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The Effect of Intercollegiate Athletic Participation on Graduation from College and Preparation for Life After Sports at Selective Academic Institutions

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THE EFFECT OF INTERCOLLEGIATE ATHLETIC PARTICIPATION ON GRADUATION FROM COLLEGE AND PREPARATION FOR LIFE AFTER SPORTS AT SELECTIVE ACADEMIC INSTITUTIONS

By

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The purpose of this study was to quantitatively and longitudinally examine the cumulative effects of individual student characteristics, pre-college backgrounds and college environmental factors and how they interact to influence whether college athletes feel prepared for the future upon graduation from college. Based on an extensive review of the existing literature, a conceptual model was developed and tested using data from the National Longitudinal Survey of Freshmen (NLSF), which was specifically designed to test theoretical explanations of minority students. This study found that athletes at academically selective colleges and universities differ from their non-athlete peers but not in the manner and not to the degree often portrayed by the media. Most importantly, the study found that while graduation from college was positively associated with feeling prepared for the future for non-athletes, there was no significant relationship between graduation from college and feeling prepared for life after college for athletes. These results, which held true when controlling for race and gender, highlight the importance of extending the measure of academic success beyond earning a college degree.

DEDICATION

To the Florida Education Fund, for believing in me

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"We are born into social relations that we didn't make, and much of what we are is formed within that context." – *Sociologist Ian Burkitt*

My relationships have defined much of who I am, what I do and who I still want to become. To those who have known me a long time, family members, childhood classmates, college buddies, co-workers, colleagues, teachers, professors, students, friends, and even the barista in South Miami who makes me the best café con leche every single time, you have enriched my life. Truly this accomplishment was unattainable without each of you.

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CHAPTER 1

Introduction of the Study

Sports and higher education have been virtually inseparable institutions since an aspiring businessman organized a crew race between Harvard and Yale on Lake Winnipesaukee in New Hampshire as a moneymaking venture in 1852 (Nixon 2014; Smith 1990). By the 1870s, baseball, cricket, football and track and field joined crew as intercollegiate sports under student leadership (Smith 1990). Over time, the love affair between fans and their sports teams blossomed from "rather unorganized activities" (Smith 1990:213) into a billion-dollar enterprise that has brought both fame and shame to universities, athletic programs and those who play the games under the regulation of the National Collegiate Athletic Association (NCAA). Depending on whom you ask, the union of higher education and intercollegiate athletics is either a match made in heaven yielding a college degree and lifelong benefits for student-athletes or a marriage of temporary financial convenience for academic institutions at the expense of student-athlete well-being. Even NCAA President Mark Emmert, in his 2016 State of the Association Address, acknowledged problems in the relationships among players, coaches and administrators. He publically called universities, "as guardians of the trust" (NCAA 2016), to modify current practices and policies that are not aligned with NCAA core values and make good on the vows they make to the half-million college students who participate in intercollegiate athletics each year. Despite Emmert's proclamation, the inconsistencies between the espoused values of the NCAA and its member institutions and their exhibited actions and

embraced norms have fueled controversy and scrutiny over the profitability, or lack thereof, that intercollegiate athletic participation has for the student-athlete.

Among the NCAA core values is the commitment to maintaining a collegiate model "in which students participate as an avocation, balancing their academic, social and athletics experiences" (NCAA 2016). In other words, student-athletes play sports as a hobby while pursuing an education and enjoying social interaction with classmates, faculty and the campus community. Emmert recognizes that the collegiate model is a hard sell to an increasingly skeptical audience: "The priorities are student-athlete well-being and protection of the collegiate model that we all know and feel viscerally about, but that which we have to convert into language and actions that are meaningful to a public that doesn't quite understand it – or if they do, they don't always believe us" (NCAA 2016). Sports sociologist Howard Nixon (2014) is among the nonbelievers and contends that big-time college athletics practices a "commercial model" that prioritizes athletic performance over student development because the economic well-being and status of universities are contingent upon producing winning teams instead of developing well-rounded student-athletes prepared for life after college. Former University of Michigan athletic department chief marketing officer Hunter Lochmann admitted as much in 2014: "Those are fleeting, four-year relationships," he said about the college careers of Michigan athletes. "At Michigan, it's the block 'M' that has the affinity and power globally, not [former Michigan quarterback] Denard Robinson" (Hobson and Rich 2015). Lochmann's comments inferred that schools are more committed to their brand than their

players while coaches, whose employment depends on won-loss records, administrators, donors, alumni and fans demand player loyalty and athletic performance suitable to the brand. Players who do not meet athletic expectations are at risk of not having their one-year renewable contracts extended the following season, which often terminates both their athletic and academic careers. To meet these ever-increasing athletic demands, college athletes, whether playing in revenue-producing football or basketball at a big-time university or a minor sport at an Ivy League school, are devoting more time to athletics than their educational pursuits (NCAA Goals Study 2015), which threatens the integrity of the term student-athlete.

Student-athlete was invented in response to a 1953 Colorado Supreme Court decision that ruled an injured college football player was an employee and, therefore, entitled to worker's compensation (Byers and Hammer 1995; McCormick and McCormick 2010). Since that ruling, the NCAA has worked hard to limit its financial obligations to college athletes to the cost of their academic studies under the premise that college athletes are students first and, subsequently, amateurs prohibited from being paid. Said Walter Byers, the first executive director of the NCAA: "We crafted the term *student-athlete*, and soon it was embedded in all NCAA rules and interpretations as a mandated substitute for such words as players and athletes" (Byers and Hammer 1995:69). Critics argue that, particularly in football and basketball, the term operates as a shield to serve and protect the economic interests of the NCAA and its member institutions. "The NCAA's insistence on denoting college athletes as

'student-athletes' is a clear attempt to camouflage their true function as employees in the commercial college sports entertainment industry" (McCormick and McCormick 2006:135). The revenue generated by the 1,078 schools that compete in NCAA Division I, Division II and Division III totaled $10.6 billion in 2014 (see Appendix A), according to the Equity in Athletics Data Analysis (EADA 2016) survey. Football teams were responsible for more than $4.5 billion of that revenue, approximately 2.5 times greater than the $1.6 billion generated just a decade earlier in 2004 (EADA 2016). In 2011 (the latest year the NCAA has made revenue earnings available), the Division I men's college basketball tournament brought the NCAA $871.6 million, most of which came from broadcast rights paid by CBS (NCAA 2014). CBS Sports and Turner Broadcasting signed a 14-year, $10.8 billion contract with the NCAA in 2010 to televise the enormously popular post-season spectacular (NCAA 2010). The networks signed on for an additional eight years at $8.8 billion in 2016, extending the broadcast rights through 2032 (NCAA 2016). "When coupled with the fact that the disproportionate majority of these young men are African American, while those who reap the fruits of their labor are mostly of European-American ancestry, it becomes clear that this form of exploitation is wholly unacceptable and bears many of the characteristics of the exploitation of African Americans that scars this nation's history" (McCormick and McCormick 2010:665).

A growing number of scholars and critics of the intercollegiate sports enterprise are examining the experiences of Black athletes at PWIs through Critical Race Theory (CRT), which emerged in the 1970s from the work of legal

scholars concerned about the lack of racial reform and the persistent disparities in the life opportunities for people of color in virtually every social institution in the United States despite the passage of landmark civil rights legislation. CRT argues that racism is “the common, everyday experience of most people of color in this country” (Delgado and Stefancic 2012:8) and advances the interests of Whites. Blacks gain social justice and privileges only when their interests converge with the self-interests and material gain of Whites “without significantly diminishing Whites’ sense of entitlement” (Bell 2004:9). CRT deems racism in America to be permanent with substantial impact in all areas of life for Blacks. Ladson-Billings and Tate (1995) introduced CRT as a valuable and necessary tool for making sense of the persistent racial inequalities in public education. “Race continues to be significant in explaining inequity in the United States in that class- and gender-based explanations are not powerful enough to explain all of the difference in school experience and performance” (p.51).

CRT adherents use “first person, storytelling, narrative and allegory” (Bell 2005:78) and are “highly suspicious of the liberal agenda, distrust its method (p.79) and “seek to empower and include traditionally excluded views” (p.79). Therefore, employing the CRT lens to scrutinize the intersection of sports participation and higher education counterattacks the meritocratic color blind ideology narrative of intercollegiate athletics and the “intellectually inferior and academically apathetic” (Cooper 2016:269) Black male storyline. Through qualitative studies, researchers have been able to push past the worn-out, deficient perspective analyses drawn from graduation figures and grade-point

averages to reveal that the academic trends associated with Black male athletes are “less reflective of individual efforts and academic motivation, but rather are a byproduct of systemic inequalities and the devaluation of educating and preparing Black males for success in life beyond athletic contexts in the broader U.S. culture” (Cooper 2016:268).

Much of the racial injustice discourse in college sports centers on whether athletes in revenue-generating sports should be paid. Dawkins (2016) asserts that paying football and basketball players does not address the embeddedness of racial injustice in intercollegiate athletics: “Today, mostly Black basketball teams compete for the enjoyment and entertainment of mostly White audiences in many arenas where ticket costs price out many Black spectators. … The racial injustice meted out to student-athletes must be addressed in terms of its connection to racial oppression in America. … Therefore, any changes at the institutional level must aim to alter the norms that define the roles of primary actors.” Among Dawkins’ suggestions for reforms are identifying at least one qualified Black and female candidate for every top-level coaching and athletics administration position, earmarking monies generated by athletics for charities in neighborhoods where Black athletes are heavily recruited, and building permanent athletics and educational structures in poor neighborhoods that host NCAA championship events.

Psychosocial outcomes need to be included and evaluated as well. As Smith et al. (2011:65) state: “Education has historically paid off for the vast majority of Black men in better jobs and income within an increasingly

desegregated workforce. The questions that are beginning to be raised are about the emotional, physiological, and psychological costs associated with their participation in historically White environments."

One in every nine Black students enrolled in predominantly white academic institutions is a college athlete (Person and LeNoir 1997). Among Division I institutions that field a football team, one in every five Black males (20.9%) on campus is an athlete compared to only one in every 27 white males (3.7%). Black men are only 8.1% of all male students but are 59.1% of men's basketball players and 50.1% of football players (Theune and Braddock 2016). The overrepresentation of Blacks in revenue-producing sports and their underrepresentation in college classrooms perpetuate the myth of the superior athlete but inferior student (Frey and Eitzen 1991; Hodge et al. 2008; Van Rheenen 2012) and elicits charges of exploitation as mentioned earlier. Van Rheenen (2013:564) posits that how athletes perceive themselves is of utmost importance: "The role and place of intercollegiate athletics on a given campus, and how college athletes perceive their value to the institution, will certainly impact these students' relative sense of being exploited." In one of the few studies on college athletes' perceptions of exploitation, almost one third of 581 active Division I athletes expressed feeling exploited by their academic institutions and Blacks were significantly more likely to feel taken advantage of than non-Black athletes; almost 75% of football and basketball players said they felt exploited (Van Rheenen 2012). However, feelings of exploitation were not exclusive to Blacks and revenue-generating athletes. In that same study, 25% of

participants in non-revenue sports said they felt exploited. The study did not address the origins of these feelings but the author suggests that perceptions of feeling exploited are not limited to economic reasons but also include a perceived unfair educational exchange because time commitment to their sport limits their ability to take full advantage of educational opportunities.

The reality of the unlikelihood of a professional sports career disproportionately affects Blacks, particularly Black males (Beamon 2010; Beamon and Bell 2002, 2006; Edwards 2000; Funk 1991; Harrison, Azzarito and Burden Jr. 2004; Oliver 1980). In a study conducted by the Center for the Study of Sports Society at Northeastern University, two-thirds of Black males between the ages of 13 and 18 believed that playing professional sports was probable while 30% of White males of the same ages viewed professional sports as a likely career (Sage and Eitzen 2013). The study also found that Black parents were four times more likely than White parents to expect their sons to become professional athletes. Harrison et al. (2004) found that White males generally were steered away by coaches, parents and even themselves from competing in sports at high levels. Whites were considered athletically inferior to Blacks, which discouraged their participation in basketball and speed positions in football. White parents viewed athletics secondary to academics and used the myth of the superior black athlete as reasons for not participating in sports. However, Whites expressed sports as a means of Blacks “getting out.” Harrison et al. (2004) similarly found that both Blacks and Whites bought into the notion that Blacks were natural superior athletes.

Billy Hawkins (2010) further positions the student-athlete experience within the context of race and likens the relationship between predominantly white institutions (PWIs) and Black male student-athletes to American colonialism and puts forth what he calls a *new plantation model* that benefits White power structures and disadvantages Black males. He concedes, however, that being a student-athlete comes with some benefits:

> For some athletes, they experience direct upward social mobility by being drafted into professional sports leagues. For others, there are indirect opportunities for becoming upwardly mobile: that is, their recognition provided them with job opportunities after they graduated; it could be working in the company of a wealthy supporter of the program; or it could extend to having an opportunity to further their education at the graduate level. The key is recognizing the structural arrangements and manipulating them to one's advantage. (P. 8)

Honesty and trust are essential hallmarks in any successful relationship, but Hawkins argues that the commercialization of sports has spawned "hidden agendas" that "neglect the minds of Black athletes while exploiting their athletic talents" (2010:15). While the NCAA hides "behind the veil of amateurism" (Hawkins 2010:15), Emmert does not disguise the fact that Black athletes in revenue-generating sports fund the non-revenue producing sports dominated by White athletes (NCAA 2016):

> As a president, I say to my women's golf fans, the most important thing you can do is buy football tickets. If you love rowing, buy football tickets. If you love cross country, buy football tickets. We couldn't do any of those other sports if we weren't successful in football. In the NCAA, we can't support anything else we love unless we're successful in Division I men's basketball. Whether you like it or not, it's just a fact.

College athletes in big-time sports shoulder the responsibility of providing "commercial entertainment" (Sack 2008:177) to the masses, which detractors claim undermines the purpose of college – receiving a meaningful education. This sentiment has been echoed by former University of Michigan president James J. Duderstadt: "Dollars from television and licensing coupled with the escalating costs of mounting entertainment-quality athletic events have warped institutional priorities, forcing athletic directors to focus more on the bottom line than on student welfare, educational objectives, or integrity" (2003:12). College athletes, most notably basketball players, miss valuable class time traveling to games in the middle of the school week; however, missing practice time for academic reasons is seldom an option. The NCAA's 20-hour rule, the maximum time per week athletes are supposed to devote to team-related activities, is disregarded and Emmert surreptitiously places the blame on the athletes. "The big question is: What can be done about it? Athletes are by nature competitive and disciplined. With or without influences to the contrary, athletes will push themselves and their teammates to pursue excellence in preparation for

competition" (NCAA 2014). According to the NCAA's federal tax return, Emmert was paid $1.9 million in total compensation in 2014 (Berkowitz 2016) to provide, among other matters, solutions that lessen the time demands imposed on student-athletes. However, "the NCAA has determined that more study and deliberation is necessary, thus suggesting a lack of commitment to the educational primacy it espouses" (Sack and Gurney 2016).

Intercollegiate athletic participation has been characterized as a series of contradictions with both liberating and constraining qualities. Full athletic scholarships, generally awarded to football and basketball players and elite athletes in minor sports, free students from worrying about how to pay for college, and parents are attracted by the possibility of their children obtaining even partial athletic scholarships that make college more affordable (DiFiori 2010; Malina 2010). More than 150,000 NCAA student-athletes receive $2.7 billion in athletic scholarships each year. Even at Division III schools, where athletic scholarships are not awarded, more than 75% of student-athletes receive academic scholarships or financial aid (NCAA 2016). The pursuit of the "full ride" to college extends into Canada, where parents, along with coaches, push their children to pursue athletic scholarships at U.S. academic institutions. Dyck (2010) sums up this phenomenon:

> … coaches and parents enthusiastically pitch this prospect as an "invaluable opportunity" that will permit an athlete to play sport at the "highest" level and get a degree from a "big" and presumably "prestigious" American university. Discursive renderings of athletic

> scholarships structured along these lines imply that those who succeed in winning such awards will “have it made,” presumably for the rest of their lives. (P. 45)

The NCAA uses more subtle terms but touts immediate and long-term benefits of sports participation that go beyond scholarships to help pay for college: financial assistance for needs that scholarships do not cover, increased odds of academic success, elite training opportunities, academic and support services, access to healthy and nutritious meals, medical care and insurance, travel opportunities in the United States and abroad, and the interpersonal development skills that businesses look for when hiring personnel (NCAA 2016). At the same time, sports participation has been shown to restrict time available for academic and social pursuits (Bowen and Levin 2003; Eitzen 2001; Shulman and Bowen 2001). A study of 409 student-athletes participating in the Pac-12 Conference found that while student-athletes were generally satisfied with their college experience, lack of free time and not enough time to complete academic work were their biggest challenges (Penn Schoen and Berland 2015).

Although sports participation in high school has been linked to positive lifelong effects, particularly upward mobility (see Braddock 1980; Mackin and Walther 2011), the benefits of intercollegiate sports participation have been mixed. Donnor (2005:49) argues that athletic departments and universities have benefited far greater than student-athletes, particularly Black males participating in revenue-producing sports: “Consequently, the institutional pressure to compete annually for prestige and revenue not only defines a student-athlete’s

existence on campus; it explicitly tells him where to concentrate his energies for the next four to five years." The scholarship student-athlete's relationship with a university is bound by a contractual agreement to serve a specific function, i.e., to play sports in exchange for tuition, room and board, books and miscellaneous expenses. "Unfortunately, academics are not a top priority for most head coaches in big-time athletic programs, in part because their job security depends on their ability to deliver winning seasons and to secure corporate sponsorships, not on whether they develop the academic talents of the student-athletes they recruit" (Comeaux 2013:286). The very nature of these relationships opens the door to charges of exploitation because athletic scholarships have nothing to do with academic achievement and everything to do with accomplishments on the field of play. Critics claim these conflicting priorities exploit the upward mobility dreams of student-athletes (Adler and Adler 1991; Branch 2011; Donnor 2005; Haden 2001; McCormick and McCormick 2012; Meggyesy 2000; Sack and Staurowsky 1998; Van Rheenen 2012, 2013; Wiggins 1991). "Where sport appears to be one of the few avenues that provides true equal opportunity, it is more often a dead end for many young males drawn to athletic careers" (Van Rheenen 2013:563). Harry Edwards, who once criticized the "single-minded pursuit of sports fame and fortune" (1988:138) in the Black community, more recently viewed the overemphasis on sports as the "only remaining avenue" (2000:13) of "building legitimate careers and futures" (2000:12) for Blacks who struggle under the weight of educational, economic, political and social disparities. Anthony Miller (2011) takes a middle-of-the-road perspective, calling

the student-athlete relationship with the academic institution “both mutually advantageous exploitation and consensual exploitation” because both parties benefit from the transaction. Therefore, to better understand the impact of intercollegiate sports participation, additional research is needed to more closely evaluate the relationships within and among the multiple experiences and social interactions that accumulate in stages over time and shape the academic outcomes of college athletes.

Following the suggestion of Staurowsky and Sack (2005), the term student-athlete from this point forward no longer will be used because of its origins, evolution and controversy. As previously mentioned, student-athlete was a public relations creation with the specific intent of perpetuating amateurism so that universities and athletic departments would not be liable for providing worker’s compensation to injured players (Byers and Hammer 1995) or responsible for paying wages and according rights to college athletes as employees (McCormick and McCormick 2010). Athletes work with limited rights in exchange for an education despite logging 40 hours a week. Although most college athletes enter college with plans to graduate, time demands often dictate that sports participants place greater importance on their athlete role and lesser emphasis on their student role. “Where else but in the present topsy-turvy state of athletics does the college officially require the student to skip classes for a college-scheduled function or risk loss of financial assistance?” (Byers and Hammer 1995:103). Thus, there is legitimate concern that college athletes participating in all sports (and not just revenue-producing sports) do not receive

the same academic and social opportunities as their non-athlete peers. In the words of Staurowsky and Sack (2005), “as scholars, we are under an obligation to be accurate with our language” (p. 110).

Purpose and Significance of Study

The purpose of this study is to quantitatively and longitudinally examine the cumulative effects of individual student characteristics, pre-college backgrounds and college environmental factors and how they interact to influence whether college athletes feel prepared for the future upon graduation from college. Despite an abundance of studies on college athletes, including a wealth of research conducted in recent years, there has been no one study that attempts to explore the holistic experience of college students who devote much of their time and energy to the institution of sport. Multiple student attributes identified in the literature are integrated with pre-college background and college environmental factors to compare college athletes and non-athletes over time, and to explore the role of race and gender. “A simple comparison of certain desired outcomes among individuals with differing abilities and social status characteristics is insufficient” (Comeaux and Harrison 2011:235) and, therefore, this study examines multiple characteristics and cumulative processes as suggested by Tinto (1975, 1993, 2015), Astin (1977, 1993, 1999), and Comeaux and Harrison (2011). Much of the present literature is dedicated to understanding the college athlete experience in revenue-producing sports at big-time athletic universities in high-profile athletic conferences. Athletes at academically selective colleges and universities often are overlooked and, yet, share similar

experiences as athletes at less selective academic institutions (Bowen and Levin 2003; Shulman and Bowen 2001). Additionally, most research on the effect of intercollegiate athletic participation focuses merely on graduation outcomes. However, dramatically increased graduation rates, especially among Black male athletes, have not quieted accusations of enrolling athletes in professor friendly classes that keep them "academically eligible and athletically serviceable" (Wiggins 1991:165) on their way to meaningless degrees. This study makes significant contribution to the literature by exploring the attitudes of athletes regarding their college experience, particularly preparedness for their lives after college and beyond sports. It also broadens our understanding of athletes at highly selective academic institutions and contributes new knowledge by comparing the pre-college backgrounds and college experiences of sports participants to non-sports participants. In the ongoing debate over the merits of intercollegiate athletic participation, no one study has attempted to examine multiple timeframes in the lives of college athletes in comparison to college non-athletes in the same sample. The ultimate goal of the study is to inform practices that can enhance the college experience so that athletes are prepared for life after sports.

Chapter Summary

No other country in the world weds the institutions of sport and education as the United States. This marriage of seemingly conflicting ideals has shined a spotlight on the missions, goals and practices of the NCAA and academic institutions and how they affect the college experiences of those who participate

in intercollegiate athletics. Despite NCAA campaigns to debunk the negative perceptions held by sports activists and scholars who propose changes to how the NCAA and academic institutions conduct the business of sport, charges of exploitation and lack of genuine concern about the overall well-being of college athletes continue. While much of the criticism has been levied against Division I schools and revenue-generating sports, there is a growing concern that athletes in all divisions and in all sports may leave college not as enriched academically and socially and, therefore, not as prepared for the future as their non-athlete peers. This study draws upon previous research to examine the cumulative effects of individual student characteristics, pre-college backgrounds and college environmental factors on outcomes at different stages of development for the same students, both athletes and non-athletes, before, during and at the end of college.

Organization of the Study

The study is presented in five chapters. Chapter 1 introduces the ongoing debate over the benefits and disadvantages of participating in intercollegiate sports and states the purpose and significance of the study. Chapter 2 provides a brief history of the relationship between athletics and higher education, including the integration of Blacks and females into a previously exclusive all-White boys club, and a review of relevant literature. Previous research on student characteristics, pre-college backgrounds, college environmental factors and intercollegiate athletic participation that have shaped the experiences and attitudes of athletes, specifically Black athletes attending PWIs, are highlighted.

The theoretical framework also is presented. Chapter 3 defines the research questions and provides the methodology and rationale for the design of the study. Chapter 4 presents the findings for athletes and non-athletes on feeling prepared for the future upon graduation from college. Close attention is given to individual student decisions, e.g., academic effort in addition to the role of institutional influencers such as interaction with peers and faculty. This chapter also includes the role of race and gender in student outcomes. Chapter 5 concludes the study with a summary of the findings, implications of the key findings and suggestions for future research.

CHAPTER 2

Review of Related Literature

> The school year seems to provide, for freshmen and sophomores, an *intensification* of the elements that make a brilliant student a less attractive image than a star athlete. Then, late in a boy's high-school career, the culture of the high school begins to lose its grip on him as he anticipates post-high school life. In talking to high school seniors, one feels that they are looking back on high school days with a kind of longing, while simultaneously wondering how they could have been so deeply embedded, so much in 'another world,' as are the present lower classmen. (P. 304)
>
> – Sociologist James S. Coleman, *The Adolescent Society* (1961)

Research on the effect of sports in the lives of young people has continued to escalate since the publication of Coleman's seminal work *The Adolescent Society* in 1961. His study gave attention to high school students and emphasized how the organization of school life reinforces adolescent anti-academic attitudes and pro-sports interests. Coleman asked teenage boys attending nine Midwest public high schools in the late 1950s which of the following they most wanted to be: jet pilot, nationally famous athlete, missionary or atomic scientist; and the athlete was the most popular choice. In other words, boys were more oriented toward athletic success than academic success. However, as their high school days waned, these same students realized that their pursuit of athleticism (in addition to good looks and popularity) over academic learning might limit their post-school opportunities. Coleman's insights remain relevant today, not just in high schools but, as research has shown, perhaps even more so in higher education. Although athletes graduate from

college at a higher rate than their non-athlete peers (NCAA 2016), there is a growing concern that students who participate in intercollegiate sports “neglect the broader educational opportunities” (Shulman and Bowen 2001:274) such as campus involvement, career planning, and studying abroad as they navigate the dual, and often dueling, roles of student and athlete (Boyer and Sedlacek 1989; Purdy, Eitzen and Hufnagel 1982; Sedlacek 1987; Upthegrove, Roscigno, and Charles 1999). Foregoing these broader educational opportunities to pursue athletic success has the potential to leave college athletes unprepared for the inevitable – their lives beyond college. Greg Oden, the overall No.1 pick in the 2007 NBA draft, drew national headlines when he returned to Ohio State in 2016 as a student after an injury-plagued and disappointing professional career following one season with the Buckeyes. Said Oden: “I’m still trying to figure out my life. Since I’ve been in fourth grade, all I’ve known was basketball. I’m just trying to better myself and work on my degree and set something up for the future of my family” (Benbow 2016). While the NCAA provides anecdotal evidence of athletes who graduated from college thriving in their lives after sports, little quantitative research exists in athlete preparedness for the future. Nonetheless, previous research, which debates the effects of intercollegiate athletic participation on college athlete outcomes, provides indispensable groundwork for this study.

This chapter begins with an overview of the history of sport in U.S. higher education, the emergence of Black male athletes at PWIs and the facilitation of female athletic participation through Title IX. Secondly, landmark studies by Adler

and Adler (1991), Shulman and Bowen (2001), and Bowen and Levin (2003) that revealed the existence of an athletic subculture and, according to the Adler and Adler study, anxiety about the future, are discussed. Thirdly, the cumulative processes that have been found to influence the experiences and attitudes of college athletes, particularly as they pertain to Black athletes, are presented. Individual student characteristics, pre-college backgrounds, college environmental factors, and academic and institutional commitments are discussed within the context of intercollegiate athletic participation. Fourthly, previous research on degree attainment and preparedness for life after college are presented. The chapter concludes with the theoretical framework that guided the study and conceptual model based on that framework.

History of Sports in Higher Education

Intercollegiate sports began as a commercial enterprise and dates to a crew race between Harvard and Yale students in 1852 (Nixon 2015; Shulman and Bowen 2001). A railroad owner aspiring to be a land developer organized the competition to solicit the rowers' wealthy families and friends to purchase vacation properties on the New Hampshire lake where the competition was being held (Nixon 2014). Other athletic competitions began to spring up but were usually spearheaded and managed by students with faculty participation until colleges and universities, drawn by the public attention attracted by these student games, began to take control of intercollegiate teams in the 1870s. By the end of the 19th century, college athletics had many of the trappings that exist today – leagues and conferences, paid sporting events, financial support from alumni and

boosters, professional coaches and trainers and a shift from college students to college administrators and coaches running year-round sports programs (Smith 1990; Watterson 2000). The sport of football was especially popular and lucrative at top universities such as Harvard, Yale and the University of Chicago known for academic excellence. The University of Notre Dame rose to national prominence when it established a football team to compete against these athletic powerhouses. “Before long very many Americans would be acting as if the purpose of an American college or university were to field a football team” (Rudolph and Thelin 1990:387). Harvard and Yale, still recognized today as academic powerhouses, are attributed with creating many of the patterns seen today in college athletics. As stated by Smith (1990):

> Financial favors to sub-freshmen recruits, intensive training before, during, and after the season; lack of or violations of eligibility rules; questionable ethics; payment of professional coaches well beyond faculty salaries; bowing to alumni athletic interests; and construction of stadiums for the public were all part of the Harvard and Yale athletic programs in the late nineteenth and early twentieth century, before the National Collegiate Athletic Association (NCAA) was born. (P. 214)

Concern about player safety, ethical behavior and academic integrity eventually led to the formation of the NCAA with 62 member schools (Smith 2000) in 1910 as the sport governing body of college athletics and furthered the promotion of college sports as commercial entertainment (Nixon 2015; Smith

2000). The main role of the NCAA in those early days was not governing but developing championships to expand sports participation (Nixon 2015). Major concerns regarding athlete welfare, academic fraud, gambling and over-commercialization continued to go unaddressed while academic institutions invested more heavily into their burgeoning relationship with intercollegiate athletics. As college became more accessible to the American public, interest in sports became even more popular, aided by the common presence of radios in American homes and the advent of network television (Deninger 2012). The first televised sporting event happens to have been a college baseball game between Columbia and Princeton aired by the National Broadcasting Company (NBC) to approximately 400 television sets on May 17, 1939 (Deninger 2012). Colleges and universities began athletic programs while other academic institutions added sports to already existing programs to meet the growing fascination students, alumni and the community had with sports (Smith 2000). While futile attempts were made by the NCAA in the 1940s to “regulate excesses” (Smith 2000:14), the NCAA entered a new era when Byers became executive director of the NCAA in 1951. Byers ushered in revenue stream, through college football broadcast rights, and NCAA investigative and enforcement authority. Three divisions were created in 1973 to level the playing field of schools with differing resources and philosophies. This focus on governance and economic issues, however, meant that matters concerning the well-being of college athletes were largely ignored (Byers and Hammer 1995). It wasn’t until the 1980s that the NCAA and its members began to address academic standards exposed in highly

publicized cases by former NFL player Dexter Manley, who remained eligible for football at Oklahoma State University despite being illiterate; Kevin Ross, a functionally illiterate Creighton University basketball player; and Jan Kemp, a remedial English teacher who successfully sued the University of Georgia for academic fraud. While athletes were remaining eligible for athletic competition, many were leaving college without an academic degree. In response, the NCAA instituted initial eligibility requirements and yearly measures including grades, minimum credit hours per year and progress toward earning a degree (NCAA Academics 2016) with the intended purpose of increasing graduation rates. Although graduation rates have increased dramatically, especially among profit-sport athletes, critics claim that academic institutions promote eligibility rather than education. Their accusations appear to be substantiated by more recent incidents such as the fake class scandal at the University of North Carolina. Smith and Willingham (2015) allege that North Carolina "knowingly and eagerly admitted athletes with poor academic training or little to no interest in school and further served the needs of the athletic program by creating paths to academic eligibility that kept athletes on the field year after year" (p.1).

In the 2016-17 academic school year, more than 460,000 athletes participated in NCAA sports sanctioned by 1,121 academic member institutions of the NCAA "dedicated to the well-being and lifelong success of college athletes" (NCAA 2016). Basketball (1,086) was the most sponsored men's sport, followed by cross country (987), baseball (948), golf (825) and soccer (824). Football was ninth with 668 sponsored teams. Basketball was the most prevalent

NCAA sport for women with 1,105 teams, closely followed by cross country (1,069), volleyball (1,069), soccer (1,028) and softball (1,000). Division I included 346 schools that sponsored 6,475 championship sports teams composed of 175,952 athletes. In Division II, 118,778 athletes competed on 4,915 teams. Division III does not award athletic scholarships (more than 75% of student-athletes receive academic scholarships or financial aid) but provided the most opportunities for sports participation with 187,803 athletes on 7,936 athletic teams at 450 academic institutions (NCAA 2016).

The Black Male Athlete at PWIs

Blacks have a storied history of playing college sports at predominantly white universities in the North that predates the 20th century while Jim Crow laws kept Blacks out of southern universities. The first Black athletes at PWIs – George A. Flippin at Nebraska, William Washington and Moses Fleetwood Walker at Oberlin, Sherman Jackson at Amherst and William Henry Lewis, who played at both Amherst and Howard – excelled academically and athletically (Wiggins 1991). Flippin, who played football at Nebraska, was that school's first black athlete, first black graduate and later became a physician. Jackson was a prolific half-mile runner and teamed with Lewis at Amherst to become the first black college football player at a PWI. Upon graduation, Jackson taught and coached 38 years at M Street High School in Washington D.C., and served as principal from 1906 to 1909 for the prominent school later renamed Dunbar High. Lewis, the fourth black graduate of Harvard Law School, was the first black college football player named to the all-American team. He became a highly

successful criminal defense attorney and civil rights orator and activist who championed education to escape prejudice: “We ask you to loosen for us the bonds of ignorance; let the captive mind go free to soar the deep and vast empyrean of human knowledge, and the manacles of prejudice will surely fall away” (Neal 2012).

By the 1930s, however, PWIs began the practice of admitting black male students solely on the merits of their physical skills rather than their intellect (Wiggins 1991) to establish championship teams, generate revenue, and boost school spirit and, thus, school loyalty. According to Wiggins, “this fact was the beginning of the end for many black athletes who were forced to cope with the social isolation of predominantly white university campuses and juggle a tight athletic schedule with an academic load, leaving them totally bewildered” (p.170). The college experience for black athletes was reduced to remaining eligible for athletic glory (Adler and Adler 1987; Cornelius 1995; Lang, Dunham and Alpert 1988) rather than being educated for career longevity and intellectual enlightenment.

As PWIs enrolled more black athletes in the 1940s and 1950s, school officials championed integration of their sports teams as a conduit of improved race relations in an equalitarian U.S. society despite exclusionary policies that prevented blacks from being full participants in the social and intellectual life of their academic institutions. Their rights were limited to class attendance and sports participation. Black athletes, like all Blacks on campus, were restricted from living in dorms, eating with White students and joining clubs and school

organizations. Black athletes were further isolated when their coaches had them sit out games because opponents, particularly southern institutions, refused to play against Blacks. Wanting to be competitive on the field, however, schools in the South began to recruit Black athletes primarily in football, basketball and track in the 1960s. Just six years after the all-black starting five Texas Western College defeated the all-white Kentucky men's basketball team for the NCAA championship in 1966, every basketball team in the Atlantic Coast Conference (ACC) and Southeastern Conference (SEC) had desegregated (Smith 2000). The concentrated effort to recruit Black athletes in the 1970s and 1980s changed the face of the most visible sports, i.e., revenue-generating, as Black athletes became the most dominant sports figures on college campuses. However, critics contend that little interest was given to the academic well-being of Black athletes (Hodge et al. 2008; Wiggins 1991). "Special provisions were made by presidents to stock their teams with athletic talent – Black talent – and to continue to reap the profits from the expanded television revenues of the 1970s and 1980s" (Smith 2000:152). Today, charges of exploitation (Adler and Adler 1991; Branch 2011; Donnor 2005; Hawkins 2010; McCormick and McCormick 2012; Meggyesy 2000; Van Rheenen 2012, 2013) reverberate around the country as college programs generate revenue on the athletic skills of Black football and basketball players to fund low-profile teams populated largely by White athletes, particularly White females.

The Female Athlete

The history of women participating in intercollegiate athletics is relatively brief. Until Title IX of the Education Amendments Act prohibiting sex discrimination in education programs that receive federal money was passed in 1972, dominant social conventions about gender roles, notions of inadequacy regarding the female body, and outright discrimination kept women out of competitive sports (Chrisler 2011; Dowling 2000; Russet 1991). Female sports participation still was slow to grow after Title IX as athletic administrators spent less than 1% of their budgets on women's programs (Cahn 1994). When women argued for the equal treatment of women's sport in scholarship and competitive opportunities, i.e., equal numbers and equal dollars, "the NCAA feared the future of major college football budgets" (Davies 2016:438). After unsuccessful attempts to exempt intercollegiate athletics and, at least, football from Title IX compliance, the all-male NCAA wrestled control of women's sports away from the Association for Intercollegiate Athletics for Women (AIAW); and the few female administrators and coaches were made subordinate to their male counterparts (Davies 2016). Although wide disparities existed in number of scholarships offered, facilities, uniforms, and travel budgets, Title IX opened unprecedented doors for female athletes and the gap between male and female participation rates has been narrowing since then. In 1971, just 30,000 females played intercollegiate sports compared to 170,00 males (NCAA 2012). The NCAA did not even sponsor sports for women in 1971; today, more than 200,000 females are college athletes at NCAA member institutions and receive 45% of

NCAA scholarships (NCAA 2013). However, Black females are not benefitting from sports participation to the same degree as White females. Black females were 51% of Division I basketball players in the 2014-2015 academic school year but virtually non-existent in golf (3%), lacrosse (2.5%), swimming (1.6%) and field hockey (1.4%), resulting in Blacks being 15.3% of female athletes compared to 64.3% of Whites in Division I (NCAA 2016). The percentages were about the same for Blacks in Division II, although Black females were less likely to play basketball and sports overall; they were 36.2% women basketball players and 12.8% of all female athletes compared to 68.7% and 49.1% respectively for Whites. “Perhaps in part because the language of the law focuses solely on gender, Black women and girls have been overlooked in athletics and, as a result, have not received the full benefits Title IX promised all women” (Fields 2008:126).

Key Studies

Thirty years after *The Adolescent Society* was published, Adler and Adler’s revealing ethnography *Backboards and Blackboards* (1991) demonstrated how Coleman’s concerns of anti-academic attitudes and pro-sports interests in high schools likewise were legitimate concerns on college campuses. Adler and Adler examined role domination in which the athletic role takes precedence and the athlete relinquishes other roles in favor of athletic glory:

> Many of them ceased to think about their futures except as a direct continuation of their present. They abandoned any sense of long-term planning and deferment of gratification in favor of the

> enormous immediate gratification they encountered from their fans and celebrity. What emerges was a self that primarily thought only about one source of gratification, athletic fame, that imagined and planned for little else. (Pp. 167-168)

Adler and Adler conducted a five-year, participant-observer study on a highly successful NCAA Division I basketball team at a medium-sized private university located in a city without a professional sports team; two-thirds of the players studied were Black and one-third were White. Looking at their social, athletic and academic expectations, Adler and Adler found that these basketball players had relatively high expectations socially and academically but mixed expectations in the athletic domain. Except for the few highly touted recruits, most wanted to graduate from college although many had no specific career goals. Just like the athletes who come to the United States from Canada, “they had come to the University to have it all: the sports, the social life, and the education” (p. 69). These three domains were not integrated but were compartmentalized, which produced conflict for the players, particularly between the immediate rewards of athletics and the long-term gains of academics. More specifically,

- Black players felt unwelcomed on the predominantly white campus because of their race, physical stature, cultural differences and the dumb jock stereotype, but they desired to participate in the campus social scene. Both Black and White players had difficulty integrating

with non-athlete students due to the time constraints that accompanied sports participation.

- Basketball was an almost all-consuming pursuit (e.g., road games, practices, team meetings, media interviews, functions and booster dinners) that left players fatigued and too tired to study their textbooks. “Rather than using the little free time they had to catch up on their studies, they usually chose to spend it socializing or just sleeping” (p. 73).
- The academic domain was remarkably different from the players’ preconceptions. Classes were much harder than their high school courses, managing academic expectations and athletic obligations proved difficult, and many players saw themselves as simply “jocks” by their professors; all of which often led to noticeable academic disengagement and frequent academic failure. “By the end of their first year most athletes began to grasp the complexities of the system. … They recognized, then, with varying degrees of sadness, that their college careers could have no more than limited academic potential” (p. 141).

Particularly relevant to this study, Adler and Adler posited that one of the negative consequences of intercollegiate sports participation was the “loss of future orientation” (p. 167) and, therefore, each year, the seniors on the team were “depressed and anxious” about their futures (p. 209) and developed

feelings of exploitation. “The future, which had been abstract and assured, was near, and it did not hold the promised opportunities” (p. 197).

Basketball had called for their full attention; coaches, boosters, students, fans and the local community demanded athletic excellence with little concern about their academic obligations or social life. According to Adler and Adler, these excessive demands led to the engulfment of every basketball player into the athletic role despite their team status (e.g., starter, contributor, bench rider), race, class, academic background, entering role alignments, or future aspirations. “Their behavior, lives, and identities were consumed by their one dominating status” (p. 227). Adler and Adler blamed early formations of athletic identities, the structure of athletics as the central organizing principle of life, the influence of coaches, athletes’ peer subculture, and the intensity of college athletics for this phenomenon. They viewed single-minded pursuits just as common for non-athlete students and a continuing trend in today’s individualistic society. The danger Adler and Adler found with the single pursuit of athletics, however, was that this pursuit would end with their last college game, except for a few, while thousands of non-athlete students would graduate to successful careers in business, medicine, law and education. Adler and Adler did not discount the intrinsic benefits these players may have acquired and surmised that even if they graduated from college with a job, the greatest difficulty for athletes was accepting the loss of their only role and creating a new identity for themselves.

Twenty years after Adler and Adler's research, another key study further substantiated Coleman's findings. While most studies on intercollegiate athletics give attention to big-time sports at big-time universities, in *The Game of Life,* Shulman and Bowen (2001) exposed the widening gap between athletics and academics at 30 highly academically selective colleges and universities in the United States and provided evidence to support the claim that many of the patterns associated with athletically selective Division I high-profile sports programs also occur at academically selective schools. They tracked athletes and non-athletes from the entering classes of 1951, 1976 and 1998 and found that male college athletes "are increasingly, over time, different from other admitted students" (p. 59). More specifically:

- Special attention is given to athletes in the admissions process more than any other group. Shulman and Bowen were able to determine that at one of the schools in their study, the admissions advantage (after controlling for SAT scores) enjoyed by recruited athletes more than doubled for recruited athletes from 1976 to 1999. In 1976, the recruited athlete had a 23% better chance of being admitted than a student at-large; that percentage jumped to 48% in 1999. The legacy advantage remained fairly constant (20% to 25%) but, perhaps, most interestingly, the minority advantage dropped significantly from 49% to only 18%.
- Non-athletes entered college more academically prepared than athletes participating in both high-profile and low-profile sports. The

gaps in SAT scores were highest at Division I private and public universities and smaller at Ivy League schools and coed liberal arts colleges.

- Graduation rates of athletes were lower than the graduation rates of students who might have significant time constraints, such as musicians, student newspaper editors, thespians and others highly involved in extracurricular activities.
- The grade point averages of athletes were significantly lower than non-athletes across all levels of play; athletes also underperformed academically based on their SAT scores.
- Athletes on campus were increasingly different from non-athletes on campus in their values, interests, goals and expectations.
- Patterns associated with Division I high-profile sports programs were the same in Division III colleges.
- Athletes were largely separated from the rest of the school population via academic major clustering, extraordinary time commitments to their sports and disconnection from faculty, which produced an athletic subculture in which intercollegiate sports participants were isolated and insulated from the rest of the student body.

Over time, female college athletes emulated their male counterparts on many of their patterns of behavior and even surpassed them in admissions advantage. The advantage of being an athlete over a non-athlete increased from 15% in 1976 to 53% in 1999. The advantage for minorities dropped from 51% to

20% and legacies remained the same at 24%. Women athletes entered college less academically prepared and underperformed according to their SAT scores, especially among those in Ivy League and coed liberal arts colleges. As noted by Shulman and Bowen (2001:149-150): “It seems that whatever combination of peer effects, ‘jock culture,’ and different priorities and incentives that has led male athletes to underachieve academically has now been replicated within women’s sports, where underperformance appears to be at least as widespread.” The graduation rates of female athletes remained higher than non-athletes, but were slightly lower than females who participated in other extracurricular activities.

In their study, Bowen and Levin (2003) addressed recruited athletes only and did not include Division I private and public universities while taking a deeper look at college access and academic underperformance. Athletic ability facilitated access into college even when academic records were suspect. Recruited athletes were significantly more likely to be admitted than all other students, especially at Ivy League schools, despite lower academic preparation and credentials. Recruited male minority non-athlete students ranked higher in their class than high-profile male athletes and only slightly lower than recruited low-profile male athletes. Female athletes who were recruited fared better than female minority students. Although college athletes may have been successful in graduating, their academic performance, in general, was below non-athletes. More than 80% of recruited athletes at Ivy League schools graduated in the bottom third of their class despite similar college entrance exam scores and

majors, indicating that these students, for some reason, underperformed academically in college. “In essentially all respects, then, recruited athletes on many of these campuses differ markedly from their classmates in the uses that they make of their academic opportunities” (p. 196). Athletic participation had a substantial negative effect on class ranking, especially for recruited athletes in the Ivy League and New England Small College Athletic Conference (NESCAC). The authors attributed underperformance to athletic participation and to attitudes that faculty may hold against prominent college athletes in addition to the culture of athletics, all of which will be addressed in this chapter.

According to other researchers, the differences between athletes and non-athletes are not as distinct. Athletes attending an Ivy League university and a Division III highly selective liberal arts college also were found to have lower academic credentials entering college and held perceptions they were not taken seriously by professors (Aries et al. 2004). However, athletes performed as expected in the classroom compared to other students who entered college with similar academic profiles. Being female, non-Black and SAT scores contributed significantly and positively to final grades. Regarding personal development, there were no significant differences between athletes and non-athletes and, unlike the results of the Bowen and Levin study (2003) and Adler and Adler’s research (1991), a large majority of student-athletes were integrated within the general student body, indicating the absence of an athletic subculture. These findings supported a previous study (Richards and Aries 1999) on senior athletes at a Division III small northeastern liberal arts college who devoted significantly

more time to their sport than non-athletes who participated in other extracurricular activities but the same amount of time on academics. College athletes reported significantly more difficulty being taken seriously by professors, joining other extracurricular groups, attending events, and making and spending time with friends outside their group than non-athletes. However, despite these perceptions, research findings showed there were no significant differences in academic performance, campus involvement or "their satisfaction with their friendships, their academic performance, their extracurricular activities, their physical health, their lives as a whole or with their ability to handle stress" (p. 215) between athletes and non-athletes. College athletes were successful in overcoming challenges to enjoy academic success and integrate with the larger student-body population. Meanwhile, Umbach et al. (2006) used a national sample of NCAA Division I, NCAA Division II, NCAA Division III and NAIA schools to dispute suggestions that intercollegiate athletic participation prevents athletes from advantageously experiencing campus life to the same degree as their non-athlete peers. College athletes, on average, were found to be just as academically engaged, more academically and socially supported, with greater personal/social development and practical competence than non-athletes. "In most instances, when differences do exist, they favor athletes" (Umbach et al. 2006:727), especially female athletes who were more satisfied with their overall college experience than female non-athletes; male athletes tended to be less satisfied than other males on campus.

Multiple Characteristics and Cumulative Processes

The literature indicates that the college experiences of athletes are different from non-athletes (Comeaux and Harrison 2011; Engstrom and Sedlacek 1991; Singer 2005). Because participation in intercollegiate athletics requires obligations as both a student and an athlete, any assessment of college graduation and attitude about the future should include domain-specific assessments. Therefore, Comeaux and Harrison (2011) developed a theoretical model specifically for Division I athletes that connects individual and college environmental factors to educational outcomes, which they defined as athlete matriculation and graduation (p. 236). The model employs a full range of pre-college, personal commitment, and college environmental factors and processes shown to be significant in previous research (i.e., family background, educational experiences and preparation, individual attributes, levels of commitment, social integration, and academic integration). Each of these factors and more are discussed within the context of prior research.

Student Characteristics and Pre-college Background

Background characteristics of freshmen entering college partially determine how well students integrate into their new social and academic environment and, thus, partially determine their persistence to graduation and the quality of their college experience (Pascarella and Terenzini 1979; Tinto 1975). The following studies explored student characteristics and pre-college background.

Academic performance. Studies consistently have shown high school GPA to be a significant indicator of college GPA for both athletes and non-athletes. Employing Astin's Input-Environment-Outcome (I-E-O) model, Comeaux and Harrison (2007), however, found that White and Black athletes are affected differently by pre-college characteristics and the college environment. High school GPA was a stronger predictor of college GPA for Whites than Blacks. Additionally, faculty interaction with White athletes had a positive effect on academics, but was nonsignificant for Black athletes.

Sedlacek and Adams-Gaston (1992) found that noncognitive variables such as positive self-concept, realistic self-appraisal, community involvement, and having strong support are much better predictors of first-semester academic success for student-athletes than SAT scores. Ting (2009) extended their research by examining the combined effect of noncognitive variables and standardized test scores in the first year of college and found that SAT math scores and "helping [athletes] to participate in opportunities for their psychosocial development, to develop long-term goals, and to understand potential applications of their academic majors in relevant occupational fields" led to higher GPAs and academic success. The study, however, did not address differences within athlete populations, and we know that this unique group is not homogenous (Gaston Gayles and Hu 2009; Wolniak, Pierson and Pascarella 2001) and that differences generally exist by race and by gender. SAT scores and social support tend to be strong predictors of academic success for female college athletes (Petrie and Stoever 1997).

Academic expectations. In one of the few empirical studies that compares the attitudes of college athletes and non-athletes (Eiche, Sedlacek and Adams-Gaston 1997), freshmen, male and female, who played football, basketball, lacrosse, tennis and baseball at the University of Maryland had different attitudes and expectations than non-athletes and, therefore, exhibited distinctive student development needs. Compared to non-athletes, athletes were significantly more likely to expect difficulties in making good grades and felt less prepared for academic work, more uncertainty about their major, less comfortable with computers and more concerned about having time for campus involvement. “Being in an environment where one is valued more for physical accomplishments and less for academic pursuits could have important impacts on self-concept attitudes” (Eiche et al. 1997:17). College athletes led non-athletes in perceived leadership skills and social adjustment.

Academic major. Choice of academic major is a dynamic process (Dickson 2010) that plays a significant role in structuring the career opportunities (Ma 2011), wage earnings (Hamermesh and Donald 2008) and social mobility (Wolniak et al. 2008) available to college graduates. Pascarella and Terenzini (2005) found strong evidence that a student’s academic major and subsequent career choice was highly contingent on the dominant peer groups in college. These choices show a tendency to affect their earnings, but the impacts of their choices are not extreme, according to Hamermesh and Donald (2008) who found that half of the variation was accounted for by ability, high school performance, parents’ economic status, students’ demographic characteristics and amount of

labor supplied to the market. Highest incomes (business and engineering) were almost three times more than the lowest (education). Students in higher earning majors had higher SAT scores and took upper-division math and science courses. Pascarella and Terenzini (2005) found that choice of major had a substantial impact on earnings.

Athletic aspirations. The NCAA campaign reiterating that only a select few will earn money from playing sports does not appear to deter the hopes and dreams of college student-athletes (Adler and Adler 1985; Kennedy and Dimick 1987; NCAA Goals Study 2015). In Division I, 73% of men basketball players, 64% of FBS football players (up from 58% in 2010), 50% of FCS football players and 49% of baseball players believed they were at least "somewhat likely" to become professional and/or Olympic athletes in their sport; 47% of women basketball players anticipated a professional playing career or Olympic achievement despite the improbability. While Division III member institutions, which do not award athletic scholarships, say their athletes "come to college for an education and play for the love of the game" (NCAA 2016) without expectations of financial reward, 30% of men ice hockey players believed becoming a professional and/or Olympic athlete was at least somewhat likely; 27% of men basketball players shared the same professional/Olympic expectations, representing a more than 5% increase from 2010 (NCAA Goals Study 2015). Division III women athletes held more realistic expectations (e.g., basketball 7%) about playing competitive sports beyond college. Considering the odds, "the vast majority of youth would stand a better chance of achieving social

mobility by focusing their time and energy on their education rather than on sport" (Sage and Eitzen 2013:285). However, boys and girls, especially youth who exhibit athletic talent at a young age (Dawkins, Braddock and Celaya 2008), hedge their bets on the American Dream by embracing the ideology that if they just work hard enough a professional sports career is guaranteed (Edwards 2000; Sailes 1988). This socialization process by family, friends, the media and zealous sports fans begins as early as five years old (Beamon 2010).

Parental aspirations. Educational attainment and household incomes have been linked to parental aspirations for children to play professional sports (NPR/Robert Wood Johnson Foundation/Harvard T.H. Chan School of Public Health 2015). Among parents whose high school-aged child participated in sports, 44% of those with a high school education or less hoped their child would become a professional athlete compared to 9% of college-educated parents. Parents with household incomes of less than $50,000 a year were more likely to desire professional playing careers for their children than parents with household incomes greater than $50,000 (39% compared to 20%). These percentages suggest that professional sports careers are perceived to be a more viable means to upward mobility and economic viability than other careers (Dawkins et al. 2008). "The possibility of playing sports was a reality not a dream" (Beamon 2012:200). However, the idea of "getting out" may be more myth than reality. Dubrow and Adams (2012) examined the intersection of race, class and family structure and NBA sports participation and found that "irrespective of race, the vast majority of professional basketball players in the NBA come from a

relatively advantaged social origin" (p. 51). Black males who grew up in a lower class family were 37% less likely to become an NBA player than black males from middle-class homes. White males who grew up in a lower class family were 75% less likely. The odds of a Black male from a non-two-parent home was 18% lower than a Black male from a two-parent home. Whites from non-two-parent homes were 33% less likely to become NBA players.

College access. While sports often is perceived as a means to a college education for poor students, the 1988 eighth-grade student cohort from high socio-economic status (SES) households was 10 times more likely to play Division I sports in college than low SES students (Owens, Burton and Pinkerton 1996). Specifically, only 0.5% of low SES eighth-grade students participated in college athletics, compared to 1.5% of middle SES students and 5% of high SES. Furthermore, elite high school varsity athletes (those named captains or most valuable players) from high SES households (14.7%) were 3.5 times more likely to report athletic participation at NCAA Division I schools than students from low SES backgrounds (4.1%). Blacks (2.3%) and Whites (2.5%) participated in Division I college athletics at similar rates. When all four-year colleges were considered, participation in intercollegiate sports was most prevalent for Whites (5.8%), followed by Blacks (4.9%), Asians (3.9%) and Hispanics (2.2%). The participation probability rates for females were much lower although participation rates have increased seven-fold since the passage of Title IX in 1972. Female participation across all four-year colleges and universities was 3.7% compared to 6.6% for males and 1.5% to 2.8% at NCAA Division I schools (NCAA 2016).

College Environmental Factors

Scholars are interested in how institutional factors, such as campus climate, campus involvement, and interaction with faculty and students influence student success and satisfaction. “The student’s degree of satisfaction with the college experience proves to be much less dependent on entering characteristics … and more susceptible to influence from the college environment” (Astin 1993:277). College athletes generally are considered a nontraditional student group (Comeaux and Harrison 2011; Sedlacek and Adams-Gaston 1992; Ting 2009) and are likely to face challenges similar or even greater to other minority groups on campus (Sedlacek and Adams-Gaston 1992). Therefore, it is logical to assume that the experiences of athletes and non-athlete and the experiences of Whites and Blacks on college campuses differ, and, thus, the experiences of White college athletes and Black college athletes at PWIs differ. The following studies explored structural arrangements at PWIs to determine their effects on the college outcomes of Black athletes and athletes in general.

Racial climate. Despite dominant ideologies of meritocracy and egalitarianism in higher education, the pathway to the highly desirable American Dream has been found to be fraught with obstacles detrimental to the emotional, physiological and psychological well-being of Black males (Smith, Hung and Franklin 2011). Increased access to a college education facilitated by the desegregation of academic institutions of higher learning have shown to be profitable for Blacks, but at a cost. Smith et al. (2011) found that the more education Black males receive, the more microaggressions and, subsequently,

the more stress they face. Microaggressions are “subtle, cumulative mini-assaults” (Pierce 1974:516) or subtle forms of racial discrimination (Nadal et al. 2014; Sue et al. 2007) that cause unnecessary stress (Smith, Yosso and Solorzano 2007) whether intentionally or subconsciously. PWIs “represent racial climates that are replete with gendered racism, blocked opportunities, and mundane extreme environmental stress [MEES]” (Smith et al. 2011:64) which “add to the overall race-related stress for Black men, Black women, and other racially marginalized groups” (p. 67). The harmful impact of microaggressions on self-esteem in undergraduate students was most pronounced in Black students, although Hispanic, Asian, and White students reported being treated less than equal to other students (Nadal et al. 2014). The cumulative wear and tear from ubiquitous, excessive and institutionalized day-to-day microaggressions that consume valuable time and energy to develop coping mechanisms is known as “racial battle fatigue” (Smith et al. 2011). “At a minimum, Black men carry the burden of two negative social identities as they move through society, one as a member of the African American race and the other as a Black male” (p. 66). If Black men are burdened with having to develop coping mechanisms to overcome daily microaggressions, it can be argued that Black male college athletes are especially vulnerable to behavioral stressors due to inhabiting traditional White spaces where they are viewed as academically inferior. Black students, in general, and Black athletes, particularly, have reported a sense of not belonging on college campuses because of their race (Beamon 2014; Melendez 2008).

Melendez investigated the psychosocial experiences of black football and basketball players attending a NCAA Division IAA PWI in the northeastern United States and found that they felt “judged, misunderstood, or rejected” (2008:433) by White coaches, White teammates, non-athlete Black students, the student body, professors and the local community. Coaches were perceived to show favoritism to White players, which created animosity between Black and White players. Black players also felt animosity from classmates and faculty by what they believed to be dumb jock stereotypes exacerbated by race. With so few Black males on campus, non-athlete Black students were perceived to be athletes by professors and, subsequently, were subjected to negative stereotypes experienced by athletes. Although Black athletes felt unwelcomed by the city, overt racial incidences with the locals were minimum and players expressed more angst regarding microaggressions from their day-to-day interactions on campus. These microaggressions affected their academic success as well as their physical and emotional well-being, and black athletes “were therefore hindered in reaping the full benefits of their educational opportunities” (p. 442). These findings substantiate previous studies on racial microaggressions experienced by Black male and female students (Solorzano, Ceja and Yosso 2000; Sue et 2007) and have been supported by more recent studies (Nadal et al. 2014; Watkins, LaBarrie and Appio 2010). The college experience for athletes extends beyond the academic classroom and is largely shaped by what happens in athletics, i.e., in the locker room and in the field of play. Athletic locker rooms may not be hostile, but players often self-segregate

along racial lines and express that being teammates does not illicit racial harmony (Beamon 2014).

Stereotype threat. The “dumb jock” stereotype and the unfounded belief that Blacks are athletically superior and academically inferior lives on in the minds of Whites and Blacks alike (Benson 2000; Edwards 1984; Engstrom and Sedlacek 1991; Sailes 1993). This threat is especially prevalent in college, where it is often assumed that Black males in revenue-producing sports are only enrolled because they play sports and for the sole purpose of playing sports (Beamon 2012; Sailes 1993). The “dumb jock” stereotype has been traced back to 500 B.C. and Greek athletes who sacrificed intellectual development for athletic development (Sailes 1993), but the term has become racialized to refer more generally to Black athletes (Sailes 1993). “African American [athletes] must contend with two negative labels: the dumb athlete caricature and the dumb African American stereotype” (Sage and Eitzen 2013:127). Although there is no scientific foundation for either (Sailes 1993), public scrutiny of college athletic programs, the overrepresentation of Blacks in high-profile sports and the underrepresentation of blacks in the college student population give false credence to the “athletically superior-intellectually inferior” stereotype, which can have harmful implications for Black athletes. Studies have shown that Blacks generally tend to underperform academically at selective colleges and universities although SAT scores and high school GPA would indicate otherwise (Bowen and Levin 2003; Charles et al. 2009; Owens and Massey 2011; Shulman and Bowen 2001). There is growing evidence that the underperformance may be

due to stereotype threat (Owens and Massey 2011), a socio-psychological predicament created by well-known negative stereotypes about their group. As defined by Steele and Aronson (1995):

> It is this: the existence of such a stereotype means that anything one does or any of one's features that conform to it make the stereotype more plausible as a self-characterization in the eyes of others, and perhaps even in one's own eyes. We call this predicament stereotype threat and argue that it is experienced, essentially, as a self-evaluative threat. (P. 797)

Steele and Aronson contend that negative stereotypes about intellectual ability have the capability of weakening intellectual performance. In a study involving Black and White undergraduate students, they demonstrated that even subtle forms of stereotypes threaten the intellectual performance of Black students while removing stereotypes improve intellectual performance. Racial stereotypes tend to function differently by gender. Black women do not differ from Black men in their stereotype expectations but they are less negatively affected by stereotypes (Chavous et al. 2004; Fleming 1984). Feltz, et al. (2013) found that college athletes with higher athletic identity perceived higher stereotype threat. In other words, highly identifying with the stereotyped group (athletes) highlights the negative aspects of stereotype threat (lower academic ability). Stereotype threat and athletic identity were heightened significantly when players believed their coaches held low expectations of their academic abilities.

Not all people succumb to stereotype threat but, rather, are able to engage in behavior that limits its impact (Harrison et al. 2009). Stereotype reactance is responding counter to the negative stereotype (Martin et al. 2010); for example, exhibiting enhanced motivation to prove the stereotype wrong by increasing academic engagement and effort, which boosts academic performance. In a qualitative study involving academically high-achieving Black male football, basketball, track and field, and soccer players at Stanford University, University of California at Berkeley, University of California at Los Angeles, and the University of Southern California, Martin et al. (2010) found that Blacks felt pressure to overcome what they perceived to be two burdens at PWIs – being Black and being an athlete. However, "they did not extricate themselves from performing well academically to protect their self-esteems" but, instead, "they deemed achievement in the classroom their top priority" (p. 145). A study on college athletes who experienced both academic and athletic success revealed yet another counter-narrative to public perceptions about athletes (Bimper, Harrison and Clark 2012). They defined themselves by their athletic identity and their Black racial identity. "Racial identity is more 'real' than an athletic identity" (Bimper 2012:118).

Campus interactions. Social and academic integration, which are partially determined by pre-college background (entering aspirations, etc.), are critical to student persistence in higher education (Spady 1970, 1971; Tinto 1975). Pascarella and Terenzini (1979) found the student-faculty relationship to be a significant positive influence on male and female student persistence.

Pre-college background and college aspirations were found not to be as important to freshman persistence as social and academic integration. Hence, race, academic aptitude or educational aspirations of students may not be the only factors that contribute to persistence but rather “the influence of institutional policies and programs which affect the student after he or she arrives on campus” (p. 208) may compensate for low levels of academic development and college aspirations. Likewise, frequent and quality interaction with faculty compensated for low levels of institutional and goal commitments and academic development. Gaston-Gayles and Hu (2009) compared interaction with faculty, interaction with non-teammate students, participation in student organizations and participation in academic-related activities between athletes and non-athletes as well as differences between high-profile and low-profile athletes. Athletes were more engaged with their non-athlete peers more than any other social interaction; however, males and high-profile athletes interacted with non-athlete students much less than females and low-profile athletes. Student backgrounds (i.e., race/ethnicity, academic major) were non-factors, demonstrating that “who the students are matters very little in what the students do in college” (p. 329).

Melendez (2006) found that college athletes adjusted better to academics and institutional attachment, e.g., the bond between student and school, than their non-athlete peers but found race/ethnicity to be a nonfactor. Female athletes and female non-athletes scored higher than males in academic adjustment, social adjustment and institutional attachment. These results suggest

that females were committed to educational goals and institutional goals, and coped well with the demands of college.

Academic effort. Gaston-Gayles (2004) found academic motivation to be a promotive factor to academic performance and athletic motivation to be a detraction at a Division I university in Midwest. Similarly, a study on athletes attending Cal Berkeley (Simons, Van Rheenen and Covington 1999) found that athletic motivation weakened academic motivation, especially for football and basketball players. “Female and non-revenue athletes seem more able to resist the athletic pressures and put necessary time and energy to be successful academically” (p. 159) ... “they are, however, extremely motivated in the athletic domain” (p. 160). More opportunities to play sports professionally may explain gender differences in academic, in addition to, social and institutional adjustment (Melendez 2006).

However, Sellers and Kuperminc (1997) examined goal discrepancy (when expectations are inconsistent with current status) in their study on career expectations of Black college football and men’s basketball players at Division I PWIs and historically black colleges and institutions (HBCUs) and found no significant support for their hypothesis that Black male athletes have unrealistic expectations of a professional sports career. Only 5% were goal discrepant, and most were freshmen and sophomores. Ecological factors on campus (e.g., intense athletic programs, segregation from non-athletes) were deemed more likely to produce goal discrepancy than personal background. Sellers and Kuperminc found that having high athletic aspirations while maintaining high

academic aspirations is possible. However, athletes, on average, earn lower grades than their peers and underperform academically based on their standardized test scores and high school grades (Bowen and Levin 2003). College grades have a positive net impact on occupational status and earnings (Pascarella and Terenzini 2005).

Use of time. Division III prioritizes academics by minimizing conflicts between academics and athletics with shorter practice and playing seasons, and regional contests to reduce traveling and time away from campus. Nevertheless, the median time Division III athletes spent on athletics in season was 31 hours a week (NCAA GOALS Study 2015). NCAA bylaws limit athletic conditioning and practices to 20 hours a week, but some athletes regularly spend twice as many hours in season as well as out of season on athletic pursuits (Wolverton 2016). According to the 2015 NCAA GOALS study, athletes participating in intercollegiate sports are devoting more time to athletics than they did five years earlier – two hours more a week in Division I and Division II and an increase of 1.5 hours in Division III. Meanwhile, athletes also report spending equal time and, in some sports, increased time to academics, which leaves little time for non-sports related activities. Commitment to athletics and the resulting time constraints that have been shown to impede academic engagement and campus involvement often perpetuate negative stereotypes about athletes on college campuses (Engstrom, Sedlacek and McEwen 1995; Melendez 2008), particularly for Black male athletes (Beamon 2012; Comeaux 2010) who, in the late 19th century, were considered academically elite athletes.

Study abroad participation. Study abroad programs have been shown to make unique contributions to overall college satisfaction (Dolby 2004, 2007; Hadis 2005; Luo and Jamieson-Drake 2014), but athletes have difficulty missing "involvement, practice, competition" for an entire semester or athletic season (Luo and Jamieson-Drake 2014:50). For example, 33% of Division I student-athletes and 22% of Division II athletes indicated a desire to participate in a study abroad program but could not because of their athletics obligations; only 10%, therefore, will study abroad. Division III athletes (20%) participate more in study abroad programs, but 33% of women's basketball players and 25% of men's basketball players expressed wanting to but could not because of athletics (NCAA Goals Study 2015).

Student Outcomes

Wanting to compare athletes against non-athletes in terms of the long-term effects of participating in intercollegiate sports, the NCAA participated in a Gallup survey to evaluate the well-being of college students who earned bachelor's degrees between 1970 and 2014. The study measured well-being in terms of the following outcomes: purpose (liking what you do each day), social (having strong and supportive relationships), community (engaged in where they live), physical (having good health daily) and financial (managing economic life effectively) in addition to reflecting on their college experiences. Gallup deduced that because a larger percentage of college athletes than non-athletes responded "thriving" in four domains and were virtually equal in a fifth domain, sports participation in college likely enhanced success in work and life.

Participants graduated from college during a 45-year time span and did not account for “generational or cohort differences among groups of people born at different times; and the developmental stages in the life-course associated with aging” (Schuman et al. 1997). “Attitude conversions” and “period effects,” as these are known, may have influenced Gallup survey results. While the study addressed differences between sports, findings were not presented by race and did not account for pre-college background, motivations or priorities which have been shown to affect college and life outcomes (Bowen and Levin 2003). Neither did the study directly link well-being measures with college experiences; in other words, we do not know the relationship between athlete/non-athlete well-being and their college environments.

These shortcomings, coupled with the inconclusive results in studies on the college athlete experience demonstrate why a more holistic approach to understanding the effects of participating in intercollegiate athletics is warranted. Relevant studies examining student satisfaction, social mobility, graduation from college and preparedness for the future are discussed.

Student satisfaction. Colleges and universities utilize student satisfaction surveys to measure effectiveness in fulfilling their mission statement (Tessema, Ready and Yu 2012). Student satisfaction with overall college experience has been tied to greater graduation rates; and schools with higher graduation rates score higher in satisfaction surveys (Bryant and Bodfish 2014). Almost 600,000 students at four-year public (92) and private institutions (348), community colleges (208) and career schools (80) completed the Student Satisfaction

Inventory (SSI) from Noel-Levitz between the fall 2011 and spring 2014 semesters. Students were largely satisfied with the academic instruction they received, felt safe on campus, and generally welcomed on campus. However, only 48.5% of students attending four-year institutions considered tuition costs a "worthwhile investment" and expressed significant dissatisfaction with faculty bias and treatment, timely feedback and consideration of student differences. Career services that connected students to internships and employment opportunities also showed room for improvement. Although the 2014 National Student Satisfaction and Priorities Report did not differentiate student-athletes from non-athlete students, interaction with faculty and programs that prepared students for post-college life are similar issues for both groups. Satisfaction scores have been moderately researched and studies making comparisons between student-athletes and non-athletes have yet to be found. Previous research tends to be concentrated on student satisfaction as it pertains to retention and college graduation rates (Astin 1977; DeShields, Kara and Kaynak 2005; Pascarella and Terenzini 2005).

Social mobility. Whether sports participation enhances or impedes social mobility has been hotly debated for nearly 50 years. Braddock (1980) conducted a critical review and synthesis of 25 studies on race and social mobility via sports to determine whether participation in high school sports harms or benefits males. Athletic participation in high school was found to have positive consequences for directing Black males to college and did not inhibit social mobility. For Black male athletes, in particular, there were positive direct effects of sports participation on

educational aspirations. For all male athletes, sports involvement was positively associated with educational and occupational status attainment. In analyses of data from The High School and Beyond study, conducted by the U.S. Department of Education, some studies have indicated that sports participation had no effect on educational outcomes such as grades, standardized test scores, academic aspirations and college attendance (Marsh 1993; Melnick, Sabo and VanFossen 1992). However, in analyses of data from the National Educational Longitudinal Study of 1988, a nationally representative survey, other research found evidence that sports participation improved grades (Feigin 1994; Hanson and Kraus 1998).

In an attempt to better understand the confounding relationship among sport participation, social mobility and race, Mackin and Walther (2011) tested two sociological models – zero-sum vs. developmental. The zero-sum model states that any time spent on sports detracts from time that could be better spent on academics, hinders performance in school, and, subsequently, social mobility. The developmental model states that sports participation contributes to character development, self-concept, and human capital which positively influences social mobility. Sports participation in high school and college was found to have a small non-negative impact on social mobility and limited positive impact on graduating from college, particularly for Blacks and Hispanics. Participation in high school sports has been highly correlated with college enrollment except for Black female athletes (Shifrer et al. 2015). Another study (Harris and Hunt 1982) indicated that sports participation has positive effects for Whites only.

Graduation from college. College graduates are more likely to be employed, more likely to earn more money than a high school graduate, and more likely to experience upward mobility. Sack and Thiel (1979) used a control group of college students who were not athletes to determine whether the social mobility of Notre Dame football players was a consequence of their athletic participation or due to factors unrelated to athletic participation. They found that social origins (father's education, income and social status) were much lower for football players than non-athlete students. However, both groups moved well beyond their social origins and, thus, social mobility was attributed to graduating from college. This finding is significant because Blacks graduate from college at lower rates than Whites and, although Black male athletes have higher graduation rates than Black male non-athletes, Black male athletes have lower graduation rates than White male athletes (NCAA 2016), particularly in football and basketball. While Black male athletes place a high priority on completing their degrees (Adler and Adler 1985), graduation may not be the primary motivation for those competing in the glamorized, high-profile, revenue-producing sports of football and basketball (Person and LeNoir 1997). Whites participating in these revenue-producing sports view athletics, in general, as a means to a college degree and, thus, a career outside of sports (Bivens and Leonard 1994).

Preparation for the future. Athletes often enter college with "limited awareness of their non-sport vocational interests" (Lally and Kerr 2005:282; Adler and Adler 1987; Parham 1993) and struggle to explore meaningful careers while participating in intercollegiate athletics (Case, Greer and Brown 1987; Fountain

and Finley 2011; Knobler 2007). This could lead to college athletes feeling uncertain about their futures after their athletic careers have ended. The promised path to upward social and economic mobility by means of a quality college education has been called into question by numerous stories of “floating” athletes through college and enrolling them in “professor-friendly” classes to ensure eligibility (Lang et al. 1988). Critics charge that although they are referred to as “student-athletes,” many football players are groomed to be athletes at the expense of their education and, therefore, often major in “eligibility” (Adler and Adler 1987; Cornelius 1995; Hittle 2012; Lang et al. 1988; Purdy et al. 1982) so that revenue-generating teams can maximize their field value for financial gain. “Ultimately, they posit that the big-business model of Division I athletics, coupled with power dynamics between coaches and athletes, inhibits meaningful preparation for life after sport for some students” (Navarro 2014).

Navarro’s study (2014), which was not limited to big-time athletics and included non-revenue sports, qualitatively explored the life experiences of Division I athletes at highly selective academic institutions to understand how students who play sports construct their career plans. Many study participants chose their majors without much career exploration and did not consider their personal interests due to the urgency to select a major to maintain NCAA eligibility and meet progress to degree requirements. Most relied heavily on the guidance of their teammates, coaches and athletic advisors rather than academic or campus advisors, which Navarro found problematic: “These narratives illustrate that reliance on athletics support services can often inhibit holistic

career construction processes and campus-wide engagement" (p. 232). Furthermore, of specific interest to this study, every college athlete credited their experience as athletes as influential to their career readiness rather than their academic experience. Navarro recommended that athletes utilize campus career services in addition to athletic support services early during college so that both the student and the athlete roles are supported. Confining college athletes to athletic-specific programming may hinder career maturity in the short-run and long-term career preparations.

College athletes, especially those who participate in sports with professional, albeit slight, possibilities often foreclose on athletic identities before mindfully exploring career options beyond sports (Beamon, 2012; Good et al. 1993). Beamon qualitatively examined athletic identity and its effect on athletes' retirement from sports using identity foreclosure as a theoretical framework. "Thus their self-identity is composed solely of 'athlete' and social identity is defined by others' view of them as athletes" (Beamon 2012:196). Identity foreclosure is committing to a status by following the beliefs and traits of parents and friends without adequately exploring other options (Marcia 1966), and is common in adolescents. "He is becoming what others have prepared or intended him to become as a child. … College experiences serve only as a confirmation of childhood beliefs" (Marcia 1966:552). Believing that they must have set goals and direction in life, many students adopt a career direction prematurely as a defensive mechanism and, therefore, often attempt to become what their family or community want them to be. "When students make premature commitments to

socially acceptable career choices, the social approval that reinforced their choice often makes changing career paths later doubly difficult as the person anticipates the loss of those reassuring expressions of approval and acceptance" (Shaffer and Zalewski 2011:65). "Foreclosure is expressed as an early commitment to a major and career choice that was never questioned because the choice seemed self-evident to the student" (p. 72). Thus, foreclosure limits and, in some cases, prohibits career maturity – "the maturity of attitudes and competencies that are critical in realistic career decision-making," defined as "one's ability to make reasonable and responsible career decisions with an awareness of what the requirements are to make such decisions" (Houle and Kluck 2015:25).

Although studies indicate that athletes have lower career maturity than their non-athlete peers (Brown, Glastetter-Fender and Shelton 2000; Murphy, Petitpas and Brewer 1996; Smallman and Sowa 1996), there is growing evidence that college athletes are comparable with their classmates by their junior and senior years (Blann 1985; Lally and Kerr 2005; Navarro 2014). Lally and Kerr (2005) found a negative correlation between defined career plans and athletic identity. While the athletic identity of athletes was "strong and exclusive" in their early college years, their career plans were poorly defined. However, in their later years, college athletes invested less in their athletic identity and formed more defined professional aspirations. They attributed this growth in career maturity to realizing the unlikelihood of a professional sports career, which produced greater investment in their academic studies, and a change in their peer reference group

from athletes to non-athlete students. “Diminished commitment to the athlete role meant increased exposure to peers in the academic setting” (Lally and Kerr 2005:283). However, the study did not include a comparison group of non-athlete students, which could further the understanding of career planning/maturity among student-athletes.

Theoretical Underpinning

The present study draws upon the research findings reported in the literature along with the following theoretical models: Tinto’s student integration model (1975, 1993, 2015), Astin’s theory of student involvement (1977, 1993, 1999), and Comeaux and Harrison’s Division I conceptual model of academic success for college athletes (2011). Traditional models of educational attainment neglect the variable of race, but the experiences of Black college students are said to be misunderstood without including “measures specific to the Black experience and sensitive to the special characteristics associated with the type of college or university which Blacks most often attend” (Smith 1991:111). The strengths as well as the shortcomings of these theories as they apply to college students who participate in intercollegiate athletics are discussed.

Student integration model. Tinto’s seminal student integration model (1975) has become more developed with time and remains relevant, prominent and dominant in our understanding of college persistence and completion (Kuh et al. 2006; Pascarella and Terenzini 2005). Tinto (1975, 1993) asserts that students leave college without graduating because they are not integrated into the college environment. The more integrated students are into the college

environment, the greater their commitment to the institution, i.e., persistence, and the more likely they are to graduate. Student commitment is fluid, continuously changing based on integration in two domains – academic (sharing educational values, aspirations and choice of major in academic settings, i.e., the classroom and labs) and social (developing friendships with student peers and faculty outside the classroom). “Together these encounters influence the quality of student effort and student learning and both in turn shape student success, particularly in the classroom” (Tinto and Pusser 2006:10). Integration in one domain does not guarantee integration into the other domain, but the degree of integration in each domain affects the degree of integration in the other. Being overly integrated in the social domain means less integration in the academic domain, and vice versa, due to time limitations. Background characteristics of freshmen entering college partially determine how well students integrate into their new social and academic environment and, thus, partially determine their persistence and the quality of their college experience (Pascarella and Terenzini 1979; Tinto 1975). Therefore, consistent with a social networks perspective, relationships with faculty, staff and friends at schools, as well as relationships with friends and family back home contribute to satisfaction, persistence and learning (Kuh et al. 2006) but may operate differently for people of color and Whites (Kenny and Stryker 1996). For example, college friendship networks were tied to social adjustments for White college students whereas family support networks helped racial and ethnic minorities adjust socially.

Tinto has made numerous reiterations (1975, 1993, 2015) over the past four decades, which includes a shift in emphasis from the individual characteristics of students to the environments of academic institutions (1993).

> Student institutional departure is as much a reflection of the attributions of those communities, and therefore of the institution, as it is of the attributes of the students who enter that institution. Though the intentions and commitments with which individuals enter college matter, what goes on after entry matters more. … Patterns of incongruence and isolation, more than that of academic incompetence, appear to be central to the process of individual departure. … what one thinks is real, has real consequences. … Therefore, no study of the roots of student departure is complete without reference to student perceptions and the cultural contexts that shape them. (P.136).

Tinto's most recent theoretical update (2015) continues the focus on student perceptions of college experiences by exploring how the college environment and the actions taken by institutions influence students' motivations to persist. While students have different motivations for attending college, Tinto posits that self-efficacy (belief in ability to succeed), sense of belonging (belief in ability to successfully complete an action) and perceptions of curriculum (value and relevance of their academic studies) promote student persistence. "Understanding persistence as a form of motivation that is shaped by student

perceptions of their experiences adds another dimension to our understanding of the complex process of persistence and completion" (Tinto 2015:11).

The saliency of Tinto's theory is suspect, however, as the link between persistence and academic integration has been modest (Kuh et al. 2006), although social integration has been shown to lead to greater institutional commitment and greater persistence to graduation (Braxton, Sullivan and Johnson 1997). Support for Tinto's theory has modest results with non-traditional students, such as those who live off campus and commute. Even Tinto (2006) acknowledged that his model may not be appropriate for this college population group. However, the model has shown to be valid when applied to private, selective residential campuses (Pascarella and Terenzini 1980) and large, public residential institutions (Terenzini, Lorang and Pascarealla 1981); both institutional types are included in the NLSF data. Nevertheless, the operational definitions for academic and social integration are insufficient for this study as situating intercollegiate sports participation within the model appears inadequate in either domain. Kuh and Love (2000) argue that the model artificially separates experiences that may be one broad social integration construct and suggests more refined measures are needed. Whereas the original model design did not account for race and gender differences, Tinto (1982) suggested that separate models should be created for each student subgroup.

Theory of student involvement. Astin's goal was to present a theory on student learning and student development that was both simplistic and comprehensive. Simply put, the more highly involved the student, the greater the

learning and development. Conversely, the less involved the student, the smaller the learning and development. Astin defines involvement as “the amount of physical and psychological energy that the student devotes to the academic experience” (Astin 1984:297). While Astin views motivation as an important aspect of involvement, he judges action and behavior as much more critical. In other words, what a student feels matters not as much as what a student actually does. The theory is comprehensive in that Astin postulates five characteristics of involvement: 1) the investment of physical and psychological energy in various domains; 2) continuous investment of physical and psychological energy; 3) quantitative and qualitative features; 4) student learning and development directly proportional to involvement quantity and quality; and 5) effectiveness of educational policies directly related to student involvement.

Astin argues that exposure to subject matter, accumulation of resources (e.g., physical facilities, human resources and fiscal resources), and individualized curricular cannot be directly tied to student learning and development outcomes as generally practiced by universities, administrators and professors. For example, the presence of a multimillion-volume library or a well-known research professor does not necessarily mean that students benefit, especially if students are not effective users of the library system or if the professor does not effectively engage with students. The theory of student involvement recognizes student time as the “most precious institutional resource” instead of the collection and distribution of fiscal resources. According to Astin (1999:522), “the extent to which students can achieve particular developmental

goals is a direct function of the time and effort they devote to activities designed to produce these gains." Astin states that how students spend their time and where they devote their energy are largely determined by the academic and non-academic practices and policies of colleges and universities. Astin found that participation in intercollegiate athletics "has an especially pronounced, positive effect on persistence" (p. 525). However, college persistence does not equal student learning and student development. And, critics argue that the intercollegiate athletic environment is not designed with the development of the student in mind but with the development of the athlete in mind. Hence, Astin's model may be too simple and not comprehensive enough when researching the experiences of college athletes.

The student involvement of college athletes is determined by the structured environment that affects how much time all students possess to devote to academic pursuits in addition to the time demands of the coaching staff and athletic programs, which often operate as de facto separate institutions from their academic institutions. When scholarship football players at Northwestern University, a private research institution and NLSF participant, sued to form a union, the judicial proceedings made public the year-round, in-season and out-of-season time demands placed on college athletes. The following is just a glimpse of the Northwestern football team's in-season, Monday through Thursday schedule made public in College Athletes Players Association (CAPA) petition against Northwestern University before the National Labor Relations Board in 2014:

Players devote 40 to 50 hours per week to football-related activities, including travel to and from their scheduled games. During each Monday of the practice week, injured players must report to the athletic training room to receive medical treatment starting at about 6:15 a.m. Afterwards, the football coaches require the players to attend mandatory meetings so that they can begin to install the game plan for their upcoming opponent. However, the only physical activity the coaches expect the players to engage in during this day is weightlifting since they are still recovering from their previous game. The next several days of the week (Tuesday through Thursday), injured players must report to the athletic training room before practice to continue to receive medical treatment. The coaches require all the players to attend mandatory practices and participate in various football related activities in pads and helmets from about 7:50 a.m. until 11:50 a.m. In addition, the players must attend various team and position meetings during this time period. Upon completion of these practices and meetings, the scholarship players attend a mandatory “training table” at the N Club where they receive food to assist them in their recovery. Because NCAA rules limit the players’ CARA hours to four per day, the coaches are not permitted to compel the players to practice again later in the day. The players, however, regularly hold 7-on-7 drills (which involve throwing the football without the participation of

> the team's offensive and defensive linemen) outside the presence of their coaches. To avoid violating the NCAA's CARA limitations, these drills are scheduled by the quarterback and held in the football team's indoor facility in the evening. … In the same way, around 8:00 p.m., the players will go to their coaches' offices to watch film on their own for up to a couple of hours (Pp. 6-7).

The theory of student involvement seems appropriate for involvement in athletics but may mask the effects of intercollegiate participation on the academic and social development of college athletes. Based on Astin's theory, it would make sense that the less time college athletes devoted to non-athletic related activities, the more time they would have to devote to academic and social activities which develop the whole student.

Student-athlete conceptual model of academic success. Comeaux and Harrison (2011) developed a conceptual framework to explain the cumulative individual and college environmental processes that distinctly influence academic success for Division I athletes, a non-traditional student population group with different college experiences from non-athletes on campus. Coinciding with Tinto's concept of integration and Astin's concept of involvement, the model contains four stages: 1) pre-college factors, i.e., individual attributes, family background and educational experience and how they interact with and influence 2) initial student commitments; 3) college environment factors; and 4) goal, sport and institutional commitments. Comeaux and Harrison suggest that just as high educational goals elicit high-level commitments to academic success, high sports

goals, such as professional athletic aspirations, elicit high-level commitments (measured by time and energy expended) to their sport. College environment factors are designated as social or academic, and the amount of time athletes spend in each domain determines the degree of integration and, hence, academic success. Comeaux and Harrison advise implementing “deliberate and intentional strategies” (2011:242) to increase athlete motivation and engagement in the learning process, which have the potential to offset negative campus climates that could adversely affect academic outcomes. Therein lies one of the strengths of the model; another strength is the model’s adaptability. With college athletes competing in Division II and Division III sports experiencing similar athletic time demands as their peers in big-time Division I universities (NCAA Goals Study 2015), the model is conceptually appropriate for academically selective universities across all NCAA divisions. For example, Division I baseball players reported spending a medium of 40 hours per week on in-season athletic activities; Division II baseball players reported 37 hours and Division III 34 hours. A shortcoming of the model is that it does not allow for comparisons with non-athlete students.

Conceptual Framework and Proposed Model

As the studies reviewed in this chapter demonstrate, intercollegiate athletic participation has both supported and hindered positive outcomes for college athletes. Additionally, these studies underscore the need for clearer understanding of how the effects of intercollegiate athletic participation may vary based on multiple institutional and student characteristics accumulated over time.

College athletes commit tremendous amounts of time to their sport, which makes them a unique student body population with distinctive experiences. Therefore, to pinpoint these differences, separate analyses using identical models are conducted for athletes and non-athletes and the results are then compared. Drawing upon the relevant literature and well established models of college persistence, the following framework and proposed model (See: Figure 2.1) are an attempt to close analytical gaps on how individual student characteristics, pre-college background and college environmental factors interact to influence the perceptions athletes have about their post-college futures. As previously mentioned, no known study has examined the multiple and cumulative characteristics and experiences of college athletes compared to non-athletes in the same sample. Comeaux and Harrison (2011) developed a conceptual model of academic success for Division I athletes. New emphasis has been placed on viewing student retention from a student perspective rather than only through the traditional lens of institutional action (Tinto 2015). In response, this study examines the connection between graduation from college and feeling prepared for the future (Figure 2.1). Earning a degree is just one of the aims of attending college; landing a job and establishing a career is another as well as intrinsic rewards such as intellectual and personal development. Therefore, student attitude regarding feeling prepared for life after college is essential to evaluating the merits of intercollegiate athletic participation.

Seven domains comprise the conceptual model (Figure 2.1): pre-college background, college academic system, college social system, academic goal

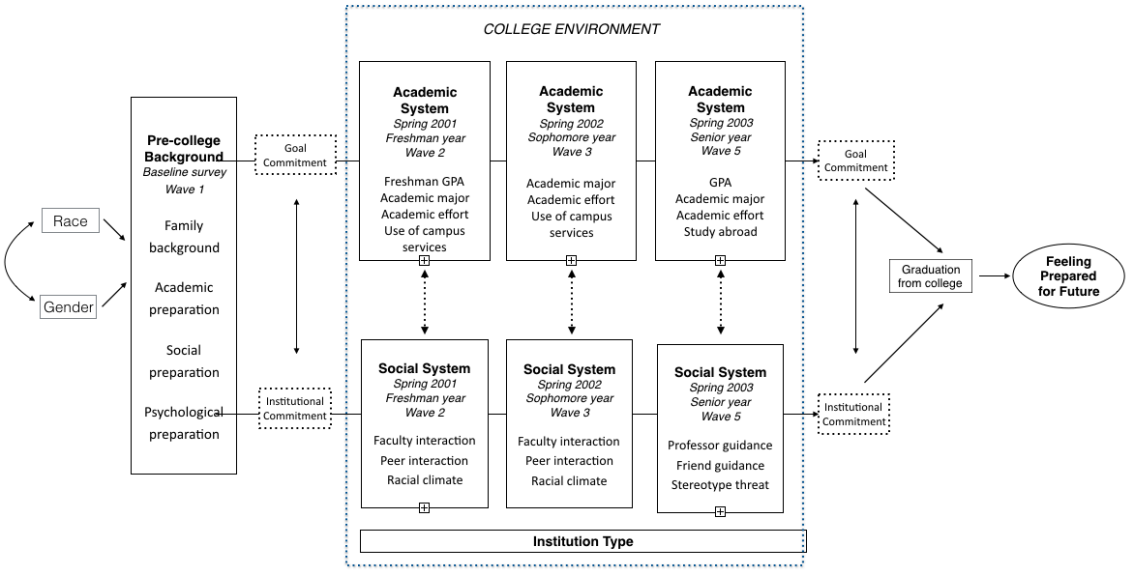
commitment, institutional goal commitment, type of academic institution and graduation from college. The researcher is particularly interested in how athletes evaluate their readiness to leave their campuses and, for most, their athletic careers. While it is reasonable to assume that graduation from college would ensure feeling prepared for the future as the NCAA and colleges advertise in their branding campaigns, there may be other factors that influence how students, both athletes and non-athletes, feel about their futures. Hence, this study goes beyond the traditional measures of college success (i.e., GPA and graduation) and considers how much athletes feel prepared for life after college and sports.

The model asserts that family background (i.e., parents in household, education of mother and father, and household income) and various dimensions of student preparation before entering college have indirect effects on college athlete outcomes (Comeaux and Harrison 2011). Preparation for college is conceptualized by three of the four dimensions employed in previous NLSF studies (Charles et al. 2009; Massey et al. 2003): academic, social and psychological preparation. Given that most Division I college athletes receive full or partial athletic scholarships and that 75% of college athletes at Division III schools receive some type of financial aid, this study does not measure financial capacity. The three indicators of academic preparation are: number of advanced placement (AP) courses taken in high school, high school GPA and self-reported ACT/SAT scores – all of which have been used in numerous studies on academic achievement. Social preparation is conceptualized as susceptibility to

peer influence and psychological preparation was conceptualized as self-esteem and self-efficacy as developed by Rosenberg and Simmons (1971).

Next, the model infers that these background factors influence the college aspirations of incoming college students which, in turn, may condition student integration in the academic and social domains of the college environment that lead to college success. The model accounts for college environmental factors at three time periods during a student's matriculation. Identical factors in the academic domain and the social domain are explored in the spring semester of the freshman year and the spring semester of the sophomore year. Following the example of Massey and Probasco's examination of differences in grade achievement and graduation rates by race and gender (2010), research on the multiple facets of student life (Charles et al. 2009) and race differences in early college performance and achievement using NLSF data, in addition to conceptual models by Astin (1977, 1993, 1999), Tinto (1975, 1993, 2015) and Comeaux and Harrison (2011), the academic system consists of freshman GPA, academic major, academic effort, academic self-assessment, and use of campus support services during the first two years of college. The academic system consists of academic effort, GPA and study abroad participation in the senior year. The social system in the freshman and sophomore year is comprised of faculty interaction, peer interaction and racial climate. The social system in the senior year includes stereotype threat and how students perceived the importance of professors in their academic major and college friends in guiding them through college.

Figure 2.1 A Conceptual Model of Feeling Prepared for the Future



Research Questions

As the literature reveals, sports participation has been associated both positively and negatively with college access, college adjustment, character development, academic achievement, student engagement, graduation rates, career maturity, social mobility and attitudes. In other words, playing sports has both pitfalls and possibilities (Edwards 2000). More focused attention should be given to conducting research that addresses multiple domains using multiple theoretical concepts to reconcile inconsistencies. Therefore, in the present study, multiple domains are analyzed to quantitatively, longitudinally and cumulatively investigate how a college athlete's individual characteristics and pre-college background interact with college environmental influencers at different points in time to affect graduation from college and explore whether graduating from

college is synonymous with feeling prepared for the future. Comparisons are made to non-athletes in college, and the role of race and gender are explored. Specific research questions to guide the analyses are as follows:

1. Do college athletes and non-athletes differ on social background factors?
2. Do college athletes and non-athletes differ in their pre-college development?
3. Do college athletes and non-athletes differ in their experiences and attitudes at various stages in the academic and social college environments?
4. How do individual characteristics, pre-college background factors, college environmental influencers and graduation from college interact to affect feeling prepared for the future?
5. How does race influence feeling prepared for the future?
6. How does gender influence feeling prepared for the future?

Chapter Summary

James S. Coleman ignited the discussion on the role of athletics in the lives of adolescent youth with his seminal work *The Adolescent Society* more than 50 years ago. His two-year study at nine Midwest high schools uncovered an adolescent subculture where students were more interested in athletics and popularity than scholastic achievement. Similar concerns in higher education remain prevalent today and, as demonstrated, an abundance of scholarly research has not been able to settle the debate on the merits of intercollegiate athletics and impact on student-athletes. Shulman and Bowen (2001) focused on

the effects of intercollegiate athletics on the academic missions of academic institutions rather than how student-athletes were affected by athletic participation. The NCAA focuses primarily on graduation rates, which are at an all-time high (NCAA Research 2016), to commend the virtues of intercollegiate athletics. But research examining the effect of intercollegiate athletic participation on feeling prepared for the future is scarce. Even when studied, researchers often fail to consider the cumulative processes of multiple influencers (Comeaux and Harrison 2011) that impact the experiences and attitudes of college athletes over time. The aim of the present study is to rectify this omission. Additionally, the proposed model further extends conceptualization of academic success for the college athlete by positing that individual student characteristics, pre-college background and intercollegiate athletic participation are not only associated with college graduation but also with their perceptions about preparedness for the future.

CHAPTER 3

Methodology

This chapter describes the data, measurement of concepts and construction of variables along with discussing some limitations of the methodology and analytical techniques to be employed in the study.

Data

The National Longitudinal Survey of Freshmen (NLSF) is a broad, content-rich database specifically designed to test theoretical explanations (Ogbu and Simmons 1998; Steele and Aronson 1995) for minority underachievement in higher education and to assess the social integration and intellectual engagement of minority students at academically selective colleges and universities while controlling for pre-college background differences. Charles et al. (2009) found that numerous pre-college factors and campus circumstances determined grades and college persistence through the sophomore year. Using that study as a starting point, Massey and Probasco (2010) discovered "that a complex array of personal and institutional factors determines college grade achievement *and* graduation propensities" (p.241). Therefore, NLSF was well-suited for the present study which focused on analyzing the cumulative processes of multiple influencers that impact the experiences and attitudes of college athletes over time (Comeaux and Harrison 2011).

Minority groups at each university were oversampled to obtain approximately the same number of participants in each of the four racial/ethnic categories. The stratified random sample of Blacks (N=1,051), Whites (N=998),

Asians (N=959) and Hispanics (N=916) across 28 colleges and universities (see Charles et al. 2009; Massey et al. 2003) also includes participants' recollection of childhood experiences in an attempt to determine causality and outcomes. All schools (see Table 3.1) were predominantly white institutions (PWIs) except Howard University, a historically black university (HBCU), and athletically in either Division I (17) or Division III (11) sports. Most of the academic institutions also participated in the College and Beyond Survey, which studied the long-term consequences of attending academically selective U.S. colleges and universities (Bowen and Bok 1998). The average institutional acceptance rate was 40%, ranging from 11% at Princeton to 79% at Miami University of Ohio; the median combined SAT score was 1243; and alumni strongly supported their alma maters through financial contributions – all factors that qualify the sample as elite (Massey et al. 2003). Students who participate in intercollegiate sports are in elite athletic company as well; only 6.3% of male high school athletes and 8.1% of female high school athletes compete athletically in college (NCAA Research 2016). Seven schools in the study compete in what are now known as the Power 5 conferences – the Southeastern Conference (SEC), Atlantic Coast Conference (ACC), Big Ten, Pac-12 and Big 12, which have the authority to create their own rules in certain areas to benefit college athletes. Of the 3,924 survey participants, 3,086 attended NCAA Division I schools, representing 78.6% of the NLSF sample.

Table 3.1 National Longitudinal Survey of Freshmen (NLSF) List of Participating Colleges (N=3914)

School	Location	Type	NCAA Div.	Sample Size
Barnard College	New York, NY	Liberal Arts College	Div. I	57
Columbia University	New York, NY	Private Research	Div. I	236
Georgetown University	Washington, DC	Private Research	Div. I	89
Howard University	Washington, DC	Private Research	Div. I	60
Miami University	Oxford, OH	Public Research	Div. I	204
Northwestern University	Evanston, IL	Private Research	Div. I	224
Penn State University	State College, PA	Public Research	Div. I	261
Princeton University	Princeton, NJ	Private Research	Div. I	86
Rice University	Houston, TX	Private Research	Div. I	97
Stanford University	Palo Alto, CA	Private Research	Div. I	216
Tulane University	New Orleans, LA	Private Research	Div. I	221
University of California Berkeley	Berkeley, CA	Public Research	Div. I	304
University of Michigan	Ann Arbor, MI	Public Research	Div. I	362
University of North Carolina	Chapel Hill, NC	Public Research	Div. I	268
University of Notre Dame	South Bend, IN	Private Research	Div. I	91
University of Pennsylvania	Philadelphia, PA	Private Research	Div. I	220
Yale University	New Haven, CT	Private Research	Div. I	89
Bryn Mawr College	Bryn Mawr, PA	Liberal Arts College	Div. III	37
Denison College	Granville, OH	Liberal Arts College	Div. III	39
Emory University	Atlanta, GA	Private Research	Div. III	197
Kenyon College	Gambier, OH	Liberal Arts College	Div. III	41
Oberlin College	Oberlin, OH	Liberal Arts College	Div. III	79
Smith College	Northampton, MA	Liberal Arts College	Div. III	41
Swarthmore College	Swarthmore, PA	Liberal Arts College	Div. III	47
Tufts University	Sommerville, MA	Private Research	Div. III	83
Washington University	St. Louis, MO	Private Research	Div. III	90
Wesleyan University	Middletown, CT	Liberal Arts College	Div. III	94
Williams College	Williamstown, MA	Liberal Arts College	Div. III	91

Source: The Source of the River (2003)

The NLSF included five waves, collected in 1999, 2000, 2001, 2002 and 2003, and followed the academic, social and psychological experiences of students who first entered college as freshmen in the fall 1999 semester. To participate in the study, students had to be first-time freshmen and a U.S. citizen or resident alien (Massey et al. 2003). The same cohort of students was followed for the next four years and interviewed by phone each spring even if they did not remain at their initial academic institution to avoid selection bias. Although the response rates declined, as expected, with each successive wave, the final response rate was 82% for Whites, 80% for Asians, 79% for Hispanics and 76% for Blacks (Massey and Probasco 2010).

Wave 1 was the baseline survey from face-to-face interviews and detailed demographic information and the recollection of family, neighborhood and school characteristics at age 6, 13 and one year before entering college by survey participants. Information from Waves 2 (spring semester freshman year of college) and 3 (spring semester sophomore year) was gathered during telephone interviews and detailed college courses, grades, social networks, use of time, financial matters, relationships and perceptions of prejudice on campus. Wave 3 also included reasons for attending college, high school grades, college entrance exam scores, academic majors and career plans. Waves 4 (spring semester junior year) and 5 (spring semester senior year) mirrored the information from Waves 2 and 3, and Wave 4 also included information on personal and emotional health. Wave 5 provided data on study abroad participation, after-college plans and perceptions of discrimination and prejudice on their college campuses. The

project was designed by Douglas S. Massey and Camille Z. Charles and funded by the Mellon Foundation and the Atlantic Philanthropies.

The NLSF data have been used extensively to study the effects of stereotype threat (Charles and Massey 2003; Fischer 2010; Massey and Owens 2014), religious affiliation (Mooney 2010; Owens 2013), and gender (Massey and Probasco 2010) in addition to college retention (Ishitani 2016; Keels 2013) and extracurricular involvement (Baker 2008). However, no known study using the NLSF data has been conducted on the experiences and attitudes of college athletes. The NLSF was chosen for this study for four major reasons. First, the data set includes respondents' answers to multiple questions on experiences and attitudes, which was one of the aims of the study. Second, previous studies using the NLSF investigated psychological processes measuring many of the same environmental domains used in this study. Third, this study was interested in the experiences of students at academically selective colleges and universities. Fourth, the longitudinal design of the NLSF allowed for outcomes at different stages of development for the same students over time. Longitudinal studies decrease selection bias and allow for causal order between independent and dependent variables. Guided by previous studies conducted using NLSF data (Charles et al. 2003; Massey et al. 2009; Massey and Probasco 2010), and the following theoretical frameworks – Tinto's student integration model (1975, 1993, 2015), Astin's theory of student involvement (1977, 1993, 1999), and Comeaux and Harrison's conceptual model of academic success for student-athletes (2011) – this study integrated the multiple array of individual and institutional

factors that shape the experiences and attitudes of college students, with a particular focus on college athletes.

Study Variables and Their Measurement

Numerous variables identified in the literature were included in the study's conceptual framework (see Figure 2.1) to account for as many individual student characteristics, pre-college background factors and on-campus environmental influencers as possible to generate a more complete and cumulative picture of their effects on graduation from college and perceptions of feeling prepared for the future. All variables and how they are operationalized are discussed in this chapter.

Measurement of Exogenous Variables

Intercollegiate participation. Participation in intercollegiate athletics is a dichotomous variable identified by the following question in Wave 3 interviews conducted during the 2001 spring semester (sophomore year): *In which of the following groups are you currently involved: A varsity or junior varsity sports team?* A total of 300 survey participants (8.8% of those who answered the question) responded "yes" and 3,120 responded "no" (91.2%). The items (initially coded 1 = yes and 5 = no) were recoded 0 = non-athlete and 1 = athlete.

Race and gender. Student race and gender are drawn from the Wave 1 baseline survey data administered in fall semester 1999 (freshman year). Respondents were asked to report their race/ethnicity, which was recoded 0 = Caucasian/White, 1 = Black/African American, 2 = Asian and 3 = Hispanic or

Latino. Gender was assessed by respondents' self-reported identity to *sex of respondent* (recoded male = 0 and female = 1).

Dependent Variable

Feeling prepared for the future was measured by respondents' answer to the following question from Wave 5 administered toward the end of the 2003 spring semester (senior year): *On a zero to 10 scale where zero indicates total disagreement and 10 total agreement, to what extent would you disagree or agree with the following statement: My college experiences have prepared me for the future.* Responses were recoded 0 = totally disagree, 1 = disagree, 2 = somewhat disagree/somewhat agree, 3 = agree and 4 = totally agree.

Measurement of Independent Variables

The independent variables for this study are presented within seven domains: pre-college background, college academic environment, college social environment, academic goal commitment, institutional goal commitment, type of academic institution and graduation from college.

The NLSF provided the data for the graduation from college variable by analyzing and cross-checking references from the office of the registrar at the 28 colleges and universities in the NLSF and the National Student Clearinghouse (NSC) over a two-year period (2005-2006). Concrete graduation data were collected for 3,914 out of 3,924 total students. The variables constructed include an "overall graduation" with a bachelor's degree variable (graduation within four years). Graduation from college was coded as 1 and not graduated from college was coded as 0. This study examined the four-year graduation rate.

Due to the limited number of athletes in the sample and the multiple variables being tested, principal components analyses (PCA) with a varimax rotation were conducted in SPSS to reduce some variables into smaller sets of variables that load on the same underlying construct (or principal component) to explain as much of the variance as possible with the fewest number of components. This simplification of interrelated measures is known as parsimony. The eigenvalue-one criterion was used as a cut-off to establish how many components would be retained. Well-established criteria for variable reduction were used to determine the appropriateness of PCA: variables with at least one correlation with another variable greater than 0.30; Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy above 0.60 for each individual variable; and Bartlett's test of sphericity showing statistical significance ($p < .05$).

Pre-college background. Family background variables were: parents in household, education of mother, education of father and household income from Wave 1 administered in fall just before entering college. Family background was operationalized from the following survey questions: *Parents in household last year before college (mother only, father only, both mother and father, neither mother nor father); What is the highest level of schooling achieved by your mother or the woman most responsible for raising you?; What is the highest level of schooling achieved by your father or the man most responsible for raising you?; and Annual income of the household in which you spent your senior year of high school? (ranging from under $3,000 to $75,000 or more).* Parents in household was redefined into three variables and recoded (0 = neither parent,

1 = one parent and 2 = both parents). Education (1 = less than high school, 2 = high school graduate, 3 = college graduate and 4 = graduate or professional degree) of mother and education of father in addition to household income (1 = less than $25,000, 2 = $25,000 - $49,999, 3 = $50,000 - $74,999, 4 = $75,000 or more) were recoded.

Preparation for college was conceptualized as academic, social and psychological preparation. Academic preparation was measured from the following questions in Wave 1: *In which subjects, if any did you take an advanced placement class?*; and *For each of the following subjects, did you get (1) mostly A's, (2) mostly B's, (3) mostly C's, (4) mostly D's or (5) mostly grades below D in: English, history, mathematics, natural sciences, social studies, and foreign languages?* Number of AP classes taken was a continuous variable. High school GPA was computed by assigning 4 points for mostly A's, 3 points for mostly B's, 2 points for mostly C's, 1 point for mostly D's, and 0 points for grades below D and then averaged. From Wave 3, study participants were asked to recall their SAT verbal and quantitative scores or ACT composite score. To simplify the data, the verbal and quantitative score from the SAT were combined for a composite score. Next, the composite SAT score was converted to an ACT score according to a concordance table created by The College Board (2015) based on research by the makers of both the SAT and ACT. A single ACT score corresponds to a range of SAT scores. For example, in Table 3.2, the SAT scores of 1360 to 1390 are equivalent to an ACT score of 31.

Table 3.2 Concordance Between ACT Composite Score and Sum of SAT Verbal and Quantitative Scores

Summed SAT	Converted ACT	Summed SAT	Converted ACT
1600	36	1050 - 1080	23
1540 - 1590	35	1020 - 1040	22
1490 - 1530	34	980 - 1010	21
1440 - 1480	33	940 - 970	20
1400 - 1430	32	900 - 930	19
1360 - 1390	31	860 - 890	18
1330 - 1350	30	820 - 850	17
1290 - 1320	29	770 - 810	16
1250 - 1280	28	720 - 760	15
1210 - 1240	27	670 - 710	14
1170 - 1200	26	620 - 660	13
1130 - 1160	25	560 - 610	12
1090 - 1120	24	510 - 550	11

Source: College Board

The next dimension of college preparation considered was social. Social preparation was conceptualized as susceptibility to peer influence and operationalized as a composite measure from Wave 1 survey questions about how sensitive students were to the views of others and how they saw themselves socially relative to others. Five survey questions addressed whether students changed their behavior to suit their peers, worried about what others thought of them or worried about being called names. Values for each item ranged from never (1) to very often (5). The items were recoded 0 = never, 1 = rarely, 2 = sometimes, 3 = often and 4 = very often. Four questions addressed whether

students saw themselves alike or different from their peers, e.g., thinking and acting like their peers, hanging out with their peers, feeling comfortable around others their age, and sharing the values of others. Each item ranges from strongly agree (1) to neither agree nor disagree (5). The items are recoded 0 = strongly disagree, 1 = disagree, 2 = somewhat agree, 3 = agree and 4 = strongly agree. A reliability analysis conducted in SPSS revealed that two survey questions, as indicated by Pearson correlation coefficients lower than .30, did not measure the same construct as the other items and, thus, were removed. The resulting 7-item social preparation index, identical to Massey et al. (2003) construct for susceptibility to peer influence, ranged from 0 to 28 and indicated a good level of internal consistency with a Cronbach's alpha of .641 (see appendix Table C1 for scale construction). Susceptibility to peer influence encompassed: worrying about what others thought, doing things to be liked, worrying about being called names, acting and thinking like their peers, hanging out where their peers went, feeling comfortable around their peers and valuing the same things as their peers.

Psychological preparation was conceptualized as self-esteem and self-efficacy as developed by Rosenberg and Simmons (1971). The NLSF study asked respondents 10 questions to address feelings of self-esteem and six questions to address feelings of self-efficacy, both of which were measured in the positive and in the negative. Regarding self-esteem, positively measured questions (feeling like a person of worth, having a number of good qualities, being able to do things as well as most, taking a positive attitude, and being

satisfied with self) are recoded on a 5-point scale where 0 = strongly disagree, 1 = disagree, 2 = neither disagree nor agree, 3 = agree and 4 = strongly agree. Negatively measured questions (inclining to feel like a failure, feeling as though not having much to be proud of, wishing for more self-respect, feeling useless at times, and thinking self is no good at all) were recoded as 0 = strongly agree, 1 = agree, 2 = neither agree nor disagree, 3 = disagree and 4 = strongly disagree. This resulted in a 10-item index and 0 to 40 ratings scale with a Cronbach's alpha of .855 (see appendix Table C2). This construct also matched the index scale for self-esteem constructed by Massey et al. (2003).

Self-efficacy is "the belief that one's actions and intentions substantially determine one's fate" (Massey et al. 2003). Regarding self-efficacy, all six questions were used to construct the scale of self-efficacy that ranged from 0 to 24 with a reliability coefficient of .691 (see appendix Table C2). Again, Massey et al.'s (2003) index for self-efficacy substantiates the validity of the scale. Positively measured questions (i.e., certain can make plans work and belief that working hard brings success) were recoded 0 = strongly disagree, 1 = disagree, 2 = neither disagree nor agree, 3 = agree and 4 = strongly agree. Negatively measured questions (not having control over life, believing good luck more important than hard work for success, being stopped from getting ahead, and feeling left out) were recoded 0 = strongly agree, 1 = agree, 2 = neither agree nor disagree, 3 = disagree and 4 = strongly disagree.

College environmental factors. Data from Wave 2 (spring 2000 freshman year), Wave 3 (spring 2001 sophomore year) and Wave 5 (spring 2003 senior

year) were used to operationalize college environmental factors that affect the experiences of athletes and non-athletes within the academic and social systems. The academic system consisted of academic major, academic effort, use of campus support services, first-semester GPA, senior year GPA and participation in study abroad. The social system consisted of faculty interactions, peer interactions, professor guidance, peer guidance, racial climate and stereotype threat.

Although there is evidence that some athletes arrive on campus primarily to play sports, most students, both athletes and non-athletes, enter college with the goal of graduation. Attending academically selective colleges and universities implies a tremendous commitment to academic study and learning. It is not uncommon for students to have not declared an academic major as they explore their options and often change their primary area of study. Therefore, academic major was measured during the freshman, sophomore and senior year of college. Following the example of Charles et al. (2009), choice of major was collapsed into eight categories: undeclared, biological-physical sciences, math-computer science-engineering, social-behavioral sciences, humanities, professions, health-sports and interdisciplinary majors. Study participants were asked: *What major, if any, have you declared?* (Waves 2 and 3) and *What is your major?* (Wave 5). Matriculating through college requires individual effort and, therefore, students were asked to estimate the amount of effort they put into their studies on a scale of 0 to 10. Responses were recoded on a 5-point scale from no effort (0) to maximum effort (4). It was expected that greater effort would

positively affect grades. Students were asked in Waves 2, 3 and 5: *On a scale of zero to 10, where zero indicates no effort at all and 10 indicates the maximum possible effort, how hard would you say you have been trying during this past year of college?* Responses were recoded 0 = no effort, 1 = little effort, 2 = moderate effort, 3 = a lot of effort and 4 = maximum effort.

GPA was measured in Wave 2 (spring semester freshman year) and Wave 5 (spring semester senior year). Academic performance in the first year of college largely determined whether students persisted to the next year and GPA in their senior year reflected how well students performed in the classroom throughout their college career. Freshman GPA was calculated by respondents' answer to the following question about courses they took in the fall semester: *What was your final grade in that course?* Responses are recoded 4 = A+/A/A-; 3 = B+, B, B-; 2 = C+, C, C-; 1 = D+, D, D- and 0 = F. Classes that were graded pass/satisfactory, pass/fail, credit only or ungraded were not included. These self-reported grades were averaged for a first-semester college GPA. GPA in Wave 5 was measured by self-reported cumulative GPA: *What is your cumulative grade point average?* Study abroad was measured from Wave 5 (summer 2003 senior year of college) and student responses to the following question: *How many terms, if any, have you studied abroad*? Study abroad was operationalized as a dichotomous variable and recoded 0 = no participation and 1 = participation.

There are 25 items in Wave 2 (and replicated in Wave 3) that deal with the frequency (zero to 10, where 0 indicated never and 10 indicated always) of

"typical behaviors in college." All items were recoded to 0 = never, 1 = rarely, 2 = sometimes, 3 = often and 4 = always. A PCA determined the suitability of factor reduction. After the removal of survey items that did not show a patterned relationship with at least one other item as indicated by not meeting the $r \geq 0.3$ criteria, 14 items remained with an overall .786 KMO index of sampling adequacy and individual KMO measures above the required .60 minimum. Bartlett's test of sphericity was statistically significant (X^2 = 21,628.51, 91 df, $p < .001$), further signifying that the data was factorable. PCA revealed four components that had eigenvalues greater than one and that which explained 29.43%, 16.91%, 12.15% and 8.82% of the total variance (67.30%), respectively. However, only three components explaining a substantial 58.49% of the variance were utilized because only two items loaded on the difficult to identify fourth component.

Use of campus services, i.e., how students utilized academic support provided by their colleges and universities, emerged as one of the components. The factor comprised of the following four items: taking help to improve writing skills, taking help to improve reading skills, taking help to improve math skills, and using services available for disabled students. The scale ranged from 0 to 16 with a Cronbach's alpha of .688 (Wave 4 alpha = .692). Faculty interaction was the second component that emerged. The faculty interaction scale ranged from 0 to 20 with a Cronbach's alpha of .762 (Wave 3 alpha = .726) and included five items: asks professors questions in class, raise hand during lecture when don't understand, approach professors after class to ask a question, meet with professors in their offices to ask about material don't understand, and meet with

professors in their offices to talk about other matters. The peer interaction scale, the third component to emerge, ranged from 0 to 12 with a reliability coefficient of .723 (Wave 4 alpha = .726) and included three items: study with other students, organize study groups with friends or classmates and seek academic help from a friend or classmate. See appendix tables C3, C4 and C5 for all construction scales.

In addition to the student-professor interaction, this study also was interested in how campus personnel guided students through their college careers. In Wave 5, respondents were asked, *on a scale of zero to 10, where zero indicates no importance and 10 indicates the greatest importance, how important have each of the following been in guiding you through your college career?* The two variables chosen for this study were professors in academic major and friends met at college. Items were recoded 0 = no importance, 1 = little importance, 2 = moderate importance, 3 = great importance and 4 = greatest importance.

Racial climate. Twelve questions were designed to specifically measure perceptions of prejudice on campus from never (1) to very often (5). Responses were recoded 0 = never, 1 = rarely, 2 = sometimes, 3 = often and 4 = very often, which yielded a scale ranging from 0 to 48 with a reliability coefficient of .796 (see appendix Table C6). The NLSF questionnaire administered during freshman (Wave 2) and sophomore (Wave 3) year asked how often, if ever, students were made to feel self-conscious because of their race or ethnicity by students, professors and staff or walking around campus. Students also were asked if they

had heard derogatory remarks about their racial/ethnic group from students, professors and others, if they had experienced racial harassment and if they felt discouraged by a professor from speaking out in class, felt they were given a bad grade by a professor, or had been discouraged from a course of study by their advisor or professor.

Stereotype threat. The NLSF asked a set of nine questions in Wave 5 that measured self-consciousness in college, which was used in this study to operationalize stereotype threat. Stereotype threat often was assessed along two dimensions – internalized and externalized. This study did not explore internalization, which occurs when students actually believe the stereotype of intellectual inferiority (Owens and Massey 2011), because all the questions involving this dimension specifically asked survey participants to respond specifically regarding race. Therefore, those questions could not measure the internalization of the "athletically superior but academically inferior" stereotype. However, some questions could measure external stereotype threat, defined as the expectation that others will draw on negative stereotypes in making evaluations of individual performance (Charles et al. 2009). Externalization causes performance burden (e.g., anxiety, lower test scores) by creating the belief that, in this case, the academic performance of some college athletes reflects on the abilities and intelligence of all athletes. Because this study was concerned with how stereotype threat operates among college athletes, survey questions that mentioned race were removed; and seven questions remained for factorability testing. The fourth PCA iteration yielded an acceptable overall KMO

(.627) and measures of sampling adequacy for all variables, and passed Bartlett's test of sphericity (X^2 = 2215.35, 3 df, p < .001) for the following questions: *If I don't do well, people will look down on others like me; If I let my instructors know that I am having difficulty in class, they will think less of me; and If I let other students know that I am having difficulty in class, they will think less of me*. Responses to these three questions, each coded 0 = totally disagree, 1 = disagree, 2 = neither disagree nor agree, 3 = agree and 4 = totally agree were used to construct a stereotype externalization scale ranging from 0 to 12 with a reliability coefficient of .710 (see Appendix Table C7).

Measurement of Control Variables

Goal commitment was measured before entering college (Wave 1) and during the spring semester of students' fourth year of college (Wave 5). From Wave 1: *Which of the following three statements best describes your current aspirations? (1) I plan to take college one year at a time and see how I do. (2) I plan to graduate from college and then consider my options. (3) I plan to graduate from college and go to graduate or professional school.* Goal commitment in Wave 5 is measured by respondents' answers to the following question: *At this point in your college career, what is the highest degree you expect to obtain? Less than BA/BS; BA/BS; MA or equivalent; Ph.D.; MD, LLD, or equivalent.* Less than a bachelor's degree was coded 1, bachelor's degree = 2, master's degree = 3 and doctorate, medical and law degrees = 4.

Institutional commitment also was measured at two points in time. From Wave 1: *Please estimate the probability that you will complete each of the*

following educational milestones. That is, on a scale from 0 to 10, where 0 means it's extremely unlikely and 10 means it is extremely likely, what is the likelihood that you will finish one year of college? Responses were recoded 0 = extremely unlikely, 1 = Unlikely, 2 = Neither unlikely nor likely, 3 = likely and 4 = extremely likely. Institutional commitment during students' spring semester 2003 college senior year was measured in Wave 5 by: *On a zero to 10 scale where zero indicates total disagreement and 10 total agreement, to what extent would you disagree or agree with the following statements: If I had it to do all over again, I would choose to attend (name of most recent college attended)*. Recoded responses were 0 = totally disagree, 1 = disagree, 2 = neither disagree nor agree, 3 = agree and 4 = totally agree.

Type of academic institution. Colleges and universities were coded 1 = liberal arts college, 2 = private research university and 3 = public research university.

This study explored the relationships among individual student characteristics, pre-college factors and college environmental influencers on student-athlete outcomes over time. Table 3.3 lists the independent variables, control variables and exogenous variables used to examine graduation from college and feeling prepared for the future.

Table 3.3 Independent Variables Used to Determine Effect on College Graduation and Feeling Prepared for the Future

Pre-college Factors	Academic System Factors	Social System Factors
Parents in household	GPA	Faculty interaction
Mother's education	Academic major	Peer interaction
Father's education	Academic effort	Professor guidance
Household income	Use of campus services	Peer guidance
# of AP classes taken	Study abroad	Racial climate
High school GPA	**Control Variables**	Stereotype threat
SAT / ACT scores	Goal commitment	**Demographic Variables**
Susceptibility to peer influence	Institutional commitment	Race
Self-esteem	Type of academic institution	Gender
Self-efficacy		

Data Analyses

This quantitative and exploratory study sought to determine how the interaction of individual characteristics, pre-college background factors, and college environmental influencers might operate differently for athletes than for non-athletes at academically selective universities and colleges. Descriptive statistics, bivariate correlations and multiple regression analyses were conducted to answer six research questions. Question 1 considered the social origins of athletes and non-athletes. Question 2 considered the pre-college background of athletes and non-athletes and Question 3 considered their experiences within the academic and social domains of the college environment. Frequency cross-tabulations with Pearson Chi-square to test for statistical significance were

conducted to determine association and statistical significance ($p \leq .05$). Questions 4, 5 and 6 explored the relationships and interactions among individual student characteristics, pre-college background factors and college environmental influences (academic and social) over time from their first year of college to their fourth year of college and their effect on graduation from college and, subsequently, feeling prepared for the future. Zero-order correlations assessed the relationships between the input variables and the relationship of these variables with the dependent variable. Because this study was longitudinal, student inputs at different times at college were compared. Multivariate regression was used to unravel the multiple influencers and cumulative processes that have been shown to affect educational and attitudinal outcomes, specified as feeling prepared for the future. Independent variables were entered in the regression models sequentially in seven distinct blocks, as presented in Table 3.4, to observe how the relationship between independent variables and dependent variables change as multiple factors were added to the regression. Comparisons were made between athletes and non-athletes, and the effect of race and gender also were assessed.

Table 3.4. Student Background and College Environment Characteristics

Block	Model Component	Variables
1	Student pre-college background	Parents in household, mother's education, father's education, household income, number of AP classes taken, high school GPA, college entrance exam scores. Susceptibility to peer influence, self-esteem, self-efficacy
2	Educational aspirations	Goal commitment, institutional commitment
3	Institutional characteristic	Type of academic institution
4	College Academic and Social System (freshman year)	GPA, academic major, academic effort, use of campus services, faculty interaction, peer interaction, racial climate
5	College Academic and Social System (sophomore year)	academic major, academic effort, use of campus services, faculty interaction, peer interaction, racial climate
6	College Academic and Social System (senior year)	GPA, academic major, academic effort, study abroad, faculty guidance, peer guidance, stereotype threat
7	Educational aspirations	Goal commitment, institutional commitment
8	Academic success	Graduation from college

Study Limitations

Limitations of the study should be noted. This study was based on information from a secondary dataset and, therefore, the researcher was limited by the questions posed by the original researchers. As such, questions that identify experiences and perceptions more common to athletes were not asked. For example, a more direct question using the term "dumb jock" may have yielded different and more accurate results for stereotype threat. Furthermore, the NLSF database did not delineate athletes by sport. Previous research

indicates that participants in the revenue-generating sports of football and basketball have a markedly different college experience than those who compete in non-generating sports.

Delimitations of Study

This study is delimited to the participants in the NLSF. Students who participated in the survey attended academically selective college and universities and, therefore, the study is generalizable only to other highly selective academic institutions.

Although the conceptual model was based on an extensive literature review and established tested models, this study did not account for all the variables that may influence student outcomes. While the researcher was primarily interested in what happens in the on-campus college environment (Bean and Metzner 1985), external factors, such as relationships outside of campus, family distractions and financial concerns, likely contributed to outcomes. These factors were not included in this study.

Chapter Summary

This chapter detailed the methodologies employed to measure the effect of multiple variables and their cumulative influence on preparedness for the future using NLSF data. Informed by Tinto (1975, 1993, 2015) Astin's theory of student involvement (1977, 1993, 1999), and a student-athlete conceptual model developed by Comeaux and Harrison (2011), individual student characteristics, pre-college background factors, and college environmental influencers (i.e., academic major, academic effort, academic self-assessment, use of campus

services, GPA, study abroad participation, faculty interaction, peer interaction, college guidance, racial climate and stereotype threat) were used to determine their impact on athletes and non-athletes. Results were further differentiated by race and gender, for a holistic approach to account for the multiple processes that influence college outcomes.

CHAPTER FOUR

Results

The overarching aim of this study is to examine the multiple influencers and cumulative effects that impact college athletes on feeling prepared for the future upon graduation from academically selective U.S. colleges and universities. The results focus on the differences between athletes and their non-athlete peers, and the effects of race and gender. This chapter reports the findings of six research questions.

1. Do college athletes and non-athletes differ on social background factors?

Table 4.1 presents the demographic (i.e., race and gender) and social characteristics (i.e., education of mother and father, parents in the home during last year of high school, and household income for the purposes of this study) of college athletes and non-athletes who participated in the NLSF. Cross tabulations reveal that despite a relatively equal-sized sample of Whites, Blacks, Asians and Hispanics entering selective colleges and universities in 1999, a disproportionate number of athletes self-identified as Black. Among athletes, 40% were Black, 31% were White, 15% were Hispanic and 14% were Asian. The relationship between intercollegiate athletic participation and race is statistically significant as indicated by the Chi-square test of independence ($X^2 = 50.00$, 3 df, $p < .001$). Regarding gender, 60% of the athletes were males while 40% were females. Among non-athletes, however, 39.5% were males and 59.5% were females. For every female college athlete, there were 1.5 male college athletes.

This extreme imbalance punctuates that gender equity has not been reached in athletic participation although women are attending college at greater rates than men (NCES 2016). The relationship between sports participation and gender also is statistically significant (X^2 = 47.67, 1 df, p < .001).

In terms of family background, there were class differences between athletes and non-athletes, although a substantial share of both groups at academically select colleges and universities were from upper-middle class and upper class backgrounds. A higher percentage of mothers (70.8%) and fathers (77.2%) of college athletes graduated from college than mothers (64.3%) and fathers (72.6%) of non-athletes. Nearly half (47.2%) the fathers and one-third (33.2%) the mothers of college athletes had graduate or professional degrees, which helps to explain why approximately 58% lived in households with incomes of $75,000 and above. Non-athletes were not far behind, however, as 50.7% lived in households of the study's highest income bracket. Also, 29.4% of the mothers and 28.3% of the fathers of non-athletes held advanced degrees. More than 70% of both athletes and non-athletes lived in two-parent homes during their last year of high school. These results might seem counterintuitive due to the common perception that intercollegiate athletics is mostly populated by Black males from single-mother households trying to escape poverty via a professional sports career. No differences between athletes and non-athletes on parents in household (X^2 = .287, 2 df, p > .05), mother's education (X^2 = 6.84, 3 df, p >.05), father's education (X^2 = 4.49, 3 df, p > .05) and household income (X^2 = 6.84, 3 df, p >.05) were detected and, therefore, are not statistically significant.

Table 4.1. Demographic and Social Origins of College Athletes and Non-athletes, NLSF 1999

	Athletic Status	
	Athletes	Non-athletes
Race/ethnicity[***]		
Black	40.0%	25.6%
White	31.0%	24.7%
Hispanic	15.0%	23.8%
Asian	14.0%	25.8%
Total %	100.0%	100.0%
(N=3420)	(300)	(3120)
Gender[***]		
Male	60.0%	39.5%
Female	40.0%	60.5%
Total %	100.0%	100.0%
(N=3420)	(300)	(3120)
Mother's education		
Less than HS	2.0%	4.3%
High school grad	27.2%	31.3%
College graduate	37.6%	34.9%
Grad/prof degree	33.2%	29.4%
Total %	100.0%	100.0%
(N=3406)	(298)	(3108)
Father's education		
Less than HS	2.4%	4.7%
High school grad	20.3%	22.7%
College graduate	30.0%	28.3%
Grad/prof degree	47.2%	44.3%
Total %	100.0%	100.0%
(N=3264)	(290)	(2974)
Parents in household		
Neither parent	2.0%	2.2%
One parent	24.7%	25.9%
Both parents	73.3%	71.9%
Total %	100.0%	100.0%
(N=3419)	(300)	(3119)
Household Income		
Less than $25,000	6.9%	10.5%
$25,000 - $49,999	16.8%	19.8%
$50,000 - $74,999	18.6%	18.9%
$75,000 or more	57.7%	50.7%
Total %	100.0%	100.0%
(N=3291)	(291)	(3000)

*p < .05 **p < .01 ***p < .001

In summary, college athletes, as a group, entered colleges and universities at these highly selective academic institutions with different pre-college backgrounds than non-athletes, but not in all the ways expected. Greater sports participation by Blacks was anticipated because previous research has found that Blacks are overrepresented athletically and underrepresented academically at U.S. colleges and universities, particularly at Division I schools (Harper et al. 20013; Harper 2016; Theune and Braddock 2016). Lower sports participation by Hispanics and Asians also was expected. Although participation in NCAA athletics among people of color has increased since the NLSF data collection, during the 2014-2015 academic school year, Hispanics represented only 5.4% and Asians only 1.8% of male athletes across all NCAA divisions (NCAA 2016). Among females, Hispanics were 4.9% and Asians 2.4% of NCAA athletes across Division I, II and III (Lapchick and Baker 2016). Perhaps most interesting is that college athletes, in general, were from higher socioeconomic backgrounds than non-athletes.

2. Do college athletes and non-athletes differ in their pre-college development?

Table 4.2 presents descriptive statistics on preparation for college in three domains: academic, social and psychological. Goal and institutional commitments also are evaluated. Non-athletes were more academically prepared than athletes in all three areas measured, although the overall differences were modest. On average, non-athletes (3.40) took more AP classes than athletes (2.95), had higher GPAs (3.72 to 3.61) and scored better on college entrance

exams (29.15 to 28.10). While even academically selective colleges and universities weigh more than high school GPA and SAT/ACT scores when deciding what applicants to accept, a closer examination of the percentages suggests that incoming lower academically performing athletes were given higher admissions preferences than lower academically performing non-athletes. Despite rigorous academic entrance requirements, 10.6% of college athletes in the study had high school GPAs 3.0 and lower compared to 4.6% of non-athletes. Most athletes (86.2%) and non-athletes (91.9%) scored within the 75^{th} to 99^{th} ACT percentile (24 to 36), based on the scores of all 1999 high school graduates who took the ACT (ACT 1999). However, two and half times as many athletes (6.0%) earned scores 20 or lower as compared to non-athletes (2.4%). The greatest academic difference between athletes and non-athletes was the number of AP classes taken. About 45% of college athletes took two or less AP courses in high school while about 35% of non-athletes took two or less.

Social preparation is measured as susceptibility to peer influence. Athletes in the sample exhibited greater potential to be influenced by their peer group than non-athletes. Both athletes and non-athletes were highly integrated into their peer group culture (acting and thinking, hanging out with, and being comfortable with people their age) and did not worry about what others thought of them or being called names such as “nerd” or “brainiac.” While peer influence can be manifested as positive associations or negative associations, it most likely works to the advantage of students with high educational aspirations admitted to highly selective academic institutions. Because most young people seek out friendships

with people like themselves, peers are likely to be academically supportive because they hold the same values. However, “students whose performance depends on their own motivations rather than those of their peers will probably do better” (Massey et al. 2003:169). Differences in susceptibility to peer influence are statistically nonsignificant.

Both athletes and non-athletes displayed a high degree of psychological preparation, defined in this study as self-esteem and self-efficacy. Athletes (32.92) exhibited slightly greater self-esteem and self-efficacy (19.10) than non-athletes (32.06 and 18.73) despite being measurably less academically prepared. These differences between athletes and non-athletes are statistically significant. The data did not allow for the researcher to determine if the confidence of college athletes stemmed from their academic or athletic abilities. Survey questions that assessed self-esteem and self-efficacy did not specifically mention academic confidence and, therefore, were left to the participant’s interpretation.

Given that students reported high self-esteem and self-efficiency, it was not surprising that when asked their college aspirations (goal commitment), 92.6% of athletes and 94% of non-athletes planned to graduate from college. However, a substantial higher percentage of non-athletes (65%) than athletes (56%) planned to attend graduate or professional school. In terms of institutional commitment, measured by the likelihood that study participants believed they would finish year one of college, virtually all students responded likely and extremely likely. Goal commitment is statistically significant.

Table 4.2. Descriptive Statistics, Means and Standard Deviations of College Preparation for Athletes and Non-athletes, NLSF 1999

		Athletic Status	
Variable		Athlete	Non-athlete
Academic Preparation			
AP classes[*]			
≤ 2		45.3%	35.5%
3 - 4		30.3%	35.2%
5 - 6		18.3%	20.9%
≥ 7		6.0%	8.5%
	Total %	99.9%	100.0%
	(N=3417)	(300)	(3117)
	Mean	2.95	3.40
	Standard deviation	2.20	2.14
High school GPA[***]			
≤ 3.00		10.6%	4.6%
3.01 - 3.50		27.3%	23.0%
3.51 - 3.99		30.6%	34.7%
4.00		31.3%	37.7%
	Total %	99.8%	100.0%
	(N=3418)	(300)	(3118)
	Mean	3.62	3.72
	Standard deviation	.39	.31
ACT scores[***]			
< 17		0.0%	0.3%
17 - 20		6.0%	2.1%
21 - 23		7.5%	5.7%
24 - 36		86.2%	91.9%
	Total %	99.7%	100.0%
	(N=3056)	(267)	(2789)
	Mean	28.10	29.15
	Standard deviation	4.09	3.90
Social Preparation			
Peer susceptibility			
0 - 7		10.7%	13.8%
8 - 14		45.7%	50.2%
15 - 21		42.0%	34.5%
22 - 28		1.6%	1.4%
	Total %	100.0%	99.9%
	(N=3420)	(300)	(3120)
	Mean	13.16	12.64
	Standard deviation	4.22	4.47

*p < .05 **p < .01 ***p < .001

Table 4.2. Continued

Variable		*Athletic Status* Athlete	Non-athlete
Psychological Preparation			
*Self-esteem**			
0 - 10		0.3%	0.0%
11 - 20		2.9%	2.9%
21 - 30		35.1%	34.2%
31 - 40		61.7%	62.6%
	Total %	100.0%	99.7%
	(N=3417)	(300)	(3117)
	Mean	32.92	32.06
	Standard deviation	5.48	5.62
*Self-efficacy**			
0 - 6		0.0%	0.0%
7 - 12		2.6%	2.3%
13 - 18		39.7%	45.4%
19 - 24		57.7%	52.3%
	Total %	100.0%	100.0%
	(N=3417)	(300)	(3117)
	Mean	19.10	18.73
	Standard deviation	3.00	2.95
Goal commitment**			
One year at a time		7.3%	6.1%
Bachelor's degree		36.7%	29.0%
Professional/graduate		56.0%	65.0%
	Total %	100%	100%
	(N=3420)	(300)	(3120)
	Mean	2.49	2.59
	Standard deviation	.631	.603
Institutional commitment			
High		100.0%	99.6%
Medium		0.0%	0.2%
Low		0.0%	0.2%
	Total%	100.0%	100.0%
	(N=3392)	(296)	(3096)
	Mean	3.98	3.96
	Standard deviation	.129	.242

*p < .05 **p < .01 ***p < .001

In summary, athletes entered selective universities less academically prepared for college success than their non-athlete peers when measured by number of AP courses taken, high school GPA and ACT/SAT scores. However, athletes scored greater in social and psychological preparation. They were more susceptible to peer influence (deemed positive in this study), possessed greater

self-esteem and exhibited more self-efficacy than non-athletes. Athletes also expressed similar confidence as non-athletes in reaching their academic goals. This seemingly good news for athletes, however, may indicate an overestimation of their college readiness.

3. ***Do college athletes and non-athletes differ in their experiences and attitudes at various stages in the academic and social college environments?***

So far, only the experiences and attitudes that students brought with them to college have been explored but the aim of this study also is to understand how these pre-college factors interact with institutional factors to affect graduation from college and, more importantly, feeling prepared for life after college. Therefore, the academic and social environments at academically selective colleges and universities are explored. The academic domain consists of academic major, academic effort, use of campus services, GPA and study abroad participation. The social domain consists of faculty interaction, peer interaction, racial climate, professor guidance, peer guidance and stereotype threat. Table 4.3 presents descriptive statistics of college environmental influencers on athletes and non-athletes in the academic and social domains; the statistical significance of these factors is presented in Table 4.4. Table 4.6 presents the full sample, athletes and non-athletes means and standard deviations for all variables.

The academic majors of athletes and non-athletes evolved during their college careers. Athletes demonstrated great uncertainty of career choice as

evidenced by 69.9% had not declared a major by the spring semester of their freshman year. Non-athletes (63.9%) were similarly uncertain. However, by the spring semester of their sophomore year, nearly three-fourths of both groups had declared a major (Table 4.3). Contrary to literature stating that athletes are clustered into certain “easy” majors at greater proportions than the non-athlete student population to maintain eligibility, the majors that athletes in this study selected were similar to majors chosen by non-athletes, with one exception. Social and behavioral sciences majors were most popular with both groups, however, 41.6% of athletes compared to 33.9% of non-athletes majored in disciplines such as psychology, political science, economics, anthropology and sociology during their senior year. The humanities (i.e., English, history, philosophy) was the second-most popular general division of major among both non-athletes (20.3%) and athletes (19.9%). Majors in the math, computer science and engineering fields were more popular with non-athletes (15.8%) than athletes (11.2%). Athletes (12.4%) and non-athletes (12.5%) were equally represented in biology and other physical sciences such as botany and physics. Students majoring in biology tripled from the first year to the last year of college for athletes and more than doubled for non-athletes. Surprisingly, health and sports majors were the least popular among athletes although research suggests that sports science majors are common for athletes. Another notable observation is that the professions category, which included majors in architecture, business, communications, education, journalism and radio/television/film, spiked from 7% in the first year of college to 12.8% in the second year of college for athletes and

from 7.9% to 13.7% for non-athletes during the same time period; however, these percentages dropped to 8.7% and 10.6% for athletes and non-athletes respectively by the fourth year of college.

Although athletes and non-athletes shared similar majors, the preference rankings differed by the fourth year of college. Economics was the top major of choice for athletes and psychology topped the list for non-athletes (Table 4.5). Engineering and international relations were unique to the top 10 preferences of athletes while history and marketing were to non-athletes.

Despite the time and physical demands of intercollegiate sports participation, athletes reported exerting more effort on their academics than non-athletes in their freshman year of college. However, non-athletes narrowed the gap considerably by their sophomore year and eventually exceeded athletes in academic effort by the fourth year of college. The increased effort was not made through participation in educational learning programs such as getting special instruction in reading, writing and math. In fact, the frequency in which athletes utilized these services decreased from their freshman to sophomore year. Whereas 14.1% of athletes reported using campus services for learning instruction “sometimes to always” as freshmen, only 11.9% used these services as sophomores. Use of these services was even more infrequent among non-athletes, dropping from 10.5% responding “sometimes to always” to 6.2%.

Table 4.3 Descriptive Statistics of College Environmental Influencers on Athletes and Non-athletes, 2000 - 2003

	Wave 2 (Spring semester 2000)		Wave 3 (Spring semester 2001)		Wave 5 (Spring semester 2003)	
	Athlete	*Non-athlete*	*Athlete*	*Non-athlete*	*Athlete*	*Non-athlete*
Academic System						
Major						
Social Sciences	5.6%	7.4%	26.5%	20.3%	41.6%	33.9%
Humanities	1.7%	4.3%	10.4%	12.0%	19.9%	20.3%
Biology	4.2%	5.3%	6.4%	11.6%	12.4%	12.5%
Math / Engineering	8.0%	8.4%	11.4%	12.6%	11.2%	15.8%
Professions	7.0%	7.9%	12.8%	13.7%	8.7%	10.6%
Health / Sports	2.8%	2.7%	5.0%	2.8%	4.3%	4.5%
Interdisciplinary	0.7%	0.2%	1.3%	1.1%	1.2%	2.0%
Undeclared	69.9%	63.9%	26.2%	26.0%	0.6%	0.5%
Total	100.0% (N=287)	100.0% (N=3002)	100.0% (N=298)	100.0% (N=3111)	100.0% (N=161)	100.0% (N=1791)
Effort						
None to moderate	29.8%	36.5%	11.7%	12.8%	20.1%	18.2%
A lot to maximum	70.2%	63.5%	88.3%	87.2%	79.9%	81.7%
Total	100.0% (N=295)	100.0% (N=3062)	100.0% (N=223)	100.0% (N=2404)	100.0% (N=179)	100.0% (N=1975)
Use of campus services						
Never to rarely	85.8%	89.5%	88.0%	93.7%	---	---
Sometimes	13.5%	9.0%	10.3%	6.1%	---	---
Often to always	0.6%	1.5%	1.6%	0.1%	---	---
Total	100.0% (N=295)	100.0% (N=3064)	100.0% (N=300)	100.0% (N=3120)	---	---
GPA						
$\leq$ 3.0	48.9%	40.6%	---	---	27.6%	30.0%
3.01 – 3.33	18.1%	18.6%	---	---	24.6%	24.9%
3.34 – 3.66	16.4%	17.3%	---	---	32.5%	29.2%
3.67 – 4.00	15.7%	23.4%	---	---	15.7%	17.6%
Total	100.0% (N=287)	100.0% (N=3002)	---	---	100.0% (N=175)	100.0% (N=1905)

Table 4.3 Descriptive Statistics of College Environmental Influencers on Athletes and Non-athletes, 2000 - 2003

	Wave 2 (Spring semester 2000)		Wave 3 (Spring semester 2001)		Wave 5 (Spring semester 2003)	
	Athlete	*Non-athlete*	*Athlete*	*Non-athlete*	*Athlete*	*Non-athlete*
Study abroad						
Yes	---	---	---	---	30.7%	28.6%
No	---	---	---	---	69.3%	71.4%
Total	---	---	---	---	100.0%	100.0%
					(N=179)	(N=1975)
Social System						
Faculty interaction						
Never to rarely	32.2%	37.9%	24.7%	31.4%	---	---
Sometimes	51.8%	47.3%	54.7%	50.2%	---	---
Often to always	15.8%	15.0%	20.7%	18.3%	---	---
Total	100.0%	100.0%	100.0%	100.0%	---	---
	(N=295)	(N=3064)	(N=300)	(N=3120)		
Peer interaction						
Never to rarely	45.4%	47.6%	43.0%	46.1%	---	---
Sometimes	48.9%	46.6%	51.4%	47.2%	---	---
Often to always	5.8%	5.8%	5.7%	6.5%	---	---
Total	100.0%	100.0%	100.0%	100.0%	---	---
	(N=295)	(N=3064)	(N=300)	(N=3120)		
Racial climate						
Never to rarely	94.3%	95.6%	95.9%	95.4%	---	---
Sometimes	5.6%	4.5%	3.9%	4.3%	---	---
Often to very often	0.0%	0.0%	0.0%	0.0%	---	---
Total	100.0%	100.0%	100.0%	100.0%	---	---
	(N=295)	(N=3120)	(N=300)	(N=3120)		
Professor guidance						
No to little importance	---	---	---	---	11.7%	13.8%
Moderate importance	---	---	---	---	30.2%	33.4%
Great to greatest importance	---	---	---	---	58.1%	52.7%
Total	---	---	---	---	100.0%	100.0%
					(N=179)	(N=1973)

Table 4.3 Descriptive Statistics of College Environmental Influencers on Athletes and Non-athletes, 2000 - 2003

	Wave 2 (Spring semester 2000)		Wave 3 (Spring semester 2001)		Wave 5 (Spring semester 2003)	
	Athlete	*Non-athlete*	*Athlete*	*Non-athlete*	*Athlete*	*Non-athlete*
Peer guidance						
No to little importance	---	---	---	---	3.4%	5.1%
Moderate importance	---	---	---	---	25.1%	23.5%
Great to greatest importance	---	---	---	---	71.5%	71.5%
Total	---	---	---	---	100.0%	100.0%
					(N=179)	(N=1973)
Stereotype threat						
Low	---	---	---	---	36.0%	37.0%
Medium	---	---	---	---	49.6%	45.8%
High	---	---	---	---	14.5%	17.3%
Total	---	---	---	---	100.0%	100.0%
					(N=222)	(N=2487)
Type of Academic Institution						
Private Research University	65.7%	58.3%	---	---	---	---
Public Research University	18.3%	32.8%	---	---	---	---
Liberal Arts College	16.0%	9.0%	---	---	---	---
Total	100.0%	100.0%	---	---	---	---
	(N=300)	(N=3120)				
Goal commitment						
College one year at a time	7.3%	6.1%	---	---	---	---
Graduate from college	36.7%	29.0%	---	---	---	---
Graduate or professional school	56.0%	65.0%	---	---	---	---
Total	100.0%	100.0%	---	---	---	---
	(N=300)	(N=3120)				
Institutional commitment						
Extremely unlikely to unlikely	0.0%	0.2%	---		---	---
Neutral	0.0%	0.2%	---		---	---
Likely to extremely likely	99.9%	99.6%	---		---	---
Total	100.0%	100.0%	---		---	---
	(N=296)	(N=3096)				

Table 4.3 Descriptive Statistics of College Environmental Influencers on Athletes and Non-athletes, 2000 - 2003

	Wave 2 (Spring semester 2000)		Wave 3 (Spring semester 2001)		Wave 5 (Spring semester 2003)	
	Athlete	*Non-athlete*	*Athlete*	*Non-athlete*	*Athlete*	*Non-athlete*
Goal commitment						
Less than bachelor's degree	---	---	---	---	0.0%	0.6%
Bachelor's degree	---	---	---	---	21.3%	21.9%
Graduate or professional degree	---	---	---	---	78.7%	77.5%
Total					100.0%	100.0%
					(N=221)	(N=2478)
Institutional commitment						
Would not choose same college	---	---	---	---	9.5%	6.8%
Neutral	---	---	---	---	16.2%	12.2%
Would choose same college	---	---	---	---	74.3%	81.1%
Total	---	---	---	---	100.0%	100.0%
					(N=179)	(N=1973)
Type of Academic Institution						
Private Research University	65.7%	58.3%	---	---	---	---
Public Research University	18.3%	32.8%	---	---	---	---
Liberal Arts College	16.0%	9.0%	---	---	---	---
Total	100.0%	100.0%	---	---	---	---
	(N=300)	(N=3120)				

Table 4.4 Statistical Significance of College Environmental Factors and Student Commitment

Social sciences (2000)	$p = .270$		Academic effort (2000)	$p = .049$	*
Humanities (2000)	$p = .035$	*	Academic effort (2001)	$p = .780$	
Biology (2000)	$p = .418$		Academic effort (2003)	$p = .851$	
Math / Engineering (2000)	$p = .849$		Use of campus services (2000)	$p = .060$	
Professions (2000)	$p = .600$		Use of campus services (2001)	$p = .000$	***
Health / Sports (2000)	$p = .913$		First-semester GPA (2000)	$p = .636$	
Interdisciplinary (2000)	$p = .064$		College GPA (2003)	$p = .254$	
Undeclared (2000)	$p = .042$	*	Study abroad	$p = .549$	
Social sciences (2001)	$p = .012$	*	Faculty interaction (2000)	$p = .137$	
Humanities (2001)	$p = .427$		Faculty interaction (2001)	$p = .003$	**
Biology (2001)	$p = .006$	**	Peer interaction (2000)	$p = .677$	
Math / Engineering (2001)	$p = .553$		Peer interaction (2001)	$p = .909$	
Professions (2001)	$p = .662$		Racial climate (2000)	$p = .590$	
Health / Sports (2001)	$p = .030$	*	Racial climate (2001)	$p = .375$	
Interdisciplinary (2001)	$p = .654$		Professor guidance	$p = .510$	
Undeclared (2001)	$p = .939$		Peer guidance	$p = .009$	**
Social sciences (2001)	$p = .048$	*	Stereotype threat	$p = .217$	
Humanities (2001)	$p = .892$		Goal commitment (2000)	$p = .008$	**
Biology (2001)	$p = .992$		Goal commitment (2003)	$p = .499$	
Math / Engineering (2001)	$p = .120$		Institutional commitment (2001)	$p = .782$	
Professions (2001)	$p = .447$		Institutional commitment (2003)	$p = .068$	
Health / Sports (2001)	$p = .944$		Liberal arts college	$p = .000$	***
Interdisciplinary (2001)	$p = .526$		Private research college	$p = .013$	*
Undeclared (2001)	$p = .840$		Public research college	$p = .000$	***

*$p < .05$ **$p < .01$ ***$p < .001$

Table 4.5. Rank of Majors Selected by Athletes and Non-athletes in Their Fourth Year of College

Rank	Athletes	Non-athletes
1	Economics	Psychology
2	English/English Literature	Political Science/Public Policy/Govt
3	Political Science/Public Policy/Govt	Economics
4	Psychology	English/English Literature
5	Biology	Biology
6	Sociology	Comp Science/Info Science/Comp Engin
7	Art/Art History/Fine Arts	History
8	Engineering	Sociology
9	Comp Science/Info Science/Comp Engin	Marketing
10	Int Relations/Politics/Diplomacy	Art/Art History/Fine Arts

Table 4.6. Means and Standard Deviations for Dependent and Independent Variables

	Full sample			Athletes			Non-athletes		
	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N
Prepared for future	3.02	.741	2466	2.98	.730	179	3.03	.741	1973
Graduation	.6865	.4640	3914	.6700	.4710	300	.6852	.4645	3110
White	.25	.436	3924	.31	.463	300	.25	.432	3120
Black	.27	.443	3924	.40	.491	300	.26	.437	3120
Asian	.24	.430	3924	.14	.348	300	.26	.438	3120
Hispanic	.23	.423	3924	.15	.358	300	.24	.426	3120
Male	.42	.493	3924	.60	.491	300	.39	.489	3120
Female	.58	.493	3924	.40	.491	300	.61	.489	3120
Parents in household	1.69	.514	3923	1.71	.495	300	1.70	.505	3119
Mother's education	2.90	.875	3900	3.02	.829	298	2.90	.877	3108
Father's education	3.13	.916	3738	3.22	.852	290	3.12	.918	2974
Household income	3.12	1.055	3758	3.27	.975	291	3.10	1.057	3000
AP classes	3.32	2.158	3919	2.95	2.196	300	3.40	2.140	3117
High school GPA	3.70	.331	3920	3.62	.393	300	3.72	.313	3118
ACT/SAT scores	29.04	3.931	3104	28.10	4.086	267	29.15	3.901	2789
Susceptibility	12.72	4.435	3923	13.16	4.217	300	12.64	4.468	3120
Self-esteem	32.12	5.674	3919	32.92	5.482	300	32.06	5.622	3117
Self-efficacy	18.76	3.000	3919	19.10	3.003	300	18.73	2.953	3117
Goal commitment1	2.57	.612	3923	2.49	.631	300	2.59	.603	3120
Institution commit1	3.96	.239	3890	3.98	.129	296	3.96	.242	3096
Social Sciences1	.07	.261	3625	.06	.230	286	.07	.261	2976
Humanities1	.04	.197	3625	.02	.131	286	.04	.204	2976
Biology1	.05	.224	3625	.04	.201	286	.05	.224	2976
Math / Engineering1	.09	.280	3625	.08	.272	286	.08	.277	2976
Professions1	.08	.267	3625	.07	.255	286	.08	.269	2976
HealthSports1	.03	.161	3625	.03	.165	286	.03	.162	2976
Interdisciplinary1	.00	.047	3625	.01	.083	286	.00	.041	2976
Undeclared1	.64	.480	3625	.70	.459	286	.64	.480	2976
EffortWave2	2.65	.694	3726	2.76	.602	295	2.65	.694	3062
Freshman GPA	3.17	.566	3640	3.105	.518	287	3.195	.5489	3002
Use of Services2	1.70	2.258	3727	2.01	2.383	295	1.66	2.242	3064
Faculty Interaction2	6.94	3.460	3728	7.37	3.417	295	6.88	3.456	3064
Peer Interaction2	4.78	2.266	3728	4.82	2.172	295	4.77	2.265	3064
Racial Climate2	3.79	4.437	3726	4.00	4.488	295	3.79	4.435	3063
Effort3	2.91	.666	2627	2.95	.613	223	2.91	.670	2404
Social Sciences3	.21	.406	3409	.27	.442	298	.20	.402	3111
Humanities3	.12	.323	3409	.10	.306	298	.12	.325	3111
Biology3	.11	.315	3409	.06	.245	298	.12	.321	3111
Math/Engineering3	.12	.331	3409	.11	.318	298	.13	.332	3111
Professions3	.14	.343	3409	.13	.334	298	.14	.343	3111
HealthSports3	.03	.170	3409	.05	.219	298	.03	.165	3111
Interdisciplinary3	.01	.104	3409	.01	.115	298	.01	.102	3111
Use of Services3	1.10	1.916	3420	1.65	2.335	300	1.05	1.863	3120
Faculty Interaction3	7.43	3.497	3420	7.91	3.440	300	7.38	3.499	3120
Peer Interaction3	4.87	2.298	3420	5.05	2.199	300	4.86	2.307	3120

Table 4.6. Means and Standard Deviations for Dependent and Independent Variables

	Full sample			Athletes			Non-athletes		
	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N
Racial Climate 3	3.51	4.210	3420	3.83	4.158	300	3.48	4.214	3120
Effort5	2.89	.594	2471	2.87	.636	179	2.89	.589	1975
SocialSciences5	.35	.477	2242	.42	.494	161	.34	.473	1791
Humanities5	.20	.398	2242	.20	.400	161	.20	.403	1791
Biology5	.13	.334	2242	.12	.331	161	.12	.330	1791
Math/Engineering5	.15	.357	2242	.11	.316	161	.16	.365	1791
Professions5	.11	.308	2242	.09	.283	161	.11	.308	1791
Health/Sports5	.04	.204	2242	.04	.205	161	.04	.207	1791
Interdisciplinary5	.02	.140	2242	.01	.111	161	.02	.138	1791
Undeclared5	.00	.070	2242	.01	.079	161	.01	.071	1791
GPA	3.26	.423	2392	3.26	.425	175	3.26	.425	1905
Study abroad	.29	.453	2471	.31	.463	179	.29	.452	1975
Professor guidance	2.43	.888	2466	2.54	.901	179	2.44	.889	1973
Peer guidance	2.77	.766	2466	2.84	.829	179	2.76	.763	1973
Stereotype threat	4.25	2.406	3098	4.17	2.382	222	4.24	2.408	2487
Goal commitment1	3.14	.769	3091	3.13	.736	221	3.14	.770	2478
Institutional Commit1	3.13	.987	2466	3.08	1.070	179	3.15	.962	1973

Neither athletes nor non-athletes fared as well academically in their first semester of college as might would be expected based on high school grades and ACT/SAT scores. Table 4.6 presents the means and standard deviations for all variables in the full sample, athletes and non-athletes. The overall average freshman GPA was 3.17, considerably lower than the overall average high school GPA of 3.7. Almost 49% of athletes reported GPAs 3.0 and lower, while 40.6% of non-athletes did so. Athletes (3.11) also averaged lower GPAs than non-athletes (3.20) in their first semester of college. However, by their senior year of college, athletes fared on par with their peers. In fact, 3.26 was the average cumulative GPA for both athletes and non-athletes. This finding was surprising. A higher percentage of non-athletes (30.0%) than athletes (27.6%) reported cumulative GPAs of 3.0 and lower although non-athletes (17.6%) fared better than athletes (15.7%) in the 3.67 to 4.0 range. Another surprising result is

that 30.7% of athletes had studied abroad compared to 28.6% of non-athletes. Time constraints, off-season workouts and cost-of-living expenses generally limit college athletes, especially Division I athletes, from studying abroad. However, among the public and private research schools in the study (many of which are D-1 schools), 32.4% and 31.1% respectively had at least one study abroad experience.

There also were surprising findings in the social domain of the college environment. Athletes sought out their professors within and outside the classroom with greater frequency than non-athletes. This frequency increased from the freshman to sophomore year. During their first year of college, 51.8% of athletes reported interacting with faculty “sometimes” and 15.8% reported “often” and “always.” Among non-athletes in the same year, 47.3% reported sometimes and 15.0% said often and always. These percentages jumped to 54.7% and 20.7% the following year for athletes and, for non-athletes, 50.2% and 18.3% respectively. Athletes and non-athletes studied with their peers with similar infrequency; during Waves 2 and 3, athletes (48.9% and 51.4%) and non-athletes (46.6% and 47.2%) said they interacted academically with their peers “sometimes.” More interesting perhaps is that both athletes and non-athletes reported a frequency of “never to rarely,” which approximates the frequency of interaction with peers to study. In other words, both groups were just as likely not to study with other students as they were likely to study with their peers. And yet, athletes and non-athletes considered their peers more instrumental in guiding them through their college career than professors in their

majors. When asked how important college friends had been, 71.5% of both groups responded great to greatest importance. When asked about professors in their academic major, 58.1% of athletes and 52.7% of non-athletes responded great to greatest importance. This result highlights the influence peers have on each other, which may be especially heightened for college athletes because of the amount of time spent together.

Although these academic institutions were exclusive and mostly white, except for Howard University, few students reported hearing derogatory remarks about their race or experiencing overt harassment and discrimination. At least 94% reported “never to rarely” perceiving racial prejudice on campus. This study also sought to explore the “athletically superior and academically inferior” stereotype prominent among both Blacks and Whites. Only able to measure the externalization of stereotype threat, the mean level for athletes was 4.17 and a higher mean of 4.24 for non-athletes. This reveals that non-athletes are facing stereotypes threats that have nothing to do with athletic participation but, likely, are associated with racial stereotypes; about 75% of the NLSF study participants are non-White (Black, Hispanic and Asian).

Regarding goal and institutional commitments, while fewer athletes were interested in pursuing a graduate degree or professional degree upon entering college, by their senior year, 78.7% had such desires; 77.5% of non-athletes at this stage wanted to further their education beyond a bachelor’s degree. Fewer athletes (74.3%) than non-athletes (81.1%) indicated they would attend the same

college all over again, indicating that athletes were not as satisfied with their college experience as non-athletes.

4. How do individual characteristics, pre-college background factors, college environmental influencers and graduation from college interact to affect feeling prepared for the future?

Table 4.7 presents the relationship between feeling prepared for the future and all the variables in the model using Pearson *r* coefficients. (See Appendix D for the bivariate correlation matrix for all variables, indicating the relationships between the independent variables and the dependent variable.) Sports participation was found to be statistically nonsignificant to feeling prepared for the future. Therefore, the decision was made to conduct separate regression analyses for athletes and non-athletes, rather than situate *playing sports* within the regression model. Graduation from college was statistically significant and, therefore, was included within the model.

Table 4.7 Relationship between Feeling Prepared for the Future and Independent Variables

	Full Sample	Athletes	Non-athletes
Graduation 4 years	**.088*** **	-.049	**.123*** **
White	.021	.116	.008
Black	.009	-.012	.005
Asian	.001	-.053	.004
Hispanic	-.033	-.081	-.018
Female	.001	.097	-.013
Male	-.001	-.097	.013
Parents in household	-.016	**.156***	-.018
Mother's education	.021	**.234****	-.010
Father's education	.028	.130	.009
Household income	-.001	.126	-.013
AP classes	.000	.048	-.005
High school GPA	.011	.013	.027
ACT / SAT scores	-.001	.124	-.015
Susceptibility	-.023	-.073	-.021
Self-esteem	-.011	-.051	-.006
Self-efficacy	-.003	-.008	.007

Table 4.7 Relationship between Feeling Prepared for the Future and Independent Variables

	Full Sample	Athletes	Non-athletes
Goal Commitment1	.026	.030	**.050***
Institution Commit1	.003	-.001	.018
Social Sciences2	.014	.036	.015
Humanities2	.000	.126	-.014
Biology2	.005	.047	-.011
Math/Engineering2	-.020	.053	-.026
Professions2	-.024	-.038	-.010
Health/Sports2	-.016	-.089	-.006
Interdisciplinary2	-.001	-.002	-.001
Undeclared2	.022	-.043	.025
Freshman GPA	.005	**.181***	-.015
Effort2	.010	-.010	.017
Use of Services2	.014	-.131	.027
Faculty Interaction2	.007	-.010	.009
Peer Interaction2	-.003	-.044	.004
Racial Climate2	-.008	-.109	-.012
Social Sciences3	-.032	-.126	-.023
Humanities3	-.015	.036	-.020
Biology3	.012	-.021	.013
Math/Engineering3	.016	.035	.014
Professions3	-.009	.057	-.015
Health/Sports3	.023	.086	.017
Interdisciplinary3	-.003	-.047	.004
Undeclared3	.019	.018	.019
Effort3	.023	.031	.023
Use of Services3	.038	-.039	**.049***
Faculty Interaction3	.004	**.158***	-.009
Peer Interaction3	.020	-.090	.030
Racial Climate3	-.007	.035	-.011
Social Sciences5	-.008	-.051	-.021
Humanities5	**-.061****	-.109	-.041
Biology5	.008	.043	.017
Math/Engineering5	.006	.098	.009
Professions5	.039	-.017	.037
HealthSports5	**.074*****	.052	**.065****
Interdisciplinary5	-.002	.083	-.019
Undeclared5	**-.052***	.114	**-.065****
Effort5	**.159*****	**.153***	**.157*****
College GPA5	.033	.052	.043
Study abroad	.018	-.035	.025
Professor guidance	**.266*****	**.279*****	**.272*****
Peer guidance	**.133*****	**.209****	**.132*****
Stereotype Threat	**-.097*****	**-.253****	**-.089****
Goal Commitment5	**.075*****	.140	**.079*****
Institutional Commit5	**.363*****	**.311*****	**.377*****
Liberal Arts	-.001	-.034	.003
Private Research	.005	.049	-.005
Public Research	-.005	-.028	.004

****p* < .001 ***p* < .01 **p* < .05

The original study sample consisted of 3,420 students – 300 college athletes (8.8%) and 3,120 non-athletes (91.2%). On average, 4% of students attending Division I schools, 9% of students attending Division II schools and 16% of students attending Division III schools participate in intercollegiate athletics (NCAA Guide 2016). Therefore, that sample is representative of sports participation on college campuses. However, the sample size was reduced to 1,073 students, 87 athletes and 986 non-athletes due to substantial missing values when the 60 variables based on the results of the literature review were incorporated into the model; race and gender were not included. The goal of the study is to include as many cumulative processes and factors that influence college athlete academic outcomes as possible to develop a more holistic model. Many of the variables are the result of having to create eight dummy variables for academic major in each of the three years, or 24 in total. The non-athlete sample is still large enough for a successful multiple regression run in SPSS, yielding an R^2 of .275 and an adjusted R^2 of .233. ACT/SAT scores (-.083), majoring in biology as a freshman (-.069), peer interaction as a sophomore (.071), majoring in humanities (-.071) and health/sports as a senior (.071), academic effort in senior year (.087), professor guidance (.179), peer guidance (.078), commitment to the institution in senior year (.341) and graduating in four years (.087) statistically significantly predict feeling prepared for the future, $F(54, 931) = 6.542$, $p < .001$. However, due to the large number of predictor variables and the small sample size of athletes, multiple regression inflates R^2 values and coefficients for the athlete sample. As expected, the model is not statistically

significant. To solve this issue, the model was tested using the blocked stepwise regression method, which adds variables based on the *t*-statistics of their estimated coefficients. This method was considered for the study because it allows for the testing of many potential independent variables. Variables are added to the model one at a time and selected based on what variable produces the largest reduction in the residual sum of squares (Derksen and Keselman 1992). However, a model employing stepwise regression can be underspecified if variables that predict feeling prepared for the future are missing from the analysis.

In the non-athlete analysis using stepwise regression, professor guidance (.187), peer guidance (.078), academic effort in senior year (.096), institutional commitment (.328) and graduation from college within four years (.091) are positive predictors of feeling prepared for the future; majoring in humanities (-.084) is a statistically significant negative predictor. Each of these variables also were significant in the initial model run with similar standardized coefficients; R^2 (.240) was lower but the adjusted R^2 (.233) was the same. In the athlete analysis using stepwise regression, the final model yields father's education (.342), majoring in humanities as a freshman (.212), majoring in humanities as sophomore (.188), professor guidance (.283) and institutional commitment (.201) as significant indicators of feeling prepared for the future with an R^2 of .308 and adjusted R^2 of .266. SPSS excludes graduation from college from the model, indicating that the variable is not related to feeling prepared for the future. Concerned that the stepwise regression result might contain "noise variables"

(Derksen and Keselman 1992), an attempt was made to reduce the number of independent variables by examining the bivariate correlation between the dependent variable – feeling prepared for the future – and all potential independent variables (Table 4.8). The formula $N \geq 50 + 8m$ (number of independent variables) was used to calculate the appropriate number of cases for multiple correlations (Tabachnick and Fidell 2001). Wanting to increase the sample size of athletes, all variables with 179 cases were identified. This allowed for 15 variables to be included in the model. After examining the correlations matrix (see Appendix D), the variables were reduced to the following based on significant correlations of .05:

Table 4.8. Revised Multiple Regression Model for Feeling Prepared for the Future

Block	Model Component	Variables
1	Student pre-college background	White
		Black
		Male
		Parents in household
		Mother's education
2	College Academic and Social System (sophomore year)	Use of campus services
		Faculty interaction
		Peer interaction
3	College Academic and Social System (senior year)	Academic effort
		Professor guidance
		Peer guidance
		Stereotype threat
4	Educational aspirations	Goal commitment
		Institutional commitment
5	Academic success	Graduation within 4 years

Table 4.9 presents the standardized beta coefficients and the significance level of the independent variables, the R^2 and the adjusted R^2 of each block with feeling prepared for the future as the dependent variable for question #4

pertaining to college athletes. All five blocks were statistically significant: Block 1, *p*=.001; Block 2, *p*=.002; Block 3, *p*=.000; Block 4, *p*=.000; Block 5, *p*=.000.

TABLE 4.9. Results of Regression Analyses on Feeling Prepared for the Future among Athletes Attending Academically Selective Universities (Standardized Regression Coefficients) N=179

Variables	***Block 1***	***Block 2***	***Block 3***	***Block 4***	***Block 5***
Block 1 (pre-college background)					
Parents in household	.133	.118	.104	.063	.073
Mother's education	**.220****	**.195****	**.154***	**.152***	**.158***
Block 2 (sophomore year 2001)					
Use of campus services		-.043	.001	-.040	-.033
Faculty interaction		**.175***	**.198****	**.200****	**.190****
Peer interaction		-.098	-.117	-.081	-.079
Block 3 (senior year 2003)					
Academic effort			.086	.082	.081
Professor guidance			**.198****	.127	.121
Peer guidance			.137	**.146***	**.141***
Stereotype threat			**-.172***	**-.164***	**-.166***
Block 4					
Goal commitment				.120	.122
Institutional commitment				**.211****	**.219****
Block 5					
Graduation within 4 years					-.072
R^2	.072	.102	.234	.288	.293
Adjusted R^2	.061	.076	.193	.241	.242

* $p < .05$; ** $p < .01$; *** $p < .001$

The results indicate that mother's education, faculty interaction, peer guidance and commitment to the academic institution are significantly and positively associated with feeling prepared for the future while stereotype threat is negatively associated. The academic domain (i.e., use of campus services and academic effort) are nonsignificant in all time blocks. Most importantly, for college athletes, graduation from college is not associated with feeling their college experiences prepared them for the future. It is logical to assume that graduation from college and feeling prepared for life after college would be highly correlated

or essentially the same because one of the purposes of higher education is to prepare students for the rest of their lives.

Table 4.10 presents the standardized beta coefficients and the significance level of the independent variables, the R^2 and the adjusted R^2 of each block with feeling their college experiences prepared them for the future as the dependent variable for question #4 pertaining to non-athletes. Block 1 and block 2 are not significant; blocks 3, 4 and 5 are: Block 1, p=.709; Block 2, p=.261; Block 3, p=.000; Block 4, p=.000; Block 5, p=.000. The adjusted R^2 values are closely aligned to the R^2 values and indicate an acceptable model fit.

TABLE 4.10. Results of Regression Analyses on Feeling Prepared for the Future among Non-athletes Attending Academically Selective Universities (Standardized Regression Coefficients) N=1939

Variables	***Block 1***	***Block 2***	***Block 3***	***Block 4***	***Block 5***
Block 1 (pre-college background)					
Parents in household	-.016	-.017	-.011	-.010	-.009
Mother's education	-.009	-.004	-.008	-.004	-.003
Block 2 (sophomore year 2001)					
Use of campus services		.044	**.050***	**.053***	**.052***
Faculty interaction		-.024	-.029	-.032	-.032
Peer interaction		.027	.031	.031	.030
Block 3 (senior year 2003)					
Academic effort			**.116*****	**.091*****	**.092*****
Professor guidance			**.232*****	**.181*****	**.180*****
Peer guidance			**.083*****	**.061****	**.059****
Stereotype threat			**-.055****	-.030	-.029
Block 4					
Goal commitment				**.043***	.038
Institutional commitment				**.322*****	**.315*****
Block 5					
Graduation within 4 years					**.071****
R^2	.000	.003	.102	.204	.209
Adjusted R^2	-.001	.001	.097	.199	.204

* $p < .05$; ** $p < .01$; *** $p < .001$

For non-athletes, pre-college background (parents in the home last year before college and mother's education) had no bearing on student outcomes.

Unlike college athletes, both the academic and social domains played a significant role in non-athletes feeling prepared for the future. This influence became evident during the fourth year of the college. The present study does not include the third year of college but, as Table 4.10 demonstrates, academic and social integration was insignificant during the sophomore year of college. In the senior year, use of campus services, academic effort, the importance of college guidance from both professors and peers remain significant throughout the model while stereotype threat dissipates with the influence of academic goal commitment and commitment to the academic institution. Institutional commitment has the greatest influence on feeling prepared for the future. Graduation from college is significant to feeling prepared for life after college, which is contrary to the athletes in the same sample. This result is particularly interesting because the graduation rate of athletes in the sample is similar to the graduation rate of non-athletes; 67.0% of athletes graduated in four years whereas 65.8% of non-athletes graduated in four years.

5. How does race influence feeling prepared for the future?

This study is interested in exploring the role of race in how athletes and non-athletes evaluated their preparation for the future. Table 4.11 presents results for college athletes. Every block is statistically significant: Block 1, (p=.006), Block 2 (p=.005), Block 3 (p=.000), Block 4 (p=.000) and Block 5 (p=.000). Being Black and being White had no significance on the athlete model, indicating that feeling prepared for the future was not influenced by race at these academically selective universities. Likewise, race did not influence feeling

prepared for the future among non-athletes at these same academic institutions (Table 4.12).

TABLE 4.11. Results of Regression Analyses on Feeling Prepared for the Future Accounting for Race among Athletes Attending Academically Selective Universities (Standardized Regression Coefficients) N=179

Variables	***Block 1***	***Block 2***	***Block 3***	***Block 4***	***Block 5***
Block 1 (pre-college background)					
Black	.078	.075	.105	.092	.083
White	.098	.105	.043	.045	.034
Parents in household	.135	.120	.118	.075	.084
Mother's education	**.204****	**.177***	**.148***	**.146***	**.153***
Block 2 (sophomore year 2001)					
Use of campus services		-.043	-.007	-.046	-.040
Faculty interaction		**.179***	**.194****	**.198****	**.188***
Peer interaction		-.095	-.120	-.083	-.082
Block 3 (senior year 2003)					
Academic effort			.093	.087	.087
Professor guidance			**.210****	.138	.132
Peer guidance			.132	**.142***	**.137***
Stereotype threat			**-.169***	**-.161***	**-.163***
Block 4					
Goal commitment				.118	.119
Institutional commitment				**.208****	**.215****
Block 5					
Graduation within 4 years					.342
R^2	.079	.110	.241	.294	.297
Adjusted R^2	.058	.073	.191	.238	.237

* $p < .05$; ** $p < .01$; *** $p < .001$

TABLE 4.12. Results of Regression Analyses on Feeling Prepared for the Future Accounting for Race among Non-athletes Attending Academically Selective Universities (Standardized Regression Coefficients) N=1939

Variables	***Block 1***	***Block 2***	***Block 3***	***Block 4***	***Block 5***
Block 1 (pre-college background)					
Black	.007	.003	.001	.003	.005
White	.012	.016	.010	.006	.007
Parents in household	-.015	-.018	-.012	-.010	-.008
Mother's education	-.011	-.077	-.010	-.005	-.004
Block 2 (sophomore year 2001)					
Use of campus services		.045	**.050***	**.054***	**.052***
Faculty interaction		-.024	-.029	-.032	-.033
Peer interaction		.028	.031	.031	.031
Block 3 (senior year 2003)					
Academic effort			**.116*****	**.091*****	**.092*****
Professor guidance			**.232*****	**.181*****	**.180*****
Peer guidance			**.083*****	**.061****	**.059****
Stereotype threat			**-.055***	-.030	-.029
Block 4					
Goal commitment				**.043***	.038
Institutional commitment				**.322*****	**.315*****
Block 5					
Graduation within 4 years					**.071****
R^2	.000	.004	.102	.204	.209
Adjusted R^2	-.002	.000	.097	.198	.203

* $p < .05$; ** $p < .01$; *** $p < .001$

6. How does gender influence feeling prepared for the future?

This study also is interested in exploring the role of gender in how athletes and non-athletes evaluated their preparation for the future. Table 4.13 demonstrates that being a male has minor influence among athletes. Being male, introduced in Block 1, removes the significance of mother's education before college but mother's education becomes significant again when the athlete interacts with the campus environment in Block 2. The importance of guidance from peers becomes significant in Block 3 when the gender variable is included. Graduation from college remained insignificant to feeling prepared for life after

college. All blocks are statistically significant: Block 1 (*p*=.003), Block 2 (*p*=.004), Block 3 (*p*=.000), Block 4 (*p*=.000) and Block 5 (*p*=.000).

TABLE 4.13. Results of Regression Analyses on Feeling Prepared for the Future Accounting for Gender among Athletes Attending Academically Selective Universities (Standardized Regression Coefficients) N=179

Variables	***Block 1***	***Block 2***	***Block 3***	***Block 4***	***Block 5***
Block 1 (pre-college background)					
Male	-.053	-.054	-.059	-.045	-.051
Two-parent home	.129	.115	.101	.061	.071
Mother's education	.212	**.187***	**.145***	**.145***	**.151***
Block 2 (sophomore year 2001)					
Use of campus services		-.032	.013	-.031	-.022
Faculty interaction		**.171***	**.193***	**.197****	**.185***
Peer interaction		-.107	-.127	-.088	-.088
Block 3 (senior year 2003)					
Academic effort			.090	.084	.084
Professor guidance			**.195****	.126	.119
Peer guidance			**.138***	**.147***	**.142***
Stereotype threat			**-.172***	**-.165***	**-.167***
Block 4					
Goal commitment					
Institutional commitment				.120	.121
Block 5				**.208****	**.216****
Graduation within 4 years					-.076
R^2	.075	.105	.237	.290	.295
Adjusted R^2	.059	.073	.192	.239	.240

* $p < .05$; ** $p < .01$; *** $p < .001$

Table 4.14 presents the effect of gender on non-athletes in the sample. The most important outcome is that graduation from college is no longer associated with feeling prepared for the future. This suggests that non-athlete males may share attitudes more common with athletes than their non-athlete female peers. In addition, use of campus services was no longer significant once gender was introduced. Blocks 1 (*p*=.788) and 2 (*p*=.320) are not significant; Blocks 3 (*p*=.000), 4 (*p*=.000) and 5 (*p*=.000) are significant.

TABLE 4.14. Results of Regression Analyses on Feeling Prepared for the Future Accounting for Gender among Non-athletes Attending Academically Selective Universities (Standardized Regression Coefficients) N=1939

Variables	***Block 1***	***Block 2***	***Block 3***	***Block 4***	***Block 5***
Block 1 (pre-college background)					
Male	-.064	-.064	-.049	-.064	-.064
Two-parent home	-.027	-.024	-.019	-.027	-.027
Mother's education	.007	.007	-.001	.015	.014
Block 2 (sophomore year 2001)					
Use of campus services		.035	.044	.045	.044
Faculty interaction		.029	.029	.001	.001
Peer interaction		-.007	-.012	-.007	-.007
Block 3 (senior year 2003)					
Academic effort			**.116****	**.095***	**.095***
Professor guidance			**.246*****	**.175*****	**.175*****
Peer guidance			**.101***	**.079****	**.079***
Stereotype threat			**-.095***	-.068	-.068
Block 4					
Goal commitment				.062	.061
Institutional commitment				**.342*****	**.341*****
Block 5					
Graduation within 4 years					.014
R^2	.005	.007	.133	.249	.249
Adjusted R^2	-.001	-.003	.117	.232	.231

* $p < .05$; ** $p < .01$; *** $p < .001$

It should be noted that when both race and gender are included in the model for non-athletes, graduation from college and use of campus services regain their significance to feeling prepared for the future (Table 4.15). Meanwhile, the addition of race and gender has virtually no effect on how athlete perception about the future (Table 4.16).

TABLE 4.15. Results of Regression Analyses on Feeling Prepared for the Future Accounting for Race and Gender among Non-athletes Attending Academically Selective Universities (Standardized Regression Coefficients) N=1939

Variables	***Block 1***	***Block 2***	***Block 3***	***Block 4***	***Block 5***
Block 1 (pre-college background)					
Black	.008	.005	.003	.004	.006
White	.011	.016	.009	.006	.007
Male	.014	.016	.020	.010	.007
Two-parent home	-.015	-.018	-.012	-.010	-.008
Mother's education	-.011	-.007	-.010	-.005	-.004
Block 2 (sophomore year 2001)					
Use of campus services		.045	**.051***	**.054***	**.052***
Faculty interaction		-.024	-.029	-.032	-.033
Peer interaction		.029	.032	.032	.031
Block 3 (senior year 2003)					
Academic effort			**.116*****	**.091*****	**.092*****
Professor guidance			**.233*****	**.181*****	**.180*****
Peer guidance			**.082*****	**.061****	**.059****
Stereotype threat			**-.055***	-.030	-.029
Block 4					
Goal commitment				**.044***	.038
Institutional commitment				**.322*****	**.315*****
Block 5					
Graduation within 4 years					**.071****
R^2	.001	.004	.102	.204	.209
Adjusted R^2	-.002	.000	.096	.198	.202

* $p < .05$; ** $p < .01$; *** $p < .001$

TABLE 4.16. Results of Regression Analyses on Feeling Prepared for the Future Accounting for Race and Gender among Athletes Attending Academically Selective Universities (Standardized Regression Coefficients) N=179

Variables	***Block 1***	***Block 2***	***Block 3***	***Block 4***	***Block 5***
Block 1 (pre-college background)					
Black	.078	.074	.103	.091	.082
White	.097	.104	.041	.044	.032
Male	-.052	-.051	-.057	-.043	-.049
Two-parent home	.132	.117	.114	.073	.082
Mother's education	**.196***	**.170***	**.140***	**.140***	**.147***
Block 2 (sophomore year 2001)					.
Use of campus services		-.032	.004	-.037	-.029
Faculty interaction		**.175***	**.190***	**.195****	**.184***
Peer interaction		-.103	-.129	-.090	-.090
Block 3 (senior year 2003)					
Academic effort			.097	.090	.089
Professor guidance			**.207****	.137	.130
Peer guidance			.134	**.143***	**.139***
Stereotype threat			**-.169***	**-.161***	**-.164***
Block 4					
Goal commitment				.118	.199
Institutional commitment				**.204****	**.213****
Block 5					
Graduation within 4 years					-.070
R^2	.082	.112	.244	.295	.300
Adjusted R^2	.055	.070	.190	.235	.235

* $p < .05$; ** $p < .01$; *** $p < .001$

Summary of Findings

Bivariate analyses revealed that intercollegiate sports participation was not statistically correlated with graduation within four years at academically selective universities and colleges. A significant relationship was found between graduation from college and feeling prepared for the future. However, this relationship was true for non-athletes but not for athletes.

First, the study addressed the social backgrounds of athletes and non-athletes. Descriptive analysis using cross-tabulations revealed that Blacks and males were overrepresented in sports participation, mirroring a trend prevalent in America's universities. Although only 25% of the sample size

self-identified as Black, 40% of the athletes were Black (Table 4.1). Females comprised 60% of the student population, but males occupied 60% of the athletic spots. Both race and gender were statistically significant to sports participation. Strikingly, athletes, in general, were not that different from their non-athlete peers. In fact, on average, athletes exhibited higher socio-economic backgrounds when measured by number of parents in the home during last year of high school, household income, and mother's and father's education (Table 4.1).

Second, the study addressed the pre-college development of athletes and non-athletes. Descriptive statistics using cross-tabulations revealed that non-athletes were more academically prepared for college; however, athletes scored higher in susceptibility to peer influence, perceived as a positive construct for the purposes of this study, self-esteem and self-efficacy (Table 4.2). The academic institutions in the study sample admitted more than twice as many athletes with a 3.0 or below high school GPA than non-athletes with the same grades (10.6% to 4.6%) and two and a half times as many athletes than non-athletes (6.0% to 2.4%) with ACT scores 20 and below. These findings, in addition to non-athletes taking more AP courses in high school than athletes, suggest that sports participation, much like the Shulman and Bowen study (2001), may be a value-add in the admission process at academically selective colleges and universities. What athletes lacked in academic preparation, however, was offset by superior social and psychological preparation. Because the graduation rates of athletes (67.0%) were comparable to non-athletes (68.5%), peer influence most likely encouraged academic achievement. It was

not surprising that athletes reported higher levels of self-esteem and self-efficacy than non-athletes. Interestingly, athletes, whose parents had higher levels of education than non-athletes, expressed less interest in attending graduate or professional school than their peers who didn't play sports (56% compared to 65%). However, by their senior year of college, 78.7% of athletes and 77.5% of non-athletes had plans to obtain a post-graduate degree. These findings support the idea that goal and institutional commitments are continually modified as students matriculate through college and, therefore, is a longitudinal process.

Third, the study addressed the experiences and attitudes of athletes and non-athletes at various stages in the academic and social college environment. As they matriculated through college, athletes and non-athletes began to look more alike in the academic and social domains of the college environment (Table 4.3). The biggest difference was found in choice of academic major. Most members of both groups entered college with undeclared majors (69.9% of athletes and 63.9% of non-athletes), followed by majors in math/engineering and the professions. Only 5.6% of athletes and 7.4% of non-athletes majored in the social sciences. However, by their sophomore year, 26.5% of athletes and 20.3% of non-athletes were social science majors. These percentages escalated to 41.6% of athletes and 33.9% of non-athletes by their senior year. Athletes majored in biology and other natural sciences in similar percentages to non-athletes (12.4% compared to 12.5%), but in smaller percentages in math/engineering (11.2% compared to 15.8%).

Perhaps because they were not as academically prepared entering college as their non-athlete peers, 70.2% of athletes reported exerting “a lot to maximum” effort to their studies as freshmen, 7% higher than non-athletes. However, academic effort increased for both groups as sophomores and reached near equivalency (88.3% to 87.2%). Although effort levels decreased significantly during the senior year of college, they remained higher than the first year of college. Both groups experienced sharp declines in academic performance when measured by GPA, but the decline was more drastic for athletes as close to 50% earned a 3.0 or less in their first semester of college (Table 4.3); 40.5% of non-athletes reported similar academic averages. By their senior year, however, only 27.6% of athletes and 30.0% of non-athletes had GPAs of 3.0 and lower.

Regarding the social domain, student interactions with faculty were more prominent among athletes than non-athletes whereas peer interactions were similar in frequency and importance to both groups. Faculty-student relationships, however, developed over time. As freshmen, 32.2% of athletes reported “never to rarely” interacting with their professors in and out of the classroom and 15.8% reported “often to always”; 37.9% and 15.0% of non-athletes reported the same. Just one year later, presumably after becoming more acclimated to the social environment, 24.7% of athletes reported “never to rarely” and 20.7% reported “often to always”. Among non-athletes, 31.4% reported “never to rarely” and 18.3% “often to always.” By their senior year, 58.1% of athletes perceived the guidance they received from professors in their

academic major to be important to their college career compared to 52.7% of non-athletes.

Overall, both athletes and non-athletes were satisfied with their colleges but fewer athletes (74.3%) than non-athletes (81.1%) expressed they would choose to attend the same college again. Furthermore, approximately 10% of athletes said they would not choose the same college again; 6.8% of non-athletes said the same. Social climate could be a possible explanation for these findings. The reported incidences of hearing racial remarks and experiencing racial discrimination were rare; however, 14.5% of athletes and 17.3% of non-athletes externalized stereotype threat, which has the potential to undermine goal attainment (Steele 1999).

Fourth, the study examined how individual characteristics, pre-college background factors, college environmental influencers and graduation from college interacted to affect feeling prepared for the future. The results of the regression analysis in each domain of the scaled down conceptual model revealed that factors generally associated with academic outcomes operate differently for athletes (Table 4.9) and non-athletes (Table 4.10). Among athletes, mother's education remained significant throughout college but was nonsignificant among non-athletes. These results somewhat support previous research findings that what happens in college is more predictive of academic outcomes than what happens before college. Pascarella and Terenzini (2005) found that pre-college background and college aspirations were not as important to freshman college persistence as social and academic integration. These

studies, however, did not measure the effect of sports participation. During the sophomore year of college, student interaction with faculty was significant for athletes and remained so when other factors (i.e., academic effort, peer guidance, stereotype threat, goal commitment, institutional commitment and graduation from college) were introduced. None of the Block 2 (sophomore year) variables were significant for non-athletes. The greatest predictors of feeling prepared for the future for both athletes and non-athletes were found in Block 3 (senior year) and Block 4.

Regarding athletes (Table 4.9), guidance from professors initially had a significant impact on feeling prepared but dissipated when commitments (Block 4) were introduced to the model. Stereotype threat, however, maintained its negative effects and undermined how athletes perceived life after college. Regarding non-athletes (Table 4.10), academic effort, professor guidance, peer guidance and stereotype threat were all statistically significant and their effect diminished only slightly in Block 4 and Block 5, except for stereotype threat which diminished altogether, with the introduction of commitments and graduation from college. Although few non-athletes used academic enrichment services offered on campus, receiving special instruction in writing, reading, and math were significant to feeling prepared for the future when influenced by Block 3 variables. Institutional commitment, i.e, the likelihood of attending the same college again, was the biggest predictor of feeling prepared for the future; but much more so for non-athletes than athletes.

Fifth, the study addressed how race influenced feeling prepared for the future. Race did not significantly influence the extent to which athletes (Table 4.11) or non-athletes (Table 4.12) used campus services, interacted with professors and peers, experienced stereotype threat or remained committed to their educational goals and academic institutions. This was a surprising finding because Black athletes, particularly those in revenue-generating sports at PWIs, face challenges unique to their White counterparts. While Hunt and Harris (1982) found that sports participation had positive effects for Whites only, being White had no significant effects.

And, lastly, the study addressed how gender influenced feeling prepared for the future. In general, the entry of gender to the model led to slightly smaller effects in the relationship between mother's education and college environmental factors with athletes feeling prepared for the future (Table 4.13). Regarding non-athletes, gender (males as the dummy variable) led to slightly larger effects on the relationships between college environmental inputs and educational outcomes. Use of campus services, however, lost its significance and, more importantly, so did graduation from college. These results indicate that for male non-athletes, graduating from college was not significant to feeling prepared for the future as it was for female non-athlete students.

Chapter Summary

Because of the vast similarities between incoming athletes and non-athletes at these highly academically selective colleges and universities, this study allowed for a more in-depth exploration of the college environment and how the academic and social domains on college campuses impact how students, particularly, athletes feel about their college experience or, more precisely, their feelings about being prepared for the future. This study used multiple regression to examine how pre-college background characteristics, college environmental processes and goal commitment interact for athletes and non-athletes. The most remarkable finding of the study was that, for college students, graduation from college was not statistically correlated with feeling prepared for the future. However, for their non-athlete peers, graduation from college was positively correlated with feeling prepared for the future.

CHAPTER FIVE

Conclusion

The purpose of this study was to empirically examine the cumulative effects of individual student characteristics, pre-college backgrounds and college environmental factors and how they interact over time to influence whether college athletes feel prepared for the future upon graduation from college. Based on an extensive review of the existing literature, a conceptual model to account for as many influencers as possible was developed and tested using NLSF data. There has been a wide range of findings in previous research on the merits and profitability of college athletics for the young men and women who play sports. Intercollegiate sports participation is heralded by some as a pathway to upward mobility (Sellers and Kuperminc 1997; Umbach et al. 2006); others denounce college sports as a roadblock to academic excellence and the positive outcomes that accompany success in the classroom (Adler and Adler 1991; Lang et al. 1988). In response to the lack of consensus, this study attempted to substantiate results on either side of the debate by comparing athletes to non-athletes.

In analyzing data from Waves 1, 2, 3 and 5 of the NLSF, multiple characteristics and cumulative processes that have been shown to influence educational outcomes in previous studies were examined, in addition to variables from Tinto's student integration model (1975, 1993, 2015), Astin's theory of student involvement (1977, 1993, 1999), and Comeaux and Harrison's Division I conceptual model of academic success for college athletes (2011). The impact of race and gender in this process also were considered. Although data limitations

reduced the initial scope of the conceptual model to 15 independent variables from the original 60, some important findings emerged using descriptive, bivariate and multivariate regression analyses.

This study found that athletes at academically selective colleges and universities indeed differ from their non-athlete peers but not in the manner and not to the degree often portrayed by the media. True to common perception, more males participated in intercollegiate athletics than females despite more women than men enrolled in college; and Blacks were disproportionately represented in athletics relative to the number of Black non-athletes on campus. These findings are important because such gender and racial disparities provide an environment where two prominent stereotypes eventually could breed: "women don't play sports" and "Blacks are athletically superior but academically inferior." Although race and gender did not impact study results, stereotype threat was highly and negatively significant throughout college for athletes in the sample. This suggests that, in general, athletes believed that instructors, students and others on college campuses perceived them in a negative light academically, i.e., "dumb jocks."

At the academically selective colleges and universities in this study, there were both notable differences and likenesses to findings in the Shulman and Bowen (2001) and Bowen and Levin (2003) studies involving similar academic institutions. Athletes enjoyed an admissions advantage over non-athletes based on academic preparation, e.g., SAT scores and high school GPAs, and non-athletes entered college more academically prepared in all three studies.

The present study also measured social and psychological preparation. Athletes fared better in positive peer influence, self-esteem and self-efficacy than non-athletes. Whereas, Shulman and Bowen found diverging goals and expectations of athletes and non-athletes and both Bowen and Levin and Shulman and Bowen found academic underperformance among athletes, in the present study, the educational outcomes for athletes and non-athletes were surprisingly similar. Just like their non-athlete counterparts, athletes exerted more effort to their academics, earned better grades and were just as likely to interact with faculty as they progressed toward their senior year of college. Athletes and non-athletes averaged the same GPA by their senior year and graduated from college within four years in similar percentages. Therefore, most things being equal, it was expected that athletes and non-athletes would share similar attitudes about their college experiences preparing them for the future. However, this was not the case.

Separate multivariate regression analyses using the same model were conducted for athletes and non-athletes. As independent variables were introduced to the model in sequential order, regression coefficients were examined to determine how much of the college environment influenced student outcomes when controlling for pre-college characteristics, experiences and attitudes. The study's major finding revealed that while graduation from college was positively associated with feeling prepared for the future for non-athletes, there was no significant relationship between graduation from college and feeling prepared for life after college for athletes. These results held true when

controlling for race and gender, except for non-athlete males. Furthermore, because graduation from college was significant to feeling prepared for the future for non-athletes but not for athletes, the results of this study suggest that intercollegiate sports participation *could* have negative consequences for students.

Implications and Directions for Future Research

Academic success typically is measured by graduation rates without considering the perceptions of college athletes. Therefore, while the NCAA promotes graduation as "the ultimate goal of the college experience" (NCAA 2016), given the outcomes of this study, I propose that the perceptions athletes hold about their college experiences and their post-athletic futures should be given greater consideration. Said former Duke basketball player Shane Battier (2016): "The real value of attending college isn't just the degree that looks pretty sitting in a frame in your office, it's also creating meaningful connections that pay dividends for your future." What I am proposing is not a novel idea but rather just another call for the NCAA, academic institutions, athletic departments, faculty, academic advisors and all other practitioners to listen to what their athletes are saying. Instead of limiting the discussion to graduation rates, let's change the conversation from validating short-sighted outcomes to envisioning an educational process and college environment that truly works in the best interests of college athletes for the long-term.

The conversation by those who hold the power to make a difference is long overdue. James Coleman began the scholarly dialogue on the role of sports

in the social lives of young people in 1961 with the publication of *The Adolescent Society*. When studying nine Midwestern high schools, he surmised that high school students placed premium value on sports because the organization of school life diverted their attention away from academic goals by highly rewarding athleticism and winning games over academic excellence and scholarly achievement. “An athlete who helps win a game is a star and a hero. He is rewarded by his fellows, and by the adult community as well” (p. 235-236) because he brings prestige and recognition to the school.

However, the concern about the prioritization of athletics over academics for financial gain and public acclaim began even before Coleman’s work. The marriage of sports and higher education has been contentious since its beginning more than 150 years ago at the most prestigious academic institutions in the relatively new United States in the mid-1800s. In 1929, the Carnegie Foundation for the Advancements of Teaching, in response to criticism that colleges and universities were undermining their academic commitment to produce winning athletic programs, released a 380-page report based on site visits to more than 100 college campuses in the United States. The commission’s findings are not too different from recent research, including the present study:

> The notion that athletics “prepare for life” is, of course, based upon the theory of the spread of training and the persistence of habits. As we have noted, this theory depends for its validity upon an assumed similarity between athletic competition and modern life. Even when this notion is accepted, together with the concomitant notion that life is very like a team

> game, present-day college athletics may exert both advantageous and deleterious effects upon individuals, and through them upon the groups of individuals that we call society. We lack objective evidence to show that success in athletics is an index to success in life after graduation. On the other hand, recent studies tend to demonstrate that a high quality of intellectual accomplishment in college has relationship to later success, however that term be defined. (P. 298)

In 1929, sport was an elitist institution of white, well-to-do males just like the colleges and universities at that time. Greater access to higher education for Blacks, particularly in the revenue-generating sports of men's basketball and football, and women also precipitated their access to sports participation at PWIs, although it can be argued that the spoils of assembling winning athletic teams advanced the entry of racial and gender minorities into higher education rather than moral correctness. Blacks athletes, despite being academically underprepared (Purdy et al. 1982) were entering PWIs but exiting without a college degree even though studies have shown that Blacks benefit most from attending PWIs. Even though graduation disparities still exist today along racial lines and type of sport (major or minor), athletes graduate from college in higher percentages than non-athletes. The NCAA credits academic reforms for the gradual but steady uptick in graduation rates and highlights the 30-point increase in the graduation rate of Division I Black men's basketball players over the past 15 years.

However, graduation rates alone do not measure academic success. Shulman and Bowen (2001), along with Adler and Adler (1991), identified the existence of an athletic subculture which they argued limits the college experience of athletes to class attendance and sports participation, and prevents athletes from being full participants in college life. Additionally, both studies suggested that athletes neither experience nor benefit from college as their non-athlete peers. Are athletes being given the same academic and social opportunities that will prepare them for life as their non-athlete peers? The NCAA and its member institutions infer that athletes are actually better off than non-athletes: “By competing in college sports, student-athletes learn important skills such as leadership, time management and how to work with others toward a common goal” (NCAA 2016). The results of the present study question counter these assumptions.

Just before graduating from college in their last semester, NLSF participants were asked to indicate to what extent they disagreed or agreed with the following statement: *My college experiences have prepared me for the future*. As the findings indicate, the experiences of athletes on campus are different from the experiences of non-athletes on campus. If they were the same, we would expect that non-athletes and athletes would feel the same about being prepared for the future. For the college athlete, sports participation is the central organizing principle of their lives. Their academic major, class schedule, eating times, bedtimes, study times, social times, etc. are precipitated by their athletic schedule. And, yet, like the NCAA ads proclaim, most will go pro in something

other than sports. The problem is that those who play sports are becoming better trained athletes than they are scholars. In other words, the athlete role is nurtured while the student role is neglected or, at best, maintained. The athlete and the student, housed in the same body, become dueling roles rather than dual roles, leaving the college athlete at war with himself in a cultural environment oblivious to this dilemma. In short, the athlete is glorified at the expense of the student.

The love affair fans enjoy with their sports teams has transformed intercollegiate athletics into a billion-dollar industry dependent on highly skilled but unpaid labor. This irony has spawned charges of exploitation (Branch 2011; Sack and Staurowsky 1998; Van Rheenen 2012, 2013) and slavery metaphors (Hawkins 2010) in revenue-producing sports at athletically elite schools. However, the minor sports and smaller schools are not exempt from critique as studies indicate that academically selective institutions and nonrevenue-generating sports mimic many of the practices and norms of their bigger brothers (Bowen and Levin 2003; Shulman and Bowen 2001). Therefore, the legitimacy of the term “student-athlete” has been questioned at all Division I, II and III academic institutions of higher learning that field sports teams.

While this study attempted to control for as many variables as possible, the small sample size of 179 prohibited the inclusion of variables worthy of exploration based on previous research. For example, choice of academic major should be explored beyond descriptives. The results from the NCAA Goals Study (2015) suggest that college athletes may not adequately consider career options

when choosing their academic majors and may be more attracted to classes and majors that accommodate their athletic practice times and professional aspirations. Research on individual campuses should be conducted to better understand causal mechanisms that affect choice of major and to uncover some of the nuances that can be hidden in national aggregate studies, particularly the expanding discussion about major clustering (Paskus 2012). Previous studies (Case et al. 1987; Fountain and Finley 2011; Schneider et al. 2006; Steeg et al. 2008) make claims of academic clustering but rely on insufficient statistical analyses that fail to make these direct and specific comparisons. An in-depth study on a single university allows for direct empirical comparisons among student-athletes and direct empirical comparisons between student-athletes and the non-athlete student body population at an academic institution.

College athletes often are told not to worry about their major; as long as they graduate and make connections along the way, they will have plenty of occupational opportunities because they possess the skills acquired through sports that companies look for in their employees. This may be adequate for sales or customer relations careers, which are positions that do not require a specific academic major. However, a career in healthcare and the media, for example, requires experience and initial skill building that can be realized only through internships or similar work experiences; “knowing people” is not enough to land these types of positions, especially when competing against graduates who have numerous internships and established connections through their work history. Athletes often credit their experiences as athletes over their experiences

as students as influential to their career readiness (Navarro 2014). Therefore, caution should be exercised when linking athletics to careers and additional consideration should be given to linking academics to careers, or else the student role/identity will be diminished. Athletes likely would benefit from one-on-one discussions and planning sessions with career counselors concerning their goals and aspirations so that their individual occupational needs can be addressed. Just as academic advisors ensure that students are enrolled in the proper classes to fulfil the academic requirements for athletic eligibility and subsequent graduation from college, equal attention should be given to guiding them along intentional and directed career paths.

A larger sample also would allow for more in-depth analysis on the role of race and gender, including their intersection, than presented in this study. College athletes are not a homogenous population, and previous studies in higher education have shown distinct differences by race and by gender. Black male athletes, particularly those in revenue-generating sports at PWIs, face challenges unique to their White and female counterparts. Research on female athletes is growing but remains limited as most studies focus on men who participate in intercollegiate sports. As Sellers et al. (1997) note, even when studies include women, analyses ignore gender differences. Life experiences and life satisfaction generally are studied from a White female perspective and, therefore, although perhaps not intentional, imply that female athletes are a uniform group. “Black women’s experiences become narrowed down into general

Black students' experiences as compared to White students' experiences even though their experiences may differ" (Winkle-Wagner 2015:191).

Further study also should include the introduction of an athletic domain. The concern is that the athlete role is prioritized over the student role and the social role is sacrificed all together. Hence, sports participation becomes the college experience rather than part of the college experience. However, this type of study cannot be conducted without full cooperation of athletic departments more concerned with athlete well-being than their public reputations. Excluding the research community and limiting access to data when included prevents more holistic studies on this unique student body population. Access to athletes also would allow for qualitative analyses that explore lived experiences, time commitments, identity foreclosure, and sense of belonging, which typically affect career maturity (Sandstedt et al. 2004) and, therefore, preparedness for the future.

Universities, and not just athletic departments, receive long-term benefits from winning programs, including increased enrollment, alumni loyalty, monetary contributions, media attention and time-honored bragging rights. "The athlete is the most available publicity material the college has. A great scientific discovery will make good press material for a few days, but nothing to compare to that of the performance of a first-class athlete. Thousands are interested in the athlete all the time, while the scientist is at best only a passing show" (Savage et al. 1929:xvi). But the young men and women who compete athletically for their academic institutions can only play four years and face the inevitable of life after

sports. This study indicates that college athletes at academically selective institutions perceived sports participation as a short-term reward that ended with their last competition rather than the long-term promise of lifetime opportunities. Simply graduating from college is not enough for athletes to feel prepared for what comes next. The results of this study highlight the importance of extending the measure of academic success beyond earning a degree. While the tremendous increase in graduation rates among college athletes certainly is to be applauded, there is much more to be considered.

In his State of the Association address at the Opening Business Session of the 2016 NCAA Convention, NCAA President Mark Emmert emphasized the responsibility of colleges and universities to make good on their word to provide every college athlete a balanced academic-athletic-social experience that opens doors to a lifetime of opportunities. Colleges must deliberately integrate students academically, socially and intellectually with the culture of the institution and create opportunities for students to interact with other students and faculty (Tinto 1993). Without an explicit and intentional plan, college athletes, already challenged by demanding time commitments to their sport, are in danger of academic and social isolation, which may not prevent them from graduating from college, but worse, leave them unprepared for the future.

The agency of college athletes to integrate academically and socially into their college environment and, thereby, be prepared for the future, is either constrained or enabled not so much by their pre-college backgrounds but rather by the structure of their athletic programs. Guaranteeing athletic scholarships,

whether full or partial, at all Division I and Division II schools for four years lessens the psychological stress of having to meet arbitrary athletic expectations to afford academic opportunities. Playing sports already reduces the time and energy any athlete can devote to academic and social development. Therefore, allow athletes to fully major in academics during the off-season and study abroad during the summer by eliminating “voluntary” workouts. As the findings of this study suggest, the merits of intercollegiate sports participation may be more neutral than we think, which might explain the conflicting perspectives and wide range of findings over the decades. The Carnegie Commission figured as much almost 90 years ago: “In the field of conduct and morals, vociferous proponents of college athletics have claimed for participants far greater benefits than athletics can probably ever yield, and, in attempting to evaluate these supposed benefits, have hailed the shadow as the substance” (Savage et al. 1929:310).

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Appendix A

Reported Total Revenues by Division I, II and II Varsity Sports Teams (N=1,078)

Sport	Revenue in dollars
Archery	345,476
Badminton	2,244
Baseball	448,565,128
Basketball	2,389,155,430
Beach Volleyball	6,744,533
Bowling	9,546,705
All Track Combined	432,546,528
Diving	688,631
Equestrian	15,704,176
Fencing	7,842,164
Field Hockey	70,950,542
Football	4,506,690,704
Golf	233,280,210
Gymnastics	42,526,716
Ice Hockey	177,269,644
Lacrosse	225,676,670
Rifle	5,205,793
Rodeo	3,060,306
Rowing	87,304,552
Sailing	7,660,073
Skiing	12,696,082
Soccer	583,663,550
Softball	298,777,684
Squash	8,088,644
Swimming	56,406,970
Swimming and Diving	152,902,576
Synchronized Swimming	556,192
Table Tennis	50,973
Team Handball	N/A
Tennis	257,464,147
Track and Field, Indoor	21,446,683
Track and Field, Outdoor	36,752,998
Track and Field, X-Country	47,563,011
Volleyball	359,793,525
Water Polo	22,788,375
Weight Lifting	60,975
Wrestling	71,635,189

Other Sports	9,683,439
Total	10,611,097,238

SOURCE: U.S. Department of Education, Office of Postsecondary Education, Equity in Athletics Disclosure Act (EADA) survey.

Appendix B
National Longitudinal Survey of Freshmen (NLSF) Questionnaire

Selected Items for Demographic Measures

w3q43a **Intercollegiate Participation**

In which of the following groups are you currently involved: A varsity or junior varsity sports team?

1 Yes
2 No
8 Don't know
7 Refused

sex **Sex of respondent**

M Male
F Female

w1qzeth **Respondent's Ethnicity**

B Black/African American
W Caucasian/White
A Asian
H Hispanic or Latino

Selected Items for Dependent Measures

overallg **Graduation within 4 years**

0 Not graduated from college (from original or transfer college) within 4 years
1 Graduated from college (from the original or transfer college) within 4 years (i.e. by spring of 2005)

w5q41f **Feel Prepared for the Future**

On a zero to 10 scale where zero indicates total disagreement and 10 total agreement, to what extent would you disagree or agree with the following statements: My college experiences have prepared me for the future.

0 totally disagree
1-9
10 totally agree

Selected Items for Pre-college Background Measures

parntlyr **Parents in household respondent's last year before college**

1 Mother only
2 Father only
3 Both mother and father
4 Neither mother or father

w1q151 **Mother's education**

What is the highest level of schooling achieved by your mother or the woman most responsible for raising you?

1 Grade School
2 Some High School
3 High School Graduate
4 Some College
5 College Graduate
6 Some Post-Graduate
7 Graduate or Professional Degree

w1q152 **Father's Education**

What is the highest level of schooling achieved by your father or the man most responsible for raising you?

1 Grade School
2 Some High School
3 High School Graduate
4 Some College
5 College Graduate
6 Some Post-Graduate
7 Graduate or Professional Degree

w1q179 **Household Income**

Please look at this card and tell me your estimate of the annual income of the household in which you spent your senior year of high school?

1 A. Under $3,000
2 B. $3,000 - $3,999
3 C. $4,000 - $4,999
4 D. $5,000 - $5,999
5 E. $6,000 - $6,999
6 F. $7,000 - $7,999
7 G. $8,000 - $8,999
8 H. $9,000 - $14,999
9 I. $15,000 - $19,999
10 J. $20,000 - $24,999

11 K. $25,000 - $34,999
12 L. $35,000 - $49,999
13 M. $50,000 - $74,999
14 N. $75,000 or more

Academic Preparation

w1q61 *Number of AP Classes Taken*

In which subjects, if any did you take an advanced placement class?

algebra, geometry, trigonometry, calculus, general mathematics, biology, chemistry, physics, computer science, earth science or geology, other or general science, U.S. history, world history, economics, business, government, politics or civics, sociology, psychology, English language or literature, foreign language or literature, religious studies or philosophy, music, drama, art, typing, computing, wood or metal shop, auto shop, home economics, health, sex education, other

High school GPA

w1q63a For each of the following subjects, did you get (1) mostly A's, (2) mostly B's, (3) mostly C's, (4) mostly D's or (5) mostly grades below D in: English, history, mathematics, natural sciences, social studies, and foreign languages?

1 Mostly A's
2 Mostly B's
3 Mostly C's
4 Mostly D's

ACT/SAT Scores

w3q28a What was your SAT verbal score?

0-800
998 Don't Know
997 Refused

w3q28b What was your SAT quantitative score?

0-800
998 Don't Know
997 Refused

w3q28c What was your ACT composite score?

0-36
98 Don't Know
97 Refused

Social Preparation

Susceptibility to Peer Influence

How often did you find yourself:

w1q74c Worrying about what others thought of you
w1q74d Doing things so that others would like you
w1q74e Worrying about being called a “nerd” or “brainiac”

1 Never
2 Rarely
3 Sometimes
4 Often
5 Very Often
8 Don't Know
7 Refused

To what extent do you agree or disagree with the following statements about your experiences last year:

w1q67a You acted and thought like most people your age.
w1q67b You hung out where most people your age went.
w1q67c You felt comfortable around other people your age.
w1q67d You valued the same things as other people your age.

0 Strongly agree
1 Somewhat agree
2 Somewhat disagree
3 Strongly disagree
4 Neither agree nor disagree
8 Don't Know
7 Refused

Psychological Preparation

Self-esteem

How much do you agree or disagree with each of the following statements?

w1q149a I feel that I am a person of worth, equal to others.
w1q149b I feel that I have a number of good qualities.
w1q149c All in all, I am inclined to feel that I am a failure.
w1q149d I am able to do things as well as most people.
w1q149e I feel that I do not have much to be proud of.
w1q149f I take a positive attitude toward myself.
w1q149g I wish I could have more respect for myself.
w1q149h On a whole, I am satisfied with myself.
w1q149i I feel useless at times.
w1q149j At times, I think I am no good at all.

1 Strongly Agree
2 Agree
3 Neither Agree Or Disagree
4 Disagree
5 Strongly disagree
8 Don't Know
7 Refused

Self-efficacy

Thinking about your life at the moment, how much do you agree or disagree with the following statement?

w1q150a I don't have control over the direction my life is taking.
w1q150b In life, good luck is more important than hard work for success.
w1q150c Every time I try to get ahead, something or somebody stops me.
w1q150d When I make plans, I am almost certain that I can make them work.
w1q150e I feel left out of things going on around me.
w1q150f If I work hard, I can do well.

1 Strongly Agree
2 Agree
3 Neither Agree Or Disagree
4 Disagree
5 Strongly Disagree
8 Don't Know
7 Refused

Selected Items for College Environment Academic System Measures

Academic major

w2q10 What major, if any, have you declared?
w3q18 What major, if any, have you declared?
w5q171 What is your major?

Academic effort

w2q34 On a scale of zero to 10, where zero indicates no effort at all and 10
w3q35 indicates the maximum possible effort, how hard would you say you
w5q25 have been trying during this past year of college.

0 No effort
1-9
10 Maximum effort
95 Not applicable
98 Don't know
97 Refused

Use of campus services

On a scale of zero to 10, were 0 indicates you never engage in a behavior and 10 indicates you always do, please tell me the frequency with which you:

w2q23n Use services available for disabled students.
w2q23p Take special instruction to improve writing skills.
w2q23q Take special instruction to improve reading skills.
w2q23r Take special instruction to improve mathematical skills.
w3q42o Use services available for disabled students.
w3q42q Take special instruction to improve writing skills.
w3q42r Take special instruction to improve reading skills.
w3q42s Take special instruction to improve mathematical skills.

0 Never
1-9
10 Always
98 Don't know
97 Refused

w2q5 **First-semester GPA**

What was your final grade in that course?

w5q20aa **Grade point average**

What is your cumulative grade point average?

w5q22 **Study abroad participation**

How many terms, if any, have you studied abroad?

Selected Items for College Environment Social System Measures

Faculty interaction

On a scale of zero to 10, were 0 indicates you never engage in a behavior and 10 indicates you always do, please tell me the frequency with which you:

w2q23a Ask professors questions in class.
w2q23b Raise your hand during a lecture when you don't understand
w2q23c something.
w2q23d Approach professors after class to ask a question.
Meet with your professors in their offices to ask about material you
w2q23e don't understand.
w3q42a Meet with professors in their offices to talk about other matters.
w3q42b Ask professors questions in class.

w3q42c Raise your hand during a lecture when you don't understand
w3q42d something.
Approach professors after class to ask a question.
w3q42e Meet with your professors in their offices to ask about material you don't understand.
Meet with professors in their offices to talk about other matters.

0 Never
1-9
Always
98 Don't know
97 Refused

Peer interaction

<u>On a scale of zero to 10, were 0 indicates you never engage in a behavior and 10 indicates you always do, please tell me the frequency with which you:</u>

w2q23j Study with other students.
w2q23l Organize study groups with friends or classmates.
w2q23o Seek academic help from a friend or classmate.
w3q42k Study with other students.
w3q42m Organize study groups with friends or classmates.
w3q42p Seek academic help from a friend or classmate.

0 Never
1-9
10 Always
98 Don't know
97 Refused

College career guidance

On a scale of zero to 10, where zero indicates no importance and 10 indicates greatest importance, how important have each of the following been in guiding you through your college career?

w5q42a ▪ professors in major classes
w5q42h ▪ friends met at college

0 no importance
1-9
10 greatest importance
98 don't know
97 refused

Racial climate

w2q39 w3q60 How often, if ever, have students in your college classes ever made you feel uncomfortable or self-conscious because of your race or ethnicity?

w2q40 w3q61 How often, if ever, have any of your college professors made you feel uncomfortable or self-conscious because of your race or ethnicity?

w2q41 w3q62 Walking around campus, how often, if ever, have you been made to feel uncomfortable or self-conscious because of your race or ethnicity?

w2q42 w3q63 Except for security guards at building entrances, how often, if ever, have the campus police asked you to present identification?

w2q43 w3q64 How often, if ever, have you heard derogatory remarks made by fellow students about your ethnic group?

w2q44 w3q65 How often, if ever, have you heard derogatory remarks made by professors about your racial or ethnic group?

w2q45 w3q66 How often, if ever, have you heard derogatory remarks by other college staff about your racial or ethnic group?

w2q46 w3q67 How often, if ever, have you experienced any other form of harassment on campus simply because of your race or ethnicity?

w2q47 w3q68 How often, if ever, have you experienced harassment from members of your own race or ethnic group because you interacted or associated with members of some other group?

w2q48 w3q69 How often, if ever, have you felt you were given a bad grade by a professor because of your race or ethnicity?

w2q49 w3q70 How often, if ever, have you felt you were discouraged by a professor from speaking out in class because of your race or ethnicity?

w2q50 w3q71 How often, if ever, have you been discouraged from a course of study by your advisor or professor?

1 Never
2 Rarely
3 Sometimes
4 Often
5 Very often
8 Don’t know
7 Refused

Stereotype threat

w5q87b If I don't do well, people will look down on others like me.

w5q87d If I let my instructors know that I am having difficulty in class, they will think less of me.

w5q87e If I let other students know that I am having difficulty in class, they will think less of me.

0 totally disagree
1-9
10 totally agree
98 don't know
97 refused

Selected Items for Goal Commitment Measures

w1q90 Which of the following three statements best describes your current aspirations?

1 I plan to take college one year at a time and see how I do.
2 I plan to graduate from college and then consider my options.
3 I plan to graduate from college and go to graduate or professional school.
8 Don't know
7 Refused

w5q61 At this point in your college career, what is the highest degree you expect to obtain?

1 Less Than BA/BS
2 BA/BS
3 MA or equivalent (MBA, MPH, MSW, etc.)
4 Ph.D., MD, LLD, or equivalent
8 Don't know 7 Refused

Selected Items for Institutional Commitment Measures

w1q91a Please estimate the probability that you will complete the following educational milestone. That is, on a scale from 0 to 10, where 0 means it's extremely unlikely and 10 means it is extremely likely, what is the likelihood that you will finish one year of college? (w1q91a)

0 Extremely Unlikely
1-9
10 Extremely Likely

w5q41a On a zero to 10 scale where zero indicates total disagreement and 10 total agreement, to what extent would you disagree or agree with the following statements?

If I had it to do all over again, I would choose to attend (name of most recent college attended)

0 totally disagree
1-9
10 totally agree

Academic Identifier

college **Type of college attended**

1 Liberal Arts College
2 Private Research University
3 Public Research University

Appendix C

Construction of Social Scales

Table C1. Construction of Index of Social Preparation for College

Item	Response Range	*Scale Scores* Minimum	Maximum
Susceptibility to Peer Influence			
1. Worrying about what others thought of you.	Never to very often	0	4
2. Doing things so that others would like you.	Never to very often	0	4
3. Worrying about being called a "nerd" or "brainiac."	Never to very often	0	4
4. You acted and thought like most people your age.	Strongly disagree to strongly agree	0	4
5. You hung out where most people your age went.	Strongly disagree to strongly agree	0	4
6. You felt comfortable around other people your age.	Strongly disagree to strongly agree	0	4
7. You valued the same things as other people your age.	Strongly disagree to strongly agree	0	4
Range of scale		0	28
Cronbach's alpha		.641	

Table C2. Construction of Indices of Psychological Preparation for College

Item	Response Range	*Scale Scores* Minimum	Maximum
Self-esteem			
1. I feel that I am a person of worth, equal to others.	Strongly disagree to strongly agree	0	4
2. I feel that I have a number of good qualities.	Strongly disagree to strongly agree	0	4
3. All in all, I am inclined to feel that I am a failure.	Strongly agree to strongly disagree	0	4
4. I am able to do things as well as most people.	Strongly disagree to strongly agree	0	4
5. I feel that I do not have much to be proud of.	Strongly agree to strongly disagree	0	4
6. I take a positive attitude toward myself.	Strongly disagree to strongly agree	0	4
7. I wish I could have more respect for myself.	Strongly agree to strongly disagree	0	4
8. On a whole, I am satisfied with myself.	Strongly disagree to strongly agree	0	4
9. I feel useless at times.	Strongly agree to strongly disagree	0	4
10. At times, I think I am no good at all.	Strongly agree to strongly disagree	0	4
Range of scale		0	40
Cronbach's alpha		.855	

Self-efficacy			
1. Don't have control over direction life is taking	Strongly agree to strongly disagree	0	4
2. Good luck more important than hard work	Strongly agree to strongly disagree	0	4
3. Something stops me from getting ahead	Strongly agree to strongly disagree	0	4
4. When I make plans, certain I can make them work	Strongly disagree to strongly agree	0	4
5. Feel left out of things going on around me	Strongly agree to strongly disagree	0	4
6. If I work hard, I can do well	Strongly disagree to strongly agree	0	4
Range of scale		0	24
Cronbach's alpha		.691	

Table C3. Construction of Index of Use of Campus Services

		Scale Scores	
Item	Response Range	Minimum	Maximum
1. Uses disability services	Never to always	0	4
2. Takes special instruction to improve writing skills	Never to always	0	4
3. Takes special instruction to improve reading skills	Never to always	0	4
4. Takes special instruction to improve mathematical skills	Never to always	0	4
Range of scale		0	16
Cronbach's alpha		.688/.692	

Table C4. Construction of Index of Faculty Interaction

		Scale Scores	
Item	Response Range	Minimum	Maximum
1. Asks professors questions in class	Never to always	0	4
2. Raise hand during a lecture	Never to always	0	4
3. Approach professors after class to ask question	Never to always	0	4
4. Meet with professors in offices about course material	Never to always	0	4
5. Meet with professors in offices about other matters	Never to always	0	4
Range of scale		0	20
Cronbach's alpha		.762/.726	

Table C5. Construction of Index of Peer Interaction

Item	Response Range	*Scale Scores* Minimum	Maximum
1. Study with other students	Never to always	0	4
2. Organized study groups with friends or classmates	Never to always	0	4
3. Sought academic help from a friend or classmate	Never to always	0	4
Range of scale		0	12
Cronbach's alpha		.723/.726	

Table C6. Construction of Index of Racial Climate

Item	Response Range	*Scale Scores* Minimum	Maximum
1. Made to feel self-conscious by classmates	Never to very often	0	4
2. Made to feel self-conscious by professors	Never to very often	0	4
3. Made to feel self-conscious walking around	Never to very often	0	4
4. Asked by campus police to present identification	Never to very often	0	4
5. Heard derogatory remarks made by students	Never to very often	0	4
6. Heard derogatory remarks made by professors	Never to very often	0	4
7. Heard derogatory remarks by other college staff	Never to very often	0	4
8. Experienced any other form of harassment on campus	Never to very often	0	4
9. Experienced harassment from members of own race	Never to very often	0	4
10. Felt professor gave bad grade because of race	Never to very often	0	4
11. Felt discouraged by professor from speaking out in class	Never to very often	0	4
12. Professor or adviser discouraged course of study	Never to very often	0	4
Range of scale		0	48
Cronbach's alpha		.796	

Table C7. Construction of Index of Stereotype Threat

Item	Response Range	*Scale Scores* Minimum	Maximum
1. People will look down on others like me	Totally disagree to totally agree	0	4
2. Instructors will think less of me	Totally disagree to totally agree	0	4
3. Other students will think less of me	Totally disagree to totally agree	0	4
Range of scale		0	12
Cronbach's alpha		.710	

Appendix D

Correlation Matrices

Correlations Between Prepared for Future, Graduation Within 4 Years and Sports Participation with Pre-college Background Factors

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	1																	
2	.088***	1																
3	-.016	-.009	1															
4	.021	-.025	.041*	1														
5	.009	.006	.092***	-.353***	1													
6	.001	.004	-.077***	-.332***	-.344***	1												
7	-.033	.016	-.059**	-.322***	-.334***	-.314***	1											
8	-.001	.004	.118***	.067***	-.084***	.018	.000	1										
9	-.016	-.019	.009	.124***	-.242***	.163***	-.039*	.039*	1									
10	.021	-.006	.040*	.187***	-.071***	.036*	-.155***	.023	.114***	1								
11	.028	-.020	.031	.188***	-.167***	.131***	-.160***	.031	.171***	.581***	1							
12	-.001	-.022	.047**	.205***	-.171***	.073***	-.106***	.068***	.364***	.391***	.459***	1						
13	.000	-.025	-.059**	.044**	-.214***	.213***	-.038*	.063***	.125***	.130***	.185***	.132***	1					
14	.011	.018	-.089***	.131***	-.268***	.146***	-.002	-.048**	.154***	.074***	.095***	.097***	.305***	1				
15	-.001	-.016	-.076***	.211***	-.391***	.258***	-.090***	.169***	.215***	.272***	.329***	.265***	.477***	.381***	1			
16	-.023	-.014	.033	.055**	-.152***	.120***	-.020	.009	.122***	.084***	.101***	.141***	.027	.062***	.026	1		
17	-.011	.007	.044*	-.012	.175***	-.182***	.014	.035*	-.061***	.006	-.048**	-.016	-.027	.017	-.054**	-.070***	1	
18	-.003	-.015	.036*	.029	.064***	-.138***	.043**	-.024	.022	.023	-.019	.032	.001	.057***	-.020	-.035*	.624***	1

* $p < .05$; ** $p < .01$; *** $p < .001$

1-Prepared for future 2-Graduation 3-Sports participation 4-White 5-Black 6-Asian 7-Hispanic 8-Gender 9-Parents in household 10-Mother's education 11-Father's education 12-Household income 13-AP classes 14-High school GPA 15-ACT scores 16-Susceptibility to peers 17-Self-esteem 18-Self-efficacy

Correlations Between Prepared for Future, Graduation Within 4 Years and Sports Participation with Freshman Year of College Factors

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	1																
2	.088***	1															
3	-.016	-.009	1														
4	.014	.010	-.019	1													
5	.000	-.012	-.037*	-.058***	1												
6	.005	.004	-.014	-.067***	-.049**	1											
7	-.020	.002	-.003	-.086***	-.063***	-.072***	1										
8	-.024	.017	-.009	-.081***	-.059***	-.068***	-.088***	1									
9	-.016	-.015	.002	-.046**	-.034*	-.039*	-.051**	-.048**	1								
10	-.001	.006	.032	-.013	-.010	-.011	-.014	-.014	-.008	1							
11	.022	-.009	.036*	-.377***	-.275***	-.316***	-.410***	-.386***	-.221***	-.063***	1						
12	.005	.016	-.046**	.015	.026	-.026	-.037*	-.028	-.014	-.034*	.038*	1					
13	.010	.024	.042*	.021	.003	.028	.019	.023	.024	-.036*	-.055**	.163***	1				
14	.014	.028	.044*	.028	-.016	.020	.024	.026	.047**	.009	-.063***	-.126***	.139***	1			
15	.007	.000	.040*	.095***	.064***	.007	-.031	.037*	.041*	.035*	-.100***	.033*	.211***	.270***	1		
16	-.003	.023	.006	-.007	-.026	.026	.056**	.023	.007	-.016	-.043**	-.076***	.138***	.285***	.234***	1	
17	-.008	.033*	.013	.012	-.020	-.011	-.009	.024	.001	.009	-.003	-.105***	.022	.187***	.152***	.109***	1

* $p < .05$; ** $p < .01$; *** $p < .001$

1-Prepared for future 2-Graduation 3-Sports participation 4-Social sciences 5-Humanities 6-Biology 7-Math/Engineering 8-Professions 9-Health/Sports 10-Interdisciplinary 11-Undeclared 12-Freshman GPA 13-Academic effort 14-Use of services 15-Faculty interaction 16-Peer interaction 17-Racial climate

Correlations Between Prepared for Future, Graduation Within 4 Years and Sports Participation with Sophomore Year of College Factors

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	1															
2	.088***	1														
3	-.016	-.009	1													
4	-.032	.004	.043*	1												
5	-.015	-.004	-.014	-.188***	1											
6	.012	.019	-.047**	-.182***	-.130***	1										
7	.016	.022	-.010	-.194***	-.138***	-.134***	1									
8	-.009	-.011	-.007	-.204***	-.145***	-.141***	-.150***	1								
9	.023	-.004	.037*	-.090***	-.064***	-.062***	-.066***	-.070***	1							
10	-.003	.004	.008	-.054**	-.038*	-.037*	-.040*	-.042*	-.018	1						
11	.019	-.022	.001	-.304***	-.217***	-.210***	-.224***	-.235***	-.104***	-.062***	1					
12	.023	-.002	.016	.002	.005	.078***	.020	-.005	.014	-.006	-.077***	1				
13	.038	.015	.089***	.026	-.006	-.045**	.005	.017	.073***	-.003	-.032	.091***	1			
14	.004	.014	.042*	.069***	.090***	-.006	-.015	.030	.034*	.023	-.157***	.195***	.205***	1		
15	.020	.024	.024	-.016	-.084***	.029	.099***	.012	.037*	-.019	-.038*	.152***	.202***	.199***	1	
16	-.007	.026	.024	.034*	-.011	-.064***	-.032	.004	.007	.030	.034*	.017	.176***	.130***	.099***	1

* $p < .05$; ** $p < .01$; *** $p < .001$

1-Prepared for future 2-Graduation 3-Sports participation 4-Social sciences 5-Humanities 6-Biology 7-Math/Engineering 8-Professions 9-Health/Sports 10-Interdisciplinary 11-Undeclared 12-Academic effort 13-Use of services 14-Faculty interaction 15-Peer interaction 16-Racial climate

Correlations Between Prepared for Future, Graduation Within 4 Years and Sports Participation with Senior Year of College Factors

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	1																
2	.088**	1															
3	-.016	-.009	1														
4	-.008	.053*	.045*	1													
5	-.061**	.015	-.003	-.365***	1												
6	.008	.035	.000	-.281***	-.190***	1											
7	.006	-.032	-.035	-.308***	-.208***	-.161***	1										
8	.039	-.033	-.017	-.253***	-.171***	-.131***	-.144***	1									
9	.074***	-.033	-.002	-.157***	-.106***	-.082***	-.090***	-.074***	1								
10	-.002	-.071**	-.014	-.105***	-.071**	-.055**	-.060**	-.049*	-.031	1							
11	-.052*	-.068**	.005	-.052*	-.035	-.027	-.029	-.024	-.015	-.010	1						
12	.159***	.018	-.011	-.042*	.012	-.001	-.013	.032	.047*	.016	-.019	1					
13	.033	.284***	.002	-.013	.111***	.019	-.052*	-.025	-.025	-.069**	-.046*	.074***	1				
14	.018	.126***	.013	.086***	.131***	-.108***	-.111***	-.011	-.075***	-.001	.011	.059**	.208***	1			
15	.266***	.036	.033	-.061**	.094***	-.029	-.052*	.058**	.022	.010	-.063**	.164***	.118***	.031	1		
16	.133***	.024	.028	.018	-.021	-.004	-.027	.041	.014	-.014	-.036	.043*	.033	.062**	.189***	1	
17	-.097***	-.029	-.008	.030	-.064**	.007	.034	-.019	-.011	.045*	-.029	-.031	-.058**	-.029	-.134***	-.013	1

* $p < .05$; ** $p < .01$; *** $p < .001$

1-Prepared for future 2-Graduation 3-Sports participation 4-Social sciences 5-Humanities 6-Biology 7-Math/Engineering 8-Professions 9-Health/Sports 10-Interdisciplinary
11-Undeclared 12-Academic effort 13-College GPA 14-Study abroad participation 15-Professor guidance 16-Peer guidance 17-Stereotype threat

Correlations Between Prepared for Future, Graduation Within 4 Years and Sports Participation with Goal Commitments and Type of Institution

	1	2	3	4	5	6	7
1	1						
2	.088***	1					
3	-.016	-.009	1				
4	.026	-.004	-.048**	1			
5	.003	.010	.022	.065***	1		
6	.075***	.135***	-.002	.024	.020	1	
7	.363***	.106***	-.019	.037	.022	.062**	1

* $p < .05$; ** $p < .01$; *** $p < .001$

1-Prepared for future 2-Graduation 3-Sports participation 4-Pre-college goal commitment 5-Pre-college institutional commitment 6-Senior year goal commitment 7-Senior year institutional commitment