

**The effect of athletic identity, occupational decision-making self-efficacy on
academic motivation among revenue- and nonrevenue-status sport
NCAA Division II student-athletes**

by

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ABSTRACT

This study made inquiry into the extent to which psychological factors and individual characteristics affect academic motivation among revenue-status and nonrevenue-status sport NCAA Division II student-athletes. In order to examine the link between these variables and academic motivation, participants from five Midwest NCAA Division II universities were surveyed. Participants ($n = 353$) completed a demographic information sheet, a modified athletic identity measurement scale, occupational decision-making information-gathering and problem-solving self-efficacy scales, and an academic motivation scale. Statistical Package for Social Sciences IBM (SPSS) was used to find general demographics of the data sample as well as the relevant differences between student-athletes participating in this study, any significant relationships that existed between variables, and the extent to which those relevant variables predicted academic motivation. From the analyses it was found that 53.0% of the respondents were male and 43.9% were female, and that more than 90% were Caucasian. Fifty-seven percent of the responders were in their first or second year of college. Football and men's basketball players (revenue-status sports) represented slightly more than 28% of the participants with the remaining 72% of participants being in other (nonrevenue-status) sports. Full-scholarship versus partial-scholarship status was found to have a significant difference with regard to academic motivation. Statistically significant differences also were found between student-athletes in revenue-status sports versus all other sports with regard to their athletic identity, academic motivation, and the belief they could sustain themselves financially in professional sports. No statistically significant differences were found between student-athletes in revenue-status sports versus all other sports with regard to occupational decision-making information-gathering and problem solving self-efficacy. Academic motivation, occupational decision-making information-gathering self-

efficacy, and occupational decision-making problem-solving self-efficacy were found to have a significant negative relationship with athletic identity. Occupational decision-making information-gathering and problem-solving self-efficacy were found to have a significant positive relationship with academic motivation. The student-athlete's year in school, athletic identity, occupational decision-making information-gathering and problem-solving self-efficacy, and revenue sport status participation were found to explain a significant amount of the variance in the value of academic motivation.

STATEMENT OF REFLEXIVITY

It was sometime in January 2013 when my daughter Victoria called. She had just returned to college in Houston after enjoying Christmas at our home in central Iowa. When I answered my phone, I could barely understand her words as she spoke between her hysterical sobs. Victoria grew up playing both club and high school sports. In those days, sports were our lives and defined our relationship. She had just completed her DI collegiate volleyball career, which ended with unimaginable success. Victoria had been awarded both the Great West Conference player of the year and conference setter of the year. She was selected to the conference all-tournament team, and she was voted the university's female athlete of the year. As I listened to her cry, I could never have imagined she could be in such a condition; after all she was a star athlete, a warrior, and a leader. Objectively speaking, it just didn't make sense to me. Nevertheless, I began to hear her words, and worse, I began to understand the degree of her crises.

She told me of her anxiety attacks—how she felt completely out of control, confused, and concerned that she could not move forward in college and in her life. I heard her use language like, “Who am I (now that volleyball is over),” “I only know myself as an athlete. . . . What do I do now?” “I have no real experience outside of sports, and I don't have a single friend outside the athletic department.” Deeply concerned (and feeling responsible), I became determined to help her. I started to conduct research to understand what she was experiencing and how to help her through the crises. What I uncovered was a phenomenon known by researchers as athletic identity foreclosure. Athletic identity foreclosure has been used to describe the identity condition of elite athletes when they, through role engulfment, have foreclosed on any sense of self other than that as an athlete (Martin, 2009).

This experience led me to conduct the research that has become this study. I hope that with studies like these, student-athletes may conclude their college experience with a sense of identity that allows them to function in a career they chose because it interests them—not because a coach told them it was the easiest.

As I began this study I interviewed several DII coaches, attempting to gain support for this project and for help in collecting data. I was able to get only one coach to support this project. I will never forget what one DII coach told me as I stood in his office. He said, “I have studied my kids and I know this: The higher their GPA the lower my win/loss ratio. Until I get paid to raise GPA and not to win games, where do you think I will place my efforts?” I concluded there are structural mechanisms in place (such as what a coach gets paid for) that impact student-athletes’ collegiate experience. It was at that point I stopped trying to get coaches to support my project and stopped wondering why, for the most part, coaches had no interest in this study.

As for my daughter Victoria, she is now working as a software developer project manager with a kinesiology degree. She says she is just now developing a career identity as she coaches youth volleyball, plays sand volleyball, and talks about getting a college volleyball coaching job—I think she’s going to be okay.

CHAPTER 1. INTRODUCTION

Overview

Intercollegiate athletics has become one of the major players in defining the American college student educational experience. Supporters of intercollegiate athletics claim that college sports are significant in defining the very essence of higher education in the United States today (Toma, 1999). Collegiate sports have become embedded in the national culture and have become institutionalized in U.S. colleges and universities. In fact, college athletics may be the most visible aspect of any given collegiate institution and is considered by many to be the front porch of the college or university (Figler & Figler, 1984; Fisher, 2009; Suggs, 2009; Toma, 1999; Toma & Cross, 1998). Suggs (2009) contended that as the front porch of the university, athletics give colleges and universities curb appeal, and as such, university leaders use athletics as a tool to strengthen perceptions about the institution as a whole. University leaders have embraced the idea that a successful athletic program brings vast attention to the university and tends to increase institutional identity, popularity, and prestige (Suggs, 2009; Toma, 1999). Furthermore, many university leaders believe that sports may connect campus communities and enhance external affairs by providing an emotional connection with the institution (Fisher, 2009; Toma, 1999). Pride, popularity, and prestige that come by way of having a successful sports program can also include mission risk, and university leaders are often willing to sacrifice components of the university's overall mission in order to take advantage of these benefits (Fisher, 2009; Martin, 2009; Suggs, 2009).

Student-Athletes

At the center of this potential risk of compromising a university's mission is the student-athlete. College student-athletes have a unique set of circumstances that separate

them from nonathlete students (Etzel, 2006; Figler & Figler, 1984; Yusko, Buckman, White, & Pandina, 2008). Student-athletes must cope with many of the same stresses as nonathletes, such as developing into young adults and dealing with a variety of academic challenges in their daily lives (Etzel, 2006). However, student-athletes carry added burdens of repetitive and exhausting athletic training, intense travel schedules, injuries, and pressure to win in sporting competition (Etzel, 2006; Johnson & Ivarsson, 2011; Yusko et al., 2008). The pressures of intercollegiate competition require excellence not only in the athletic arena but also the classroom (Yusko et al, 2008).

Substantial commitment to the athletic department is required by both the student-athlete and the university's leadership in order to achieve a highly competitive sports program (Martin, 2009). Because of this commitment, campus engagement and scholarly endeavors often take a lesser role than team involvement and success, and student-athletes are encouraged by both coaches and university administration to focus on having a winning season above all other college activities (Etzel, 2006; Martin, 2009). Researchers have reported that, in the midst of this pressure to fully commit to their sport, collegiate athletes often develop strong athletic identities as they attempt to compete in sport (Brewer, Van Raalte, & Linder, 1993; Danish, Petitpas, & Hale, 1993; Houle, 2010).

It is common for student-athletes to immerse themselves in the athletic role, and as a tactical response to time constraints, the student-athletes often disidentify with being a student, which reinforces their athletic identity and consequently makes them foreclose on any other sense of self other than that as an athlete (Houle, 2010; Lally & Kerr, 2005; Martin, 2009). This issue is particularly salient because holistic identity formation is necessary for good health. Holistic identity is achieved when young adults engage in multiple role

possibilities as they examine their interests, values, and talents (Brown & Hartley, 1998; Lavalley & Robinson, 2007). Due to the demands of high-level sport, student-athletes often are willing to bypass this time-consuming process of identity exploration to excel in their sport (Martin, 2009). When the sport role dominates student-athletes' collegiate career, these individuals may not experience age-appropriate identity formation (Anderson & Harrison, 2006; Ferrante, Etzel, & Lantz, 1996; Figler & Figler, 1984). If student-athletes sacrifice their identity development in the name of excellent sport performance, critical tasks and stages in other parts of their lives may be missed or ignored (Grove, Lavalley, & Gordon, 1997). These omissions may reduce the possibility of them developing a multidimensional sense of self and may cause student-athletes to identify only as an athlete, moderating their academic motivation and career exploration and jeopardizing their future career and social life to the extent they are unable to construct a meaningful life outside the sport role.

According to Linnemeyer and Brown (2010), among all student-athletes, those in a revenue-status sport (in this study, referring to men's basketball and football) may have the greatest risk of forgoing age-appropriate identity formation, engagement in career development activities, and academic curiosity. This increased risk is believed to arise from the revenue-status sport student-athletes' belief in their ability to have a sustainable career in professional athletics. Additionally, Murphy, Petitpas, and Brewer (1996) suggested that, because revenue sport student-athletes receive sport-role reinforcement by teammates, coaches, administrators, as well as fans on and off campus, many of these student-athletes have little desire to engage in activities that would prepare them for life or a career after athletics

Arguably, all collegiate athletics require a significant time commitment from the university and the student-athlete to achieve athletic excellence; nevertheless, not all colleges and universities have the same level of emphasis placed on athletic programs. The National Collegiate Athletic Association (NCAA) has developed collegiate divisions that colleges and universities can join based on the level of athletic commitment and competition in which member colleges want to participate, giving them the opportunity to compete with schools having similar athletic goals (NCAA, n.d.).

National Collegiate Athletic Association

The NCAA has a diverse membership of student-athletes and schools. There are three divisions within the NCAA framework: Division I (DI), Division II (DII), and Division III (DIII). Schools belonging to the NCAA have student bodies ranging from hundreds to tens of thousands of enrolled students (NCAA, n.d.). The NCAA gives student-athletes the opportunity to participate at different levels of competition with 89 championship events in a wide range of collegiate sports (NCAA, n.d.).

Among the three NCAA divisions, DI institutions oftentimes have the largest student bodies, manage the largest budgets, and offer the most complete athletic scholarships (NCAA, n.d.). In most cases, the main focus of the DI student-athlete is sport, and campus life and academics can become secondary to athletic commitment (Ridpath, 2008).

Division II colleges and universities provide student-athletes the opportunity to compete in high-level scholarship athletics while also engaging in a broader campus experience (NCAA, n.d.). DII schools hold to a philosophy that attempts to balance academics, athletics, and campus involvement for the student-athlete. This balance is

intended to provide student-athletes with a path to graduation as they cultivate skill and knowledge for life after college (NCAA, n.d.).

Division III is the largest NCAA division both in the number of student-athletes and the number of schools. The DIII experience offers participation in a competitive environment that pushes the student-athlete to excel on the field of play and builds upon their potential by tackling new challenges across campus. Academics are the primary focus for DIII student-athletes (NCAA, n.d.). Schools in this division do not offer athletic scholarships, thus minimizing the conflicts that often arise at DI and DII institutions and helping the student-athlete progress toward graduation by placing less emphasis on competition and more on academics (NCAA, n.d.). DIII student-athletes are integrated into campus life and treated like all the other students keeping the student-athlete's focus on being a student first (NCAA, n.d.).

Statement of the Problem

Bean, Fortier, Post, and Chima (2014) stated that as many as 45 million children participate in sports programs annually and that 75% of American households had at least one child participating in sport. In high school, elite student-athletes both play high school sports and are part of an athletic club or an organization similar to the Amateur Athletic Union. Myer et al. (2016) reported that 72% of school-aged youth (69% of girls and 75% of boys 8 to 17 years of age) participate in at least one organized sport team or club. Many of these young people work for the purpose of achieving excellence in their sport and receiving an athletic scholarship at the NCAA DI or DII competition level (Myer et al., 2016).

Myer et al. (2016) and Hecimovich (2004) reported that, in order to receive an athletic scholarship, critical coaching with the goal of winning is paramount, and that

adolescent athletes often begin extensive training and traveling to play their sport while missing school and spending weekends in regional and national competition. Consequently, many young athletes make considerable sacrifices during the adolescent years that affect age-appropriate development in areas such as academics and holistic socialization (Pummell, Harwood, & Lavalley, 2008). These athletes are taught that a total commitment of time, energy, and emotion is needed to succeed, which often means school, family, and relationships with nonathlete peers suffer (Pummell et al., 2008). By the time these young athletes enter college, athletics have played a major role in their identity formation, and in many cases, these elite student-athletes have a high degree of athletic identity and lack academic motivation and scholarly aspirations (Anderson & Harrison, 2006). Coaches typically encourage student-athletes to identify with the athletic role and develop self-definition as an elite athlete; consequently, student-athletes often invest in sports as a major part of their identity (Brewer et al., 1993). There has been substantial research confirming that NCAA student-athletes face unique challenges balancing sports participation with academics and a holistic collegiate experience as young athletes become student-athletes (Pascarella, Bohr, Nora, & Terenzini, 1996; Pascarella et al., 1999).

Studies have generally found that a negative relationship exists between a student-athlete's high identification with the athletic role and positive career and academic development (Brewer et al., 1993). Additionally, researchers generally have concluded that student-athletes, and especially men's basketball and football student-athletes, often lack realistic career aspirations as they complete their collegiate experience, leading to them experiencing confusion about their future as they retire from their collegiate sports career (Grove et al. 1997; Houle, 2010).

Nearly all the research on student-athlete identity-, career-, and academic-related issues has focused on DI student-athletes and has not specifically considered DII student-athletes. This lack of DII attention has left a gap in scholarly research exploring the effects of DII athletic participation on identity, career aspirations, and academic motivation.

NCAA Division II Institutions

At DII institutions, there is the belief that there are several expected student outcomes from the college experience beyond athletic success. In order to achieve these outcomes, DII colleges have identified themselves as institutions that are less committed to their athletic program than DI universities are—and are more committed to a holistic college experience for student-athletes (NCAA, n.d.). DII schools have intentionally committed to providing a competitive athletic program and a path to graduation that cultivates a variety of skills and knowledge for life and career after college (NCAA, n.d.). In other words, administrators at DII institutions expect their student-athletes to graduate with satisfactory career readiness while at the same time being provided an opportunity to participate at a high level of athletic competition. The desire of DII schools to cultivate skills for life and career is particularly relevant for students who are negotiating athletics and academics and want to take advantage of those activities required for a productive transition from sports career to a career outside of sport.

Purpose Statement

There has been substantial research completed on the DI student-athlete, and this research generally has concluded that DI student-athletes, particularly those in revenue-status sports, are at risk of over commitment to the sport role, a lack of academic motivation, and a

lack of career planning, leading to confusion about their future outside the sport role (Grove et al., 1997; Houle, 2010; Martin, 2009).

Division II colleges have identified themselves as institutions that are less committed to their athletic program—and more committed to a holistic college experience for student-athletes and encouraging academic curiosity and campus engagement opportunities outside the sport role (NCAA, n.d.). This DII commitment to a holistic college experience should allow the DII student-athlete to balance sport and non-sport campus involvement, resulting in realistic career aspirations and related academic motivation. This study made inquiry into the effect of athletic identity, career decision-making self-efficacy-related tasks, and career aspirations on academic motivation as related to revenue and nonrevenue sport status NCAA DII student-athletes.

Additionally, this study focused on the extent to which revenue versus nonrevenue status sport participants' psychosocial beliefs about themselves and demographic factors (i.e., year in school, ethnicity, age, gender, etc.) create different motivations with regard to academics. The purpose of this study was specifically to examine the extent to which athletic identity and decision-making self-efficacy-related tasks predict NCAA DII student-athletes' academic motivation and to investigate whether or not there are significant differences between revenue and nonrevenue status NCAA DII student-athletes related to athletic identity, career decision-making self-efficacy-related tasks, future sports career aspirations, and academic motivations.

Conceptual Framework

The conceptual framework for this study recognized that the amount of physical and psychological time and energy that a student-athlete has devoted to his or her academic

commitment and/or to his or her sport commitment are integral components affecting the student's academic or athletic commitment, which in turn affects all other aspects of the student-athlete's college experience. Individual characteristics are relevant factors that student-athletes bring into the college setting and are predictors of how they will interact within the college environment (Comeaux, 2005). Accordingly, this framework drew attention to student-athletes' individual demographic characteristics such as gender, race/ethnicity, age, major, year in school, scholarship status, revenue-status of their sport, and level of parental education. These factors can moderate student-athletes' initial introduction into the collegiate environment and influence their academic and athletic commitment (Adler & Adler, 1987; Astin, 1993; Benson, 2000; Comeaux & Harrison, 2007; Sedlacek & Adams-Gaston, 1992; Stephan & Brewer, 2007).

Once on campus, the student-athlete's commitment to sport is often seen as an interactive process that involves an evaluation of the student-athlete's attitude toward academic and athletic success over time (Coakley, 2011; Figler & Figler, 1984; Stephan & Brewer, 2007). Studies suggest that intercollegiate athletics pressures student-athletes, particularly those in revenue-status sports, into increasing their commitment to athletics and minimizing their academic commitment, thus motivating student-athletes toward sport and away from academics (Houle, 2010; Martin, 2009). Additionally, studies have shown that student-athletes often begin their college career with vague or nonexistent career objectives and invest heavily in their athletic roles (Miller & Kerr, 2002), juggling dual-role identities—full-time athlete and full-time student—simultaneously in their early college years. However, as they become upperclassmen and complete their playing eligibility, they gradually choose to invest in the student identity fully to explore nonsport career options

(Lally & Kerr, 2005). This implies that year in college is a relevant factor affecting academic motivation.

Those student-athletes that over-identify with the sport role tend to have a higher commitment to sport, which has a negative impact on academic commitment (Brewer et al., 1993; Danish et al., 1993; Houle, 2010). For student-athletes to develop mature career plans, they must engage in multiple roles and self-exploration in order to identify available career options. Student-athletes who are not committed to academic and related campus activities and who are exclusively committed to the athletic role experience difficulties in career decision-making skills, such as confidence in their ability to gather occupational information, and often have inferior career maturity when compared to other students on campus (Pearson & Petitpas, 1990; Warriner & Lavalley, 2008). Because of other time constraints and the demands of sport participation, commitment to academics is thought to be the most productive process on campus for student-athletes to explore various occupational and ideological possibilities. Thus, this framework includes an understanding that having a strong academic motivation may be the most productive factor for student-athletes to achieve academic success (Gaston-Gayles, 2004; Shuman, 2009).

Theoretical Framework

This study comprised an examination of the effect of athletic identity, career self-efficacy, and sport participation on academic motivation and career aspirations in NCAA DII student-athletes. Three basic theories were used together to make inquiries related to this study. The first theory used as an element of this theoretical framework was Erikson's (1968) identity development theory. Erikson defined identity development as an unconscious process that unites the personality in such a way that it connects the individual to the social

world. He described the development of each individual as an invariant sequence of eight stages in which the individual confronts a different crisis at each stage. Erikson viewed each identity developmental stage as preparing an individual for the next stage and believed that failure to develop one's own identity was likely to lead to difficulty with later life stages. Individuals in the adolescent and young adult development stage often develop who they are by identifying with others, and in the latter part of this stage (the college years), the identity of an individual is either solidified or questioned (Erikson, 1968).

The second element of this theoretical framework was career development theory (Super, 1990). Super (1990) proposed a theory of career development that can augment the application of Erikson's (1968) identity development theory with regard to career-related identity issues. According to Super's theory, individuals confront various developmental tasks as they progress through different stages in which career and work become more or less the focal point of their identity. For example, adolescents develop an early sense of career maturity as they go through the exploration stage of career development, during which they spend considerable time and effort reflecting on occupational interests and preferences. This stage of career development parallels Erikson's identity development stage of identity versus role confusion.

The third element of this theoretical framework was Vroom's (1964) motivation theory. As described by Vroom, motivation is a force that exhibits behavior, directs behavior, and sustains behavior. Motivation tends to be specific to individual behaviors and will be used by individuals to select the option that has the greatest reward. In his expectancy theory of motivation, Vroom explained how individuals make decisions by considering various options and alternatives. Expectancy theory has three key perceptions:

(a) expectancy, (b) instrumentality, and (c) valence, and each perception represents a differing belief: (a) effort, (b) performance, and (c) reward.

Significance of the Study

Harrison and Lawrence (2004) pointed out that many student-athletes enter college with the perception that they will be able to financially sustain themselves in the future as professional athletes. However, of the nearly 8 million students currently participating in high school athletics in the United States, only 480,000 of them will compete at NCAA schools. And of that group, only a fraction will realize their goal of becoming a professional athlete (NCAA, 2016). Unfortunately, because of the past success that NCAA student-athletes have experienced, many believe they are included in the percentage that become professional athletes and do not consider their college years to be the end of their athletic career. When student-athletes, particularly those in revenue-status sports, believe they will be able to financially sustain themselves as professional athletes, they may forgo preparing academically and socially for a career outside of sport (Harrison & Lawrence 2004).

Figler and Figler (1984) reported that student-athletes tend to believe past athletic success will elevate them to the next level. They are convinced they will continue to be successful in athletics, and receiving a collegiate NCAA sports scholarship reinforces their belief they can reach professional athlete status (Figler & Figler, 1984). However, the low percentage of collegiate athletes who actually become professionals highlights the need for universities to understand student-athletes' identification with the athletic role and the tendency of revenue-status sport student-athletes to sacrifice other holistic experiences to achieve athletic success, which undermines their ability to have a successful career outside of sports after college sports retirement (Danish et al., 1993).

Research Questions

This study was guided by five research questions, which were used to examine the effect of relevant factors on DII student-athletes' academic motivation:

1. What are the demographic characteristics of student-athletes at NCAA DII universities who participated in the NCAA Division II Student-Athletes Academic Motivation Survey?
2. Is there a significant relationship for DII student-athletes between athletic identity, academic motivation, and career decision-making self-efficacy subscale variables?
3. Are there statistically significant differences in academic motivation among full-scholarship, partial-scholarship, and no-scholarship status student-athletes at NCAA DII schools?
4. Is there a statistically significant difference in athletic identity, academic motivation, career decision-making self-efficacy subscale variables, belief in a financially sustainable professional sports career, and academic motivation between DII student-athletes in revenue-status sports (football and men's basketball) and those in all other sports?
5. To what extent do student-athlete's year in school, belief in a financially sustainable professional sports career, scholarship status, revenue status of sport, career decision-making self-efficacy subscales, and athletic identity predict DII student-athletes' academic motivation?

Methodological Approach

This study used a quantitative research methodology. The data were collected from the NCAA Division II Student-Athletes Academic Motivation Survey (Appendix A) and

were used to measure the extent that demographic characteristics, athletic identity and career decision-making self-efficacy subscales, and the belief in a professional sports career predict NCAA DII student-athletes' academic motivation. Additionally, the data were used to investigate whether or not there are significant differences among revenue and nonrevenue sport status NCAA DII student-athletes related to athletic identity, career decision-making self-efficacy-related tasks, belief in a professional sports career, and academic motivation. The data analysis procedures included descriptive analysis, comparative analysis, one-way analysis of variance (ANOVA), exploratory factor analysis (EFA), correlation analysis, independent *t*-test analysis, and hierarchical multiple regression analysis.

Operational Definitions

The following terms merit definitions as used in the context of this study:

Athletic identity: described by Brewer et al. (1993) as the degree to which an individual identifies with an athletic role. Athletic identity is operationally defined as the total score on the Athletic Identity Measurement Scale (AIMS; Brewer & Cornelius, 2001).

Academic motivation: Motivation has been defined as the intensity and direction of behavior, where intensity refers to how much effort an individual applies to a given task and direction indicates the choice to complete or not to complete a given task. Hence, motivation signified an individual's choice of and effort applied toward a task (Gaston-Gayles, 2005).

Career decision-making self-efficacy: defined by Taylor and Betz (1983) as the belief that one can successfully complete a task or tasks necessary to make career decisions. For this study, career decision-making self-efficacy was operationally defined as the total score on the Career Decision Self-Efficacy Scale Short-Form (CDSE-SF) Occupational

Information-Gathering and Occupational Problem-Solving subscales (Betz, Hammond, & Multon, 2005).

Revenue-status sport: operationally defined as football and men's basketball.

Organization of the Dissertation

The main goal of this study was to examine the effect athletic identity and career decision-making self-efficacy subscale levels has on NCAA DII student-athletes' academic motivation. This goal was fulfilled with an intentional focus on the differences between revenue- and nonrevenue-status sport student-athletes. In addition to this chapter, this dissertation comprises chapters presenting a review of literature; methodology; results; and discussion, implications, recommendations, future research, and conclusions. Specifically, chapter 2 includes an extensive review of the literature referencing studies on the student-athletes' overcommitment to the sport role and the resulting athletic identity crisis at sport retirement. Additionally, chapter 2 reviews the literature regarding career maturity and career decision-making self-efficacy studies as well as academic motivation studies with studies related to revenue-status sport student-athletes. Chapter 3 outlines the methodological design of this study and includes a description of the research design, variables used in this study, data analysis methods, ethical issues, and limitations. Chapter 4 presents the main findings of this study. Chapter 5 includes a discussion of the findings, resulting implications with suggestions for future studies, and conclusions.

CHAPTER 2. LITERATURE REVIEW

This chapter comprises a review of the literature with regard to student-athlete success while participating in a competitive college athletics program. The chapter includes a literature review of the theories that grounded this study. Additionally, the literature related to student-athlete characteristics associated with academic achievement and noncognitive student-athlete factors that moderate career readiness and academic motivation are reviewed. Also included is a review of existing student-athlete studies examining methods and variables relevant to the factors researchers believe affect student-athletes' collegiate experience.

Erikson's Theory of Identity Development

According to Erikson (1968), the search for an identity involves the establishment of a self-concept that includes the past, present, and future all forming a unified whole. The theory suggests that identity development is a process that progresses through eight stages. The eight-stage process is often unconscious and connects the individual's personality to that individual's social world, and each stage builds on the prior stage as the individual matures. Erickson identified stage five (identity vs. identity confusion) as one of the most crucial of the eight stages in identity development, and this stage comes to completion with traditional college-age individuals.

Erikson (1968) contended that, in the fifth stage of identity development, young adolescents develop identity through their social group, and toward the end of this stage, the individual's identity is either solidified or questioned. Thus, according to Erikson's theory, the importance of the influence of an individual's peer group cannot be emphasized enough and the identity development of the individual often depends on the perception and evaluation of the individual's most dominant social group.

Greendorfer and Blinde (1985) reported that the development of a high athletic identity during adolescence and young adulthood is evidence that the team and sport participation are dominant influences in student-athlete identity formation. Additionally, Curry (1993), Curry and Weaner (1987), and Donnelly and Young (1988) have reported that, for student-athletes, sport participation has an important effect on validating and upholding an individual's identity. Studies on student-athletes have found that, for both the student body in general and student-athletes in particular, athletic departments can appear to be separate entities isolated from the rest of the university and may even be viewed as independent businesses within the university (Ferrante et al., 1996). Furthermore, student-athletes often internalize the independence and uniqueness set up by the department, and their sport may become the major focus of their identity (Brewer et al., 1993). As student-athletes with high athletic identity begin their college years, they are often lacking in clear nonathletic objectives and thus invest heavily in their athletic roles (Lally & Kerr, 2005; Miller & Kerr, 2002).

Super's Career Development Theory

Super's (1990) career development theory comprises several developmental stages for successful career development. The traditional-college-age student-athlete would be an example of an individual in Super's exploratory life stage. Therefore Super's theory is explicitly critical in this study as an explanation of why and how adolescents use their life experiences to inform themselves about careers as they cycle through the exploration life stage, which corresponds with Erickson's (1968) identity solidified or questioned stage. Super saw Bandura's (1977) social cognitive learning theory as functioning to cement together numerous segments of his career development theory. To provide better

understanding of Super's theory of career development, a brief review of social cognitive learning theory is included.

Social Cognitive Theory

Bandura (1977) developed social cognitive learning theory to explain how personality and behaviors are affected by an individual's unique learning experiences and how negative and positive reinforcement affects those learning experiences. According to social cognitive learning theory, three learning experiences have the greatest influence on behaviors and skills for effectively functioning in society. The three learning experiences proposed by Bandura include: (a) instrumental learning experiences, which are those learned when the individual's behaviors are positively or negatively reinforced; (b) associative learning experiences, which occur when an individual associates a previously neutral event with an emotionally laden event; and (c) vicarious experiences, which occur when an individual gains new information and ideas from external sources and observes the behavior of others.

Building on Bandura's (1977) general theory on social cognition, Hackett and Betz (1981); Taylor and Betz (1983); Multon, Brown, and Lent (1991); and Lent, Brown, and Hackett (1994) developed more specific cognitive career theories and were able to refine Bandura's work developing a social cognitive career learning theory. In summarizing their work, the propositions provided by Lent et al. are useful in understanding the work related to career and academic issues that was conducted by these theorists. Lent et al. concluded that an individual's occupational or academic interests reflect concurrent self-efficacy beliefs and outcome expectations at any given time, that an individual's occupational interests are also influenced by the individual's occupationally relevant abilities, and that the expectation/abilities relationship is moderated by self-efficacy beliefs that affect choice goals and actions

both directly and indirectly. Furthermore, Lent et al. proposed that self-efficacy beliefs are derived from performance accomplishments, vicarious learning, social persuasion, and physiological reactions when involved in educational and occupationally relevant activities. These activities in turn influence career and academic performance both directly and indirectly.

Super (1990) proposed that facilitating those activities that help mature the students' understanding of their abilities and interest aids the student in reality testing and that reality testing aids in the development of self-concepts that lead to realistic career planning. Super suggested that learned interests are manifestations of an individual's self-concept, and therefore, if a student-athlete has not gone through the time-consuming process of investigating occupational options, then that individual is likely not ready to use aptitude, ability, interest, or value data in planning the next stage or steps in a career. Combining Erikson's (1968) identity development and Super's career development theory, student-athletes who enter college with high athletic identity are at risk of solidifying their athletic identity and forgoing the time-consuming process of investigating occupational options and developing realistic career expectations.

Expectancy Theory of Motivation

Vroom's (1964) expectancy theory of motivation explains motivation through an individual's expectancy, instrumentality, and valence. Expectancy refers to an individual's perception of the relationship between effort and performance attainment. An individual's past experiences, personality, self-confidence, and emotional state heavily weight this cognitive evaluation. Instrumentality refers to the relationship between the performance and the reward. Individuals evaluate the probability that, if they achieve the performance level, it

will actually result in the attainment of the reward. Valance is the value that the individual associates with the reward. Vroom theorized that motivational intensity (force) is measured by the multiplication of the expectancy by the instrumentality and by the valence.

Therefore, Vroom's (1964) theory provides a theoretical explanation as to why a student-athlete may choose to focus on one specific behavior as opposed to another, for example, focusing on academics versus athletics (Gaston-Gayles, 2004, 2005). The theory contends that student-athletes cognitively evaluate the motivational force of the different behavioral options based on their own perception of the probability of attaining the desired outcome. Based on this theoretical approach, student-athletes who focus on the reward of receiving a college degree will decide whether or not to approach the task depending on their perceived skills and the energy required to succeed at the task. Therefore, some student-athletes will be more academically motivated due to the belief that they are capable of accomplishing the task and their perception of the value of completing the task.

Student-Athlete Research

The NCAA was created in 1910, and since that time, college sports have become an integral part of the college experience (Chen, Snyder, & Magner, 2010; Toma, 1999). Sport experts have suggested that athletics can enhance physiological, psychological, educational, and social benefits for student-athletes (Chen et al., 2010). The benefits cited usually include improving the health of the student-athlete; limiting college-age students' undesirable behaviors such as cheating, violence, consuming illegal substances, drinking excessive amounts of alcohol, and other distortive behavior; and reinforcing values of integrity and character (Shiina, Brewer, Petipas, & Cornelius, 2003; Spreitzer, 1994). Many believe

participating in sport enhances student-athletes' personal growth by teaching confidence, motivation, and self-esteem (Coakley, 1983, 2011).

Historically, student-athlete research has been conducted using theoretical models that investigated differences in levels of psychosocial development between student-athletes and nonathletes (Chartrand & Lent, 1987; Sowa & Gressard, 1983). Since the mid-1970s, research began to include correlational research methods and statistical regression analyses, which has been providing scholars and practitioners with an understanding of variables that may help predict student-athlete collegiate success (Houle, 2010; Murphy et al., 1996). Specifically, investigators are now using individual characteristics, such as gender, race, revenue/nonrevenue sport status, scholarship status, and other variables, to determine the association between these variables and the positive transition of student-athletes out of sport (Houle, 2010). This research is now investigating noncognitive psychological variables, such as career decision-making self-efficacy, athletic identity, academic motivation, and belief about future professional sport career, to understand student-athletes' holistic development (Brown & Hartley, 1998; Tyrance, Harris, & Post, 2013).

Several studies have suggested that sport participation functions to provide the student-athlete with the opportunity for social interaction, fun, and enjoyment, expanding life experiences with built-in friends and, as the student-athlete deals with failure and difficult situations on the field of play, developing life skills for both their college education and future careers (Chen et al., 2010; Coakley, 2011; Shaffer & Wittes, 2006; Woodruff & Schallert, 2008). Further, studies have suggested that student-athletes are more engaged in academic and campus activities than are their nonathlete peers (Umbach, Palmer, Kuh, & Hannah, 2006; Williams, Sarraf, & Umbach, 2006). Successful athletic programs that

consistently win more games attract student-athletes and nonstudent-athletes with higher academic scores to the institution, hence improving the prestige of the institution as a whole (Mixon, Trevino, & Minto, 2004; Fisher, 2009; Suggs, 2009).

Other researchers who examined the effect of athletic participation on the cognitive learning of college student-athletes reported that athletic participation had either a negative association or no effect on male collegiate student-athletes' academic motivation, intellectual development, and learning ability (Pascarella et al., 1996, 1999). Student-athletes, particularly those in high profile (revenue-status) sports such as men's basketball and football, were required to accept the emphasis on winning and commercialization (Houle, 2010). Houle (2010) concluded that student-athletes, particularly revenue-status sport athletes (i.e., men's basketball and football), were highly motivated toward the athletic role, were often excluded from campus engagement activities useful for academic achievement and career exploration, and missed out on many of the holistic lifelong benefits inherent in the collegiate experience (Houle, 2010; Linnemeyer & Brown, 2010).

Moderating Factors for Student-Athletes' Academic Achievement

Student-athletes enter college with a host of attributes and lived experiences that directly and indirectly influence their college experiences. It has been documented in the general literature that among the most significant inputs or precollege characteristics associated with college success are educational experiences, family back ground, and individual characteristics (Astin & Astin, 2015).

Precollege Educational Experience

Precollege educational experiences and preparation have been found to relate to students' academic expectancy and academic performance. For example, a student's high

school grade point average (GPA) is a strong predictor of academic achievement in college (Comeaux, 2005). In a study of student-athletes at DI institutions using data from the Cooperative Institutional Research Program, Comeaux (2005) found in part that high school academic success measured by GPA had a substantial positive relationship with future academic expectancy and success among student-athletes.

Individual Characteristics

Family background characteristics influence students' expectations about college as well as their likelihood of engaging in the college environment (Astin, 1993; Astin & Astin, 2015; Lang, Dunham, & Alpert, 1988). Some researchers (for example, Astin & Astin, 2015; Sedlacek & Adams-Gaston, 1992) have found that the quality of relationships within students' families and the degree of parental or guardian support and expressed interest in a student's wellbeing are also important factors in student-athletes' later academic success.

Individual characteristics, such as race and to a lesser degree gender, have been found to influence collegiate success (Comeaux & Harrison, 2007; Comeaux, Harrison, & Plecha 2006). There is a substantial number of research studies that found that race was a factor contributing to differences between student-athletes' educational experiences. Several studies have documented the existence of a hostile racial environments and the reinforcement of low academic expectations for Black student-athletes attending predominately White institutions (Benson, 2000; Bruening, Armstrong, & Pastore, 2005). Research associated with male and female athletes found that men's basketball and football athletes tend to have a less balanced educational experience compared with student-athletes participating in all other sports and that female student-athletes have a more positive relationship to academic success than do their male counterparts (Pascarella et al., 1999). Marx, Huffmon, and Doyle (2008)

also found that male and female student-athletes experienced a varied overall campus academic and social experience. However, Comeaux and Harrison (2007) found minimal differences between male and female student-athletes with regard to the various forms of contact they had within the college social system. For example, when faculty provided letters of recommendation, encouragement for graduate school, and help in achieving professional goals, they made fairly strong contributions to both male and female student-athletes. These mixed findings suggest that additional studies would be useful to understand the effect gender has on student-athletes' campus social engagement and overall collegiate experience.

Athletic Scholarship Status

Division I and II student-athletes who receive athletic scholarships are often recruited from high school to play their sport at the respective institution (Figler & Figler, 1984). Scholarship status gives the student-athlete priority and often prestige over most nonathletes (Stephan & Brewer, 2007). They are given priority when scheduling classes; excused from classes to participate in their sporting events; and often admired by fellow students, faculty, and alumni for their talent and athletic ability (Figler & Figler, 1984; Stephan & Brewer, 2007). Having a scholarship allows student-athletes to avoid employment because the university supports most of their financial needs, allowing them to dedicate nearly all their time to their sport (Stephan & Brewer, 2007; Werthner & Orlick, 1986). Student-athletes with scholarships can, by default, be involved almost exclusively with the team, and thus, the team becomes their major social network (Stephan & Brewer, 2007). Student-athletes' collegiate success may be affected by the extent to which they integrate into the academic and social environments of the college (Astin & Astin, 2015; Beamon, 2014; Hu & Kuh,

2003; Terenzini & Pascarella, 1991; Tinto, 1987). The impact of college on students in general is largely determined by the degree to which the students engaged in various in-class and out-of-class activities, such as preparing for class (Kuh, 2001). Scholarship status can cause student-athletes to immerse themselves in their sport and view themselves first and foremost as athletes, with that identity taking precedence over any other form of personal identity, including being a student and preparing for a future career (Gaston-Gayles, 2004; Werthner & Orlick, 1986). In short, studies have revealed that the more time and energy students devote to learning and the more intensely they engage within the college environment both academically and socially, the greater their potential outcomes for achievement, satisfaction with the educational experience, and persistence in college (Reason, Cox, Lutovsky Quaye, & Terenzini, 2016; Terenzini & Pascarella, 1991).

Although all scholarship status student-athletes can be affected by their involvement in sports, not all college athletes can be represented as a single subculture in terms of sport commitment. Participating in a revenue-status sport (i.e., men's basketball and football) has been found to have significant effects on sport commitment and thus on campus involvement and a student-athlete's overall educational experience (Gaston-Gayles, 2004; Pascarella et al., 1999).

Revenue Sport Status

Revenue sports are those sports that produce high levels of revenue for the athletic department and the university. The sports that are generally understood to be revenue-status sports are football and men's basketball (Linnemeyer & Brown, 2010; Martin, 2009; Murphy et al. 1996; Pascarella et al. 1999). Pascarella et al. (1999) and Martin (2009) found that participating in revenue-status sports places enormous pressure on student-athletes to achieve

the goals of the athletic department and greater pressure than on student-athletes participating in a nonrevenue-status sport. This pressure can cause significant difficulty for student-athletes in revenue-status sports to balance their athletic and academic college life and to take advantage of those activities required for a productive transition from a sport career to a career outside of sport (Linnemeyer & Brown, 2010; Pascarella et al., 1999).

Scholars have hypothesized that student-athletes in revenue-status sports may be less motivated academically and may lack time or interest in investigating careers outside of sport compared to student-athletes in nonrevenue-status sports (McKinney, 1991). For instance, revenue-status sport student-athletes who are focused on trying to become a professional athlete may have little desire to plan for a career outside of athletics (Linnemeyer & Brown, 2010; Murphy et al., 1996). However, McKinney (1991) suggested that revenue-status sports do not have a significant impact on student-athlete career planning, as they found no differences on a career maturity measure between revenue-status sport student-athletes and those in nonrevenue-status sports. In contrast, Murphy et al. (1996) and Houle (2010) found that nonrevenue-status sport student-athletes scored higher on a career maturity measure than did those in revenue-status sports.

In a NCAA DI study, Linnemeyer and Brown (2010) and Pascarella et al. (1999) found that student-athletes participating in revenue-status sports were under different pressures to satisfy the goals of the athletic department than were those in nonrevenue-status sports (e.g., volleyball, softball, baseball, and women's basketball). Given that 60–80% of a DI athletic department's revenue can be produced through commercial sources featuring these major sports, it is understandable that DI football and men's basketball student-athletes are held to different academic expectations with a higher commitment to their sport

(Pascarella et al. 1999). Additionally, psychosocial problems, such as poor academic motivation and performance, lack of social life, and depression, have been associated with revenue status sport participation (Miller & Kerr, 2002; Pascarella et al., 1999; Tyrance et al., 2013; Watson, 2006).

Adler and Adler (1987), in a qualitative study over a 4-year period, discovered that male student-athletes in revenue-generating sports transitioned into college life with feelings of optimism about their desired academic goals; however, within one or two semesters, they began to devalue the academic role because of sport demands and expectations that structurally inhibited their involvement in educationally purposeful activities. These impediments, coupled with a strong identification with the athletic role of a student-athlete, made it easier for these students to focus on becoming elite athletes at the expense of their academic futures (Adler & Adler, 1987).

Career Decision-Making Self-Efficacy and Career-Planning Factors

Prior to looking at the concept of career self-efficacy and career planning, it is important to first understand the broader construct of self-efficacy. Self-efficacy is one's belief in one's ability to perform a certain behavior (Bandura, 1977). Low self-efficacy can lead to avoidance of a specific behavior, whereas high self-efficacy leads to approaching that behavior (Bandura, 1977). Thus, self-efficacy can be helpful in understanding an individual's underlying motivation to partake in certain behaviors. For example, according to Bandura (1977), if an individual were to have high self-efficacy in his or her ability to make a mature career decision, then that individual would be more likely to approach that task (i.e., make a mature career decision); on the other hand, if an individual were to have low self-efficacy in his or her ability to make a mature career decision, then that individual

would avoid making such a decision. Taylor and Betz (1983) defined career decision-making self-efficacy as the belief that one can successfully complete a task or tasks necessary to make a career decision.

Drawing from Bandura (1977) and Taylor and Betz (1983), researchers have hypothesized that being confident in one's ability to make career decisions is related to one's level of career maturity. To better define the concept of career decision-making self-efficacy, researchers have examined Crites's (1976) model of career maturity (Betz & Luzzo, 1996) with specific interest in Crites's concept of career choice competencies. Due to the link between self-efficacy and feelings of competency, researchers have used the five domains of career choice competency delineated by Crites to measure career decision-making self-efficacy (Betz & Luzzo, 1996). The five domains include the subscale behaviors of accurate self-appraisal, gathering occupational information, goal selection, making plans for the future, and problem solving. These subscale domains do not measure the behaviors themselves (e.g., one's ability to gather occupational information) but, instead, one's belief about one's ability to complete the behavior. Taylor and Betz (1983) found that college students in general believed they were able to complete the tasks necessary to make career decisions. Additionally, the strength of students' career decision-making self-efficacy expectations were negatively related to overall levels of career indecision, and indecision as a component of the study was described as a lack of structure and confidence with respect to career decisions. Taylor and Betz concluded that the students' belief in their ability to complete necessary tasks related to career decision-making was a framework useful for predicting students' actual ability to complete those tasks.

Grove et al. (1997) and Tyrance et al. (2013) discovered that student-athletes who over-identified with the athletic role did in fact fail to engage in career planning activities prior to retiring from sport. These student-athletes struggled to have realistic and mature career plans based on their interests, goals, aptitude, and awareness of vocational options and requirements outside sport (Grove et al., 1997). Grove et al. (1997) further implied that, in order for student-athletes to develop mature career plans, they must engage in multiple roles and self-exploration to identify available career options. As a result, student-athletes who bypass academic and related campus activities to engage exclusively in the athletic role have been found to experience difficulties with adult decision-making skills and to have inferior career maturity as compared to other students on campus (Pearson & Petitpas, 1990; Warriner & Lavalley, 2008). Career maturity research has indicated that academic success is associated with higher career maturity (Powell & Luzzo, 1998).

Student-athletes have been found to have unique challenges with regard to career self-efficacy and career-related planning as they confront circumstances affecting their development as multifaceted and multidimensional individuals (Ferrante et al., 1996; Figler & Figler, 1984). Athletic departments can appear to be separate entities isolated from the rest of the university and may even be viewed as an independent business within the university (Ferrante et al., 1996). The individual student-athletes can internalize the independence and uniqueness set up by the department, and sports may become the major focus of their identity (Brewer et al., 1993). Future career-planning activities may be neglected as student-athletes identify with the athletic department and the role of an athlete and struggle to balance college life with athletic demands, injuries, competition, and personality conflicts with teammates and coaches (Ferrante et al., 1996). These pressures,

time demands, energy, and exclusivity experienced by the student-athlete often result in an increased commitment to the athletic role and a decrease in planning for life after college (Figler & Figler, 1984; Howle, 2010; Martin, 2009; Murphy et al., 1996).

Martin (2009) suggested that many student-athletes become fully engulfed in and satisfied with engaging in their athletic obligations, causing isolation and disassociation from others on campus. Martin also argued that this isolation negatively impacts student-athletes' personal growth as students and holistic members of their larger community as well as their ability to engage in experiences required for career exploration outside sports. Martin suggested that these student-athletes begin to view their involvement in sport more like a job than as an extracurricular college activity. Career planning outside sport was found to be ignored, as a student-athlete's financial needs are provided by the athletic department, as coaches reinforce the student-athlete's self-definition as an elite athlete, and as the team becomes the student-athlete's most dominate social network (Stephan & Brewer, 2007).

Mayocchi and Hanrahan (2000) reported that athletes often fail to recognize the lessons and skills they have acquired from playing sport. It can be very difficult for athletes to see how the same skills that made them successful in sport can make them successful in other career pathways. According to Mayocchi and Hanrahan, these transferable skills may include adaptively, flexibility, dedication, hard work, meeting challenges, self-motivation, and other organizational and goal-achievement skill sets. These kinds of skills can be defined as abstract skills, learned in the sporting environment, that are also applicable to other facets of life and to nonsport careers (Mayocchi & Hanrahan, 2000). However, Martin (2009) argued that colleges and universities are failing if strategic efforts are not employed to ensure that every student-athlete has a college experience filled with developmental

outcomes. Martin suggested that coaches, student affairs educators, and faculty must be willing to become “teammates for success” and collaborate in ways that affirm that student-athletes are students first. Martin offered several strategies that universities should consider for integrating student-athletes and helping these students resolve athletic role engulfment and identity conflicts and develop life skills for the future. These strategies include:

- Providing exposure to leadership engagement opportunities outside sport,
- Utilizing offices and support services outside athletics,
- Connecting classroom learning to other experiences in the community,
- Providing self-reflective opportunities for identity development, and
- Enhancing readiness for future roles by conducting assessments and remediation.

Academic Motivation

Vroom’s (1964) expectancy theory of motivation can help inform researchers making inquiry into student-athlete collegiate success. Vroom’s theory suggests that student-athletes are motivated by perceived rewards and will focus on the actions that are most likely to provide these rewards. Sedlacek and Adams-Gaston (1992) confirmed that social affirmation of sport performance influenced both long- and short-term commitment of student–athletes to their sport. Vroom’s theory suggests that the more a student-athlete receives rewards and validation for high athletic performance, the less academically motivated the student-athlete will be.

Simons, Van Rheenen, and Covington (1999) examined the achievement motivation of 361 university student-athletes (228 males and 133 females) using self-worth theory and measured student-athletes’ approach to success and avoidance of failure. These researchers found that commitment to athletics correlated negatively with college GPA; the higher

student-athletes' commitment to their sport, the lower their GPA. Specifically, the authors used motivational typology based on self-worth theory and achievement motivation as proposed in work by Covington (1992). Covington identified the four motivational types as: (a) success-oriented (i.e., high scores on approaching success and low on avoiding failure), (b) failure-avoiders (i.e., low scores on approaching success and high on avoiding failure); (c) over strivers (i.e., high scores on both measures), and (d) failure-acceptors (i.e., low scores on both measures). They found that those individuals who were classified as failure-acceptor student-athletes were more committed to their sport than were success-oriented student-athletes. It is noteworthy that more failure-acceptor student-athletes played revenue-status sports, such as football and men's basketball, than did student-athletes of other motivational types. Because the failure-acceptors had little or no interest in academics, it seemed as if playing their sport was their sole interest in attending college.

Simons and Van Rheenen (2000) revealed that one major problem for student-athletes was finding the appropriate balance between academic and athletic demands. Their study considered the student-athlete's athletic-academic commitment, exploitation, academic self-worth, and self-handicapping excuses, and they concluded that student-athletes who felt essential to the fabric of the academic community and felt assured in their academic abilities were more academically successful. Simon and Van Rheenen implied that student-athletes' academic identity and academic self-worth were crucial to their academic success.

Adler and Adler (1985, 1987) conducted a 4-year study with a men's college basketball program. They concluded that the majority of the athletes entered college with enthusiasm about completing a degree. However, the athletic demands structurally constrained academic success, and over time, the student-athletes' were motivated to lower

their educational goals. This study highlighted how revenue-status sport student-athletes must negotiate a college experience that includes performance demands that result in insufficient time and energy for studying combined with isolation from campus engagement activities, special treatment from faculty, and pressures from coaches to excel as athletes, which in turn, leads to a disidentification with being a student and embracing the athletic role (Adler & Adler, 1985, 1987).

Meyer (1990) focused on female student-athletes' collegiate experiences. In contrast to Adler and Adler's (1985, 1987) studies, academic disidentification did not occur among the female student-athletes as it did among male student-athletes. Meyer found that the athletic, academic, and social lives of female student-athletes encouraged academic achievement and that they increased their commitment to academic completion over the course of their degree program.

Gaston-Gayles (2004) developed the Student Athletes' Motivation Toward Sports and Academics Questionnaire (SAMSAQ) to examine the relationship between athletic motivation, academic motivation, career athletic motivation, and academic performance as measured by GPA. Using a multiple regression analysis to examine whether motivation was useful in predicting academic performance, gender, race, profile of sport, or parent's education, she found that academic motivation was influential in predicting academic performance. Gaston-Gayles's (2004) study found that higher precollege GPA, ACT scores, and motivation meant higher academic performance in college, as measured by GPA. Consistent with the study by Gaston-Gayles (2004), Shuman (2009) also found academic motivation to be a predictor of academic performance as measured by college GPA, suggesting that academic motivation is significantly related to academic success.

Athletic Identity

Collegiate student-athletes are a specific population, and they face challenges and pressures that affect their development as multifaceted and multidimensional individuals (Ferrante et al., 1996; Figler & Figler, 1984). One challenge they face is isolation from life outside the athletic department, resulting in a lack of campus social and academic integration. Social and academic integration occurs primarily through student-athletes' engagement in campus extracurricular activities other than their sport, interactions with faculty, and interactions with peers other than their teammates (Figler & Figler, 1984). Comeaux (2005) noted that student-athlete integration into the campus social domain, such as study groups and faculty interaction, accounted for modestly significant student-athlete academic success. Additionally, Gaston-Gayles and Hu (2009) examined factors related to student-athlete engagement in educationally sound activities. Using a large dataset from the Basic Academic Skills Study, these researchers revealed that the extent to which student-athletes interacted with faculty did not significantly influence a set of desirable outcomes (Gaston-Gayles & Hu 2009). However, Gaston-Gayles and Hu did find that, on average, student-athletes' interactions with students other than their teammates, but not with faculty, created positive impacts on personal self-concept as well as on skills required for academic success.

Athletic Role Engulfment

Self-identity has been understood from multiple perspectives, and it is generally agreed that identity formation is dependent on both personal factors and the context within which individuals operate (Stephan & Brewer, 2007). It is common for young athletes to place considerable importance on the athletic role and effectively forego holistic development in areas such as academics and socialization during their adolescent years

(Pummell et al., 2008). Athletic identity can be viewed as a self-image with a social definition expressing the extent to which an individual labels him- or herself as an athlete (Brewer et al., 1993; Danish et al., 1993; Houle, 2010); an individual's degree of athletic identity can be defined by the degree to which that individual identifies with his or her athletic role (Brewer et al., 1993; Houle, 2010). Individuals with high athletic identity often tend to forgo educational and social activities in order to train for and engage in athletic competition (Brewer et al., 1993; Danish et al., 1993; Houle, 2010).

Researchers have found that both males and females are capable of developing high athletic identity (Brewer et al., 1993). Brewer et al. (1993) pointed out that, previous to the passage of Title IX, elite-level athletics, particularly contact sports, were generally reserved for males. However, since the passage of Title IX, increasing numbers of college-age females have grown up in the sporting environment. Contemporary female college student-athletes are reaping many benefits of elite athletics, including college scholarships, high-level competition and, for a select few sports, professional careers. Thus, many young female student-athletes are now building their identities around their athletic achievement (Brewer & Cornelius, 2001; Brewer et al., 1993; Houle 2010; Tyrance et al., 2013).

Student-athletes with high athletic identity have been viewed favorably by coaches and teammates because these elite individuals commit themselves to sports physically, mentally, and socially (Warriner & Lavalley, 2008). Their commitment to the sport role results in an investment of time in sport, sacrificing all other activities and ensuring improvement in athletic performance, thereby enhancing their ability to engage at the highest levels of competition (Martin, 2009; Warriner & Lavalley, 2008). Warriner and Lavalley (2008) contended that the time commitment required to succeed in their sport reduced the

opportunity for student-athletes to engage with nonathletes and limited their college experience to the athletic department, reinforcing the students' role as athletes and effectively requiring them to foreclose on any other sense of self other than that of an athlete.

Athletic Identity Foreclosure

Athletic identity foreclosure has been used to describe the identity condition of elite student-athletes when they have foreclosed on any sense of self other than that of an athlete (Martin, 2009; Murphy et al., 1996). It seemed intuitive to several researchers that college student-athletes who are excessively absorbed in their role as an athlete are at risk of foreclosing on any sense of self other than that of an athlete and thus may not devote the time necessary to develop mature career plans outside the sport role (Murphy et al., 1996). Studies used the Athletic Identity Measurement Scale (AIMS; Brewer et al., 1993) to determine if this construct is associated with career maturity. The study by Murphy et al. (1996) was the earliest found to examine the relationship between the athletic identity construct and career maturity. Since this initial investigation, 12 additional studies have explored this association (Kornspan, 2014). As summarized by Kornspan's table reproduced below (Table 1), Kornspan (2014) found eight of these studies discovered a relationship between athletic identity and student-athletes' career development, whereas five did not find any relationship between this construct and career maturity.

Even though not all the studies found a relationship between athletic identity and career maturity, Chartrand and Lent (1987), Howle (2010), and Bladr (2011) suggested that high athletic identity places individuals at risk for role engulfment and athletic identity foreclosure, and in the cases in which student-athletes have foreclosed on any identity outside the sport role, an identity crises often occurs at the student-athletes retirement from collegiate

Table 1

Summary of Research on Athletic Identity (AI) and Career Maturity (CM) of College Student-Athletes

Study	Participants	Instrument	Variables	Selected findings
Murphy, Petitpas, & Brewer (1996)	124 DI athletes	CMI	AI, foreclosed identity, gender, varsity vs. club sport athletes, nonrevenue sport athletes vs. revenue sport athletes	AI and foreclosed identity related to CM; varsity athletes scored lower than club sport athletes on CM; female athletes scored lower than male athletes on CM; nonrevenue sport athletes scored lower than revenue sport athletes on CM; when compared to 12th grade norms on CMI, athletes were in 27th percentile.
Brown & Hartley (1998)	114 DI and DII male athletes	CDI	Realism, AI, NCAA division	No relationship between AI and CM; athletes who selected pro athlete as career choice scored lower on CM than those who did not.
Jaques (2000; as cited in Kornspan, 2014)	86 DI female athletes; 72 female nonathletes	CMI	Athletes vs. nonathletes, pro sport aspirations, AI	Female athletes and female nonathletes scored same on CM; AI was related to CM for female athletes; CM not related to pro sport aspirations or playing on national team; basketball athletes had scored lower on CM than rowing and volleyball athletes.
Keene (2000; as cited in Kornspan, 2014)	140 DI athletes	CDS	AI, gender, GPA, year in school	GPA related to CM; male athletes scored higher than female athletes on career indecision; AI not related to career indecision; year in school not related to CM
Mayo (2000; as cited in Kornspan, 2014)	163 DI athletes	CMI	AI	AI and CM not related
Ahlgren (2001; as cited in Kornspan, 2014)	172 DI athletes, 172 nonathletes	CMI	Athletes vs. nonathletes, AI, career decision-making self-efficacy, career locus of control, ethnic identity, race, career planning, gender	Freshman athletes had the same CM score as freshman nonathletes; career locus of control was a significant predictor of CM for senior athletes and freshman athletes; AI not related to CM; race not a significant predictor of CM; senior athletes had the same CM as senior nonathletes ; not a significant predictor of CM for athletes; career planning scale score significant predictor of CM for freshmen athletes; gender a significant predictor of CM for freshmen athletes; career decision-making self-efficacy related to CM for athletes.

Note. CDI = Career Development Inventory; CDS = Career Decision Scale; CFaI = Career Factors Inventory; CFuI = Career Futures Inventory; CMI = Career Maturity Inventory; CTI = Career Thoughts Inventory; DI = NCAA Division I; DII = NCAA Division II; dep = Dependent.

Table 1 (continued)

Study	Participants	Instrument	Variables	Selected findings
Kornspan & Etzel (2001; as cited in Kornspan, 2014)	259 junior college athletes	CMI	Age, AI, career decision-making self-efficacy, career locus of control, gender, race, year in school	Age and gender related to CM; career locus of control and career decision-making self-efficacy were significant predictors of CM; AI not significant predictor of CM; psychological variables were more significant predictors than demographic variables for CM; race not a significant predictor of CM.
Heller (2008; as cited in Kornspan, 2014)	200 DI athletes	CTI	Gender, AI, revenue- vs. nonrevenue-status sport	Male and female athletes scored the same on CTI; revenue- and nonrevenue-status sport athletes scored the same on CTI; AI related to CTI
Whipple (2009 ; as cited in Kornspan, 2014)	367 DIII athletes	CMI	AI, foreclosed identity, public & private athletic identity, gender, male	AI related to CM; foreclosed identity related to CM; public AI related to CM; private AI related to CM; male & female athletes scored the same on CM; when compared to 12th grade norms for CMI, athletes were in 34th percentile
Houle (2010)	221 DI athletes	CDS	AI, belief in ability to become a pro athlete, career decision-making self-efficacy, gender, race, scholarship status	AI related to CM; belief in ability to become a pro athlete related to CM; career decision-making self-efficacy-related to CM; scholarship status related to CM; female athletes scored higher than male athletes on CM; African Americans higher than Caucasian Americans on CM
Bader (2011; as cited in Kornspan, 2014)	42 DI-AA athletes, 29 DI-AA nonathletes	CMI	Career locus of control, AI, career barriers, career commitment, athletes vs. nonathletes	Athletes scored lower than nonathletes on CM; AI related to CM; career locus of control related to CM
Hukee (2011; as cited in Kornspan, 2014)	30 DIII athletes, 50 nonathletes	CFaI	Athletes vs. nonathletes, AI	Athletes & nonathletes scored the same on CM; AI not related to CM
Tyrance, Harris, & Post (2013)	538 DI athletes	CFuI	AI, gender, expectation to play pro sport, race, revenue vs. nonrevenue sport	Males scored higher on career knowledge; males scored higher on career optimism; race not related to CM; AI not related to career adaptability or career knowledge; AI related to career optimism; expectation to play pro sport related to CO.

Note: Adapted from Career maturity and college student-athletes: A comprehensive review of literature (Kornspan, 2014)

sport. Brewer et al. (1993) reported that, historically, the majority of sport identity crisis research has centered on effects of athletic identity with career-ending injury and the lack of career planning associated with high athletic identity. Much of this research has identified the negative factors elite athletes experience upon ending their athletic career such as depression and a lack of age-appropriate career planning (Brewer et al., 1993). Sport retirement adjustment difficulties have also been known to range from low self-confidence to increased anxiety and disordered eating (Papaioannas & Lavallee, 2006).

Drawing from these accounts, it appears that athletic identity crisis is a phenomenon that may affect student-athletes upon their retirement from their sport career. For example, working with a sample of former Olympic-caliber Canadian athletes, Werthner and Orlick (1986) found that 78% of their participants had encountered difficult transitions, with 32% finding the experience incredibly difficult or even traumatic. On the other hand, there are a handful of empirical studies conducted in the area of sport retirement that have identified very few manifestations of psychological distress (Greendorfer & Blinde, 1985). It is apparent that some athletes find the challenges of their retirement overwhelming and consequently experience a crisis, whereas others experience a positive transition with very few problems. This research suggests that the nature of a student-athlete's overall collegiate, academic, and campus interaction has much to do with experiencing a positive transition out of sport (Greendorfer & Blind, 1985).

Retirement from Collegiate Athletics

Gordon and Lavallee (2004, as cited by Lavallee & Robinson, 2007) developed conceptual models of sport career transition that examine the entire course of the student-athlete through the career transition process. These models focus on how the quality of

adjustment is influenced by the causal factors that initiate the athletic career termination process, including developmental factors that differentiate positive and negative adaptation as well as coping resources, such as career services and total campus engagement, that can affect the career transition response.

As athletes retire from their sport, they often feel loss, become disillusioned with a life outside sport (Pearson & Petitpas, 1990), and fail to give credit to the lessons and skills acquired from playing their sport. It can be very difficult for athletes to see how the same skills that made them successful in sport can make them successful in other career pathways (Mayocchi & Hanrahan, 2000). It is important that student-athletes understand that these skills are transferable and critical to a positive retirement from sport and that they aid in the development of their career search, career selection, and performance in nonsport careers. In athletics, transferable skills are the skills acquired in sport that can be applied to nonathletic areas of life and to nonsport careers (Mayocchi & Hanrahan, 2000). These transferable skills may include adaptability, flexibility, dedication, hard work, meeting challenges, self-motivation, and other organizational and goal achievement skill sets.

These kinds of skills can be defined as abstract skills learned in the sporting environment that are applicable to other facets of life or to nonsport careers (Mayocchi & Hanrahan, 2000). According to Mayocchi and Hanrahan (2000), increasing an athlete's awareness of these athletic transferable skills may be enough to have a positive effect on athletic career transition, and thus, transferable skill awareness has nonsport career implications.

Summary

The literature suggests that there is an array of interacting factors that moderate student-athletes' collegiate experience. Factors influencing collegiate academic success for student-athletes include demographic characteristics, individual characteristics, precollege social and educational engagement, as well as inputs from family and friends (Astin & Astin, 2015; Benson, 2000; Bruening et al., 2005; Comeaux, 2005; Comeaux & Harrison, 2007; Hu & Kuh, 2003; Lang et al., 1988; Perlmutter, 2003; Sedlacek & Adams-Gaston, 1992).

Erikson's (1968) theory of identity development applies to young adults of traditional college age. According to Erikson, college-age students are confronted with the issue of identity versus role confusion (Erikson, 1969). It is at this stage of identity versus role confusion that the identity of an individual is either solidified or questioned (Erikson, 1969). According to Super (1990), individuals develop through different stages during which career and work become more or less a focal point of their identity. The most applicable stage to collegiate student-athletes is the exploration stage, which matches with Erikson's traditional college age group (Erikson, 1969; Super, 1990). During this stage, individuals mature through adolescence to young adulthood and begin to reflect on occupational interests and to develop occupational preferences (Super, 1990). Individuals with high athletic identity often engage in athletic role engulfment and forgo the type of identity exploration Super's theory suggests is needed to develop occupational preferences and thus, as Erikson's theory predicts, the athlete solidifies his or her athletic identity (Chen et al., 2010; Ferrante et al., 1996; Figler & Figler, 1984).

Once on campus, the student-athlete's commitment to sports is often seen as an interactive process that involves an evaluation of the student-athlete's attitude toward

academic and athletic success over time (Coakley, 2011; Stephan & Brewer, 2007). Simons et al. (1999) and Martin (2009) went as far as to suggest that the very nature of intercollegiate athletics pressures all student-athletes, particularly those in revenue-status sports, into increasing their commitment to athletics and minimizing their academic commitment, motivating them toward sport and away from academics.

When student-athletes overcommit to the athletic role and bypass academic engagement, they often foreclose on other identity possibilities, thus further reinforcing their athletic identity (Martin, 2009; Warriner & Lavalley, 2008). Those who do engage in role engulfment have been found to experience athletic identity foreclosure, see themselves exclusively as an athlete, and do not reflect on interests outside sports (Houle, 2010; Martin, 2009; Pascarella et al., 1999; Warriner & Lavalley, 2008). Under these conditions, these student-athletes are often unable to develop adult career decision-making skills, which are required to make reasonable career choices (Etzel, 2006; Grove et al., 1997; Pearson & Petitpas, 1990). These student-athletes often experience varying degrees of crises upon retirement from their collegiate athletic career, feel a loss of confidence, and become disillusioned with their future and their ability to complete tasks necessary to make reasonable career decisions, all stemming from their lack of preparation for a meaningful life without sport (Pearson & Petitpas, 1990).

Variables such as scholarship status, expectancies, professional sport expectations, career decision-making self-efficacy, revenue-status sport status, and the level of competition (i.e., Division I, II, and III) have all been found to be predictors of academic integration and performance. These predictors, unlike intelligence and personality, tend to be more

contextual, account for student-athletes' academic and athletic pressure, and consequently, are useful for predicting academic outcomes (Covington, 1992).

In this literature review, the predominant finding was that NCAA DI student-athletes, particularly those in revenue-status sports, are more likely to be less academically and socially engaged than are nonathletes and are at risk of completing their collegiate experience less prepared to engage in a career outside of the sport role. For the traditional college-age student-athlete, identity exploration is critical for developing a meaningful life beyond sport, and academic integration may be the best avenue for a student-athlete to explore identity possibilities.

CHAPTER 3. METHODOLOGY

Overview

This study used a quantitative approach to examine the influence of demographic information, individual characteristics, and noncognitive psychological factors related to identity and career self-efficacy issues on academic motivation for DII student-athletes. Additionally, the study intentionally focused on finding significant differences between revenue- and nonrevenue-status sport student-athletes attending DII universities. This chapter outlines the methodology used in this study, including a review of the research questions, statements of hypotheses, and presentations of the research design, conceptual framework, variables, specific statistical techniques, limitations, and ethical considerations of the study.

Pilot Study

A pilot study conducted in April of 2014 informed this current study. The pilot study explored the differences between football (revenue-status sport) and volleyball, women's basketball, men's baseball and softball (nonrevenue-status sports) among student-athletes to determine if revenue-status sport student-athletes' athletic identity, career decision self-efficacy, professional career aspirations, and academic motivation were different from that of those of nonrevenue-status sport student-athletes. In addition, the pilot study examined if a relationship existed between athletic identity and career decision-making self-efficacy among student-athletes.

To examine the differences among these variables, student-athletes participating in five sports were surveyed at a NCAA DII university in the upper Midwest. Participants completed a demographic information sheet, a question asking the likelihood of the participant becoming a professional athlete, an AIMS survey, Career Decision-Making Self-

Efficacy subscales, and an Academic Motivation Scale. Individual coaches of each sport sent the survey to participants in their respective sport. Correlation analyses were used to determine if a significant relationship existed between athletic identity and career decision self-efficacy subscales, and *t*-test analyses were employed to test the differences between student-athletes in a revenue-status sport (football) and those in nonrevenue-status sports (all other sports).

The pilot study found few significant correlations between athletic identity and career decision self-efficacy subscales. However, a negative relationship was found between two of the career decision-making self-efficacy subscales (occupational information gathering and occupational problem solving). These two subscales were used in the present study. In the pilot study, there were no significant differences between revenue-status sport student-athletes and those in nonrevenue-status sports with regard to athletic identity, career decision self-efficacy, and academic motivation. However the pilot study did find a significant difference between student-athletes involved in revenue-status sports and those involved in nonrevenue-status sports related to professional sport career aspiration of “going pro.”

Research Questions and Hypotheses

This study was guided by five research questions that called for the examination of the effect of relevant factors on DII student-athletes’ academic motivation. Furthermore, a hypothesis for every eligible research question was stated in the form of a null hypothesis. Because research question 1 refers to a descriptive analysis, only research questions 2 through 5 were included in the hypothesis testing.

Research question 1: What are the demographic characteristics of student-athletes at NCAA DII universities who participated in the NCAA DII Student-Athletes Academic Motivation Survey?

Research question 2: Is there a significant relationship for DII student-athletes between athletic identity, academic motivation, and career decision-making self-efficacy subscale variables?

Null hypothesis 1: No statistically significant relationship exists between athletic identity, academic motivation, and career decision-making self-efficacy variables.

Research question 3: Are there statistically significant differences in academic motivation among full-scholarship, partial-scholarship, and no-scholarship status student-athletes at NCAA DII schools?

Null hypothesis 2: No statistically significant difference exists in a student-athlete's academic motivation at NCAA DII schools relative to whether the student-athlete receives a full scholarship, partial scholarship, or no scholarship.

Research question 4: Is there a statistically significant difference in athletic identity, academic motivation, career decision-making self-efficacy subscale variables, belief in a financially sustainable professional sports career, and academic motivation between DII student-athletes in revenue-status sports (football and men's basketball) and those in all other sports?

Null hypothesis 3: No statistically significant difference exists between revenue-status sport DII student-athletes and those in other sports in the areas of athletic identity, academic motivation, career decision-making self-efficacy subscale

variables, and the belief that they can sustain themselves financially in professional sports and academic motivation.

Research question 5: To what extent do student-athlete's year in school, belief in a financially sustainable professional sports career, scholarship status, revenue status of sport, career decision-making self-efficacy subscales, and athletic identity predict DII student-athletes' academic motivation?

Null hypothesis 4: Year in school, belief in a sustainable professional sport career, scholarship status, revenue-status sport participation, career decision-making self-efficacy subscales, and athletic identity do not predict DII student-athletes' academic motivation.

Survey Instrument

The data for this study were collected from the NCAA Division II Student-Athletes Academic Motivation Survey (Appendix A) administered to DII college student-athletes from five NCAA DII member universities and involving 353 participants. The student-athletes were asked to complete an online survey (Appendix A), which collected the following explicit information: (a) demographic information, (b) their belief in their ability to become a professional athlete, (c) measures of their athletic identity, (d) the career self-efficacy subscales of occupational information gathering and occupational problem solving, (e) and an academic motivation subscale. The instruments that were used to gather these data were: (a) a demographic information sheet, (b) the AIMS survey instrument, (c) the CDSE-SF and (d) SAMSAQ subscales. The codebook for the study is provided in Appendix B.

Study Variables

An EFA was conducted to determine the intercorrelations between variables in the Academic Motivation and Career Aspirations NCAA Division II Student-Athletes Survey dataset related to the reliability of the multiple item summable measurement scales that were used in this study. The EFA with varimax rotation was performed through SPSS and was used to evaluate factor loadings and internal consistency (Chronbach's alpha) and to achieve a simple structure of the eigenvectors (factors) of the construct's athletic identity, career decision-making self-efficacy subscales, and the student-athlete's motivation toward academics.

Career Decision Self-Efficacy Variables

The Career Decision Self-Efficacy Scale (CDSE) was designed to measure the amount of confidence individuals have in their ability to successfully complete tasks necessary to make a career decision (Taylor & Betz, 1983). The latest version of the CDSE, the CDSE-SF (Betz et al., 2005), was modified and used for this current study. This measure contains 25 items, compared to the 50 items in the original measure. The scale consists of five subscales identified as Self-Appraisal, Gathering Occupational Information, Goal Selections, Making Plans for the Future, and Problem Solving. Participants indicate their perceived ability to complete tasks associated with career decision-making using a four-point Likert-type scale ranging from 1 (*no confidence*) to 4 (*complete confidence*). Total summed scores are generated with higher scores associated with a stronger positive belief in one's ability to complete career decision-making tasks. The CDSE-SF correlates with two scales that theoretically overlap with the construct of career decision-making self-efficacy. The first scale is the Hope Scale, designed by Snyder et al. (1997) to measure an individual's

sense of positive expectations for achieving a goal and a positive belief in that individual's ability to plan to meet set goals. The second scale is the Positive and Negative Affect Schedule Scale, designed by Watson, Clark, and Tellegen (1988).

Taylor and Betz (1983) defined career decision-making self-efficacy as the belief that one can successfully complete a task or tasks necessary to make a career decision. Due to the link between self-efficacy and feelings of competency, researchers have used the five domains of career choice competency delineated by Crites (1976) to measure career decision-making self-efficacy (Betz & Luzzo, 1996). The five domains include accurate self-appraisal, gathering occupational information, goal selection, making plans for the future, and problem solving. Taylor and Betz (1983) concluded that the students' belief in their ability to complete necessary tasks related to career decision-making is a framework useful for predicting the students' actual ability to complete those tasks.

Taylor and Betz (1983) found that college students in general believe that they are able to complete the tasks necessary to make career decisions. However, in the pilot study conducted for this study, two of the five domains were found to have a significantly negative relationship with DII student-athletes' athletic identity values (Weatherly, 2016): (a) self-appraisal, $r(67) = -.229, p < .058$; (b) occupational information, $r(66) = -.268, p < .027$; (c) goal selection, $r(67) = -.158, p < .196$; (d) planning, $r(67) = -.204, p < .044$; and (e) problem solving, $r(69) = -.246, p < .044$. Only occupational information gathering ($p < .027$) and problem solving ($p < .044$) showed a significant relationship (Weatherly, 2016).

The findings from the pilot study were used to inform the design of the present study, and the two subscales that were found to have a significant (negative) relationship with DII student-athletes' athletic identity values (Occupational Information Gathering and Problem

Solving) of the CDSE-SF were included in the data analysis. The findings were consistent with those of Murphy et al. (1996), who found that athletic identity is negatively correlated with the general concept of career maturity among DI student-athletes. However, the pilot study did not replicate the study by Murphy et al., differing by level of competition (DI vs. DII). Furthermore, the present study was specifically focused on student-athletes' academic motivation and their confidence in gathering occupational information and occupational problem solving career self-efficacy rather than the general concept of career maturity. This specific interest was also supported by previous examinations of the constructs of athletic identity and career maturity, which have not been shown to have a significant relationship with the construct of career maturity (Brown & Hartley, 1998).

The first CDSE-SF subscale, which measures occupational information gathering self-efficacy, was found to have factor loads of .60 or higher, and reliability was also adequate (Chronbach's $\alpha = .776$). The KMO measure of sampling adequacy was found to be .782, and Bartlett's test of sphericity was significant at $p < .001$. The factor loads for the second subscale, which measures occupational problem solving self-efficacy, were found to be .6 or higher, and reliability was also adequate (Chronbach's $\alpha = .762$). The KMO measure of sampling adequacy was .746, and Bartlett's test of sphericity was significant at $p < .001$. The two 5-item subscales were recoded by taking the simple sum of the items, renamed INFOGATHER and PROBSOLVE, respectively, and were used as the subscale construct for all relevant analyses for this study.

Athletic Identity Variable

The AIMS survey instrument was modified and used to determine the strength and exclusivity of the student-athlete's identification with the athlete role. In studies using the

AIMS, construct results have been shown to be internally consistent ($\alpha = .81$; Brewer et al., 1993). Convergent validity was also found by comparing the AIMS to the Perceived Importance Profile (PIP). The PIP scale was designed to measure the amount of importance that individuals place on sport (Brewer et al., 1993). In the present study, EFA was conducted using all seven items from the AIMS instrument. After the first rotation, all items that were found to have commonalities lower .40 and factor loads lower than .50 were removed from the construct. Four items emerged with factor loads of .70 or higher, with the exception of one item that was retained with a loading of .686 due to its close thematic connection to the other factors (see chapter 4), and reliability was adequate (Cronbach's $\alpha = .776$). The KMO measure of sampling adequacy was .738, and Bartlett's test of sphericity was significant at $p < .001$. The remaining four items were recoded by taking the simple sum of the items and renaming them ATHLETICID, which was used as the athletic identity construct for all relevant analyses for this study.

Academic Motivation Variable

Expectancy-value frameworks were used in this study's analysis. Based on this framework, individual choice and effort was measured to give a value to the student-athlete's academic motivation. In expectancy value theory, an individual's self-concept about his/her ability to complete a task successfully, along with the level of difficulty associated with such task, influences the probability or expectancy of success (Gaston-Gayles, 2004, 2005). Additionally, Gaston-Gayles (2004, 2005) and Shuman (2009) concluded that an individual will place a value on a specific task, which functions to inform the individual the extent to which the task satisfies a need, aids in current goal attainment, and is important in fulfilling a future goal.

The SAMSAQ (Gaston-Gayles, 2004) was modified with permission of the author (see Appendix C) and used to assess academic motivation. This instrument was constructed from an expectancy value motivation framework (Gaston-Gayles, 2004, 2005; Shuman, 2009). Accordingly, student-athletes who are highly academically motivated will approach academic achievement with a high degree of energy and spend the time required for academic achievement.

The current SAMSAQ consists of three different subscales: (a) Student Athletic Motivation (eight items), which measures the extent to which an individual participates in pursuing their sport; (b) Academic Motivation (AM; 16 items), which measures the extent to which an individual participates and is motivated toward academic related tasks; and (c) career athletic motivation (five items), which measures a reflection of the desire to play sports at the professional or Olympic level (Gaston-Gayles, 2005). After a review of all the questions from the academic subscale, 14 questions were selected from the AM subscale and the scores of four items (Q15R, Q17R, Q20R, and Q23R) in the survey questionnaire were reversed and recoded.

The EFA was conducted using the 14 selected items from the SAMSAQ (AM) subscale instrument. After the first rotation, all items that were found with commonalities lower than less than .35 and factor loads lower than .50 were removed from the construct, after which a second EFA was conducted. Eight items emerged with factor loads of .60 or higher, and reliability was adequate (Chronbach's $\alpha = .838$). The KMO measure of sampling adequacy was .863, and Bartlett's test of sphericity was significant at $p < .001$. The eight items were recoded into a single variable by taking the simple sum of the items, and the new

variable was renamed ACADEMIC, which was used as the academic motivation construct for all relevant analyses for this study.

Sample

The total student-athlete population at the five university campuses was 3,295. Because this study was focused on measuring the differences between student-athletes in revenue-status sports versus nonrevenue-status sports, all student-athletes were viewed as potential participants. It was determined that the way to achieve maximum participation by the student-athletes was to work through a college representative outside the athletic department. Initial contact was made with individuals who had a connection with the student-athlete academic success office (see Appendix D). Once this contact was made, the respective college contacts made arrangements for survey distribution based on the process that the individual institution contact suggested. This design required the university's representative or the representative's agent to send out the survey (Appendix A) along with a cover letter (Appendix E), which limited student-athlete participation to the number of athletes with whom the university representatives had contact. This method resulted in 983 student-athletes receiving the survey and 353 responding, resulting in a 35.9 percent response rate. Before any students were contacted, the details of the study were submitted to and approved by Iowa State University's (ISU) Institutional Review Board (IRB) (see Appendix F). All research institutions were sent the ISU's IRB approval letter and all the institutions accepted the ISU IRB approval letter with the exception of one institution. One institution required the study to be submitted through its review board and was approved on March 21, 2016 (see Appendix G).

Data Collection

Participants were invited via e-mail, sent by the respective university representatives, to complete the survey. The online survey program Qualtrics was used to collect the responses. Student-athletes were sent the e-mail informing them about the study and directing them to the link to the survey. The link took them to a website, where they filled out the survey. Individuals were able to opt out of the survey at any time. The survey was administered to the student-athletes in March and April of 2014 for the pilot study and in March and April 2016 for the present study. The data gathered both for the pilot study and for the present study were used for this study.

Data Analysis

The SPSS Statistics 24 computer software program was used to execute the statistical analyses for this study. Using SPSS, an analysis of standard residuals was carried out on the data to identify any outliers. Because the data collected for this study was gathered by explicit survey questions, each outlier was analyzed only for obvious anomalies or mistakes. One participant's answer to the question of age was considered an obvious incorrect answer (99 years old) and was deleted. No other outliers were obvious errors and therefore no other outliers were removed.

SPSS was used to determine general demographics of the data sample, the reliability of the multiple item summable measurement scales, any additional relationships between constructs, the extent to which relevant variables predicted academic motivation, and the relevant differences between student-athletes participating in this study. The following analyses were conducted for this study:

1. A descriptive analysis was used as an outline of the relevant demographic characteristics of the student-athletes participating in the Academic Motivation and Career Aspirations NCAA Division II Student-Athletes 2014/16 Survey. These descriptive statistics included the participants': (a) major, (b) sport, (c) gender, (d) race/ethnicity, (e) year in school, (f) age, (g) scholarship status, and (h) highest level of education completed by parents.
2. An EFA was conducted to determine the intercorrelations between the variables in the NCAA Division II Student-Athlete Academic Motivation survey dataset.
3. A Pearson Correlation analysis was used to determine if any significant relationship existed among the Athletic Identity, Academic Motivation, and Career Decision-Making Self-Efficacy subscale variables.
4. An ANOVA was conducted to determine if any significant difference existed in student-athletes' academic motivation among those with full-scholarship, partial-scholarship, and no-scholarship status.
5. An independent samples *t* test was conducted to determine if any significant differences existed between student-athletes in revenue-status sports versus those in all other sports with regard to student-athletes' athletic identity, academic motivation, career decision-making self-efficacy subscale variables, and the belief that they could sustain themselves financially in professional sports.
6. A hierarchical multiple regression analysis was conducted to determine to what extent year in school, belief in a professional sports career, scholarship status, revenue status sports participation, career decision-making self-efficacy subscales, and athletic identity predicted DII student-athletes' academic motivation.

Limitations

The first limitation to this study concerns the sample used for the investigation. The sample was taken from DII institutions located in five Midwest states with Whites being the primary participants. The restriction of the sample to Midwest institutions and 90% of the participants being White may limit the external validity of the present study's findings. Considering this limitation, this study's findings may not be generalizable to college students with different demographic characteristics or from other geographic locations. This study also is limited by the correlation-based design employed to evaluate the hypotheses. Due to this design, no causality can be inferred with regard to the relationship between the study's variables, and it is also possible that variables may exist that were not accounted for, which would significantly impact the results. The results of this investigation are further limited by the use of self-reporting, which is subjective and lends itself to biased responding. Additionally, the use of the Belief That One Can Financially Support Himself/Herself as an Athlete measure lacks evidence of psychometric soundness, which limits the confidence in the findings of the present study.

Ethical Considerations

The participating athletic departments' team coaches were used to assist in the gathering of the data. A risk associated with this study was breach of confidentiality. To minimize these risks, the participants filled out the survey on Qualtrics without any student names being collected. Additionally, the names of the institutions that participated in this study were kept confidential. The privacy of all participants was protected, and survey results were reported in aggregate and not by individual school. No incentives were used to encourage participation in the present study. Additionally, all individual universities and

team sport information was kept in aggregate. Any information obtained in connection with this study will remain confidential.

Summary

In this chapter, the 2014 pilot study that was used to inform this study was reviewed as were the research questions, and null hypotheses were stated for every eligible research question. The research design and the summed variables used for this study were also presented, the sample population and data collection and data analysis methods were described, and the limitations and ethical considerations of the study were outlined.

CHAPTER 4. RESULTS

Overview

This chapter presents the results of the study. The chapter includes results from the descriptive analysis, EFA, and comparison of means including differences between the selected populations relevant to this study. Additionally, results with regard to the correlation analysis and predictive regression models are reported.

Descriptive Analysis

The first research question asked: What are the demographic characteristics of student-athletes at NCAA DII universities who participated in the NCAA Division II Student-Athletes Academic Motivation Survey. These descriptive statistics included student-athletes' (a) major, (b) sport, (c) gender, (d) race/ethnicity, (e) year in school, (f) age, (g) scholarship status, and (h) highest level of education completed by parents.

As shown in Table 2, the lowest percentage of student-athletes were liberal arts (4.0%) or education (8.2%) majors, and the highest percentage were pursuing degrees in business (27.8%) or nursing/health science (23.8%). Football and men's basketball players represented slightly more than 28% of the student-athletes in the study; the remaining 72% of the participants participated in other sports. Nearly 44% of the respondents were female and 53% were male; 93% were White, 4% were Black, and 3% identified as mixed or other ethnicities. Over half (56%) of the participants were in their first or second year of college. Less than 10% of the student-athletes were 18 years of age, whereas nearly 77% were 19, 20, or 21 years of age. Most of the student-athletes responding (64.3%) were on partial scholarship with the remaining participants split between full scholarship (15.9%) and no scholarship (17.8%) Less than 5% of the student-athletes' parents had received a high school diploma as their highest educational achievement, whereas over half (52.1%) had received an

Table 2
Demographic Characteristics of Participants

Variable	All student-athletes		Sport status			
	<i>n</i>	%	Revenue		Nonrevenue	
			<i>n</i>	%	<i>n</i>	%
Sample (<i>N</i> = 353)						
Athlete population	3,295	100.0				
Survey population	983	29.8				
Respondents	353	35.9	100	10.2	253	25.7
Major (<i>n</i> = 345)						
Liberal Arts	14	4.0	6	6.0	8	3.2
Education	29	8.2	11	11.0	18	7.1
Science & Engineering	62	17.6	10	10.0	52	20.6
Nursing & Health Science	84	23.8	14	14.0	70	27.7
Business	98	27.8	44	44.0	54	21.3
Other	58	16.4	14	14.0	44	17.4
Missing	8	2.3	1	0.1	7	2.8
Sport (<i>n</i> = 346)						
Volleyball	26	7.4	0	0.0	26	10.3
Football	76	21.5	76	76.0	0	0.0
Women's basketball	25	7.5	0	0.0	25	9.9
Men's basketball	24	6.8	24	24.0	0	0.0
Baseball	31	8.8	0	0.0	31	12.3
Softball	23	6.5	0	0.0	23	9.1
Men's cross country	16	4.5	0	0.0	16	6.3
Men's track/field	18	5.1	0	0.0	18	7.1
Women's cross country	10	5.1	0	0.0	10	4.0
Women's track/field	31	8.8	0	0.0	31	12.3
Women's soccer	20	5.7	0	0.0	20	7.9
Men's soccer	2	0.6	0	0.0	2	0.8
Other	44	12.5	0	0.0	44	17.4
Missing	7	2.0	0	0.0	7	2.8
Gender (<i>n</i> = 342)						
Female	155	43.9	0	0.0	154	60.9
Male	187	53.0	98	98.0	90	35.6
Missing	11	3.1	2	2.0	9	3.6
Race/ethnicity (<i>n</i> = 342)						
Black/African American	15	4.2	11	11.0	4	1.6
White	317	89.8	82	82.0	235	92.9
Other	10	2.9	5	5.0	5	2.0
Missing	11	3.1	2	2.0	9	3.6

Table 2 (continued)

Variable	All student-athletes		Sport status			
	<i>n</i>	%	Revenue		Nonrevenue	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Year in school (<i>n</i> = 345)						
1st	105	29.7	29	29.0	76	30.0
2nd	93	26.3	25	25.0	68	26.9
3rd	73	20.7	20	20.0	53	20.9
4th	61	17.3	22	22.0	39	15.4
5th	13	3.7	3	3.0	10	4.0
Missing	8	2.3	1	1.0	7	2.8
Age (<i>n</i> = 340)						
18 years old	34	9.6	10	10.0	24	9.5
19 years old	91	25.8	25	25.0	66	26.1
20 years old	87	24.6	21	21.0	66	26.1
21 years old	70	19.8	24	24.0	46	18.2
22 years old	45	12.7	13	13.0	32	12.6
23	13	3.70	5	5.0	8	3.2
Missing	13	3.70	2	2.0	11	4.3
Scholarship (<i>n</i> = 346)						
Full	56	15.9	24	24.0	32	12.6
Partial	227	64.3	56	56.0	171	67.6
None	63	17.8	20	20.0	43	17.0
Missing	7	2.0	0	0.0	7	2.8
Parents' highest level of education (<i>n</i> = 345)						
High school or less	3	0.8	2	2.0	1	0.4
High school diploma	17	4.8	10	10.0	7	2.8
Some college	36	10.2	11	11.0	25	9.9
Associate's degree	32	9.1	8	8.0	24	9.5
Bachelor's degree	142	40.2	38	38.0	104	41.1
Some graduate school	10	2.8	2	2.0	8	3.2
Graduate degree	105	29.7	29	29.0	76	30.0
Missing	8	2.3	0	0.0	8	3.2

associate's or bachelor's degree and 29.7% had received graduate degree as their highest level of education completed.

Exploratory Factor Analysis

An EFA was conducted to determine the intercorrelations between variables in the NCAA Division II Student-Athletes Academic Motivation Survey dataset related to the reliability of the multiple-item summable measurement scales used in this study. The EFA with varimax rotation was performed using SPSS and was used to evaluate factor loading and internal consistency (Chronbach's alpha) and to achieve a simple structure of the eigenvectors (factors) of the constructs Athletic Identity and Career Decision-Making Self-Efficacy subscales and the student-athlete's motivation toward academics.

Athletic Identity Construct

In this study, the EFA was conducted using all seven items from the AIMS instrument. After the first rotation, all items having commonalities lower than .40 and factor loads lower than .50 were removed from the construct. Four items emerged with factor loads of .70 or higher, with the exception of one item that was maintained with a loading of .686 due to its close thematic connection to the other factors (Table 3). Reliability was adequate ($\alpha = .776$), the KMO measure of sampling adequacy was .738, and Bartlett's test of sphericity was significant at $p < .001$. The remaining four items were recoded by taking the simple sum of the items and renaming them ATHLETICID, which was used as the athletic identity construct for all relevant analysis for this study.

Table 3

Exploratory Factor Analysis Results

Variables	Factor loading
Athletic Identity ($\alpha = .776$)	
Most of my friends are athletes	.701
Sport is the most important part of my life	.860
I spend more time thinking about sport than anything else	.856
I would be very depressed if I were injured and could not compete in sport	.686
Occupational Information Gathering ($\alpha = .776$)	
Find information in the library about occupations you are interested in	.604
Find out the employment trends for an occupation over the next 10 years	.723
Find out about the average yearly earnings of people in an occupation	.770
Talk with a person already employed in a field you are interested in	.681
Find information about graduate or professional schools	.768
Problem Solving ($\alpha = .838$)	
Determine steps if having academic trouble with an aspect of major	.741
Persistently work at your major or career goal you get frustrated	.643
Change occupations if you are not satisfied with the one you enter	.718
Identify major or career alternatives if unable to get first choice	.802
Change majors if you don't like your first choice	.685
Academic Motivation ($\alpha = .738$)	
I will be able to use what is taught in my courses in different aspects of life	.763
I am willing to put in the time to earn excellent grades in my courses	.745
The most important reason why I am in school is to earn a degree	.635
It is not worth the effort to earn excellent grades in my courses	.626
I get more satisfaction earning a high grade than winning a sport game	.636
I chose my major because it is something I am interested in as a career	.659
The content of most my courses is interesting to me	.737
It is important to me to learn what is taught in my courses	.752

Career Decision Self-Efficacy Scale

The Occupational Information-Gathering subscale, which measures the confidence student-athletes have in their career information-gathering ability, was found to have factor loads of .60 or higher, and reliability was also adequate ($\alpha = .776$). The KMO measure of sampling adequacy was .782, and Bartlett's test of sphericity was significant at $p < .001$. The Occupational Problem Solving subscale was used to measure the confidence that student-athletes had in their occupational problem solving abilities. All factor loads for the subscale were .6 or higher, and the reliability also was adequate ($\alpha = .762$). The KMO measure of sampling adequacy was .746, and Bartlett's test of sphericity was significant at $p < .001$. The two 5-item subscales were recoded by taking the simple sum of the items and renaming them INFOGATHER and PROBSOLVE, respectively. INFOGATHER and PROBSOLVE were used as the subscale constructs for all relevant analyses for this study.

Academic Motivation Construct

The EFA was conducted using the SAMSAQ-AM subscale instrument. After the first rotation, all items found having commonalities lower than .35 and factor loads lower than .50 were removed from the construct, and a second EFA was conducted. Eight items emerged with factor loads of .60 or higher, and reliability was adequate ($\alpha = .738$). The KMO measure of sampling adequacy was .863, and Bartlett's test of sphericity was significant at $p < .001$.

The remaining eight items are recoded by taking the simple sum of the items and renaming them ACADEMIC, which was then used as the academic motivation construct for all relevant analyses for this study.

Correlation Analysis

The second research question asked: Is there a significant relationship for DII student-athletes between athletic identity, academic motivation, and career decision-making self-efficacy subscale variables? The hypothesis for this research question was stated in null hypothesis form as: No statistically significant relationship exists between athletic identity, academic motivation, and career decision-making self-efficacy variables.

To answer the second research question, the newly created variable ATHLETICID was used to measure athletic identity, the two newly created variables INFOGATHER and PROBSOLVE were used to measure the Career Decision-Making Self-Efficacy subscale variables, and the newly created variable ACADEMIC was used to measure academic motivation. A Pearson correlation analysis was used to determine if there was a significant relationship among these variables.

Academic motivation, $r(331) = -.272, p < .001$; occupational information gathering, $r(333) = -.194, p < .001$; and occupational problem solving, $r(335) = -.152, p < .01$, were each found to have a significantly negative relationship with athletic identity. Occupational information gathering, $r(321) = .478, p < .001$, and occupational problem solving, $r(324) = .408, p < .001$, were found to each have a significantly positive relationship with academic motivation. Occupational information gathering, $r(333) = .710, p < .001$, was found to have a significantly positive relationship with occupational problem solving. See Table 4 for the detailed results of the Pearson correlation analysis.

All the variables related to research question 2 were found to have a significant relationship; therefore, the null hypothesis that no statistically significant relationship exists among athletic identity, academic motivation, and career decision-making self-efficacy

Table 4

Correlations Between Occupational Problem Solving and Occupational Informational Gathering Decision-making Self-Efficacy, Academic Motivation, and Athletic Identity

Variables	Academic Motivation	Athletic Identity	Occupational Information Gathering	Occupational Problem Solving
Academic Motivation				
Pearson Correlation	—			
Sig. (2-tailed)				
<i>N</i>	334			
Athletic Identity				
Pearson Correlation	-.272***	—		
Sig. (2-tailed)	.000			
<i>N</i>	333	346		
Occupational Information Gathering				
Pearson Correlation	.487***	-.194***	—	
Sig. (2-tailed)	.000	.000		
<i>N</i>	323	335	335	
Occupational Problem Solving				
Pearson Correlation	.408***	-.152**	.710***	—
Sig. (2-tailed)	.000	.005	.000	
<i>N</i>	326	337	333	337

** $p < 0.01$. *** $p < .001$ (2-tailed).

DII student-athletes' athletic identity, academic motivation, and Occupational Decision-Making Self-Efficacy subscale variables.

One-Way Analysis of Variance

The third research question asked: Are there statistically significant differences in academic motivation among full-scholarship, partial-scholarship, and no-scholarship status student-athletes at NCAA DII schools? The hypothesis for this research question was stated in null hypothesis form as: No statistically significant difference exists in a student's academic motivation at NCAA DII schools that offer full-scholarship, partial-scholarship, and no-scholarship status to student-athletes.

To answer the third research question, a one-way ANOVA test was conducted to compare student-athletes' scholarship status and academic motivation. The individual 95% confidence intervals provided significant ($p < .05$) one-sample t intervals that estimated the mean response for each group level. The survey question "What is your scholarship status?" was used as the independent variable scholarship status and was recoded and renamed as SCHOLAR. The variable was coded as: 3 = full scholarship, 2 = partial scholarship, and 3 = no scholarship. The newly created variable ACADEMIC and was used as the dependent variable academic motivation.

Scholarship status had a significant effect on academic motivation at the $p < .05$ significance level for the three conditions, $F(2, 331) = 3.48, p = 0.001$. The post hoc comparisons using the Scheffé post hoc criterion for significance indicated that the mean score for student-athletes receiving a full scholarship ($M = 4.59, SD = .768$) was significantly different from that for those receiving a partial scholarship ($M = 4.99, SD = 0.650$). However, the mean score for the student-athletes no scholarship ($M = 4.86, SD = 0.825$) did not significantly differ from that for the full-and partial-scholarship student-athletes. The relevant results are shown in Tables 5 and 6.

Table 5

One-Way ANOVA Results for Academic Motivation by Scholarship Status

	Sums of squares	<i>df</i>	Mean square	<i>F</i>	Sig.
Between groups	6.952	2	476	7.030	.001
Within groups	163.650	331	494		
Total	170.601	333			

Table 6

Post Hoc Test Results for Multiple Comparisons: Dependent Variable Academic Motivation by Scholarship Status

Scholar I	Scholar J	Mean difference (I – J)	Standard error	<i>p</i>	95% CI
Full	Partial	–.39154***	.10519	.001	[–.6502, –.1329]
	No	–.26590	.13230	.134	[–.5912, .0594]
Partial	Full	.39154***	.10519	.001	[.1312, .6502]
	No	.12564	.10446	.486	[–.1312, .3825]
No	Full	.26590	.13230	.134	[–.0594, .5912]
	Partial	–.12564	.10446	.486	[–.3825, .1312]

****p* < .001.

Because the *p* value of 0.001 is lower than the specified significance level of 0.05, the null hypothesis was rejected. The data provide sufficient evidence to conclude that the mean academic motivation for student-athletes at NCAA DII schools receiving full scholarship, partial scholarship, versus no scholarship status is not all the same.

Independent *t*-Test Analysis

The fourth research question asked: Is there a statistically significant difference in athletic identity, academic motivation, career decision-making self-efficacy subscale variables, belief in a financially sustainable professional sports career, and academic motivation between DII student-athletes in revenue-status sports (football and men's basketball) and those in all other sports? The hypothesis for this research question was stated in a null hypothesis form as: No statistically significant difference exists between revenue-status sport DII student-athletes and those in other sports in the areas of athletic identity, academic motivation, career decision-making self-efficacy subscale variables, and the belief that they can sustain themselves financially in professional sports and academic motivation. To answer the fourth research question, an independent sample *t* test was conducted to

compare differences between the relevant measures of these variables. The individual 95% confidence intervals provided significant ($p < .05$) one-sample t intervals that estimated the mean response.

The survey question “What sport do you participate in?” was used to measure the student-athlete’s sport revenue status and was recoded and renamed “REVENUE.” The variable was recoded as 0 = football and men’s basketball and 1 = all other sports. The newly created variable ATHLETICID was used to measure athletic identity, the two newly created variables INFOGATHER and PROBSOLVE were used to measure the career decision-making self-efficacy subscale variables, and the newly created variable ACADEMIC was used to measure academic motivation. The question, “Do you believe that you can sustain yourself financially as professional athlete?” was used to measure a student-athlete’s belief that he or she would have a sustainable professional athletic career.

An independent-sample t test was conducted to compare sport revenue status and athletic identity. A significant difference existed between the athletic identity of student-athletes in revenue-status sports ($M = 5.24$, $SD = 1.09$) and student-athletes in nonrevenue-status sports ($M = 4.81$, $SD = 1.20$), $t(344) = 3.10$, $p = .002$. Because the p value of 0.002 was lower than the specified significance level of $p = 0.05$, the null hypothesis was rejected. The data provide sufficient evidence to conclude that a significant difference exists between the athletic identity of student-athletes in revenue-status sports and those in nonrevenue-status sports.

An independent sample t test was conducted to compare revenue/nonrevenue sport status of student-athletes and academic motivation. A significant difference existed between the academic motivation of revenue-status sport student-athletes ($M = 4.64$, $SD = 0.49$) and

the academic motivation of student-athletes in nonrevenue-status sports ($M = 4.99$, $SD = 0.48$), $t(332) = -4.154$, $p = .000$. Because the p value of .000 is less than the specified significance level of $p = 0.05$, the null hypothesis was rejected. The data provided sufficient evidence to conclude that a significant difference existed between the academic motivation of revenue-status sport student-athletes and that of student-athletes in nonrevenue-status sports.

An independent-sample t test was conducted to compare student/athletes' revenue/nonrevenue sport status and their beliefs of having sustainable professional athletic career. A significant difference existed between revenue-status sport student-athletes' beliefs of having sustainable professional athletic career ($M = 4.17$, $SD = 2.33$) and that of student-athletes in nonrevenue-status sports ($M = 2.32$, $SD = .1.73$), $t(342) = 8.09$, $p = .000$. Because the p value of .000 was less than the specified significance level of $p = .05$, the null hypothesis was rejected. The data provided sufficient evidence to conclude that a significant difference existed between revenue-status sport student-athletes' and nonrevenue-status sport student-athletes' beliefs of having a sustainable professional athletic career.

An independent sample t test was conducted to compare student-athletes' revenue/nonrevenue sport status and their occupational information-gathering decision-making self-efficacy. No significant difference existed between revenue-status sport student-athletes' occupational information-gathering decision-making self-efficacy ($M = 3.37$, $SD = 0.49$) and that of student-athletes' in nonrevenue-status sports ($M = 3.46$, $SD = .50$), $t(333) = -1.69$, $p = .092$. Because the p value of .092 was greater than the specified significance level of $p = 0.05$, the null hypothesis was accepted. The data provided sufficient evidence to conclude that no significant difference existed between the occupational information-gathering

decision-making self-efficacy of revenue-status sport student-athletes and that of student-athletes in nonrevenue-status sports.

An independent sample *t* test was conducted to compare student-athletes' revenue/nonrevenue sport status and their occupational problem-solving decision-making self-efficacy. No significant difference existed between revenue-status sport student-athletes' occupational problem-solving decision-making self-efficacy ($M = 3.31$, $SD = .49$) and that of student-athletes in nonrevenue-status sports ($M = 3.36$, $SD = .50$), $t(335) = -7.67$, $p = .442$. Because the *p* value of .442 was greater than the specified significance level of $p = 0.05$, the null hypothesis was accepted. The data provided sufficient evidence to conclude that no significant difference existed between the occupational problem-solving decision-making self-efficacy of revenue-status sport student-athletes and student-athletes in nonrevenue-status sports. A summary of these results are shown in Tables 7 and 8.

Table 7

Comparison of Student-Athletes by Sport Revenue Status

Variable	Revenue status	<i>N</i>	<i>M</i>	<i>SD</i>	<i>SE</i>
Athletic identity	Revenue	100	5.24	1.09	0.11
	Nonrevenue	246	4.81	1.20	0.08
Academic motivation	Revenue	93	4.64	0.49	0.05
	Nonrevenue	241	4.99	0.48	0.03
Information gathering	Revenue	96	3.37	0.49	0.06
	Nonrevenue	239	3.46	0.48	0.04
Problem solving	Revenue	96	3.31	0.49	0.05
	Nonrevenue	241	3.36	0.50	0.03
Professional athletic career	Revenue	100	4.17	2.33	0.23
	Nonrevenue.	244	2.32	1.73	0.11

Table 8

T-Test Results Comparing Student-Athletes by Sport Revenue Status

Variable	Levene's test for equality of variances		T test for equality of means					
	F	Sig.	t	df	Sig (2-tailed)	Mean diff.	SE diff.	95% CI
Athletic identity								
Equal variance assumed	1.57	.210	3.101	344	.002	0.429	.139	[0.15706, 0.70192]
Equal variance not assumed			3.235	201.7	.001	0.429	.133	[-.16772, 0.69126]
Academic motivation								
Equal variance assumed	1.40	.708	-4.154	332	.000	-0.354	.085	[-0.52225, -0.18658]
Equal variance not assumed			-4.117	164.2	.000	-0.354	.086	[-0.52440, -0.18443]
Information gathering SE								
Equal variance assumed	0.14 7	.702	-1.688	333	.092	-0.099	.059	[-0.21432, 0.01636]
Equal variance not assumed			-1.671	172.03	.097	-0.099	.059	[-0.21590, 0.01794]
Problem solving								
Equal variance assumed	0.11 2	.738	-0.767	335	.443	-0.046	.060	[-0.16396, 0.07194]
Equal variance not assumed			-0.770	176.04	.442	-0.046	.086	[-0.16394, 0.07193]
Pro athletic career								
Equal variance assumed	35.4	.000	8.09	342	.000	1.850	.228	[1.397, 2.295]
Equal variance not assumed			7.16	145.89	.000	1.850	.258	[1.337, 2.356]

Hierarchical Multiple Regression

The fifth research question asked: To what extent do student-athlete's year in school, belief in a financially sustainable professional sports career, scholarship status, revenue status of sport, career decision-making self-efficacy subscales, and athletic identity predict DII student-athletes' academic motivation? The hypothesis for this research question was stated in null hypothesis form as: Year in school, belief in a sustainable professional sport career,

scholarship status, revenue-status sport participation, career decision-making self-efficacy subscales, and athletic identity do not predict DII student-athletes' academic motivation.

In order to answer the fifth research question, a three stage hierarchical multiple regression was performed with academic motivation as the dependent variable. The newly created variable ATHLETICID was used to measure athletic identity; the two newly created variables INFOGATHER and PROBSOLVE were used to measure the occupational information gathering and occupational problem solving variables, respectively; and the newly created variable ACADEMIC was used to measure academic motivation. The question "What is your year in school?" was used for year in school, the question "What is your scholarship status?" was used for scholarship status, and the recoded variable REVENUE was used for the revenue status of the sport. The question "Do you believe that you can sustain yourself financially as professional athlete?" was used to measure a student-athlete's belief that he or she would have a sustainable professional athletic career.

The year in school variable was added in Block 1. Scholarship status, belief in a sustainable professional athletic career, and the revenue sport status variable (REVENUE) were added in Block 2. Career decision-making self-efficacy subscales (INFOGATHER and PROBSOLVE) and the athletic identity variable (ATHLETICID) were added Block 3. The regression statistics are reported in Tables 9 and 10.

The hierarchical multiple regression revealed that, in Block 1, year in school contributed significantly to the regression model, $F(1,319) = 11.052, p < .001$, and accounted for 3.3% of the variation in academic motivation. Introducing scholarship status, belief in a sustainable professional athletic career, and the revenue sport status variables in Block 2 explained an additional 6.1% of variation in academic motivation, and this change in R^2 was

Table 9

Regression Results for ANOVA Predictors Year in School, Scholarship Status, Belief in a Sustainable Professional Career, Sport Revenue Status, Career Decision-Making Self-Efficacy Subscales Athletic Identity and the Dependent Variable Academic Motivation

Model	Sum of squares	df	Mean square	F	Sig
Model 1					
Regression	5.50	1	5.50	11.05	.001
Residual	158.77	319	0.50		
Total	164.27	320			
Model 2					
Regression	15.52	4	3.88	8.24	.000
Residual	148.75	316	0.50		
Total	164.27	320			
Model 2					
Regression	54.42	7	7.77	22.15	.000
Residual	148.75	313	0.35		
Total	164.27	320			

significant, $F(4, 316) = 8.244, p < .000$. Adding the Career Decision-Making Self-efficacy subscales and athletic identity variables to the regression model explained an additional 23.7% of the variation in academic motivation, and this change in R^2 was significant, $F(7, 313) = 22.15, p < .000$. When all seven independent variables were included in Block 3 of the regression model, neither scholarship status nor the belief in a sustainable professional athletic career were significant predictors of academic motivation. The most important predictor of academic motivation was career decision-making self-efficacy information gathering, which uniquely explained 33.7% of the variation in academic motivation. Together the seven independent variables accounted for adjusted R^2 31.167% of the variance of academic motivation.

Table 10

Summary of Multiple Regression Predicting Academic Motivation (N = 320)

Variable	β	95% CI
Block 1		
Constant		[4.975, 5.32]
Year in school	-.18**	[-0.174, -0.045]
Adjusted $R^2 = .030$		
R^2 change = .033		
Block 2		
Constant		[4.566, 5.340]
Year in school	-.18**	[1.169, -0.41]
Scholarship status	.06	[-0.056, 0.205]
Belief in pro career	-.13*	[-0.086, -0.006]
Revenue sport status	.14*	[0.044, 0.415]
Adjusted $R^2 = .083$		
R^2 change = .061		
Block 3		
Constant		[2.497, 3.921]
Year in school	-.18***	[-0.164, -0.053]
Scholarship status	-.02	[-0.135, 0.099]
Belief in pro career	-.08	[-0.062, 0.009]
Revenue sport status	.11*	[0.012, 0.333]
Athletic identity	-.15**	[-.150, -.029]
Information gathering	.34***	[0.299, 0.686]
Problem solving	.14*	[0.013, 0.390]
Adjusted $R^2 = .316$		
R^2 change = .237		

Note. CI = confidence interval, $n = 320$.

* $p < .05$. ** $p < 0.01$. *** $p < 0.001$.

Summary

In this chapter the results of the study, including results from the descriptive analysis, EFA, and comparison of means, and differences between selected populations relevant to this study, were presented. Additionally, correlation analyses and predictive regression model results were reported. A summary of the findings is shown in Table 11.

Table 11

Summary of Findings for Research Questions 2–5

Research question	Findings
2. Is there a significant relationship for DII student-athletes between athletic identity, academic motivation, and career decision-making self-efficacy subscale variables?	There were statistically significant relationships between athletic identity, academic motivation, and career decision-making self-efficacy subscale variables.
3. Are there statistically significant differences in academic motivation among full-scholarship, partial-scholarship, and no-scholarship status student-athletes at NCAA DII schools?	There were statistically significant differences between scholarship status with regard to academic motivation.
4. Is there a statistically significant difference in athletic identity, academic motivation, career decision-making self-efficacy subscale variables, belief in a financially sustainable professional sports career, and academic motivation between DII student-athletes in revenue-status sports (football and men's basketball) and those in all other sports?	<p>There were statistically significant differences between student-athletes in revenue status sports and those from all other sports with regard to athletic identity, academic motivation, and the belief they could sustain themselves financially in professional sports.</p> <p>There were no statistically significant differences between student-athletes in revenue status sports and those in all other sports with regard to career decision-making self-efficacy information gathering and problem solving.</p>
5. To what extent do student-athlete's year in school, belief in a financially sustainable professional sports career, scholarship status, revenue status of sport, career decision-making self-efficacy subscales, and athletic identity predict DII student-athletes' academic motivation?	<p>Block 1: Year in school; R^2 change = .033</p> <p>Block 2: belief in a pro sport career, scholarship status, revenue sport status; R^2 change = .061</p> <p>Block 3: Athletic Identity, Information Gathering, Problem Solving; R^2 change = .237</p> <p>Total R^2 = .331</p> <p>Total adjusted R^2 = .316</p>

These results will be helpful to athletic departments, athletic administrators, and student affairs professionals in supporting student-athletes to be prosperous in both academic and athletic settings. The next chapter provides an in-depth discussion of the findings, implications for practice and research, and future directions.

CHAPTER 5. DISCUSSION, IMPLICATIONS, RECOMMENDATIONS, FUTURE RESEARCH, AND CONCLUSIONS

Introduction

Student-athletes are a unique group of individuals and differ from the traditional college student in that they have to responsibly balance both academics and athletics. The present investigation was initiated to examine the effect of revenue sport status on the constructs of athletic identity and academic motivation. Furthermore, the variables in the belief that one could sustain himself or herself financially as a professional athlete, scholarship status, and the career decision-making self-efficacy information-gathering and problem-solving subscales were examined. The sample for the present study comprised student-athletes from various sports at five DII Midwest university campuses. In this chapter, each research question is reviewed, the findings are discussed, and a summary of the study are presented. Additionally, recommendations and future research considerations are provided.

Discussion and Implications of Findings

Descriptive Statistics

Five DII Midwest universities were surveyed to complete this study and these five universities represented a total of 353 participants. In order to maintain institutional confidentiality, the names of the each university has been identified “A” through “E”. University “A” sent out 167 surveys resulting in 74 respondents with a 44% response rate and university “B” sent out 144 surveys resulting in 28 respondents with a 19.4% response rate. University “C” sent out 125 surveys resulting in 21 respondents with a 16.8% response rate and university D sent out 200 surveys resulting in 156 respondents with a 78% response

rate. University “E” sent out 350 surveys resulting in 74 respondents with a 21.1% response rate.

It is note worthy to point out that university D represents 156 (44.2%) of all the participants. University D participants were 61% male, 39% female with 69% of the responders receiving partial athletic scholarship. Revenue sport status student-athletes were 30% of the university D participants and 96% identified themselves as white.

The first research question asked about the demographic characteristics of the participants in this study of the research survey. Participation in this study was well balanced between females (43.9%) and males (53%). Full scholarship status was found to be similar between males and females, and slightly more partial scholarships were awarded to female student-athletes than to male student-athletes. Males were 30% more likely to “walk on” and play their sport without receiving a scholarship than were female. More than 70% of both males and females in this study were provided with financial aid in the form of athletic scholarships.

The examination of the demographic characteristic of gender in this study revealed that males’ athletic identity mean score was higher than that for females. Researchers have found that both males and females are capable of developing high athletic identity (Brewer et al., 1993). Brewer et al. (1993) pointed out that, prior to Title IX, elite-level athletics, particularly in contact sports, were generally reserved for males. Since the passage of Title IX, however, increasing numbers of college-age females have participated in the sporting environment. Counselors working closely with student-athletes must be mindful of how strongly both male and female student-athletes are committed to the sport role.

In looking at academic motivation, males were found to have a lower mean score than did females. In this study, the mean scores for the self-efficacy variables occupational information gathering and occupational problem solving showed females scoring higher than did males. This is consistent with findings from other studies that showed that female student-athletes have a more positive relationship to academic success than do their male counterparts (Pascarella et al., 1999). Adler and Adler (1985, 1987) conducted a 4-year study with a men's college basketball program and concluded that the majority of these male student-athletes enter college with enthusiasm about completing a degree. However, the athletic demands of their sport structurally constrain their academic success, and over time, the student-athletes were motivated to lower their educational goals. Unlike Adler and Adler (1985, 1987), Meyer (1990) focused on female student-athletes' collegiate experiences and found that academic disidentification did not occur among the female student-athletes as it did among male student-athletes. Meyer also found that female student-athletes' athletic, academic, and social lives encouraged academic achievement. The population described in this study was overwhelmingly White; thus, the low percentage of participants with non-White ethnicities limited the ability to use race as a useful variable in this study.

Correlation Analysis

The second research question asked if there are significant relationships among athletic identity, academic motivation, and career decision-making self-efficacy variables. For this study, two domains of career decision-making self-efficacy were measured. The first domain was the student-athlete's confidence in his or her ability to gather occupational information about alternative careers. For the second domain, participants were asked about his or her confidence in their ability to problem solve through occupational changes if

necessary. The literature highlights time restraints and nonacademic pressures (e.g., sport practice, rehabilitation from injuries, game films, travel, and sport training) as contributing to the negative relationship between athletic identity, academic motivation, and the two domains of career decision-making self-efficacy (occupational information gathering and occupational problem solving). This, combined with having highly structured and closely monitored lives, with coaches and other athletic personnel making many of the student-athletes' most important decisions (Warriner & Lavalley, 2008), was believed to have implications for student-athletes in this study with regard to their athletic identity, confidence to gather practical information, and problem-solving skills.

In this study of DII student-athletes, academic motivation, occupational information gathering, and occupational problem solving were found to have a significantly negative relationship with athletic identity. In other words, a stronger identification with the athletic role of the student-athletes was found to be associated with lower levels of academic motivation and career decision-making self-efficacy (information gathering and problem solving) among DII student-athletes. This study also found that a significantly positive relationship existed between occupational information gathering and occupational problem solving self-efficacy variables and academic motivation. Moreover, the more confidence a student-athlete had in his or her ability to gather occupational information and to solve occupational choice problems, the higher the academic motivation value.

The negative relationship between athletic identity and academic motivation found in this study is consistent with the current literature on student-athletes. Generally the literature has reported that, as student-athletes overcommit to the sport role, they often sacrifice other campus activities that could be useful in exploring career beyond sport (Martin, 2009;

Warriner & Lavalley, 2008). Warriner and Lavalley (2008) contended that the time commitment required to succeed in a sport reduces the opportunity for student engagement with nonathletes and limits student-athletes' college experience to the athletic department, reinforcing their role as an athlete and effectively requiring them to foreclose on any other sense of self, including developing an academic identity or career-related interest outside of sport. The present study's finding of a negative relationship between athletic identity and the self-efficacy variables support these findings suggesting DII athletes are at risk of bypassing critical student engagement opportunities by overcommitting to the sports role.

Conversely, a positive relationship was found between academic motivation and the career decision-making self-efficacy information-gathering and problem-solving variables. Career maturity research has indicated that academic success is associated with higher career maturity and that career decision-making self-efficacy is a predictor of career maturity (Bandura, 1977; Houle, 2010; Powell & Luzzo, 1998). The findings from this study imply that DII student-athletes who bypass academic and related campus activities to engage exclusively in the athletic role may experience difficulties in decision-making skills and are at risk of disidentifying with being a student. However, student-athletes who engage in academic and related campus activities while balancing their athletic and academic roles will be more motivated to succeed academically and are better equipped to make future career decisions.

One-Way Analysis of Variance

The third research question asked if there are statistically significant differences in students' academic motivation at DII schools when the student-athlete has a full scholarship versus a partial scholarship versus no scholarship. The ANOVA in this study found

significant differences between full, partial, and no scholarship student-athletes with regard to academic motivation. The effect of scholarship status on academic motivation was significant for all three scholarship conditions. However, the post hoc comparisons using the Scheffé post hoc criterion for significance indicated that the mean score for the student-athletes with a full scholarship was significantly different from that for those with partial scholarships. These findings suggest that full scholarship status student-athletes are significantly less academically motivated than are partial scholarship student-athletes.

This finding is not surprising considering findings from previous studies. Stephan and Brewer (2007) found that full scholarship student-athlete status encourages the student-athlete to be involved almost exclusively with the team, and the team becomes the student-athlete's major social network. Consequently, the student-athlete may, by default, dedicate nearly all of his or her time to his or her sport (Stephan & Brewer, 2007; Werthner & Orlick, 1986). Collegiate success has been found to be positively affected by the extent to which the student integrates into the academic and social environments of the college (Astin & Astin, 2015; Hu & Kuh, 2003; Terenzini & Pascarella, 1991; Tinto, 1987). When the team becomes the student-athlete's major social network, the student-athlete may bypass academic and social opportunities that researchers have found to be associated with desirable college outcomes (Astin & Astin, 2015; Pascarella & Terenzini, 2005).

The implication of these findings are that full-scholarship-status DII student-athletes may have become immersed in their sport and view themselves first and foremost as athletes, with this identity taking precedence over any other form of personal identity including that of being a student (Werthner & Orlick, 1986). Consequently, these full-scholarship student-

athletes may not be involved at the same level of purposeful engagement activities within the academic and social systems of college as partial-scholarship student-athletes.

The most surprising finding of the one-way ANOVA was that these analyses did not find a significant difference between the no-scholarship condition and the full- or partial-scholarship condition. These findings suggest that the no-scholarship status does not create an academic motivation condition that is different from the full- or partial-scholarship status for a DII student-athlete. This finding warrants additional research, which may be useful in analyzing the effects of having no scholarship on the academic motivation of DII student-athletes.

Independent *t*-Test Analysis

The fourth research question sought to determine whether statistically significant differences exist in athletic identity, academic motivation, career decision-making self-efficacy variables, and the student-athlete's belief that he or she would be able to sustain himself or herself financially in professional sport between DII student-athletes engaged in revenue-status sports (i.e., football and men's basketball; Linnemeyer & Brown, 2010; Martin, 2009; Murphy et al. 1996; Pascarella et al., 1999) and those in nonrevenue-status sports.

Independent *t*-Test Analysis was employed to examine differences between DII student-athletes who were participating in revenue-status sport and those student-athletes who were participating in nonrevenue-status sports. These two sport status conditions was used to compare the student-athlete's athletic identity, academic motivation, career decision-making self-efficacy-related variables, and belief that they would be able to sustain themselves financially in professional sports. These criteria were selected because scholars

have hypothesized that, among all student-athletes, revenue-status sport student-athletes have the greatest risk of forgoing age-appropriate identity formation, engagement in career development activities, and academic curiosity (Houle, 2010; Murphy et al., 1996). This increased risk was believed have arisen from the revenue-status sport student-athletes' belief in their ability to have a sustainable career in professional athletics. Additionally, the revenue-status sport student-athlete receives sport role reinforcement from teammates, coaches, administrators, and fans on and off campus, and many of these student-athletes have little desire to engage in activities that would prepare them for life or a career after athletics (Linnemeyer & Brown, 2010; Murphy et al., 1996).

In this study, *t* tests were conducted to examine the differences between these two populations (revenue status sport and nonrevenue status sport student-athletes) and revealed that there were significant differences in athletic identity, academic motivation, and the belief that the student-athlete would have a sustainable professional athletic career between revenue-status sport student-athletes and those in nonrevenue-status sports. These findings are consistent with findings from studies by Houle (2010) and Adler and Adler (1985, 1987), who concluded that student-athletes, particularly revenue-status sport student-athletes, are highly motivated toward the athletic role. Houle (2010) noted that student-athletes, particularly revenue-status sport student-athletes, are often excluded from campus engagement activities useful for academic achievement. Additionally, Houle (2010) found that revenue-status sport student-athletes were more likely than were nonrevenue-status sport student-athletes to believe that they would be able to sustain themselves financially as professional athletes.

Conversely, the present study found no significant difference between revenue-status sport student-athletes and those in all other sports in the areas of occupational information-gathering self-efficacy and occupational problem-solving self-efficacy. This finding is consistent with the study by McKinney (1991), who found no differences between revenue-status sport student-athletes and nonrevenue-status sport student-athletes regarding career maturity-related measures and concluded that revenue-status sports do not have a significant impact on student-athletes' career-planning capabilities. It is worthy to note that the present study's findings stand in stark contrast with those of Murphy et al. (1996) and Houle (2010), who found that nonrevenue-status sport student-athletes scored higher on career maturity measures than did revenue-status sport student-athletes.

The implications of these findings concur with those of Adler and Adler (1985, 1987), who found that revenue-status sports' demands constrain academic success, and that over time, the student-athletes were motivated to lower their educational goals. Accordingly, this implies that revenue-status sport student-athletes are required to negotiate the college experience, which includes higher performance demands for revenue-status sport student-athletes than for nonrevenue-status sport student-athletes, leading to a level of disidentification with being a student and embracing the athletic role. In addition, this present study suggest student-athletes who participate in revenue-status sports experience more pressure to achieve the goals of the athletic department than do student-athletes who participate in nonrevenue-status sports. This pressure may cause the revenue-status sport student-athlete to have a significantly different collegiate experience in attempting to balance his athletic and academic college life than does the nonrevenue-status sport student-athlete.

The findings of this study revealed no significant difference between revenue-status sport and nonrevenue-status sport student-athletes in occupational information-gathering self-efficacy and occupational problem-solving self-efficacy, which implies, as Taylor and Betz (1983) found, that college students in general believe that they are able to complete the tasks necessary to make career decisions. However, the finding that student-athletes in revenue-status sports had significantly different stronger beliefs than did nonrevenue-status sport student-athletes that they would have a sustainable professional athletic career implies that the strength of students' career decision-making self-efficacy expectations were not related to the overall levels of career indecision but, rather, to a weakness in realistic career decision making. This finding highlights the need for athletic coaches and administrators to reinforce the findings of Harrison and Lawrence (2004) that less than 2% of student-athletes continue at the professional level. This 2% represents primarily DI student-athletes, which means that DII revenue-status sport student-athletes have a very low probability of having a sustainable professional athletic career.

Hierarchical Multiple Regression

The fifth research question asked to what extent year in school, belief in a financially sustainable professional sports career, scholarship status, revenue status sports participation, career decision-making self-efficacy subscales, and athletic identity predict DII student-athletes' academic motivation. The demographic variable of year in school was placed in the Block 1 of the regression model, and individual characteristics of scholarship status, revenue sport status, and the belief in a professional sports career were added in Block 2. Block 3 of the regression model included the additional variables of athletic identity, occupational

decision-making information-gathering self-efficacy, and occupational decision-making problem-solving self-efficacy.

The analysis showed that the demographic variable of year in school (Block 1) was a significant predictor of academic motivation and explained slightly more than 3% of the variability in academic motivation. When the personal characteristics of scholarship status, the belief in a professional sports career, and revenue sports status were added to the model (in Block 2), they explained an additional 6% of the variability in academic motivation. However, when the psychological variables of athletic identity, occupational decision-making information-gathering self-efficacy, and occupational decision-making problem-solving self-efficacy were added to the model in Block 3, they explained 24% of the variability in academic motivation. Thus, the entire model explained nearly 32% percent of the variability of academic motivation among DII student-athletes in this study. It is noteworthy to point out that year in school, sport revenue status, athletic identity, occupational decision-making information-gathering self-efficacy, and occupational decision-making problem-solving self-efficacy all were significant predictors of academic motivation. The psychological variables' effect on academic motivation was the most notable with the variable occupational decision-making information-gathering self-efficacy found to be the most significant predictor of academic motivation. The variables year in school and athletic identity were found to have a significant negative effect on the student-athlete's academic motivation.

These findings imply that, over time, the student-athlete's motivation toward academics decreases. These findings also imply as the psychological variable of athletic identity increases, academic motivation decreases, and the more confidence the student-

athlete has in his or her ability to gather occupational information the more motivated the student-athlete will be academically. Because of the decreasing academic motivation over time, and because of the negative effect athletic identity has on academic motivation, student-athletes who over commit to the athletic role, particularly those in revenue-status sports, may be engaging in an interactive process that involves an evaluation of his or her abilities, attitude, and aptitude, and the student-athletes find it most rewarding to develop a higher commitment to athletics and are less motivated toward academics. If true, these findings are consistent with those of Coakley (2011), Figler and Figler (1984), and Stephan and Brewer (2007), who found that many young student-athletes arrive on campus with high academic expectations but, over time, realize they are unable to succeed at both athletics and academics, resulting in them most often lowering their academic expectations to spend time preparing for athletic competition. However because the variable occupational decision-making information-gathering self-efficacy was found to be the most significant predictor of academic motivation, an intentional focus on increasing the student-athletes confidence in their ability to gather occupational information may be the most productive mechanism for increasing the student-athlete's academic motivation.

Summary

It is not uncommon for student-athletes to immerse themselves in the athletic role while, at the same time, experiencing disidentification with being a student, reinforcing their athletic identity and consequently foreclosing on any other sense of self other than of that as an athlete (Houle, 2010; Lally & Kerr, 2005; Martin, 2009). This issue is particularly salient because holistic identity formation is necessary for good health and is achieved when young adults engage in multiple role possibilities as they examine their interests, values, and talents

(Brown & Hartley, 1998; Lavalley & Robinson, 2007). Recognizing this tendency, DII schools embrace a philosophy that attempts to balance academics, athletics, and campus involvement for the student-athlete (NCAA, n.d.). NCAA DII schools claim they desire to cultivate skills for life and that career is particularly relevant for students who are negotiating athletic and academic venues and who want to take advantage of those activities required for a productive transition from a sport career to a career outside of sport (NCAA, n.d.).

Additionally, scholars have hypothesized that, among all student-athletes, revenue-status sport student-athletes may face the greatest risk of full role engulfment in the sport role and may place engagement in career development activities and academic curiosity as a second priority. This increased risk is believed to arise from the revenue-status sport student-athletes' belief in their ability to have a sustainable career in professional athletics.

Nearly all the research on identity-, career-, and academic-related issues has focused on DI student-athletes and not considered specifically DII student-athletes. The present study begins to fill the gap in scholarly research in its exploration of the effects of DII athletic participation on identity, career aspirations, and academic motivation. The findings of this study lead to the conclusion that student-athletes at DII schools have many of the same tendencies regarding athletic identity, career related issues, and academic motivation that other research studies have found in student-athletes at DI schools.

This study found that both male and female DII student-athletes have strong identification with their sport role. This finding is broadly accepted in the DI ranks. As Brewer et al. (1993) pointed out, since the passage of Title IX, increasing numbers of college-age females are participating in the sport environment. In this study, males were found to have a lower level of academic motivation than females did, but females scored

higher than males did for the career-related self-efficacy variables occupational information gathering and occupational problem solving. These findings are consistent with DI student-athlete research associated with male and female student-athletes. For example, Pascarella et al. (1999), Simons et al. (1999), and Meyer (1990) all found that female student-athletes have a more positive relationship with academic success than do their male counterparts. Adler and Adler (1985, 1987) concluded that, for revenue-status sport male student-athletes, the demands of the sport structurally constrain student-athletes' academic success and that, over time the student-athletes are motivated to lower their educational goals.

In this study of DII student-athletes, a significantly negative relationship among academic motivation, career decision-making self-efficacy subscales, and athletic identity was revealed. The literature on DI student-athletes highlights time restraints and nonacademic pressures (e.g., sport practice, rehabilitation from injuries, game film, travel, and sport training) as contributing to this negative relationship. This study's findings raise the question of time restraints that DII student-athletes also appear to be encountering, resulting in a negative relationship among these important factors. These DII student-athletes with high athletic identity may be forgoing educational activities to train for and compete in athletic competition, which is similar to the findings of Houle (2010), Brewer et al. (1993), and Danish et al. (1993). Having highly structured and closely monitored lives, with coaches and other athletic personnel making many of the student-athletes' most important decisions (i.e., scheduling meals, classes, study tables, and free time), could be restricting these student-athletes' decision-making self-efficacy. This study also confirmed a positive relationship between academic motivation and the self-efficacy subscales.

This study revealed there are significant differences between the academic motivation of full-, partial-, and no-scholarship student-athletes. The post hoc comparisons using the Scheffé post hoc criterion for significance indicated that the mean score for student-athletes with full scholarships was significantly different from that for student-athletes with partial scholarships. These findings suggest that full-scholarship status affects a student-athlete's academic motivation and, consequently, his or her academic performance. Stephan and Brewer (2007) found that full-scholarship student-athlete status encourages the student-athlete to be involved almost exclusively with the team, and thus, the team becomes the student-athlete's major social network. DII student-athletes may also view the team as a major social network. This finding signals the possibility that full-scholarship student-athletes view academics and campus life differently than do partial-scholarship student-athletes, and consequently, that full-scholarship student-athletes may not be involved at the same level of campus engagement as the partial-scholarship student-athletes are.

Another finding of this study was the significant difference between revenue-status sport student-athletes' athletic identity and academic motivation compared to student-athletes in nonrevenue-status sports. Scholars have hypothesized that a revenue-status sport student-athlete may be less motivated academically because he is focused on trying to become a professional athlete and may have little desire to engage in activities outside the sport (Linnemeyer & Brown, 2010; Murphy et al., 1996). This study did not find significant differences between revenue-status sport student-athletes and student-athletes in nonrevenue-status sport sports in terms of occupational information-gathering self-efficacy and occupational problem-solving self-efficacy. This finding should be expected in that studies such as this one often find that college students in general believe that they are able to

complete the tasks necessary to make career decisions (Taylor & Betz, 1983). However, the revenue-status sport student-athletes in this study were nearly twice as likely to believe they would be able to have a sustainable postcollegiate professional sport career than were the student-athletes in the nonrevenue-status sports. The fact that revenue- and nonrevenue-status DII sport student-athletes were measured to have significantly different perceptions of realistic professional athletic career opportunities after their collegiate sport retirement implies that revenue-status sport student-athletes may not have a realistic understanding of the tasks necessary to make career decisions. Accordingly, this study found that those student-athletes who are involved in a revenue-status sport are at a higher risk of developing an exclusive identity as an athlete and forgoing the benefits of engaging in academic tasks than are the rest of the student-athletes.

This study found that the psychological variables of athletic identity, occupational information-gathering self-efficacy, and occupational problem-solving self-efficacy are all significant predictors of academic motivation. It is also noteworthy that year in school and a sport's revenue status were significant predictors of academic motivation. The psychological variables' effect on academic motivation was the most significant with occupational decision-making information-gathering self-efficacy the most significant predictor of academic motivation.

Recommendations for Practitioners

In 2003 the NCAA created the Academic Progress Rate (APR) and Graduation Success Rate (GSR) as key components of an NCAA academic reform program (LaForge and Hodge, 2011). For scholarship status student-athletes, the NCAA Division I member institutions are responsible for measuring and meeting minimum APR and GSR criteria along

with other NCAA academic regulations, as a condition of participation in NCAA events. Additional institutional student-athlete academic policy remains at the discretion of each individual school. Each institution must determine how much emphasis to place on Federal Graduation Rate (FGR), APR, and GSR when assessing the congruency of the athletics program with the overall institutional mission.

While FGR, APR, and GSR are important to the discussion of academic integrity in college athletics, it does not address how administrators and faculty leaders should use these metrics along with broader academic policies to establish holistic institutional policy for student-athletes (LaForge and Hodge, 2011).

Even though little has been written in the academic literature to guide academic advisers on holistic institutional academic athletic policy (LaForge and Hodge, 2011), there has been substantial research completed on the DI student-athlete, and this research generally has concluded that DI student-athletes, particularly revenue-status sport student-athletes, are at risk of over commitment to the sport role, a lack of academic motivation, and a lack of career planning leading to confusion about their future outside the sport role (Grove et al., 1997; Houle, 2010; Martin, 2009). These conditions span beyond FGR, APR, and GSR and affect academic, personal motivation and career issues outside of sport. The long term effects of collegiate sport participation have gained the interest of many DI university leaders, and programs, such as the “3-I career advising process,” are being developed to address these academic and career readiness issues (Menke, 2015). Menke (2015) described the 3-I process as a fluid decision-making process framework made up of three steps (inquire, inform, and integrate) for advancing academic and career development with college students. These programs have been directed at multiple DI institutions.

Colleges and universities at the DII level have identified themselves as institutions that are less committed to their athletic program and more committed to a holistic college experience for student-athletes, encouraging academic curiosity and campus engagement opportunities outside the sport role (NCAA, n.d.). The DII commitment to a holistic college experience should allow the DII student-athlete more opportunity to balance sport and nonsport campus involvement, resulting in realistic career aspirations and related academic motivation. In order to accomplish student-athlete policy toward academic success, this researcher believes there must be directives from the highest levels of administration with demonstrated commitment to student-athlete academic success. Therefore a top-down approach may be the most effective means for athletic academic policy implementation with regards to student-athletes. Strong leadership can create a campus environment where all constituencies contribute to a common goal; the institutional mission.

The first recommendation then emerging from this study is the introduction of a four-semester seminar class that all student-athletes must attend to remain eligible to participate in athletics. This class should intentionally move beyond FGR, APR, and GSR and use the 3-I framework of inquire, inform, and integrate as a model for helping student-athletes prepare for life within or outside the sport environment (Menkey, 2015). The class should conduct noncognitive assessments to ascertain the degree of psychosociological commitment individual student-athletes have toward sport, their desire to be engaged in campus activities, and their academic motivations and aspirations. These assessments should be evaluated each semester to determine the effectiveness of the program for each student-athlete. The content of the class should inform student-athletes of the probabilities of a professional sports career.

Of nearly 8 million students currently participating in high school athletics in the United States, only 480,000 of them will compete at NCAA schools. Moreover, of that group, only a fraction will realize their goal of becoming a professional athlete (NCAA, 2016). Because many athletes grow up dreaming of playing sports in college and believe the next step is the professional ranks, the DII student-athlete should be informed of challenges that exist in becoming a professional athlete. Additionally, this class should inform the student-athlete how the skills learned in sport transfer to career skills. The class should increase student-athletes' understanding of how these skills are transferable and critical to a positive retirement from sports. The student-athletes should gain a full understanding of how these skills aid in the development of their career search, career selection, and performance in nonsport careers. According to Mayocchi and Hanrahan (2000), increasing the student-athlete's awareness of these athletic transferable skills may be enough to have a positive effect on athletic career transition, and thus, transferable skill awareness has nonsport career implications. Finally, this class should require student-athletes to visit a predetermined assorted set of courses and seek out information about the variety of careers these classes prepare students to enter after graduation. The student-athletes should be required to choose multiple career alternatives from their research in case their first choice is not one that best fits their skills and aptitudes. The design of this component of the class should specifically build the student-athlete's confidence in occupational information gathering and occupational problem solving, thereby increasing the student-athletes' career decision-making self-efficacy. Taylor and Betz (1983) concluded that students' beliefs in their ability to complete necessary tasks related to career decision-making was a framework useful for predicting students' actual ability to complete those tasks. It is important to note that Grove et al.

(1997) and Tyrance et al. (2013) discovered that student-athletes who overidentified with the athletic role did in fact fail to engage in career-planning activities before retiring from sport. These student-athletes often failed to have realistic career plans based on their interests, goals and aptitude, and had a lack of awareness of vocational options and requirements outside sport.

The second recommendation coming from this study is for DII advisers to provide academic support for student-athletes. This support should be structured to be a valuable and meaningful experience and not just to maintain student-athletes' athletic eligibility. Counselors working closely with student-athletes must be mindful of how strongly both DII male and female student-athletes are committed to their sport role. The academic advising facility for student-athletes should be integrated into and report through the academic advising structure and not through the athletic department alone. Athletic departments often see themselves as a separate entity from the rest of the campus and are incentivized (paid) to develop winning athletes, not to educate students and prepare them for future careers.

Huml, Hancock, and Berman (2014) found that students in both public and private DI institutions felt more confident that the academic and faculty advisors kept their academic goals a priority compared to athletic advisors. The student-athletes in their study also indicated that the time spent in the athletic academic center negatively affected their ability to connect with faculty and other academic related campus activities. Because of the very nature of intercollegiate athletics, athletic department personnel are at risk of inadvertently pressuring student-athletes, particularly those in revenue-status sports, into increasing their commitment to athletics and minimizing their academic commitment, thus motivating student-athletes toward sport and away from academics (Martin, 2009). All individuals

responsible for the long-term success of the student-athlete should be involved with the student-athlete. Therefore, athletic and academic advisors should be appointed by and work alongside the campus academic advising structure and not solely with the athletic department. Advisors both within and outside the athletic department must be educated to understand the impact that a life-long commitment to sports has had on the development of the student-athlete's identity. All student-athlete advisers should be educated to recognize the distress of identity conflict that occurs as a student-athlete attempts to balance sport and academics. The goal of this recommendation is to eliminate any potential or natural conflicts that may occur when athletic advising is run by the athletic department the goals and objectives of which may overshadow the student-athlete's long-term success. Academic advising of student-athletes should be overseen and regularly reviewed by the campus academic advising structure or the office of the chief academic officer.

The third recommendation is to establish an integrated communication team whose responsibility is to clearly educate and communicate the responsibilities of the coaches, faculty, and staff. According to Ridpath (2010) DI student-athletes have reported becoming dependent on athletic academic support to maintain their eligibility. Ridpath found this dependency was especially concerning for student-athletes in revenue-generating sports. He believed their reliance to be connected to the athletic added additional pressure to maintain eligibility. Additionally, DI student-athletes have voiced apprehension their athletic advisor was only providing academic goals and support to maintain eligibility (Simons et al. 1999). These findings underscore the need for athletic academic support to become further integrated within the academic support services already offered to other students to avoid the pressures put on athletic advising to minimize academic challenges for student-athletes in the

name of sacrificing the athlete's career aspirations. The integration must then include articulating expectations that coaches work toward the student-athletes' academic success beyond eligibility and that faculty do not grant special treatment to student-athletes (positive or negative) because of their participation in intercollegiate athletics. Coaches, student affairs educators, and faculty should be educated about the challenges student-athletes have in balancing athletics and academics and collaborate in ways that confirm student-athletes are first and foremost students.

The Integration communication team must become institutionalized. The president and senior administrators are needed to set the expectation and set the tone through their words, actions and decision-making. Taken together, these recommendations should establish and maintain the integrity of DII institutions' intentions to be committed to a holistic college experience for student-athletes encouraging academic curiosity and campus engagement opportunities outside the sport role (NCAA, n.d.).

Future Research

Future research is needed to better understand the effects that athletics has on the overall collegiate experience of the student-athlete on the DII college or university campus. This future research should build on the present study by investigating several conditions that this study did not explore.

First, future research should explore differences between DI and DII student-athletes' athletic identity, career maturity, and academic motivation. Based on the findings of this study, it is suspected that DII revenue-status sport student-athletes may have a similar commitment to the sport role as do those at DI institutions—a commitment that affects their

career maturity and academic motivation. This research is needed to determine if the current literature on DI student-athletes can also be applied to DII student-athletes.

Second, future research is needed to specifically isolate DII revenue- and nonrevenue-status sport student-athletes. This study found significant differences between these two populations with regard to the variables explored. Additional exploration is needed to determine if there are two distinct populations functioning within athletic departments on DII campuses, thus requiring different strategies to accommodate these student-athletes' academic and social needs. As part of this research, using a mixed method research approach may give further understanding into the DII revenue- and nonrevenue-status sport student-athletes. Specifically, interviewing the student-athletes and the academic advisers may give rise to information useful to maximize a positive collegiate experience for the student-athlete and inform academic advisors of the different beliefs about academic and career issues among student-athlete population on the DII campus.

Third, future research is needed on how gender affected the results of this study. Because revenue-status sport teams (football and men's basketball) are male sports, gender may be playing a large role in the differences between results for student-athletes in revenue-versus nonrevenue-status sport. When considering gender, researchers may consider looking at Olympic Sports to measure athletic psychological factors related to male and female athletes.

Fourth, future research is needed to investigate intrinsic (academic engagement for the personal enrichment of learning the topic studied) and extrinsic (academic engagement related to goals other than learning the topic studied) motivation topology's effect on student-athletes' identity exploration and total campus engagement experiences. Researchers should

investigate intrinsic academic motivation's effects on student-athletes' balance of academic and athletic engagement compared to extrinsic academic motivation, which requires a student-athlete to meet academic requirements in order to stay eligible to participate in the sport or be seeking the college degree as a goal achievement instead of for the value of the education. This research could help to better define the relationships between motivation and the student-athlete's engagement in the overall campus and academic opportunities.

Conclusion

This study made inquiry into the effect of athletic identity, career decision-making self-efficacy subscales, and career aspirations on academic motivation of revenue- and nonrevenue-status sport NCAA DII student-athletes. Additionally, this study focused on the extent that revenue- and nonrevenue-status sport participants' psychosocial beliefs about themselves and demographic factors (i.e., year in school, age, gender, etc.) create different motivations with regard to academics. The specific purpose of this study was to examine the extent to which athletic identity and decision-making self-efficacy-related tasks predict NCAA DII student-athletes' academic motivation and to investigate whether or not there are significant differences among revenue- and nonrevenue-status sport NCAA DII student-athletes related to athletic identity, career decision-making self-efficacy-related tasks, future sports career aspirations, and academic motivations.

Athletic identity was found to have a negative relationship with career-related self-efficacy (confidence in the ability to gather occupational information and to problem solve when choosing a different career if the first choice is not available). Athletic identity was also found to have a negative relationship with academic motivation. This is particularly noteworthy among revenue-status sport student-athletes who were found to have significantly

higher athletic identity and significantly lower academic motivation than did student-athletes in other sports. Revenue-status sport student-athletes were found to be significantly more likely to believe they would be able to have a sustainable professional sports career than were the student-athletes in other sports. Year in school, athletic identity, and revenue status of the sport were found to be significant predictors of academic motivation. All three of these variables were found to have significant negative beta values, suggesting that the longer DII student-athletes are in school and the higher their athletic identity the lower their academic motivation, and this was found to be particularly true of revenue-status sport DII student-athletes.

The findings of this study appear to provide reasons to further investigate these issues and build on this current study to determine if there are structural elements entrenched in DII schools that may motivate the DII student-athlete, and particularly the revenue- status sport student-athlete, toward the athletic role and away from academics.

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**APPENDIX A. NCAA DIVISION II STUDENT-ATHLETES ACADEMIC
MOTIVATION SURVEY**

Q1 I consider myself an athlete.

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

Q2 I have many goals related to sport.

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

Q3 Most of my friends are athletes.

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

Q4 Sport is the most important part of my life.

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

Q5 I spend more time thinking about sport than anything else.

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

Q6 I feel bad about myself when I do poorly in sport.

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

Q7 I would be very depressed if I were injured and could not compete in sport.

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

Q8 HOW MUCH CONFIDENCE DO YOU HAVE THAT YOU COULD:

	No confidence at all (1)	Very little confidence (2)	Moderate Confidence (3)	Much Confidence (4)
1- Find information in the library about occupations you are interested in. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2- Determine the steps to take if you are having academic trouble with an aspect of your chosen major. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3- Persistently work at your major or career goal even when you get frustrated. (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4- Find out the employment trends for an occupation over the next ten years. (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5- Change majors if you did not like your first choice. (13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q9 HOW MUCH CONFIDENCE DO YOU HAVE THAT YOU COULD:

	No confidence at all (1)	Very little confidence (2)	Moderate Confidence (3)	Much Confidence (4)
1- Find out about the average yearly earnings of people in an occupation. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2- Change occupations if you are not satisfied with the one you enter. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3- Talk with a person already employed in a field you are interested in. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4- Find information about graduate or professional schools. (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5- Identify some reasonable major or career alternatives if you are unable to get your first choice. (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q10 I am confident that I can achieve a high grade point average this year (3.0 or above).

- Strongly Disagree (12)
- Disagree (13)
- Somewhat Disagree (14)
- Somewhat Agree (15)
- Agree (16)
- Strongly Agree (17)

Q11 It is important for me to learn what is taught in my courses.

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Somewhat Agree (4)
- Agree (5)
- Strongly Agree (6)

Q12 I am willing to put in the time to earn excellent grades in my courses.

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Somewhat Agree (4)
- Agree (5)
- Strongly Agree (6)

Q13 I will be able to use what is taught in my courses in different aspects of my life outside of school.

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Somewhat Agree (4)
- Agree (5)
- Strongly Agree (6)

Q14 I chose (or will choose) my major because it is something I am interested in as a career.

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Somewhat Agree (4)
- Agree (5)
- Strongly Agree (6)

Q15 Earning a high grade point average (3.0 or above) is not an important goal for me this year.

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Somewhat Agree (4)
- Agree (5)
- Strongly Agree (6)

Q16 I get more satisfaction from earning an "A" in a course toward my major than winning a game in my sport.

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Somewhat Agree (4)
- Agree (5)
- Strongly Agree (6)

Q17 During the years I compete in my sport, completing a college degree is not a goal for me.

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Somewhat Agree (4)
- Agree (5)
- Strongly Agree (6)

Q18 I am confident that I can make it to an elite level in my sport (Professional/Olympics).

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Somewhat Agree (4)
- Agree (5)
- Strongly Agree (6)

Q19 I am confident that I can earn a college degree.

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Somewhat Agree (4)
- Agree (5)
- Strongly Agree (6)

Q20 It is not important for me to perform better than other students in my courses.

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Somewhat Agree (4)
- Agree (5)
- Strongly Agree (6)

Q21 The content of most of my courses is interesting to me.

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Somewhat Agree (4)
- Agree (5)
- Strongly Agree (6)

Q22 The most important reason why I am in school is to earn a degree.

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Somewhat Agree (4)
- Agree (5)
- Strongly Agree (6)

Q23 It is not worth the effort to earn excellent grades in my courses.

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Somewhat Agree (4)
- Agree (5)
- Strongly Agree (6)

Q24 What is your age?

Q25 What is your gender?

- Male (1)
- Female (2)

Q26 What is your race?

- American Indian/Alaskan Native (1)
- Asian (2)
- Black or African American (3)
- Native Hawaiian or other Pacific Islander (4)
- White or Caucasian (5)
- Other (please specify) (6) _____

Q27 What is your year in school?

- 1st year (1)
- 2nd year (2)
- 3rd year (3)
- 4th year (4)
- 5th year (5)

Q28 Scholarship Status

- Full athletic scholarship (1)
- Partial athletic scholarship (2)
- No athletic scholarship (3)

Q29 Sport in which you participate?

- Volleyball (1)
- Football (2)
- Women's Basketball (3)
- Men's Basketball (4)
- Baseball (5)
- Softball (6)
- Men's Cross Country (7)
- Men's Track And Field (10)
- Women's Cross Country (11)
- Women's Track And Field (12)
- Women's Soccer (13)
- Men's Soccer (14)
- Other Sport (please specify) (15) _____

Q30 What is your highest level of education completed by your parents?

- Some High School or less (1)
- High School Degree (2)
- Some College (3)
- Associate Degree from a two year college (4)
- A Bachelor's Degree (5)
- Some Graduate School (6)
- A Graduate Degree (7)

Q31 How likely you believe you are to be able to sustain yourself financially as a professional athlete?

- I know that I will not be able to support myself financially as a professional athlete (1)
- It is highly unlikely I will be able to support myself financially as a professional athlete (2)
- It is fairly unlikely I will be able to support myself financially as a professional athlete (3)
- I am uncertain I may or may not be able to support myself financially as a professional athlete (4)
- I am fairly likely to be able to support myself financially as a professional athlete (5)
- I am highly likely to be able to support myself financially as a professional athlete (6)
- I will be able to support myself as a professional athlete (7)

Q32 What is your major?

- Liberal Arts (1)
- Education (2)
- Science & Engineering (3)
- Nursing & Health Sciences (4)
- Business (5)
- Other (6)

Q34 Do you have a 2nd major?

- Liberal Arts (1)
- Education (2)
- Science & Engineering (3)
- Nursing & Health Sciences (4)
- Business (5)
- Other (6)

APPENDIX B. CODEBOOK FOR THE STUDY

<p>Athletic Identity Construct</p> <p>Athletic Identity Measurement Scale</p>	<p>Survey Questions -</p> <p>3. Most of my friends are athletes.</p> <p>4. Sport is the most important part of my life.</p> <p>5. I spend more time thinking about sport than anything else.</p> <p>7. I would be very depressed if I were injured and could not compete in sport.</p>	<p>Simple mean of the multiple Item Scales to create the variable ATHLETICID</p> <p>Seven Point Scale</p>
<p>Career Decision Self-Efficacy Construct</p> <p>Sub scale Information Gathering</p>	<p>Survey Question -</p> <p>HOW MUCH CONFIDENCE DO YOU HAVE THAT YOU COULD:</p> <p>8-1. Find information in the library about occupations you are interested in.</p> <p>8-4. Find out the employment trends for an occupation over the next ten years.</p> <p>9-1. Find out about the average yearly earnings of people in an occupation.</p> <p>9-3. Talk with a person already employed in a field you are interested in.</p> <p>9-4. Find information about graduate or professional schools.</p>	<p>Simple mean of the multiple Item Scales to create the variable INFOGATHER</p> <p>Four Point Scale</p>
<p>Career Decision Self-Efficacy Construct</p> <p>Sub scale Problem Solving</p>	<p>Survey Question -</p> <p>HOW MUCH CONFIDENCE DO YOU HAVE THAT YOU COULD:</p> <p>8-2. Determine the steps to take if you are having academic trouble with an aspect of your chosen major.</p> <p>8-3. Persistently work at your major or career goal even when you get frustrated.</p> <p>8-5. Change majors if you did not like your first choice.</p> <p>9-2. Change occupations if you are not satisfied with the one you enter.</p> <p>9-5. Identify some reasonable major or career alternatives if you are unable to get your first choice.</p>	<p>Simple mean of the multiple Item Scales to create the variable PROBSOLVE</p> <p>Four Point Scale</p>
<p>Academic Motivation sub Scale AM</p>	<p>Survey Question -</p> <p>11. It is important for me to learn what is taught in my courses.</p> <p>12. I am willing to put in the time to earn excellent grades in my courses.</p> <p>13. I will be able to use what is taught in my courses in different aspects of my life outside of school.</p> <p>14. I chose (or will choose) my major because it is something I am interested in as a career.</p> <p>16. I get more satisfaction from earning an "A" in a course toward my major than winning a game.</p> <p>21. The content of my courses is interesting to me.</p> <p>22. The most important reason why I am in school is to earn a degree.</p> <p>23. It is not worth the effort to earn excellent grades in my courses. (R)</p>	<p>Simple mean of the multiple Item Scales to create the variable ACADEMIC</p> <p>Six Point Scale</p>
<p>Re-code</p> <p>GENDER</p> <p>Scholarship Status SCHOLAR</p> <p>Revenue Sport Status REVENUE</p>	<p>Survey Question 25 - What is your gender?</p> <p>Male = 0</p> <p>Female = 1</p> <p>Scholarship Status - 28</p> <p>1 Full athletic scholarship = 3</p> <p>2 Partial athletic scholarship = 2</p> <p>3 No athletic scholarship = 1</p> <p>Survey Question - 29. Sport in which you participate?</p> <p>(2, 4) "Football", "men's basketball" = 1</p> <p>(1, 3, 5, 6, 7,8,9,10,11,12,13) "All other sports" = 0</p>	

APPENDIX C. PERMISSION TO USE THE SAMSAQ SURVEY

From: Joy Gayles <jgayles@ncsu.edu>

Date: August 5, 2013 3:10:14 PM CDT

To: Mark Weatherly <markw@iastate.edu>

Subject: Re: Ph.D. Student at Iowa State University

Hi Mark, thanks for your interest in the SAMSAQ. You have my permission to use the scale under the condition that you provide me an executive summary of your findings upon completion of the study. The scale is published in the 2005 volume of the Journal of College Student Development. Please cite the reference accordingly in your write up.

Best of luck to you with your study!

Dr. Gayles

On Sat, Aug 3, 2013 at 2:05 PM, Mark Weatherly <markw@iastate.edu> wrote:

Dr. Gayles - My name is Mark Weatherly - I am a doc student at ISU. My area of interest is Division I athletes, and the possible negative correlation between athletic identity and career maturity. My intent is to complete a study, which will measure Division I, II, & III student athlete's athletic identity using the AIMS measurement scale. Additionally, I intend on measuring students athletes' career maturity using the CDSE or CMI instrument, assessing senior athletes' career maturity as they end their athletic careers, and look forward to life beyond collegiate sport. As part of my study, I would like to measure student athletes' motivation toward sport, academics, and career athletic motivation using your SAMSAQ instrument.

I have two objectives with this email - First, I would like to get your permission to use your SAMSAQ instrument, and seconded, I would like direction on how to obtain a copy of the instrument along with any support documents for its use.

Thank you for taking the time to review this email, and I will look forward to hearing from you.

Best Regards,

Mark Weatherly

APPENDIX D. UNIVERSITY CONTACT LETTER

Dear _____

Thank you for taking the time to visit with on the phone. I hope we can work together to collect data for this important study.

I would like to receive at least 300 student-athlete respondents for my entire study. This will require multiple DII institutions to partner with me to accomplish this goal. Because my last study yielded 74 participants, I believe 74 respondents are a reasonable goal from each additional university. However, I would be pleased if we received more.

I would like to launch the survey in late March and collect response until the end of April.

That being said, I clearly recognize my need to accommodate your schedule and am open to what makes the most sense for you and your student-athletes. I do have a personal goal of completing the study in August of this year.

Please find attached my ISU IRB letter of approval and IRB application - and thank you for your help.

Best Regards

Mark Weatherly

515.208.8733

APPENDIX E. SURVEY INTRODUCTION

Dear Participants,

My name is Mark Weatherly and I am a Student at Iowa State University. I am completing my PhD in Educational Leadership. The purpose of this important research is to investigate athletic identity and career related issues effect on academic motivation among student-athletes attending NCAA division II educational institutions. Nearly all-existing research on this topic has focused on NCAA DI student-athletes and has not specifically considered DII student-athletes. This lack of DII attention has left a gap in the research exploring the effects of DII athletic participation and I am asking you to help fill that gap by filling out this survey.

This survey asks about some of your personal interests and opinions as well as about your athletic experience. There are no right or wrong answers. The survey takes about 10 *minutes*. There are no risks or benefits from participating. No identifying information will be collected and all information will be kept confidential. Of course, your participation is voluntary and you may stop or skip questions at any time. If you agree to participate, responding to the questions constitutes your consent. If you have any questions, contact Mark Weatherly 515.208.8733 or Dr. Larry Ebberts PhD in the Iowa State University Department of College of Human Sciences/School of Education. *Please discontinue participation if you are under 18 years of age.*

I would greatly appreciate your participation. Once again your identity will not be linked to your survey responses nor is it asked for while completing the survey. Results of this survey will be shared with administrative leaders for planning and programmatic purposes only. I will not reveal the identity of the college I am surveying in my published dissertation.

Thank you for your help.

Best regards,

Mark Weatherly

APPENDIX F. INSTITUTIONAL REVIEW BOARD APPROVAL LETTER

IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY

Institutional Review Board
Office for Responsible Research
Vice President for Research
1138 Pearson Hall
Ames, Iowa 50011-2207
515 294-4566
FAX 515 294-4267

Date: 4/1/2014

To: Mark Weatherly
5178 Windsor Ct
Pleasant Hill, IA 50327

CC: Dr. Larry Ebbers
N256 Lagomarcino Hall

From: Office for Responsible Research

Title: Measurement of the Relationship between Athletic Identity and Career Maturity in Student- Athletes Attending NCAA Division II Schools

IRB ID: 14-180

Study Review Date: 4/1/2014

The project referenced above has been declared exempt from the requirements of the human subject protections regulations as described in 45 CFR 46.101(b) because it meets the following federal requirements for exemption:

- (2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey or interview procedures with adults or observation of public behavior where
 - Information obtained is recorded in such a manner that human subjects cannot be identified directly or through identifiers linked to the subjects; or
 - Any disclosure of the human subjects' responses outside the research could not reasonably place the subject at risk of criminal or civil liability or be damaging to their financial standing, employability, or reputation.

The determination of exemption means that:

- **You do not need to submit an application for annual continuing review.**
- **You must carry out the research as described in the IRB application.** Review by IRB staff is required prior to implementing modifications that may change the exempt status of the research. In general, review is required for any modifications to the research procedures (e.g., method of data collection, nature or scope of information to be collected, changes in confidentiality measures, etc.), modifications that result in the inclusion of participants from vulnerable populations, and/or any change that may increase the risk or discomfort to participants. Changes to key personnel must also be approved. The purpose of review is to determine if the project still meets the federal criteria for exemption.

Non-exempt research is subject to many regulatory requirements that must be addressed prior to implementation of the study. Conducting non-exempt research without IRB review and approval may constitute non-compliance with federal regulations and/or academic misconduct according to ISU policy.

Detailed information about requirements for submission of modifications can be found on the Exempt Study Modification Form. A Personnel Change Form may be submitted when the only modification involves changes in study staff. If it is determined that exemption is no longer warranted, then an Application for Approval of Research Involving Humans Form will need to be submitted and approved before proceeding with data collection.

Please note that you must submit all research involving human participants for review. **Only the IRB or designees may make the determination of exemption**, even if you conduct a study in the future that is exactly like this study.

Please be aware that **approval from other entities may also be needed.** For example, access to data from private records (e.g. student, medical, or employment records, etc.) that are protected by FERPA, HIPAA, or other confidentiality policies requires permission from the holders of those records. Similarly, for research conducted in institutions other than ISU (e.g., schools, other colleges or universities, medical facilities, companies, etc.), investigators must obtain permission from the institution(s) as required by their policies. **An IRB determination of exemption in no way implies or guarantees that**

APPENDIX G. INSTITUTIONAL REVIEW BOARD APPROVAL LETTER

Institution D

March 21, 2016

Mr. Mark Weatherly

Re: Measurement of the Relationship between Athletic Identity, Career Self-Efficacy and Academic Motivation in Student-Athletes Attending NCAA Division II Schools

Dear Mr. Weatherly

On March 21st, 2016 the RRB completed a review of your application and supporting documents for the above named research proposal. The Research Review Board (RRB) for Southwest Baptist University has determined that the proposed research project meets the criteria for Exempt status as per policy 1.15.3 in the faculty guidelines. The project has been approved and work on the project may begin. The principle investigator need not resubmit the project for continuing RRB review as long as there are no modifications in the procedures

If any modifications to the procedures are made the RRB will need to complete a new review of the changes to determine if the project continues to meet Exempt status or if further review is necessary.

Congratulation on the approval of your project and we wish you the best.

Sincerely,

Research Review Board, Chairman