	4457	3.088303	.5460564	.0081793
	Athlete	1353	3.114713	.5621391	.0152825

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
High School GPA	Equal variances assumed	1.838	.175	-1.547	5808	.122	-.0264101	.0170669	-.0598677	.0070475
	Equal variances not assumed			-1.524	2183.133	.128	-.0264101	.0173337	-.0604023	.0075821

Appendix G cont.

Group Statistics

	SA 4 Groups	N	Mean	Std. Deviation	Std. Error Mean
High School GPA	Male Non-Athlete	1948	2.939684	.5581036	.0126450
	Male Athlete	885	3.026985	.5754253	.0193427

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
High School GPA	Equal variances assumed	2.185	.139	-3.821	2831	.000	-.0873015	.0228457	-.1320975	-.0425056
	Equal variances not assumed			-3.778	1663.134	.000	-.0873015	.0231093	-.1326278	-.0419752

Appendix G cont.

Group Statistics

	SA 4 Groups	N	Mean	Std. Deviation	Std. Error Mean
High School GPA	Female Non-Athlete	2509	3.203692	.5074388	.0101306
	Female Athlete	468	3.280609	.4958854	.0229223

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
High School GPA	Equal variances assumed	1.529	.216	-3.021	2975	.003	-.076917	.025460	-.126838	-.026995
	Equal variances not assumed			-3.069	662.540	.002	-.076917	.025061	-.126125	-.027708

Appendix G cont.

Group Statistics

	SA 4 Groups	N	Mean	Std. Deviation	Std. Error Mean
High School GPA	Male Non-Athlete	1948	2.939684	.5581036	.0126450
	Female Non-Athlete	2509	3.203692	.5074388	.0101306

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
High School GPA	Equal variances assumed	15.383	.000	-16.490	4455	.000	-.2640081	.0160102	-.2953961	-.2326201
	Equal variances not assumed			-16.294	3976.637	.000	-.2640081	.0162026	-.2957744	-.2322419

Appendix G cont.

Group Statistics

	SA 4 Groups	N	Mean	Std. Deviation	Std. Error Mean
High School GPA	Male Athlete	885	3.026985	.5754253	.0193427
	Female Athlete	468	3.280609	.4958854	.0229223

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
High School GPA	Equal variances assumed	16.557	.000	-8.079	1351	.000	-.2536237	.0313915	-.315205	-.1920422
	Equal variances not assumed			-8.456	1079.658	.000	-.2536237	.0299929	-.312474	-.1947727

Appendix H

High School Class Rank

Group Statistics

	SA 2 Groups	N	Mean	Std. Deviation	Std. Error Mean
High School Rank	Non-Athlete	3885	61.68	23.632	.379
	Athlete	1265	60.73	24.121	.678

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
High School Rank	Equal variances assumed	1.542	.214	1.236	5148	.217	.950	.769	-.557	2.458
	Equal variances not assumed			1.223	2110.455	.221	.950	.777	-.573	2.474

Appendix H cont.

Group Statistics

	SA 4 Groups	N	Mean	Std. Deviation	Std. Error Mean
High School Rank	Male Non-Athlete	1708	53.66	23.766	.575
	Male Athlete	830	55.99	24.224	.841

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
High School Rank	Equal variances assumed	.980	.322	-2.309	2536	.021	-2.337	1.012	-4.321	-.353
	Equal variances not assumed			-2.294	1614.389	.022	-2.337	1.019	-4.335	-.339

Appendix H cont.

Group Statistics

	SA 4 Groups	N	Mean	Std. Deviation	Std. Error Mean
High School Rank	Female Non-Athlete	2177	67.98	21.528	.461
	Female Athlete	435	69.78	21.183	1.016

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
High School Rank	Equal variances assumed	1.170	.279	-1.593	2610	.111	-1.796	1.128	-4.007	.415
	Equal variances not assumed			-1.610	626.293	.108	-1.796	1.116	-3.987	.394

		Cases					
		Valid		Missing		Total	
SA 4 Groups		N	Percent	N	Percent	N	Percent
Male Non-Athlete	High School Rank	1708	60.0%	1137	40.0%	2845	100.0%
Female Non-Athlete	High School Rank	2177	64.6%	1195	35.4%	3372	100.0%
Male Athlete	High School Rank	830	76.9%	249	23.1%	1079	100.0%
Female Athlete	High School Rank	435	77.8%	124	22.2%	559	100.0%

Appendix H cont.

Descriptives

SA 4 Groups		SA 2 Groups			Statistic	Std. Error
Male Non-Athlete	High School Rank	Non-Athlete	Mean		53.66	.575
			95% Confidence Interval for Mean	Lower Bound	52.53	
				Upper Bound	54.78	
			5% Trimmed Mean		53.80	
			Median		54.00	
			Variance		564.838	
			Std. Deviation		23.766	
			Minimum		1	
			Maximum		99	
			Range		98	
			Interquartile Range		37	
			Skewness		-.011	.059
			Kurtosis		-.891	.118
Female Non-Athlete	High School Rank	Non-Athlete	Mean		67.98	.461
			95% Confidence Interval for Mean	Lower Bound	67.08	
				Upper Bound	68.89	
			5% Trimmed Mean		68.99	
			Median		72.00	
			Variance		463.458	
			Std. Deviation		21.528	
			Minimum		4	
			Maximum		99	
			Range		95	
			Interquartile Range		33	
			Skewness		-.569	.052
			Kurtosis		-.464	.105

Appendix H cont.

Male Athlete	High School Rank	Athlete	Mean		55.99	.841
			95% Confidence Interval for Mean	Lower Bound	54.34	
				Upper Bound	57.64	
			5% Trimmed Mean		56.33	
			Median		55.50	
			Variance		586.800	
			Std. Deviation		24.224	
			Minimum		2	
			Maximum		99	
			Range		97	
			Interquartile Range		38	
			Skewness		-.100	.085
			Kurtosis		-.908	.170
Female Athlete	High School Rank	Athlete	Mean		69.78	1.016
			95% Confidence Interval for Mean	Lower Bound	67.78	
				Upper Bound	71.78	
			5% Trimmed Mean		70.87	
			Median		74.00	
			Variance		448.739	
			Std. Deviation		21.183	
			Minimum		9	
			Maximum		99	
			Range		90	
			Interquartile Range		29	
			Skewness		-.678	.117
			Kurtosis		-.275	.234

Appendix H cont.

Percentiles

SA 4 Groups			SA 2 Groups	Percentiles						
				5	10	25	50	75	90	95
Male Non-Athlete	Weighted Average (Definition 1)	High School Rank	Non-Athlete	15.00	23.00	35.00	54.00	72.00	87.00	93.00
	Tukey's Hinges	High School Rank	Non-Athlete			35.00	54.00	72.00		
Female Non-Athlete	Weighted Average (Definition 1)	High School Rank	Non-Athlete	26.90	37.00	53.00	72.00	86.00	94.00	96.10
	Tukey's Hinges	High School Rank	Non-Athlete			53.00	72.00	86.00		
Male Athlete	Weighted Average (Definition 1)	High School Rank	Athlete	14.65	23.00	38.00	55.50	76.00	89.00	95.00
	Tukey's Hinges	High School Rank	Athlete			38.00	55.50	76.00		
Female Athlete	Weighted Average (Definition 1)	High School Rank	Athlete	29.00	36.00	58.00	74.00	87.00	95.00	98.00
	Tukey's Hinges	High School Rank	Athlete			58.00	74.00	87.00		

Appendix I

Major

Maj1Desc - Top 25						
SA 2 Groups			Frequency	Percent	Valid Percent	Cumulative Percent
Non-Athlete	Valid	General Studies - Undecided	684	11.0	11.0	11.0
		Biology	514	8.3	8.3	19.3
		Psychology	401	6.5	6.5	25.7
		Management	322	5.2	5.2	30.9
		Social Work	301	4.8	4.8	35.7
		Elementary Education	282	4.5	4.5	40.3
		Marketing	194	3.1	3.1	43.4
		Sociology	162	2.6	2.6	46.0
		Computer Science	148	2.4	2.4	48.4
		Film	142	2.3	2.3	50.7
		Communication Studies	119	1.9	1.9	52.6
		Mathematics	115	1.8	1.8	54.4
		Music Therapy	111	1.8	1.8	56.2
		Finance	109	1.8	1.8	58.0
		History	109	1.8	1.8	59.7
		Studio Art	104	1.7	1.7	61.4
		International Relations	101	1.6	1.6	63.0
		Accounting (General Accounting)	99	1.6	1.6	64.6
		Political Science	99	1.6	1.6	66.2
		English (Creative Writing)	83	1.3	1.3	67.5
		Chemistry	82	1.3	1.3	68.9
		Business Administration	72	1.2	1.2	70.0
		Music (Music Business)	70	1.1	1.1	71.1
		Physics	70	1.1	1.1	72.3
		Engineering	69	1.1	1.1	73.4
		Total	6217	100.0	100.0	

Appendix I cont.

SA 2 Groups			Frequency	Percent	Valid Percent	Cumulative Percent
Athlete	Valid	General Studies - Undecided	302	18.4	18.4	18.4
		Biology	147	9.0	9.0	27.4
		Management	111	6.8	6.8	34.2
		Marketing	89	5.4	5.4	39.6
		Psychology	73	4.5	4.5	44.1
		Exercise Science	71	4.3	4.3	48.4
		Elementary Education	55	3.4	3.4	51.8
		Accounting (General Accounting)	48	2.9	2.9	54.7
		Physical Education	43	2.6	2.6	57.3
		Engineering	39	2.4	2.4	59.7
		Finance	39	2.4	2.4	62.1
		Mathematics	39	2.4	2.4	64.5
		Business Administration	37	2.3	2.3	66.7
		Computer Science	35	2.1	2.1	68.9
		Communication Studies	30	1.8	1.8	70.7
		History	28	1.7	1.7	72.4
		Sociology	27	1.6	1.6	74.1
		Chemistry	25	1.5	1.5	75.6
		Health Fitness	25	1.5	1.5	77.1
		Secondary Education	25	1.5	1.5	78.6
		Business Administration (Management)	24	1.5	1.5	80.1
		Accounting (Public Accounting)	20	1.2	1.2	81.3
		Political Science	19	1.2	1.2	82.5
		Physics	18	1.1	1.1	83.6
		Environmental Studies	17	1.0	1.0	84.6
		Total	1638	100.0	100.0	

Appendix I cont.

Maj1Desc						
sport1			Frequency	Percent	Valid Percent	Cumulative Percent
MBA	Valid	General Studies - Undecided	26	16.4	16.4	16.4
		Marketing	21	13.2	13.2	29.6
		Biology	9	5.7	5.7	35.2
		Management	8	5.0	5.0	40.3
		Engineering	6	3.8	3.8	44.0
		Exercise Science	6	3.8	3.8	47.8
		History	6	3.8	3.8	51.6
		Political Science	6	3.8	3.8	55.3
		Business Administration (Management)	5	3.1	3.1	58.5
		Business Administration/Economics (combined major)	5	3.1	3.1	61.6
		Business Administration	4	2.5	2.5	64.2
		Chemistry	4	2.5	2.5	66.7
		Communication Studies	4	2.5	2.5	69.2
		Elementary Education	4	2.5	2.5	71.7
		Mathematics	4	2.5	2.5	74.2
		Accounting (General Accounting)	3	1.9	1.9	76.1
		English (Literature, Language, and Theory)	3	1.9	1.9	78.0
		Environmental Studies	3	1.9	1.9	79.9
		Finance	3	1.9	1.9	81.8
		Health Education	3	1.9	1.9	83.6
		Physics	3	1.9	1.9	85.5
		Secondary Education	3	1.9	1.9	87.4
		Spanish	3	1.9	1.9	89.3
		Accounting (Public Accounting)	2	1.3	1.3	90.6
		Economics	2	1.3	1.3	91.8
		International Business	2	1.3	1.3	93.1
		Physical Education	2	1.3	1.3	94.3
		Accounting (Managerial Accounting)	1	.6	.6	95.0
		Business Administration (Finance)	1	.6	.6	95.6
		Business Administration (International Business)	1	.6	.6	96.2
		Communication Studies (Marketing Communication)	1	.6	.6	96.9
		Communication Studies (Mass Comm and Journalism)	1	.6	.6	97.5
		Computer Science	1	.6	.6	98.1
		Psychology	1	.6	.6	98.7
		Sociology	1	.6	.6	99.4
		Special Education: Emotional/Behavior Disabilities	1	.6	.6	100.0
		Total	159	100.0	100.0	

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MBB	Valid	Management	21	24.4	24.4	24.4
		General Studies - Undecided	15	17.4	17.4	41.9
		Communication Studies	8	9.3	9.3	51.2
		Accounting (Public Accounting)	5	5.8	5.8	57.0
		Accounting (General Accounting)	4	4.7	4.7	61.6
		Computer Science	3	3.5	3.5	65.1
		Biology	2	2.3	2.3	67.4
		Business Administration	2	2.3	2.3	69.8
		Business Administration (Management)	2	2.3	2.3	72.1
		Elementary Education	2	2.3	2.3	74.4
		Engineering	2	2.3	2.3	76.7
		Exercise Science	2	2.3	2.3	79.1
		History	2	2.3	2.3	81.4
		Marketing	2	2.3	2.3	83.7
		Political Science	2	2.3	2.3	86.0
		Secondary Education	2	2.3	2.3	88.4
		Communication Studies (Mass Comm and Journalism)	1	1.2	1.2	89.5
		Finance	1	1.2	1.2	90.7
		International Business	1	1.2	1.2	91.9
		Management Information Systems	1	1.2	1.2	93.0
		Mathematics	1	1.2	1.2	94.2
		Nursing	1	1.2	1.2	95.3
		Philosophy	1	1.2	1.2	96.5
		Physics	1	1.2	1.2	97.7
		Sociology	1	1.2	1.2	98.8
		Theatre Arts	1	1.2	1.2	100.0
		Total	86	100.0	100.0	
MCC	Valid	Biology	10	19.6	19.6	19.6
		General Studies - Undecided	10	19.6	19.6	39.2
		History	5	9.8	9.8	49.0
		Management	4	7.8	7.8	56.9
		Accounting (General Accounting)	3	5.9	5.9	62.7
		Communication Studies (Mass Comm and Journalism)	2	3.9	3.9	66.7
		Computer Science	2	3.9	3.9	70.6
		Mathematics	2	3.9	3.9	74.5
		Business Administration (Music Business)	1	2.0	2.0	76.5
		Chemistry	1	2.0	2.0	78.4
		Communication Studies	1	2.0	2.0	80.4
		English (Media Writing)	1	2.0	2.0	82.4
		Exercise Science	1	2.0	2.0	84.3
		Film	1	2.0	2.0	86.3
		Finance	1	2.0	2.0	88.2
		Life Sciences	1	2.0	2.0	90.2

Appendix I cont.

MCC		Music Performance	1	2.0	2.0	92.2
		Psychology	1	2.0	2.0	94.1
		Secondary Education	1	2.0	2.0	96.1
		Special Education	1	2.0	2.0	98.0
		Youth and Family Ministry	1	2.0	2.0	100.0
		Total	51	100.0	100.0	
MFB	Valid	General Studies - Undecided	63	19.5	19.5	19.5
		Management	31	9.6	9.6	29.1
		Biology	19	5.9	5.9	35.0
		Exercise Science	14	4.3	4.3	39.3
		Marketing	14	4.3	4.3	43.7
		Engineering	13	4.0	4.0	47.7
		Physical Education	12	3.7	3.7	51.4
		Business Administration	11	3.4	3.4	54.8
		Psychology	11	3.4	3.4	58.2
		Secondary Education	10	3.1	3.1	61.3
		Finance	9	2.8	2.8	64.1
		Elementary Education	8	2.5	2.5	66.6
		Health Fitness	8	2.5	2.5	69.0
		Chemistry	7	2.2	2.2	71.2
		Computer Science	7	2.2	2.2	73.4
		Sociology	7	2.2	2.2	75.5
		Accounting (General Accounting)	6	1.9	1.9	77.4
		Environmental Studies	6	1.9	1.9	79.3
		Mathematics	6	1.9	1.9	81.1
		Physics	6	1.9	1.9	83.0
		Business Administration/Economics (combined major)	4	1.2	1.2	84.2
		Communication Studies	4	1.2	1.2	85.4
		Youth and Family Ministry	4	1.2	1.2	86.7
		Accounting (Public Accounting)	3	.9	.9	87.6
		Business Administration (Management)	3	.9	.9	88.5
		Business Administration (Marketing)	3	.9	.9	89.5
		Communication Arts/Literature	3	.9	.9	90.4
		Communication Studies (PR and Advertising)	3	.9	.9	91.3
		Film	3	.9	.9	92.3
		History	3	.9	.9	93.2
		Political Science	3	.9	.9	94.1
		Psychology (Psychology and Law)	3	.9	.9	95.0
		ACTC Major	2	.6	.6	95.7
		Business Administration (International Business)	2	.6	.6	96.3
		Management Information Systems	2	.6	.6	96.9
		Accounting (Managerial Accounting)	1	.3	.3	97.2
		Communication Studies (Marketing Communication)	1	.3	.3	97.5

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		International Business	1	.3	.3	97.8
		Life Sciences	1	.3	.3	98.1
		Music Performance	1	.3	.3	98.5
		Nursing	1	.3	.3	98.8
MFB		Political Science (Pre-Law)	1	.3	.3	99.1
		Psychology (Social Psychology)	1	.3	.3	99.4
		Social Work	1	.3	.3	99.7
		Sociology (Crime and Deviance)	1	.3	.3	100.0
		Total	323	100.0	100.0	
MGO	Valid	General Studies - Undecided	10	19.2	19.2	19.2
		Accounting (General Accounting)	8	15.4	15.4	34.6
		Management	5	9.6	9.6	44.2
		Marketing	5	9.6	9.6	53.8
		Biology	3	5.8	5.8	59.6
		Accounting (Managerial Accounting)	2	3.8	3.8	63.5
		Accounting (Public Accounting)	2	3.8	3.8	67.3
		Business Administration	2	3.8	3.8	71.2
		Computer Science	2	3.8	3.8	75.0
		Elementary Education	2	3.8	3.8	78.8
		Health Fitness	2	3.8	3.8	82.7
		Youth and Family Ministry	2	3.8	3.8	86.5
		Business Administration (Management)	1	1.9	1.9	88.5
		Business Administration/Economics (combined major)	1	1.9	1.9	90.4
		Chemistry	1	1.9	1.9	92.3
		Environmental Studies	1	1.9	1.9	94.2
		Music (Music Business)	1	1.9	1.9	96.2
		Physics	1	1.9	1.9	98.1
		Political Science	1	1.9	1.9	100.0
		Total	52	100.0	100.0	
MIH	Valid	General Studies - Undecided	14	15.1	15.1	15.1
		Finance	11	11.8	11.8	26.9
		Marketing	10	10.8	10.8	37.6
		Management	7	7.5	7.5	45.2
		Biology	5	5.4	5.4	50.5
		Physical Education	5	5.4	5.4	55.9
		Accounting (General Accounting)	4	4.3	4.3	60.2
		Business Administration	4	4.3	4.3	64.5
		Business Administration (Management)	4	4.3	4.3	68.8
		Exercise Science	4	4.3	4.3	73.1
		Film	3	3.2	3.2	76.3
		International Business	3	3.2	3.2	79.6
		Sociology	3	3.2	3.2	82.8
		Business Administration (International Business)	2	2.2	2.2	84.9

Appendix I cont.

MIH		Chemistry	2	2.2	2.2	87.1
		Mathematics	2	2.2	2.2	89.2
		Psychology	2	2.2	2.2	91.4
		Biopsychology	1	1.1	1.1	92.5
		Business Administration (Marketing)	1	1.1	1.1	93.5
		Business Administration/Economics (combined major)	1	1.1	1.1	94.6
		Economics	1	1.1	1.1	95.7
		Engineering	1	1.1	1.1	96.8
		History	1	1.1	1.1	97.8
		International Relations	1	1.1	1.1	98.9
		Political Science (Pre-Law)	1	1.1	1.1	100.0
		Total	93	100.0	100.0	
MSO	Valid	General Studies - Undecided	29	24.6	24.6	24.6
		Biology	11	9.3	9.3	33.9
		Marketing	8	6.8	6.8	40.7
		Computer Science	7	5.9	5.9	46.6
		Engineering	7	5.9	5.9	52.5
		Business Administration	5	4.2	4.2	56.8
		Management	5	4.2	4.2	61.0
		Mathematics	5	4.2	4.2	65.3
		Accounting (General Accounting)	4	3.4	3.4	68.6
		Psychology	4	3.4	3.4	72.0
		Accounting (Public Accounting)	3	2.5	2.5	74.6
		Business Administration (Management)	3	2.5	2.5	77.1
		Chemistry	3	2.5	2.5	79.7
		History	3	2.5	2.5	82.2
		Economics	2	1.7	1.7	83.9
		Environmental Studies	2	1.7	1.7	85.6
		Finance	2	1.7	1.7	87.3
		Health Education	2	1.7	1.7	89.0
		International Relations	2	1.7	1.7	90.7
		Physical Education	2	1.7	1.7	92.4
		Business Administration/Economics (combined major)	1	.8	.8	93.2
		Communication Studies	1	.8	.8	94.1
		Elementary Education	1	.8	.8	94.9
		Exercise Science	1	.8	.8	95.8
		Psychology (Psychology and Law)	1	.8	.8	96.6
		Secondary Education	1	.8	.8	97.5
		Sociology	1	.8	.8	98.3
		Spanish	1	.8	.8	99.2
		Studio Art	1	.8	.8	100.0
		Total	118	100.0	100.0	

Appendix I cont.

MTI	Valid	General Studies - Undecided	8	18.6	18.6	18.6
		Physics	5	11.6	11.6	30.2
		Biology	3	7.0	7.0	37.2
		Health Fitness	3	7.0	7.0	44.2
		Engineering	2	4.7	4.7	48.8
		Film	2	4.7	4.7	53.5
		Mathematics	2	4.7	4.7	58.1
		Psychology	2	4.7	4.7	62.8
		Accounting (General Accounting)	1	2.3	2.3	65.1
		Biopsychology	1	2.3	2.3	67.4
		Business Administration (Management)	1	2.3	2.3	69.8
		Business Administration/Economics (combined major)	1	2.3	2.3	72.1
		Chemistry	1	2.3	2.3	74.4
		Communication Studies	1	2.3	2.3	76.7
		Communication Studies (PR and Advertising)	1	2.3	2.3	79.1
		Computer Science	1	2.3	2.3	81.4
		Elementary Education	1	2.3	2.3	83.7
		Exercise Science	1	2.3	2.3	86.0
		Finance	1	2.3	2.3	88.4
		Music Performance	1	2.3	2.3	90.7
		Physical Education	1	2.3	2.3	93.0
		Political Science	1	2.3	2.3	95.3
		Political Science (Pre-Law)	1	2.3	2.3	97.7
		Studio Art	1	2.3	2.3	100.0
		Total	43	100.0	100.0	
MWR	Valid	General Studies - Undecided	32	20.8	20.8	20.8
		Exercise Science	13	8.4	8.4	29.2
		Management	12	7.8	7.8	37.0
		Physical Education	12	7.8	7.8	44.8
		Biology	7	4.5	4.5	49.4
		Computer Science	7	4.5	4.5	53.9
		Elementary Education	7	4.5	4.5	58.4
		Sociology	7	4.5	4.5	63.0
		Business Administration	5	3.2	3.2	66.2
		Health Fitness	5	3.2	3.2	69.5
		Psychology	5	3.2	3.2	72.7
		Accounting (General Accounting)	4	2.6	2.6	75.3
		Business Administration (Management)	4	2.6	2.6	77.9
		Mathematics	4	2.6	2.6	80.5
		Finance	3	1.9	1.9	82.5
		Secondary Education	3	1.9	1.9	84.4
		Business Administration/Economics (combined major)	2	1.3	1.3	85.7
		Engineering	2	1.3	1.3	87.0

Appendix I cont.

		History	2	1.3	1.3	88.3
		Marketing	2	1.3	1.3	89.6
		Political Science	2	1.3	1.3	90.9
		Religion	2	1.3	1.3	92.2
		Studio Art	2	1.3	1.3	93.5
		Business Administration (Marketing)	1	.6	.6	94.2
		Communication Studies (Mass Comm and Journalism)	1	.6	.6	94.8
MWR		Education Studies (non-licensure)	1	.6	.6	95.5
		Health Education	1	.6	.6	96.1
		Life Sciences	1	.6	.6	96.8
		Management Information Systems	1	.6	.6	97.4
		Music (Music Business)	1	.6	.6	98.1
		Physics	1	.6	.6	98.7
		Political Science (Pre-Law)	1	.6	.6	99.4
		Special Education	1	.6	.6	100.0
		Total	154	100.0	100.0	
NONE	Valid	General Studies - Undecided	684	11.0	11.0	11.0
		Biology	514	8.3	8.3	19.3
		Psychology	401	6.5	6.5	25.7
		Management	322	5.2	5.2	30.9
		Social Work	301	4.8	4.8	35.7
		Elementary Education	282	4.5	4.5	40.3
		Marketing	194	3.1	3.1	43.4
		Sociology	162	2.6	2.6	46.0
		Computer Science	148	2.4	2.4	48.4
		Film	142	2.3	2.3	50.7
		Communication Studies	119	1.9	1.9	52.6
		Mathematics	115	1.8	1.8	54.4
		Music Therapy	111	1.8	1.8	56.2
		Finance	109	1.8	1.8	58.0
		History	109	1.8	1.8	59.7
		Studio Art	104	1.7	1.7	61.4
		International Relations	101	1.6	1.6	63.0
		Accounting (General Accounting)	99	1.6	1.6	64.6
		Political Science	99	1.6	1.6	66.2
		English (Creative Writing)	83	1.3	1.3	67.5
		Chemistry	82	1.3	1.3	68.9
		Business Administration	72	1.2	1.2	70.0
		Music (Music Business)	70	1.1	1.1	71.1
		Physics	70	1.1	1.1	72.3
		Engineering	69	1.1	1.1	73.4
		Business Administration/Economics (combined major)	68	1.1	1.1	74.5
		Music	65	1.0	1.0	75.5

Appendix I cont.

	English (Literature, Language, and Theory)	62	1.0	1.0	76.5
	International Business	62	1.0	1.0	77.5
	Accounting (Public Accounting)	59	.9	.9	78.5
	Business Administration (Management)	58	.9	.9	79.4
	Business Administration (Music Business)	58	.9	.9	80.3
	Exercise Science	58	.9	.9	81.3
	Communication Studies (PR and Advertising)	56	.9	.9	82.2
	Theatre Arts	52	.8	.8	83.0
	Political Science (Pre-Law)	48	.8	.8	83.8
	Music Education	46	.7	.7	84.5
	Music Performance	43	.7	.7	85.2
	Communication Studies (Mass Comm and Journalism)	42	.7	.7	85.9
	Economics	42	.7	.7	86.6
	English	42	.7	.7	87.2
	Secondary Education	42	.7	.7	87.9
	Medieval Studies	37	.6	.6	88.5
	Physical Education	36	.6	.6	89.1
	Metro-Urban Studies	34	.5	.5	89.6
	Management Information Systems	33	.5	.5	90.2
	Clinical Laboratory Science	31	.5	.5	90.7
	Spanish	30	.5	.5	91.1
	Biopsychology	27	.4	.4	91.6
	Health Education	27	.4	.4	92.0
	Religion	27	.4	.4	92.4
	ACTC Major	26	.4	.4	92.9
	Theatre Arts (Performance)	26	.4	.4	93.3
	Communication Studies (Marketing Communication)	25	.4	.4	93.7
	Environmental Studies	24	.4	.4	94.1
	Youth and Family Ministry	24	.4	.4	94.5
	Cross-Cultural Studies	22	.4	.4	94.8
	Psychology (Psychology and Law)	22	.4	.4	95.2
	Business Administration (International Business)	21	.3	.3	95.5
	Philosophy	21	.3	.3	95.8
	Art History	18	.3	.3	96.1
	English (Media Writing)	18	.3	.3	96.4
	Health Fitness	17	.3	.3	96.7
	Psychology (Social Psychology)	17	.3	.3	97.0
	Business Administration (Marketing)	15	.2	.2	97.2
	Communication Studies (Human Relations)	15	.2	.2	97.4
	Special Education: Emotional/Behavior Disabilities	13	.2	.2	97.7
	American Indian Studies	11	.2	.2	97.8
	Communication Arts/Literature	11	.2	.2	98.0

Appendix I cont.

		Women's Studies	11	.2	.2	98.2
		Communication Studies (Organizational Comm)	10	.2	.2	98.3
		Theatre Arts (Directing/Dramaturgy)	9	.1	.1	98.5
		Accounting (Managerial Accounting)	8	.1	.1	98.6
		Psychology (Clinical Psychology)	8	.1	.1	98.7
		Student Designed Major	8	.1	.1	98.9
		Political Science (Public Policy/Political Change)	7	.1	.1	99.0
		Education Studies (non-licensure)	6	.1	.1	99.1
		French	6	.1	.1	99.2
		German	6	.1	.1	99.3
		Life Sciences	5	.1	.1	99.4
		Communication Studies (Supervisory Management)	4	.1	.1	99.4
		Mathematical Economics	4	.1	.1	99.5
		Sociology (Social Psychology)	3	.0	.0	99.5
		Special Education	3	.0	.0	99.6
		Special Education: Learning Disabilities	3	.0	.0	99.6
		Women’s Studies	3	.0	.0	99.7
		Business Administration (Finance)	2	.0	.0	99.7
		International Relations (International Business)	2	.0	.0	99.7
		Sociology (Community Studies)	2	.0	.0	99.8
		Theatre Arts (Technical Design/Technology)	2	.0	.0	99.8
		Business Administration (Accounting)	1	.0	.0	99.8
		Business Finance Certificate	1	.0	.0	99.8
		Communication Studies (Research Emphasis)	1	.0	.0	99.9
		Computational Philosophy	1	.0	.0	99.9
		East Asian Studies	1	.0	.0	99.9
		Graphic Design Certificate	1	.0	.0	99.9
		International Business Certificate	1	.0	.0	99.9
		Master of Business Administration	1	.0	.0	99.9
		Nursing	1	.0	.0	100.0
		Physics (Space Physics)	1	.0	.0	100.0
		Sociology (Crime and Deviance)	1	.0	.0	100.0
		Theatre Arts (Directing/Dramaturgy Concentrations)	1	.0	.0	100.0
		Total	6217	100.0	100.0	
WBB	Valid	General Studies - Undecided	14	16.3	16.3	16.3
		Exercise Science	9	10.5	10.5	26.7
		Biology	6	7.0	7.0	33.7
		Psychology	6	7.0	7.0	40.7
		Accounting (General Accounting)	5	5.8	5.8	46.5
		Marketing	5	5.8	5.8	52.3
		Communication Studies	4	4.7	4.7	57.0
		Elementary Education	4	4.7	4.7	61.6
		International Business	4	4.7	4.7	66.3

Appendix I cont.

		Accounting (Public Accounting)	3	3.5	3.5	69.8
		Engineering	3	3.5	3.5	73.3
		Management	3	3.5	3.5	76.7
		Biopsychology	2	2.3	2.3	79.1
		Finance	2	2.3	2.3	81.4
		Art History	1	1.2	1.2	82.6
		Business Administration	1	1.2	1.2	83.7
		Business Administration (International Business)	1	1.2	1.2	84.9
		Clinical Laboratory Science	1	1.2	1.2	86.0
		Communication Studies (Mass Comm and Journalism)	1	1.2	1.2	87.2
WBB		Communication Studies (PR and Advertising)	1	1.2	1.2	88.4
		Computer Science	1	1.2	1.2	89.5
		Health Fitness	1	1.2	1.2	90.7
		Physical Education	1	1.2	1.2	91.9
		Political Science	1	1.2	1.2	93.0
		Psychology (Psychology and Law)	1	1.2	1.2	94.2
		Psychology (Social Psychology)	1	1.2	1.2	95.3
		Secondary Education	1	1.2	1.2	96.5
		Social Work	1	1.2	1.2	97.7
		Special Education	1	1.2	1.2	98.8
		Special Education: Emotional/Behavior Disabilities	1	1.2	1.2	100.0
		Total	86	100.0	100.0	
WCC	Valid	General Studies - Undecided	9	26.5	26.5	26.5
		Biology	4	11.8	11.8	38.2
		Spanish	4	11.8	11.8	50.0
		Psychology	3	8.8	8.8	58.8
		Elementary Education	2	5.9	5.9	64.7
		Environmental Studies	2	5.9	5.9	70.6
		Political Science	2	5.9	5.9	76.5
		Business Administration (International Business)	1	2.9	2.9	79.4
		Communication Studies	1	2.9	2.9	82.4
		Communication Studies (Supervisory Management)	1	2.9	2.9	85.3
		English (Literature, Language, and Theory)	1	2.9	2.9	88.2
		International Relations	1	2.9	2.9	91.2
		Management	1	2.9	2.9	94.1
		Mathematics	1	2.9	2.9	97.1
		Social Work	1	2.9	2.9	100.0
		Total	34	100.0	100.0	

Appendix I cont.

WGO	Valid	General Studies - Undecided	5	16.1	16.1	16.1
		Elementary Education	4	12.9	12.9	29.0
		Accounting (General Accounting)	2	6.5	6.5	35.5
		Communication Studies (PR and Advertising)	2	6.5	6.5	41.9
		Finance	2	6.5	6.5	48.4
		International Relations	2	6.5	6.5	54.8
		Marketing	2	6.5	6.5	61.3
		Psychology	2	6.5	6.5	67.7
		Biology	1	3.2	3.2	71.0
		Biopsychology	1	3.2	3.2	74.2
		Business Administration (Management)	1	3.2	3.2	77.4
		Chemistry	1	3.2	3.2	80.6
		Communication Studies	1	3.2	3.2	83.9
		International Business	1	3.2	3.2	87.1
		Management	1	3.2	3.2	90.3
		Mathematics	1	3.2	3.2	93.5
		Music Education	1	3.2	3.2	96.8
		Psychology (Psychology and Law)	1	3.2	3.2	100.0
		Total	31	100.0	100.0	
WIH	Valid	Biology	19	18.6	18.6	18.6
		General Studies - Undecided	14	13.7	13.7	32.4
		Exercise Science	8	7.8	7.8	40.2
		Physical Education	7	6.9	6.9	47.1
		Social Work	7	6.9	6.9	53.9
		Marketing	6	5.9	5.9	59.8
		ACTC Major	4	3.9	3.9	63.7
		Film	4	3.9	3.9	67.6
		Mathematics	4	3.9	3.9	71.6
		Computer Science	3	2.9	2.9	74.5
		Health Fitness	3	2.9	2.9	77.5
		Youth and Family Ministry	3	2.9	2.9	80.4
		History	2	2.0	2.0	82.4
		Psychology	2	2.0	2.0	84.3
		Accounting (Public Accounting)	1	1.0	1.0	85.3
		Business Administration	1	1.0	1.0	86.3
		Business Administration (Marketing)	1	1.0	1.0	87.3
		Clinical Laboratory Science	1	1.0	1.0	88.2
		Communication Studies	1	1.0	1.0	89.2
		Communication Studies (Mass Comm and Journalism)	1	1.0	1.0	90.2
		Communication Studies (PR and Advertising)	1	1.0	1.0	91.2
		Cross-Cultural Studies	1	1.0	1.0	92.2
		Economics	1	1.0	1.0	93.1
		Elementary Education	1	1.0	1.0	94.1
		Engineering	1	1.0	1.0	95.1

Appendix I cont.

WIH		English	1	1.0	1.0	96.1
		International Business	1	1.0	1.0	97.1
		Master of Social Work	1	1.0	1.0	98.0
		Political Science	1	1.0	1.0	99.0
		Sociology	1	1.0	1.0	100.0
		Total	102	100.0	100.0	
WSB	Valid	General Studies - Undecided	13	16.5	16.5	16.5
		Psychology	11	13.9	13.9	30.4
		Biology	10	12.7	12.7	43.0
		Marketing	6	7.6	7.6	50.6
		Elementary Education	5	6.3	6.3	57.0
		Exercise Science	4	5.1	5.1	62.0
		History	3	3.8	3.8	65.8
		Secondary Education	3	3.8	3.8	69.6
		Biopsychology	2	2.5	2.5	72.2
		Clinical Laboratory Science	2	2.5	2.5	74.7
		Communication Studies	2	2.5	2.5	77.2
		Engineering	2	2.5	2.5	79.7
		Environmental Studies	2	2.5	2.5	82.3
		Finance	2	2.5	2.5	84.8
		Sociology	2	2.5	2.5	87.3
		Business Administration	1	1.3	1.3	88.6
		Business Administration (International Business)	1	1.3	1.3	89.9
		Chemistry	1	1.3	1.3	91.1
		Education Studies (non-licensure)	1	1.3	1.3	92.4
		Management	1	1.3	1.3	93.7
		Management Information Systems	1	1.3	1.3	94.9
		Mathematics	1	1.3	1.3	96.2
		Metro-Urban Studies	1	1.3	1.3	97.5
		Social Work	1	1.3	1.3	98.7
		Youth and Family Ministry	1	1.3	1.3	100.0
		Total	79	100.0	100.0	
WSO	Valid	Biology	20	24.7	24.7	24.7
		General Studies - Undecided	18	22.2	22.2	46.9
		Psychology	7	8.6	8.6	55.6
		Elementary Education	6	7.4	7.4	63.0
		Mathematics	5	6.2	6.2	69.1
		Management	4	4.9	4.9	74.1
		Biopsychology	3	3.7	3.7	77.8
		Exercise Science	3	3.7	3.7	81.5
		Chemistry	2	2.5	2.5	84.0
		English (Literature, Language, and Theory)	2	2.5	2.5	86.4
		Film	2	2.5	2.5	88.9
		Health Fitness	2	2.5	2.5	91.4

Appendix I cont.

		Marketing	2	2.5	2.5	93.8
		Communication Studies	1	1.2	1.2	95.1
		Music (Music Business)	1	1.2	1.2	96.3
WSO		Physical Education	1	1.2	1.2	97.5
		Political Science (Pre-Law)	1	1.2	1.2	98.8
		Social Work	1	1.2	1.2	100.0
		Total	81	100.0	100.0	
WSW	Valid	General Studies - Undecided	6	12.8	12.8	12.8
		Biology	5	10.6	10.6	23.4
		Elementary Education	4	8.5	8.5	31.9
		Management	4	8.5	8.5	40.4
		Psychology	4	8.5	8.5	48.9
		Studio Art	3	6.4	6.4	55.3
		Chemistry	2	4.3	4.3	59.6
		Music Therapy	2	4.3	4.3	63.8
		Religion	2	4.3	4.3	68.1
		Sociology	2	4.3	4.3	72.3
		Spanish	2	4.3	4.3	76.6
		Accounting (General Accounting)	1	2.1	2.1	78.7
		ACTC Major	1	2.1	2.1	80.9
		Communication Studies	1	2.1	2.1	83.0
		Elementary Education (Licensure Only)	1	2.1	2.1	85.1
		Health Fitness	1	2.1	2.1	87.2
		History	1	2.1	2.1	89.4
		International Relations	1	2.1	2.1	91.5
		Music (Music Business)	1	2.1	2.1	93.6
		Physics	1	2.1	2.1	95.7
		Social Work	1	2.1	2.1	97.9
		Youth and Family Ministry	1	2.1	2.1	100.0
		Total	47	100.0	100.0	
WTI	Valid	General Studies - Undecided	6	13.6	13.6	13.6
		Psychology	6	13.6	13.6	27.3
		Biology	5	11.4	11.4	38.6
		Accounting (General Accounting)	3	6.8	6.8	45.5
		Exercise Science	3	6.8	6.8	52.3
		Marketing	3	6.8	6.8	59.1
		English	2	4.5	4.5	63.6
		Management	2	4.5	4.5	68.2
		Political Science (Pre-Law)	2	4.5	4.5	72.7
		Business Administration/Economics (combined major)	1	2.3	2.3	75.0
		Communication Studies (PR and Advertising)	1	2.3	2.3	77.3
		Computer Science	1	2.3	2.3	79.5
		Elementary Education	1	2.3	2.3	81.8
		Environmental Studies	1	2.3	2.3	84.1

Appendix I cont.

		Finance	1	2.3	2.3	86.4
		International Business	1	2.3	2.3	88.6
		Mathematics	1	2.3	2.3	90.9
		Secondary Education	1	2.3	2.3	93.2
WTI		Social Work	1	2.3	2.3	95.5
		Sociology	1	2.3	2.3	97.7
		Spanish	1	2.3	2.3	100.0
		Total	44	100.0	100.0	
WVB	Valid	General Studies - Undecided	10	18.2	18.2	18.2
		Biology	8	14.5	14.5	32.7
		Psychology	6	10.9	10.9	43.6
		Elementary Education	3	5.5	5.5	49.1
		International Relations	3	5.5	5.5	54.5
		Marketing	3	5.5	5.5	60.0
		Clinical Laboratory Science	2	3.6	3.6	63.6
		Communication Studies (PR and Advertising)	2	3.6	3.6	67.3
		Exercise Science	2	3.6	3.6	70.9
		Health Education	2	3.6	3.6	74.5
		Management	2	3.6	3.6	78.2
		Special Education: Emotional/Behavior Disabilities	2	3.6	3.6	81.8
		Studio Art	2	3.6	3.6	85.5
		Accounting (Public Accounting)	1	1.8	1.8	87.3
		Business Administration	1	1.8	1.8	89.1
		Business Administration (Marketing)	1	1.8	1.8	90.9
		Communication Studies (Mass Comm and Journalism)	1	1.8	1.8	92.7
		Finance	1	1.8	1.8	94.5
		Political Science (Pre-Law)	1	1.8	1.8	96.4
		Sociology	1	1.8	1.8	98.2
		Youth and Family Ministry	1	1.8	1.8	100.0
		Total	55	100.0	100.0	

Appendix J

Mean Credits Per-Term

Mean Credits Per Term Descriptive Statistics - 2009

SA 4 Groups		N	Minimum	Maximum	Mean	Std. Deviation
Male Non-Athlete	Term Credits	712	.00	5.00	3.8107	.71323
	Valid N (listwise)	712				
Female Non-Athlete	Term Credits	820	.00	5.50	3.8921	.61232
	Valid N (listwise)	820				
Male Athlete	Term Credits	291	1.00	5.00	3.9029	.45323
	Valid N (listwise)	291				
Female Athlete	Term Credits	149	3.00	5.00	4.0017	.33829
	Valid N (listwise)	149				

Mean Credits Per Term Descriptive Statistics - 2010

SA 4 Groups		N	Minimum	Maximum	Mean	Std. Deviation
Male Non-Athlete	Term Credits	740	.50	5.00	3.8216	.60258
	Valid N (listwise)	740				
Female Non-Athlete	Term Credits	876	.00	5.00	3.8884	.58606
	Valid N (listwise)	876				
Male Athlete	Term Credits	272	1.50	5.00	3.8833	.44991
	Valid N (listwise)	272				
Female Athlete	Term Credits	135	2.00	5.00	3.9130	.39742
	Valid N (listwise)	135				

Mean Credits Per Term Descriptive Statistics - 2011

SA 4 Groups		N	Minimum	Maximum	Mean	Std. Deviation
Male Non-Athlete	Term Credits	731	.50	5.00	3.8382	.58337
	Valid N (listwise)	731				
Female Non-Athlete	Term Credits	874	.00	5.00	3.8830	.59923
	Valid N (listwise)	874				
Male Athlete	Term Credits	257	1.50	5.00	3.9679	.40708
	Valid N (listwise)	257				
Female Athlete	Term Credits	132	.50	4.50	3.9470	.43579
	Valid N (listwise)	132				

Appendix J cont.

Mean Credits Per Term Descriptive Statistics - 2012

SA 4 Groups		N	Minimum	Maximum	Mean	Std. Deviation
Male Non-Athlete	Term Credits	662	.00	5.50	3.7847	.67293
	Valid N (listwise)	662				
Female Non-Athlete	Term Credits	802	.00	6.00	3.8900	.58857
	Valid N (listwise)	802				
Male Athlete	Term Credits	259	2.00	5.00	3.9276	.35193
	Valid N (listwise)	259				
Female Athlete	Term Credits	143	3.00	5.00	4.0524	.28590
	Valid N (listwise)	143				

Mean Credits Per Term				
	Male Non-SA	Female Non-SA	Male SA	Female SA
2009	3.8107	3.8921	3.9029	4.0017
2010	3.8216	3.8884	3.8833	3.9130
2011	3.8382	3.8830	3.9679	3.9470
2012	3.7847	3.8900	3.9276	4.0524

Appendix J cont.

Group Statistics

	SA 2 Groups	N	Mean	Std. Deviation	Std. Error Mean
Term Credits	Non-Athlete	6217	3.8546	.61953	.00786
	Athlete	1638	3.9402	.40415	.00999

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Term Credits	Equal variances assumed	193.464	.000	-5.304	7853	.000	-.08562	.01614	-.11726	-.05397
	Equal variances not assumed			-6.738	3897.931	.000	-.08562	.01271	-.11053	-.06071

Appendix J cont.

Group Statistics

	SA 4 Groups	N	Mean	Std. Deviation	Std. Error Mean
Term Credits	Male Non-Athlete	2845	3.8146	.64381	.01207
	Male Athlete	1079	3.9194	.41967	.01278

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Term Credits	Equal variances assumed	152.994	.000	-4.961	3922	.000	-.10478	.02112	-.14619	-.06337
	Equal variances not assumed			-5.962	2965.645	.000	-.10478	.01758	-.13925	-.07032

Appendix J cont.

Group Statistics

	SA 4 Groups	N	Mean	Std. Deviation	Std. Error Mean
Term Credits	Female Non-Athlete	3372	3.8883	.59629	.01027
	Female Athlete	559	3.9803	.36944	.01563

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Term Credits	Equal variances assumed	75.844	.000	-3.539	3929	.000	-.09205	.02601	-.14305	-.04105
	Equal variances not assumed			-4.923	1109.778	.000	-.09205	.01870	-.12874	-.05536

Appendix K

TRIO/Student Support Services

TRIO - 2009

SA 4 Groups			Frequency	Percent	Valid Percent	Cumulative Percent
Male Non-Athlete	Valid	No	651	91.4	91.4	91.4
		TRIO	61	8.6	8.6	100.0
		Total	712	100.0	100.0	
Female Non-Athlete	Valid	No	747	91.1	91.1	91.1
		TRIO	73	8.9	8.9	100.0
		Total	820	100.0	100.0	
Male Athlete	Valid	No	280	96.2	96.2	96.2
		TRIO	11	3.8	3.8	100.0
		Total	291	100.0	100.0	
Female Athlete	Valid	No	142	95.3	95.3	95.3
		TRIO	7	4.7	4.7	100.0
		Total	149	100.0	100.0	

TRIO - 2010

SA 4 Groups			Frequency	Percent	Valid Percent	Cumulative Percent
Male Non-Athlete	Valid	No	687	92.8	92.8	92.8
		TRIO	53	7.2	7.2	100.0
		Total	740	100.0	100.0	
Female Non-Athlete	Valid	No	796	90.9	90.9	90.9
		TRIO	80	9.1	9.1	100.0
		Total	876	100.0	100.0	
Male Athlete	Valid	No	263	96.7	96.7	96.7
		TRIO	9	3.3	3.3	100.0
		Total	272	100.0	100.0	
Female Athlete	Valid	No	132	97.8	97.8	97.8
		TRIO	3	2.2	2.2	100.0
		Total	135	100.0	100.0	

Appendix K cont.

TRIO - 2011

SA 4 Groups			Frequency	Percent	Valid Percent	Cumulative Percent
Male Non-Athlete	Valid	No	683	93.4	93.4	93.4
		TRIO	48	6.6	6.6	100.0
		Total	731	100.0	100.0	
Female Non-Athlete	Valid	No	794	90.8	90.8	90.8
		TRIO	80	9.2	9.2	100.0
		Total	874	100.0	100.0	
Male Athlete	Valid	No	250	97.3	97.3	97.3
		TRIO	7	2.7	2.7	100.0
		Total	257	100.0	100.0	
Female Athlete	Valid	No	130	98.5	98.5	98.5
		TRIO	2	1.5	1.5	100.0
		Total	132	100.0	100.0	

TRIO - 2012

SA 4 Groups			Frequency	Percent	Valid Percent	Cumulative Percent
Male Non-Athlete	Valid	No	624	94.3	94.3	94.3
		TRIO	38	5.7	5.7	100.0
		Total	662	100.0	100.0	
Female Non-Athlete	Valid	No	729	90.9	90.9	90.9
		TRIO	73	9.1	9.1	100.0
		Total	802	100.0	100.0	
Male Athlete	Valid	No	253	97.7	97.7	97.7
		TRIO	6	2.3	2.3	100.0
		Total	259	100.0	100.0	
Female Athlete	Valid	No	136	95.1	95.1	95.1
		TRIO	7	4.9	4.9	100.0
		Total	143	100.0	100.0	

Appendix K cont.

TRIO (2009-2012)

SA 4 Groups			Frequency	Percent	Valid Percent	Cumulative Percent
Male Non-Athlete	Valid	No	2645	93.0	93.0	93.0
		TRIO	200	7.0	7.0	100.0
		Total	2845	100.0	100.0	
Female Non-Athlete	Valid	No	3066	90.9	90.9	90.9
		TRIO	306	9.1	9.1	100.0
		Total	3372	100.0	100.0	
Male Athlete	Valid	No	1046	96.9	96.9	96.9
		TRIO	33	3.1	3.1	100.0
		Total	1079	100.0	100.0	
Female Athlete	Valid	No	540	96.6	96.6	96.6
		TRIO	19	3.4	3.4	100.0
		Total	559	100.0	100.0	

TRIO

SA 2 Groups			Frequency	Percent	Valid Percent	Cumulative Percent
Non-Athlete	Valid	No	5711	91.9	91.9	91.9
		TRIO	506	8.1	8.1	100.0
		Total	6217	100.0	100.0	
Athlete	Valid	No	1586	96.8	96.8	96.8
		TRIO	52	3.2	3.2	100.0
		Total	1638	100.0	100.0	

TRiO/SSS Year-By-Year (2009-2012)				
	Male Non-SA	Female Non-SA	Male SA	Female SA
2009	8.6	8.9	3.8	4.7
2010	7.2	9.1	3.3	2.2
2011	6.6	9.2	2.7	1.5
2012	5.7	9.1	2.3	4.9

Appendix L

Campus Housing

Campus Housing

SA 4 Groups			Frequency	Percent	Valid Percent	Cumulative Percent
Male Non-Athlete	Valid	No	1552	54.6	54.6	54.6
		Yes	1293	45.4	45.4	100.0
		Total	2845	100.0	100.0	
Female Non-Athlete	Valid	Yes	1716	50.9	50.9	50.9
		No	1656	49.1	49.1	100.0
		Total	3372	100.0	100.0	
Male Athlete	Valid	Yes	676	62.7	62.7	62.7
		No	403	37.3	37.3	100.0
		Total	1079	100.0	100.0	
Female Athlete	Valid	Yes	444	79.4	79.4	79.4
		No	115	20.6	20.6	100.0
		Total	559	100.0	100.0	

Campus Housing

SA 2 Groups			Frequency	Percent	Valid Percent	Cumulative Percent
Non-Athlete	Valid	No	3208	51.6	51.6	51.6
		Yes	3009	48.4	48.4	100.0
		Total	6217	100.0	100.0	
Athlete	Valid	Yes	1120	68.4	68.4	68.4
		No	518	31.6	31.6	100.0
		Total	1638	100.0	100.0	

Appendix M

Undergraduate GPA

Undergrad GPA Descriptive Statistics - 2009

SA 4 Groups		N	Minimum	Maximum	Mean	Std. Deviation
Male Non-Athlete	UGGPA	516	1.357142	4.000000	3.05479670	.562722531
	Valid N (listwise)	516				
Female Non-Athlete	UGGPA	581	.500000	4.000000	3.24354436	.582462189
	Valid N (listwise)	581				
Male Athlete	UGGPA	198	1.687500	4.000000	3.01857516	.548307213
	Valid N (listwise)	198				
Female Athlete	UGGPA	83	1.928571	4.000000	3.24803267	.497335589
	Valid N (listwise)	83				

Undergrad GPA Descriptive Statistics - 2010

SA 4 Groups		N	Minimum	Maximum	Mean	Std. Deviation
Male Non-Athlete	UGGPA	549	1.125000	4.000000	3.06290366	.554279011
	Valid N (listwise)	549				
Female Non-Athlete	UGGPA	609	1.000000	4.000000	3.23538429	.556476033
	Valid N (listwise)	609				
Male Athlete	UGGPA	194	1.000000	4.000000	3.05535637	.599315728
	Valid N (listwise)	194				
Female Athlete	UGGPA	94	2.166666	4.000000	3.30757598	.413530840
	Valid N (listwise)	94				

Undergrad GPA Descriptive Statistics - 2011

SA 4 Groups		N	Minimum	Maximum	Mean	Std. Deviation
Male Non-Athlete	UGGPA	522	.500000	4.000000	3.04326135	.568700422
	Valid N (listwise)	522				
Female Non-Athlete	UGGPA	645	1.000000	4.000000	3.21105461	.561376202
	Valid N (listwise)	645				
Male Athlete	UGGPA	168	.833333	4.000000	3.08029448	.551004540
	Valid N (listwise)	168				
Female Athlete	UGGPA	86	2.076923	4.000000	3.20662422	.449072481
	Valid N (listwise)	86				

Appendix M cont.

Undergrad GPA Descriptive Statistics - 2012

SA 4 Groups		N	Minimum	Maximum	Mean	Std. Deviation
Male Non-Athlete	UGGPA	490	.750000	4.000000	3.10059520	.589070821
	Valid N (listwise)	490				
Female Non-Athlete	UGGPA	583	1.644444	4.000000	3.22740478	.538309918
	Valid N (listwise)	583				
Male Athlete	UGGPA	148	1.000000	4.000000	3.09337752	.570246152
	Valid N (listwise)	148				
Female Athlete	UGGPA	93	1.705882	4.000000	3.25662818	.448642769
	Valid N (listwise)	93				

Undergrad GPA Descriptive Statistics (2009-2012)

SA 4 Groups		N	Minimum	Maximum	Mean	Std. Deviation
Male Non-Athlete	UGGPA	2077	.500000	4.000000	3.06484510	.568331005
	Valid N (listwise)	2077				
Female Non-Athlete	UGGPA	2418	.500000	4.000000	3.22893115	.559644240
	Valid N (listwise)	2418				
Male Athlete	UGGPA	708	.833333	4.000000	3.05893554	.567419079
	Valid N (listwise)	708				
Female Athlete	UGGPA	356	1.705882	4.000000	3.25599707	.451321217
	Valid N (listwise)	356				

Mean UnderGrad Score By Year				
	Male Non-SA	Female Non-SA	Male SA	Female SA
2009	3.05479670	3.24354436	3.01857516	3.24803267
2010	3.06290366	3.23538429	3.05535637	3.30757598
2011	3.04326135	3.21105461	3.08029448	3.20662422
2012	3.10059520	3.22740478	3.09337752	3.25662818

Appendix M cont.

Group Statistics

	SA 2 Groups	N	Mean	Std. Deviation	Std. Error Mean
UGGPA	Non-Athlete	4495	3.15311208	.569519254	.008494612
	Athlete	1064	3.12486966	.539274265	.016532513

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
UG GPA	Equal variances assumed	6.217	.013	1.469	5557	.142	.028242416	.019223538	-.009443235	.065928068
	Equal variances not assumed			1.519	1670.814	.129	.028242416	.018587158	-.008214153	.064698986

Appendix M cont.

Group Statistics

	SA 4 Groups	N	Mean	Std. Deviation	Std. Error Mean
UGGPA	Male Non-Athlete	2077	3.06484510	.568331005	.012470478
	Male Athlete	708	3.05893554	.567419079	.021324915

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
UG GPA	Equal variances assumed	.005	.945	.239	2783	.811	.005909562	.024723054	-.042567816	.054386940
	Equal variances not assumed			.239	1224.464	.811	.005909562	.024703539	-.042556391	.054375514

Appendix M cont.

Group Statistics

	SA 4 Groups	N	Mean	Std. Deviation	Std. Error Mean
UGGPA	Female Non-Athlete	2418	3.22893115	.559644240	.011381091
	Female Athlete	356	3.25599707	.451321217	.023919977

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
UG GPA	Equal variances assumed	25.376	.000	-.872	2772	.383	-.027065925	.0310501 85	-.087949754	.033817 904
	Equal variances not assumed			-1.022	529.937	.307	-.027065925	.0264895 17	-.079103272	.024971 421

Appendix N

Graduation Rate Data - Source: Erchul (2012)

Day College Graduation Rates
First Year Cohorts: 2005-2007
Breakdown By Group

Most Recent IPEDS Reporting Cohorts:

	2007	2006	2005
Category	4 Year	5 Year	6 Year
African Amer.	29.6%	42.3%	38.5%
Male	36.4%	53.8%	59.9%
First Generation	36.7%	53.4%	26.9%
Male Athletes	39.1%	58.7%	61.0%
Pell Recipients	42.3%	50.0%	46.4%
Unknown Race	42.3%	54.5%	25.0%
Overall Day Avg.	46.6%	56.5%	66.6%
White	46.9%	58.0%	69.9%
Hispanic	47.1%	61.5%	50.0%
Amer. Ind.	50.0%	25.0%	0.0%
Female Athletes	52.5%	70.3%	90.9%
Asian	53.9%	55.0%	54.5%
Female	55.6%	59.5%	72.6%
International	100.0%	50.0%	57.1%