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An examination of the athletic identity, identity foreclosure, and career maturity of Division I collegiate student-athletes in nonrevenue-producing sports

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ABSTRACT

AN EXAMINATION OF THE ATHLETIC IDENTITY, IDENTITY FORECLOSURE, AND CAREER MATURITY OF DIVISION I COLLEGIATE STUDENT-ATHLETES IN NONREVENUE-PRODUCING SPORTS

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Very few student-athletes will go on to become a professional in their sport; therefore, the vast majority will need to pursue a non-sport career once their collegiate athletic eligibility has ended. Research indicates that a strong athletic identity and identity foreclosure coincide with lower levels of career maturity, which contributes to the struggle that student-athletes often face with their post-sport transition. The majority of student-athletes compete in nonrevenue-producing collegiate sports (e.g., cross country and soccer), but this subgroup has not been adequately examined. This is problematic because research suggests that lower career maturity levels exist among student-athletes in both revenue- and nonrevenue-producing sports compared to non-athletes. As such, student-athletes in nonrevenue sports also may face career development and preparation challenges.

To examine the relationships among athletic identity, identity foreclosure, and career maturity, the Athletic Identity Measurement Scale (AIMS), Extended Objective Measure of Ego Identity Status (EOM-EIS), Career Maturity Inventory Form C (CMI-C), and a demographic questionnaire were completed by NCAA Division I student-athletes who were members of 15 different nonrevenue sports. Latent variable regression analysis was used to address the research

questions. Athletic identity was found to be a statistically significant, negative predictor of career maturity, whereby career maturity decreased as athletic identity increased, but a similar relationship between identity foreclosure and career maturity was not discovered. However, a positive correlation between athletic identity and identity foreclosure was found, along with an indirect effect of identity foreclosure on career maturity (with athletic identity as the mediating variable). Additionally, gender, year in school, performance level, and expectations of becoming a professional athlete were not found to moderate the relationships between athletic identity and career maturity, and between identity foreclosure and career maturity. Overall, the current study's findings indicate that athletic identity is an important construct to consider in the career development process of nonrevenue-producing sport student-athletes. The study's limitations are discussed, as well as suggestions for future research.

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DEDICATION

I lovingly dedicate this dissertation to Scott, Gus, and Max,

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CHAPTER 1

INTRODUCTION

In 2007, the National Collegiate Athletic Association (NCAA) launched a media campaign focusing on the fact that the majority of collegiate student-athletes will go on to pursue a career outside of their respective sport: “There are over 380,000 student-athletes, and most of us go pro in something other than sports” (para. 2). The goal of the campaign was to articulate the importance of student-athletes striking a balance between academics and sports for a successful collegiate experience and post-graduation career (NCAA, 2007). Because athletics can be a large part of who a student-athlete is, helping these individuals understand what comes after their collegiate sport career is an essential part of their development.

The aforementioned NCAA media campaign is the perfect segue to introduce this study on student-athlete career development due to its message that life does not end once student-athletes have completed their eligibility, so it is important to prepare them for what is next. While this is true for all student-athletes, research has typically been devoted to individuals competing in revenue-producing sports (i.e., football and men’s basketball). This is most likely due to the popularity of these sports, as well as the attention and money that are often brought to their respective institutions (Meggyesy, 2000). However, the vast majority (over 80%) of collegiate student-athletes participate in nonrevenue-producing sports (e.g., track and field, soccer, and tennis; NCAA, 2014), but little is known about this specific subgroup’s career

development. Therefore, this study will focus on the career development of student-athletes who participate in nonrevenue-producing sports.

Background

Four-year colleges and universities in the U.S. with athletic programs may become members of the NCAA, which is a non-profit organization formed in 1906 that regulates collegiate athletics (NCAA, 2015a). Member schools are structured into three divisions. Division I schools, the focus of this study, typically have the largest student bodies, budget, and scholarships (NCAA, 2015b). About 350 colleges and universities are NCAA Division I members and 6,000 teams are hosted at these higher education institutions (NCAA, 2015b). Approximately 300 schools are Division II members, which "provide thousands of student-athletes the opportunity to compete at a high level of scholarship athletics while excelling in the classroom and fully engaging in the broader campus experience" (NCAA, 2015c, para. 1). Division III consists of about 444 member institutions with 170,000 student-athletes. The philosophy of Division III schools is to ensure that academics, rather than athletics, are the main focus of their student-athletes. This is especially evident by the shorter practices and playing seasons that are in place (NCAA, 2015d). Division I athletic programs tend to place higher demands on their student-athletes, while Division II and III institutions focus more on the balance between athletics and academics (Watt & Moore, 2001).

Another important distinction between the three divisions is that Division I schools devote more funding to support athletics than Division II or III schools, which is often possible due to large media contracts (NCAA, 2015b). As a result, intercollegiate athletics, especially at the Division I level, have evolved into a multimillion dollar business (Lapchick, 2006).

However, while ticket sales, alumni contributions, and NCAA and conference distributions (e.g., via television contracts) certainly bring in money to various universities, the majority of Division I athletic programs and sports are not profitable (NCAA, 2015e). Regardless, institutions of higher education are challenged with finding a balance between supporting their business via their athletic departments and preparing student-athletes for their careers (Thelin, 1994). This is not always an easy feat, as reflected by the struggle that approximately 15% of athletes have with making the transition to their post-sport career (Wylleman, 1995).

College is a crucial period of time for students' career development and identity formation (Erikson, 1959; Super, 1957). Student-athletes may encounter additional challenges when they have a strong athletic identity, which is "the degree to which an individual identifies with the athlete role" (Brewer, Van Raalte, & Linder, 1993, p. 237). Namely, they may be less prepared for their careers when they do not engage in career development activities that conflict with their identity as an athlete (Good, Brewer, Petitpas, Van Raalte, & Mahar, 1993; Pearson & Petitpas, 1990). Identity foreclosure, a premature commitment to an identity due to a lack of exploration (Marcia, 1966), is another challenge that coincides closely with athletic identity. Student-athletes may fail to prepare for their careers due to being foreclosed and adopting an exclusive athletic identity (Beamon, 2012). Overall, research indicates that a strong athletic identity and identity foreclosure coincide with lower levels of career maturity (i.e., delayed career development), all of which contribute to the struggle that student-athletes often face with their post-sport transition (Beamon, 2012; Murphy, Petitpas, & Brewer, 1996).

In 1991, the NCAA acknowledged the need to assist student-athletes with their total development by creating the Challenging Athletic Minds for Personal Success (CHAMPS)/Life

Skills program, which is implemented at Division I schools (NCAA, 2008). This program focuses on helping student-athletes develop skills they can use to be successful in college and after graduation (NCAA, 2008). The foundation of CHAMPS/Life Skills is that "excellence is a result of a balanced life including academic achievement, athletic success and personal wellbeing" (NCAA, 2015f, para. 1). The program focuses on skills that enhance academic and athletic excellence, personal and career development, and service within the community (NCAA, 2008). Prior to CHAMPS/Life Skills, athletic departments typically only concentrated on providing academic support to their student-athletes (Danish, Petitpas, & Hale, 1993). As a result of this initiative and the fact that many colleges and universities now acknowledge the challenges student-athletes face when their sport ends, a trend has emerged in which various programs are being implemented to assist student-athletes with their transition (Nall, 2009).

Problem Statement

The NCAA (2013) reports that less than 2% of collegiate student-athletes will become a professional in their sport and, even for those who do, a long career with financial security is not guaranteed. Therefore, the vast majority of student-athletes will need to pursue a non-sport career once their collegiate athletic eligibility has ended. Because most will not have the opportunity to become a professional athlete, they will encounter a period when they are forced to adjust to no longer being an athlete, which can be a sudden and difficult change (Stankovich, Meeker, & Henderson, 2001). Lavallee, Gordon, and Grove (1997) found that athletes with a strong athletic identity who retired from their sport had difficulties with their emotional adjustment. In fact, researchers have found that athletes may experience symptoms similar to depression and grief (Beamon, 2012; Blinde & Stratta, 1993). An issue that may influence this

post-sport transition process and which is frequently cited in the literature relates to student-athlete career maturity (Beamon, 2012; Murphy et al., 1996). Research has found that athletes who do not plan for their future careers have a more difficult time transitioning from their sport than those who do (Drahota & Eitzen, 1998), and athletic identity and identity foreclosure may impact career maturity levels (Beamon, 2012; Murphy et al., 1996).

A review of the literature pertaining to the athletic identity, identity foreclosure, and career maturity of collegiate student-athletes revealed several gaps. The majority of studies that investigated these constructs did not examine them simultaneously despite the connection that has been established among these variables. Overall, a lack of empirical research pertaining to this set of variables among student-athletes exists (Brown, Glastetter-Fender, & Shelton, 2000). Additionally, the published literature that investigated these constructs often focused on professional athletes or student-athletes participating in revenue-producing sports. The majority of student-athletes compete in nonrevenue-producing collegiate sports, but this subgroup has not been adequately examined (NCAA, 2014; Paule & Gilson, 2010). This is problematic because research suggests that lower career maturity levels exist among student-athletes in both revenue- and nonrevenue-producing sports compared to non-athletes (Smallman & Sowa, 1996). As such, student-athletes in nonrevenue sports also may face career development and preparation challenges. Therefore, the question the current study will address is how athletic identity and identity foreclosure relate to career maturity among Division I collegiate student-athletes competing in nonrevenue-producing sports.

Purpose of the Study

The purpose of this study is to investigate the career development of collegiate student-athletes participating in Division I nonrevenue-producing sports by examining the relationships among athletic identity, identity foreclosure, and career maturity. The hope is that the findings will provide insight into the experiences of student-athletes in nonrevenue sports so that university personnel can become better equipped to help them with their career development and prepare them for their post-sport transition while they are still in college. This is important so that these student-athletes can successfully move on to their careers once their athletic eligibility has concluded.

Significance of the Study

Student-athlete career development is an important topic to study because few individuals will become a professional in their sport (NCAA, 2013), and they need to prepare for what is next. Student-athletes have been found to have lower career maturity levels than non-athletes (Kennedy & Dimick, 1987; Linnemeyer & Brown, 2010; Martens & Cox, 2000; Murphy et al., 1996; Smallman & Sowa, 1996), which may partially be due to a strong athletic identity and identity foreclosure, and coincide with a difficult post-sport transition (Beamon, 2012; Murphy et al., 1996). Although many colleges and universities offer resources to assist student-athletes with their transition, these individuals still have been found to struggle (Anderson & Morris, 2000; Wylleman, 1995).

Researchers mostly have focused on student-athletes participating in revenue-producing sports, neglecting to understand the experiences of those in nonrevenue sports (Paule & Gilson,

2010). Although some studies have made comparisons between student-athletes competing in revenue- versus nonrevenue-producing sports, distinctions often are not made between individuals in these two types of sports when both are included in a study (Paule & Gilson, 2010). Overall, the relationships among athletic identity, identity foreclosure, and career maturity have not been specifically studied among athletes in nonrevenue sports. Nonetheless, the assumption often is made that because nonrevenue-producing sports do not typically have a professional sport career path, student-athletes participating in these sports are more likely to explore other career options (Linnemeyer & Brown, 2010), and hence, have higher levels of career maturity and an easier post-sport career transition. As a result, researchers may dismiss this student-athlete population altogether. However, Smallman and Sowa (1996) found that career maturity differences may not exist between student-athletes in nonrevenue- and revenue-producing sports, which indicates that both groups may face similar challenges.

The lack of attention that is often given to athletes in nonrevenue-producing sports may also be due in part to the minimal amount of money that is brought into the university by these sports as compared to revenue-producing sports such as football and basketball (Paule & Gilson, 2010). This inattention may be problematic because athletes competing in nonrevenue sports also will have to prepare for the transition from their life as an athlete, so it is important to understand their needs. Lavallee and Robinson (2007) provided further evidence of this when they found that elite athletes who participated in a nonrevenue sport (i.e., gymnastics) often had a difficult time with their transition, which may have been partially due to not knowing what post-sport career they wanted to pursue. Therefore, the current study will investigate the relationships between athletic identity, identity foreclosure, and career maturity simultaneously to provide a

more current examination of these constructs within the collegiate student-athlete population, particularly those participating in Division I nonrevenue-producing sports. Investigating this population will hopefully lead to a better understanding of their unique characteristics. As such, a major goal of this study is to narrow the gap in the literature pertaining to the career development of the nonrevenue sport student-athlete population.

There are several intended audiences for this study. The hope is that the information that is gleaned from this research will be useful to practitioners in the field of higher education who support student-athletes, including coaches, student services personnel, counselors, administrators, and professors. Adding to the literature on athletic identity, identity foreclosure, and career maturity will hopefully lead to a better understanding of the student-athlete population and inform future practice. Because research on student-athletes participating in nonrevenue-producing sports is lacking, this study may also provide insight into this population, thereby increasing sensitivity to their needs. Perhaps having a better understanding of these athletes may help practitioners implement appropriate interventions that assist with the post-sport transition. The NCAA may also benefit from this study, as it may add to the knowledge base regarding Division I student-athletes in nonrevenue-producing sports. Finally, student-athletes may find this study to be beneficial because it could help build awareness about the career development process and how their identity as an athlete may relate to this process.

Research Questions

This study addressed the following research questions:

RQ1: How are athletic identity and identity foreclosure related to the career maturity of collegiate student-athletes?

RQ2: How are the athletic identity and identity foreclosure of collegiate student-athletes related?

RQ3: Is the relationship between athletic identity and career maturity moderated by the student-athlete's gender, year in school, and performance level?

RQ4: Is the relationship between identity foreclosure and career maturity moderated by the student-athlete's gender, year in school, and performance level?

Theoretical Framework

Several theories inform the current study. To begin, Super's (1957) life-span, life-space approach offers a foundational developmental perspective to career development. According to Super, five life stages occur throughout an individual's lifetime and signify a maturation process. The exploratory stage is most relevant to the traditional college student population and occurs between the ages of 15 and 25. This is a period of time when an individual experiences different areas of work, begins deciding on a vocation, and develops skills. The five life stages are accompanied by five career development tasks. The tasks that align with the college student population are specification and implementation. With specification, a commitment to an occupation is made, and during implementation, individuals prepare for and obtain a position in their field (Super, 1957).

Super (1957) also developed the construct *career maturity* (i.e., *vocational maturity*), which coincides with an individual's degree of career development and is based on completing the tasks associated with the five stages of vocational development. Career maturity is an "individual's readiness to cope with the developmental tasks with which he or she is confronted" (Super, 1990, p. 213). In 1971, Crites developed a career maturity model based on Super's work,

which contains an affective dimension and a cognitive dimension (Crites, 1978a). The affective dimension refers to the attitudes one has toward the career development process and career choices, while the cognitive dimension encompasses career decision-making skills and competencies (Crites, 1978a). The concept of career maturity is a focal point for the current research.

Another theory that informs this study is Erikson's (1959) theory of psychosocial identity development. Erikson theorizes that individuals move through eight stages throughout their life, and during each stage, a psychosocial crisis occurs that needs to be resolved. As each crisis is resolved, one's commitment to an identity becomes more significant. The fifth stage of identity versus identity diffusion is a period in which individuals begin wondering who they are as they develop their sense of self, and they may feel confused as they determine how they view themselves versus how others may view them. This stage is significant to the current study because it typically occurs among college-age students and is important for identity development (Erikson, 1959).

Marcia's (1966) identity status theory focuses on young adults' identity development and builds on Erikson's (1959) theory, with particular relevance to the fifth stage. Marcia identified four statuses that describe how individuals may experience and resolve an identity crisis. The status most applicable to the current study is identity foreclosure. This occurs when an individual has not experienced a crisis (i.e., he or she has not conducted an exploration of alternatives) and has prematurely committed to an identity that others expected of him or her. Marcia's theory focuses on the process of exploring, and subsequently committing to, an identity. Psychosocial identity development and identity foreclosure are important to understand

for the current study because they provide insight into the process of identity formation and what may occur as a result of not engaging in exploration.

Definitions

Several core terms and concepts pertaining to this study are important to define:

Student-athlete: An individual who is a member of an NCAA-sanctioned sport at the university level. Other terms may be used interchangeably, including intercollegiate student-athlete, collegiate athlete, or athlete.

Nonrevenue-producing Sport: For the current study, nonrevenue-producing sports include all sports other than football and men's basketball. Although the majority of NCAA Division I collegiate sports are not profitable, the two sports that have consistently reported net generated revenues (i.e., surpluses) over the last 10 years at many institutions include football and men's basketball (NCAA, 2015e). Revenues result mostly from ticket sales, alumni contributions, and NCAA and conference distributions (e.g., television contracts), which help to offset expenses (NCAA, 2015e).

Career Maturity: The definition of career maturity used in the current study, based on Crites' work, is an individual's readiness to make career choices (Savickas & Porfeli, 2011).

Athletic Identity: Refers to "the degree to which an individual identifies with the athlete role" (Brewer et al., 1993, p. 237).

Identity Foreclosure: Refers to one of Marcia's (1966) identity statuses and describes an individual who has not conducted exploratory behavior, but has instead prematurely committed to an identity that others expected of him or her. "The individual with a foreclosed identity fails

to evaluate internal needs and values and instead internalizes a socially acceptable role identity" (Miller & Kerr, 2003, p. 198).

Chapter Summary

Chapter 1 provided context and background information regarding the topic of collegiate student-athlete career development and why this subject should be investigated. Often, student-athletes do not know what career they want to pursue once their collegiate sport concludes, which may lead to a difficult post-sport transition (Beamon, 2012; Murphy et al., 1996). Additionally, the chapter discussed an existing gap in the literature in which collegiate student-athletes in nonrevenue-producing sports have not been adequately examined in regard to their athletic identity, identity foreclosure, and career maturity. The problem, purpose, and significance of the study also were outlined, along with the research questions the study investigated, the theoretical framework that was utilized, and definitions of important concepts.

The following chapters consist of additional information related to the study. Chapter 2 provides an overview of the relevant literature pertaining to student-athlete career and identity development. Chapter 3 describes the method of data collection and analysis for this study. Chapter 4 discusses the results of the study based on the data that were collected and analyzed. Finally, Chapter 5 provides a thorough discussion of the findings, as well as conclusions, limitations of the study, implications for practice, and potential topics for future research.

CHAPTER 2

LITERATURE REVIEW

The purpose of this study was to investigate the career development of collegiate student-athletes participating in Division I nonrevenue-producing sports by examining the relationships among athletic identity, identity foreclosure, and career maturity. Literature relevant to these areas will be presented. The first section of this review includes an overview of the experiences of student-athletes, including the challenges and benefits of being an athlete as well as the post-sport transition process. Following this, a discussion of career development will be provided, with a focus on developmental theories and career maturity, and how these relate to student-athletes. Identity development is the next major strand of research that will be examined, with an emphasis on athletic identity and identity foreclosure. Finally, career development programs and interventions designed for student-athletes will be discussed. How career maturity, athletic identity, and identity foreclosure intersect with one another—in particular, among student-athletes—will be discussed throughout the review, and existing gaps in the literature examined.

Experiences of Collegiate Student-Athletes

Over 482,000 student-athletes compete at the collegiate level on 19,326 teams, which is more than ever before (NCAA, 2015g). Roughly 57% of these student-athletes are male, who mostly participate in football, baseball, indoor and outdoor track and field, soccer, basketball, and cross country. The top women's sports include outdoor track and field, soccer, indoor track

and field, softball, volleyball, basketball, and cross country (NCAA, 2015g). The rise in the number of student-athletes is due in part to the increased importance that society has placed on college sports, along with the increased enrollments and financial support that universities often gain when their athletic teams do well (Watt & Moore, 2001).

Benefits and Challenges

Collegiate student-athletes have a different college experience than non-athletes, and research has been conducted to better understand the nuances between these two groups. Researchers agree that being a student-athlete lends itself to several benefits. Potential academic benefits include additional assistance from athletic advisors and the availability of athlete-only study facilities (Paule & Gilson, 2010). The potential to utilize the skills gained as an athlete in future work roles has also been cited as a benefit of athletic participation (Paule & Gilson, 2010; Potuto & O'Hanlon, 2007). Additionally, high levels of self-esteem, leadership and teamwork skills, discipline, and overall good health have been found among student-athletes (Watt & Moore, 2001).

While collegiate student-athletes certainly benefit from their athletic participation, their college experience brings unique challenges. For example, it has been found that athletes routinely spend 20 to 30 or more hours per week in their sport, including training and competition (Brown et al., 2000; Linnemeyer & Brown, 2010; Miller & Kerr, 2003), despite NCAA rules that limit athletes to 20 hours per week of sport participation (NCAA, n.d.). The additional hours that are spent in athletics may partially be due to the obscure way in which the NCAA dictates hours are counted, but regardless, athletes often dedicate a tremendous amount of

time to their sport each week. As such, student-athletes have the added pressure of competing in their sport, which often includes balancing a hectic practice and travel schedule with their schoolwork, ensuring they are meeting the obligations of their team and coach, and coping with injury (Carodine, Almond, & Gratto, 2001; Watt & Moore, 2001). The social pressure to perform also exists: "As the majority of society views it, these individuals are at college to play sports" (Sturm, Feltz, & Gilson, 2011, p. 297). Student-athletes are also under pressure to maintain their grades and academic commitments to remain eligible to compete and receive scholarship aid (Carodine et al., 2001).

In a study that examined the experiences of Division I student-athletes participating in nonrevenue-producing sports, it was found that these individuals felt they missed out on many social events, professional opportunities, and campus activities due to the amount of time they devoted to being an athlete (Paule & Gilson, 2010). Several researchers have also discussed how student-athletes often feel academically stereotyped (Engstrom & Sedlacek, 1991; Paule & Gilson, 2010). Whether these stereotypes are perception or reality, research has found that some student-athletes are less likely to complete their college degree than non-athletes (Purdy, Eitzen, & Hufnagel, 1982). Challenges are certainly present, but researchers contend that, overall, student-athletes feel "the challenges they face were worth the perceived benefits" (Paule & Gilson, 2010, p. 333) and that they do not perceive themselves as having a lesser college experience (Potuto & O'Hanlon, 2007).

Post-Sport Transition

Research often focuses on the experiences of student-athletes and how colleges and universities can assist them so that they can graduate. However, minimal research has been devoted to the transition experiences of collegiate student-athletes to their non-sport career (Archer, 2010). Although assisting student-athletes in completing their degree is important, so too is helping them navigate the transition from being an athlete to pursuing a career in something other than their sport. This help is vital because only a small percentage of student-athletes become professional athletes (NCAA, 2013). Due to the large numbers of collegiate student-athletes and the fact that approximately 15% of them may struggle with making the post-sport transition (Wylleman, 1995), institutions of higher education should adequately prepare them for this transition.

An overarching factor discussed frequently in the literature that may have a profound influence on a student-athlete's ability to cope with the transition pertains to career development. More specifically, research has found student-athletes to have delayed career development as compared to non-athletes (Kennedy & Dimick, 1987; Linnemeyer & Brown, 2010; Martens & Cox, 2000; Murphy et al., 1996; Smallman & Sowa, 1996). Potential sources of this delay will be discussed by examining aspects of identity development, including athletic identity and identity foreclosure. However, it is first important to discuss career development and how it applies to the student-athlete experience.

Career Development

A prevalent concern for college students is determining what they are going to do with their degree, and ultimately, their career (Gordon, 1982). Because of this, career development of college students is often the focus of institutions of higher education. Career development is "the sequence of career-related choices and transitions made over the life span" (Suddarth & Reile, 2012, p. 3-3). It is "those aspects of the continuous unbroken flow of a person's experience that are of relevance to (personal) fashioning of an identity 'at work.' The term *career development* is a linguistic representation of aspects of experience" (Tiedeman & O'Hara, 1963, p. 2). The specific components and processes that comprise career development depend largely on the perspective or theory that an individual assumes. Several of these theories will be described.

Theory

Numerous theories of career development have been proposed since the early 1900s, when industrialization led to both an increase in the number of available occupations and individuals who needed vocational guidance (Savickas et al., 2009). In the early part of the 20th century, the job market and economy in the United States were fairly stable (Baruch, 2006); therefore, how individuals chose and pursued their careers was very different than it is today (Savickas et al., 2009). With the change in occupations, economics, and technology, careers in the United States gradually evolved, and so did the theories in order to accommodate the changing worker (Savickas et al., 2009).

Many career development theories exist, and each offers a unique perspective. The various theories can be divided into multiple categories, such as trait-and-factor, behavioral, and

developmental. Trait-and-factor theories "emphasize a match between an individual's traits and the factors inherent in the world of work" (Swanson & Fouad, 1999, p. 5). The premise is that individuals whose characteristics are congruent with those of their occupation will be the most satisfied (Suddarth & Reile, 2012). Holland's (1997) vocational choice theory is an example of a trait-and-factor theory and suggests that individuals and environments encompass a combination of two or more of six types: Realistic, Investigative, Artistic, Social, Enterprising, and Conventional. Those who are in a compatible environment are likely to be content and productive (Holland, 1997).

Behavioral theories emphasize how individuals learn from their interactions with the environment (Swanson & Fouad, 1999). Krumboltz's learning theory of career choice and counseling is an example of a behavioral theory and posits that four factors guide one's career path: (1) innate abilities, (2) conditions within the environment, (3) learning experiences, and (4) task approach skills (e.g., expectations and emotions; Mitchell & Krumboltz, 1996). Individuals tend to prefer a specific occupation if they have previously been successful at performing tasks that align with the occupation, they have seen a role model become reinforced for such tasks, or someone has spoken positively about the occupation (Swanson & Fouad, 1999).

Developmental theories focus on how an individual's career changes throughout the life span and typically consist of stages that may align with one's chronological age (Suddarth & Reile, 2012). During these stages, tasks need to be accomplished for an individual to be ready for the next stage. Developmental theories take the entire life span into consideration (Suddarth & Reile, 2012) and view "career decision making as a process rather than an event" (Swanson & Fouad, 1999, p. 83). According to Hartung (2010), "the advent of the developmental perspective

on careers that added the notions of life-career stages, career patterns and trajectories, and worker as one of many life roles" (p. 100) was a significant milestone for the career development field. The developmental viewpoint will be the focal point of this study due to its emphasis on process rather than one point in time.

Developmental Theory

Super (1957) was one of the seminal career theorists who introduced a vocational development theory known as the life-span, life-space approach. Central to this theory is an individual's self-concept, which is how one sees himself or herself, how one would like to be perceived, and how one believes others view him or her (Suddarth & Reile, 2012). Individuals have a desire for their work to be an expression of their self-concept. The life-span component of Super's theory encompasses five life stages, which serve to organize career development throughout an individual's lifetime (Savickas, 1994) and signify a maturation process (Super, 1957). There are specific occupational tasks related to each life stage, along with typical age ranges in which each stage occurs (Super, 1957). The first stage is growth (birth to age 14), which consists of the development of one's self-concept, interests, and abilities. The exploratory stage (age 15-25) involves an individual experiencing different areas of work, beginning to decide on a vocation, and developing skills. The establishment stage (age 25-45) is when a person becomes more established in a particular career field and continues to build their skills. In the maintenance stage (age 45-65), an individual continues to maintain their position in their chosen field. The final stage, decline (age 65 and over), involves an individual producing less and preparing for retirement.

During one's life, an individual also completes five specific career development tasks that coincide with the life stages (Super, 1957). Crystallization (age 14-18) involves individuals considering and narrowing down vocational options and goals. Ultimately, during specification (age 18-21), they commit to an occupational goal. During implementation (age 21-24), individuals prepare for and obtain a job in their desired field. Stabilization (age 24-35) involves settling into their career, and finally, during consolidation (age 35 and over), individuals continue to commit to their vocation, gain experience, and advance. Notably, specification and implementation occur during the college years (i.e., ages 18-24; Super, 1957). Clearly, an individual's career development is an important aspect of a college student's life.

The life-space component of the life-span, life-space approach emerged when Super (1980) added an additional piece to his theory that posited individuals possess simultaneous life roles that may impact career development. In essence, one's career consists of a blend of different life roles during the various life stages. These life roles include son/daughter, student, worker, spouse/partner, homemaker, parent, leisurite, and citizen. Super created a Life-Career Rainbow that provides a visual for all of the different life roles, along with the typical age in which they occur and amount of time spent in each role. Additionally, each role has a different intensity or saliency, as indicated by various shades of color, and may either be in agreement or in conflict with other roles (Super, 1980). An individual is able to use the rainbow as a visual tool to map out his or her various life roles, when they occur, and their saliency.

Savickas's (2002) career construction theory builds on Super's (1957) work and views an individual's career as something that constantly evolves and is constructed over the course of one's life due to experiences that are encountered. The career construction theory was

formulated to align with the modern, 21st-century worker who often has to adapt to a constantly changing environment in which a stable career does not always exist (Savickas, 2013). This is an important consideration because the early career development theories were based on the assumption that individuals had a stable, mostly unchanging work situation (Savickas et al., 2009). That is, once a person was employed in an occupation, he or she could reasonably expect job security. Unlike Super's theory, Savickas's does not include linear stages of development. Rather, career construction theory focuses on how individuals' careers are constructed and evolve as people adapt to their changing environment and experiences (Savickas, 2002).

Central to career construction theory is Savickas's (2005) model of career adaptability. Savickas (1997) defined career adaptability as "the readiness to cope with the predictable tasks of preparing for and participating in the work role and with the unpredictable adjustments prompted by changes in work and working conditions" (p. 254). The career adaptability model contains four dimensions. The first is career concern (i.e., planfulness, orientation), which consists of an individual having a future orientation and being aware of certain vocational developmental tasks and choices that will need to be made (Savickas & Porfeli, 2011). The second dimension, career control, indicates that an individual is taking conscientious action to construct his or her career by being deliberate and organized in his or her approach with career development tasks. Career curiosity is the third dimension and is an individual's initiative to learn about the world of work, resulting in information-seeking and exploration. The fourth dimension is career confidence, which includes one's sureness of his or her ability to navigate and resolve the issues related to career decision-making and occupational choice, and ultimately,

make wise decisions and execute plans (Savickas & Porfeli, 2011). The notion of career adaptability stemmed from an important piece of Super's (1957) work, career maturity.

Career Maturity

In 1957, Super devised the construct *career maturity* (or *vocational maturity*), which is an "individual's readiness to cope with the developmental tasks with which he or she is confronted because of his or her biological and social developments and because of society's expectations of people who have reached that stage of development" (Super, 1990, p. 213). Career maturity coincides with one's degree of career development and is based on an individual completing the tasks associated with the five life stages of vocational development. "It includes the degree of success in coping with the demands of earlier stages and substages of career development, and especially with the most recent" (Super, 1990, p. 207). Super (1957) originally indicated that an individual's chronological age may not align with the career stage in which he or she is operating, and that he or she has career immaturity if the tasks are not completed at the appropriate time. However, Super later acknowledged that the stages and their corresponding tasks may not necessarily coincide with a specific age range and that this was not the most important part of the theory (Super & Knasel, 1981). Rather, completing the career development tasks is the most critical piece (Super & Knasel, 1981), and an individual may actually recycle through the various stages (Super, 1990). Ultimately, an individual may not be ready to navigate current or future tasks, which indicates career immaturity and an inability to make satisfactory career choices (Suddarth & Reile, 2012).

According to Super (1990), career maturity encompasses one's affective (or attitudinal) and cognitive readiness to handle the tasks that occur at the various stages of development, and this readiness is established by completing the various career development tasks. The two affective dimensions include career planning (i.e., planfulness) and career exploration (i.e., curiosity; Super, 1990). Career planning may involve discussing career plans with others or obtaining a part-time job to help inform an individual about a specific occupation (Thompson, Lindeman, Super, Jordaan, & Myers, 1981). Career exploration is one's curiosity to examine potential careers (Super, 1990) and to seek information from other sources (Thompson et al., 1981). The two cognitive dimensions include decision-making and world-of-work information. Decision-making is "the ability to apply knowledge and insight to career planning" (Thompson et al., 1981, p. 2). The world-of-work information dimension refers to one's career mindfulness and knowledge of occupations (Thompson et al., 1981). The Career Development Inventory (CDI; Super, Thompson, Lindeman, Jordaan, & Myers, 1981) was developed to assess the aforementioned affective and cognitive dimensions of career maturity (Thompson et al., 1981).

Crites (1971) developed an alternative career maturity model based on Super's (1957) work and defined the career maturity construct as an individual's readiness to make career choices (Savickas & Porfeli, 2011). Similar to Super, the model contains an affective dimension and a cognitive dimension (Crites, 1978a). The affective dimension encompasses attitudes an individual has toward the career development process and career choices, including one's involvement in the choice process, independence in decision-making, compromise as it relates to the choice, decisiveness in making career decisions, and orientation toward work (i.e., whether an individual is intrinsically or extrinsically motivated; Crites, 1972; 1978a). The cognitive

dimension consists of one's career decision-making skills and includes the career choice competencies of self-appraisal (of job-related abilities), occupational information, goal selection, planning, and problem solving (Crites, 1978a). According to Crites (1972), "in contrast to choice competencies, the attitudinal variables reflect the dispositional response tendencies which play a part in career decision-making" (p. 3). The attitudes determine the usage of the choice competencies and "act as internal cues which precede overt goal selection or planning or problem-solving" (Crites, 1972, p. 3).

The Career Maturity Inventory (CMI) was "conceived and constructed to measure the maturity of attitudes and competencies that are critical in realistic career decision making" (Crites, 1978a, p. 3). Several iterations of the CMI have been developed, with the most recent version (CMI-C) measuring attitudes toward career decision-making and readiness to make career choices (Savickas & Porfeli, 2011). The CMI-C also integrates aspects of Savickas's (2005) model of career adaptability, including concern, curiosity, and confidence subscales, which align with Crites' (1971) attitudinal components. A consultation subscale is also included in the instrument, measuring the degree to which an individual seeks assistance from others when making career decisions (Savickas & Porfeli, 2011). It is postulated that "as students' particular 'adapt-abilities' increase, so too does the general readiness to make realistic occupational choices" (Savickas & Porfeli, 2011, p. 357).

Career Maturity and Student-Athletes

Career maturity and career development have been the focus of several studies pertaining to student-athletes. Overall, student-athletes have been found to have lower levels of career

maturity and delayed career development when compared to non-athletes (Kennedy & Dimick, 1987; Linnemeyer & Brown, 2010; Martens & Cox, 2000; Murphy et al., 1996; Smallman & Sowa, 1996), which may negatively impact their transition from sport (Beamon, 2012; Murphy et al., 1996). Athletes often delay or do not participate in career decision-making until they near the completion of their sport (Hinkle, 1994). For example, Kennedy and Dimick (1987) investigated the career maturity and "realistic career expectations" (p. 294) of collegiate male student-athletes who participated in revenue-producing sports and compared this group to non-athletes. They found these athletes to have lower levels of career maturity, along with unrealistic expectations of becoming a professional athlete (Kennedy & Dimick, 1987). The student-athletes in Beamon's (2012) study also indicated that they were not ready to make career decisions after their sport ended. Ultimately, as research suggests, a lack of focus on what comes after sport completion could be detrimental to athletes' post-sport transition.

Although much research shows that student-athletes have lower levels of career maturity than non-athletes, other studies have not found such a clear correlation. In particular, Blann (1985), who studied student-athletes at Division I and Division III colleges, found that male under-class (i.e., freshman and sophomore) athletes did not have as mature career plans as non-athletes. However, upper-class male athletes "did nearly as well as junior and senior male non-athletes in formulating mature educational and career plans" (Blann, 1985, p. 117). These findings indicate that student-athletes' career maturity actually increased as they progressed through college. Additionally, in a study that focused on student-athletes and non-athletes attending a university highly focused on athletics, it was found that student-athletes had higher vocational identity levels than non-athletes and that these levels did not change significantly

during college (McPherson, 2013). Also, student-athletes (especially females) had higher occupational engagement levels in their junior and senior years (i.e., they participated in activities that helped them make career decisions). However, non-athletes had higher occupational engagement levels overall (McPherson, 2013).

As discussed, inconsistent research findings have been reported when examining student-athlete career development. These discrepancies may be attributed to the methodology that was employed and "the failure to isolate different aspects of sport participation and their impact on the vocational behavior of athletes in career transitions" (Shachar, Brewer, Cornelius, & Petitpas, 2004, p. 72). The unique demographics and characteristics of the individuals or contextual variances are often not considered. Instead, researchers frequently study student-athletes broadly (Shurts & Shoffner, 2004), which may result in inconsistencies.

Identity Development

To further understand career development, it is important to examine identity development, as these are closely related constructs that often intertwine: "Developmental theories that consider career planning emphasize the central role identity development plays in establishing mature career plans" (Lally & Kerr, 2005, p. 276). Overall, "identity relates to, at its roots, an individual's perception of (him or her) *self*" (Sturm et al., 2011, p. 296). The self is considered to be dynamic and multifaceted, consisting of various roles that an individual adopts (Markus & Wurf, 1987). Some roles are more important than others in defining one's identity (Stryker, 1968). Scholars have cited the importance of allowing theories of identity development to guide the practices and interventions that are implemented with college students (Guiffrida,

2009). Psychosocial theories in particular assist practitioners in understanding how college students define themselves and the world around them and can be utilized to create programs and initiatives that help foster development (Evans, Forney, Guido, Patton, & Renn, 2010).

Theory

Many individuals have offered theories relating to psychosocial identity development, but one of the seminal theorists is Erikson (1959), who outlined eight stages that individuals move through during the course of their life. During each stage, a psychosocial crisis ensues that needs to be resolved, which should result in a developmental change and stronger commitment to one's identity. These changes need to transpire for the individual to deal with later crises. The first four stages occur during childhood, while the latter four occur in adolescence and adulthood: (1) infancy (basic trust versus basic mistrust), (2) early childhood (autonomy versus shame and doubt), (3) play age (initiative versus guilt), (4) school age (industry versus inferiority), (5) adolescence (identity versus identity diffusion), (6) young adulthood (intimacy versus self-absorption), (7) maturity (generativity versus stagnation), and (8) old age (integrity versus despair and disgust). Erikson theorized that identity changes throughout the course of one's life, but commitment to an identity is more significant as each crisis is resolved.

One stage in particular that is frequently cited in the literature and occurs during adolescence into early adulthood is Erikson's (1959) fifth stage of identity versus identity diffusion. This is a period in which individuals begin wondering who they are as they develop their sense of self, and they may feel confused as they determine how they view themselves versus how others may view them. According to Erikson, those who do not have a clear sense of

who they are have identity diffusion. In essence, individuals may not have clarity in terms of who they are, which may lead to over-identification with others and intolerance toward those who may be different from them (Erikson, 1959). "Erikson views this phase of the life cycle as a time of growing occupational and ideological commitment" (Marcia, 1966, p. 551).

Another seminal theorist whose work builds on Erikson's is Chickering (1969), who "saw the establishment of identity as the core developmental issue with which students grappled during their college years" (Evans et al., 2010, p. 65). Chickering's theory of identity development contains seven vectors that individuals navigate through and during which issues are resolved as one's identity is formed (Chickering & Reisser, 1993). The term *vectors* is used because individuals may not progress through them in a linear fashion. Rather, they may move through them simultaneously, and vectors can also interact with one another. Although not necessarily linear, these vectors do build on one another. The seven vectors are as follows: (1) developing competence, (2) managing emotions, (3) moving through autonomy toward interdependence, (4) developing mature interpersonal relationships, (5) establishing identity, (6) developing purpose, and (7) developing integrity. According to Chickering and Reisser (1993), the establishing identity vector involves an individual gaining increased clarity and becoming more comfortable with his or her physical appearance, gender, sexual orientation, culture, roles, self-concept, sense of self, self-esteem, and personal stability.

Parallels between Career and Identity Development

Several parallels exist between career development and identity development. Erikson (1959) makes an explicit comparison of the identity versus identity diffusion stage to career

development when he states, “it is primarily the inability to settle on an occupational identity which disturbs young people” (p. 92). He recognized the need for individuals to have a clear sense of what they want to do in their career to resolve developmental crises and move forward in their identity development. Further emphasizing this relationship is Erikson’s belief that individuals have a desire to decide on the career they want to pursue, or a sense of confusion may develop. Perhaps individuals who do not resolve particular identity crises are unable to make effective career decisions. In support of this, Munley (1975) found that career maturity had a “strong linear relationship with all the stage crises resolutions” (p. 318). That is, if an individual had a high level of career maturity, he or she was better able to resolve the crises that occurred within each of Erikson’s proposed stages. Additionally, those who successfully resolved the various crises were more likely to develop career maturity (Munley, 1975). Furthermore, Chickering and Reisser (1993) discuss vocational goals and plans as being important to identity development, especially in regard to the establishing identity and developing purpose vectors.

Athletic Identity

An area of identity development that researchers have begun exploring in-depth is athletic identity (Houle, Brewer, & Kluck, 2010), which is “the degree to which an individual identifies with the athlete role” (Brewer et al., 1993, p. 237). Several models relating to athletic identity have been formulated. Webb, Nasco, Riley, and Headrick (1998) described athletic identity as consisting of two components. The first, public athletic identity, is how much an individual is known to be an athlete by others. Athletes develop a public reputation, which

infiltrates into their identity. The second component, private athletic identity, is the degree to which an athletic identity is internalized by the individual. Together, the public and private identities comprise the overall athletic identity of an individual, and the saliency of this identity may be dependent upon how successful an individual is at his or her sport (Webb et al., 1998).

Other researchers have conceptualized athletic identity within the multidimensional theory of self-concept, which posits that several dimensions influence the self-concept (Harter, 1990; Stephan & Brewer, 2007). Within the athletic dimension, the saliency of the athletic role has been found to influence whether athletic success or failure will affect self-esteem (Stephan & Brewer, 2007). Stephan and Brewer (2007) found that a hierarchy of factors influenced the saliency of identifying with the athletic role among elite athletes. Two dimensions in particular help to maintain identification as an athlete. The first is the bodily dimension, which includes both appearance and performance. The social dimension is the second, which involves the reinforcement athletes receive from coaches, other athletes, and the media. This finding is similar to Adler and Adler's (1987) research in which social reinforcement from coaches and teammates was found to strengthen the saliency of the athletic role. Those with a strong athletic identity may encounter issues when "there is a commitment to the role of athlete at the expense of other aspects of life" (Stephan & Brewer, 2007, p. 67). An identity crisis and difficulties with the post-sport transition could ensue once an athlete's sport comes to an end (Stephan & Brewer, 2007). They may also experience symptoms of depression and grief (Beamon, 2012; Blinde & Stratta, 1993), as well as social isolation (Brewer et al., 1993). Due to this, it becomes important for athletes to find a balance and truly be multidimensional rather than only basing their self-concept and self-esteem on one particular role (Stephan & Brewer, 2007).

The Athletic Identity Measurement Scale (AIMS), developed by Brewer, Van Raalte, and Linder (1993), is an instrument often used to measure athletic identity. Items within the AIMS pertain to social, cognitive, and affective aspects of athletic identity and tap into "thoughts and feelings central to the daily experience of student-athletes" (Brewer & Cornelius, 2001, p. 104). Brewer et al. have found that those who scored high on the scale "were likely to have higher sport-related competitiveness, goal orientation, and win orientation than low athletic identity" individuals (Brewer et al., 1993, p. 247). Several potential uses for the AIMS have been cited, including evaluating individuals who may be at risk of having a difficult post-sport transition (Brewer et al., 1993). Interventions could then be developed to assist these individuals prior to the transition. Overall, these findings provide further insight into the characteristics of those with high levels of athletic identity and how to best support these athletes.

Athletic Identity Development

Research pertaining to developmental aspects of athletic identity has also been conducted, but with mixed results. Based on their qualitative study of collegiate student-athletes, Miller and Kerr (2003) formulated a two-stage model of identity formation that occurs during the college years. They found that student-athletes mainly experimented with (i.e., assumed) three different types of roles, including the athletic, academic, and social roles. During the first stage of over-identification with the athlete role, student-athletes were highly invested in this role throughout the early and middle parts of their collegiate experience, which coincided with a lower commitment to the student role. Additionally, a lack of exploration of their social role also occurred, with teammates serving as the main source of social interaction. Overall, the

researchers found student-athletes to identify strongly with the athletic role, but only for a period of time (Miller & Kerr, 2003). The second stage, deferred role experimentation, occurred during the latter part of the student-athletes' college experience. This consisted of a shift in which academics became the focus rather than athletics. The participants in the study recognized that their athletic careers would not progress beyond the collegiate level; therefore, academic and career plans became more important, and the social role continued to be restricted (Miller & Kerr, 2003).

In support of Miller and Kerr's (2003) findings, Brewer et al. (1993) found scores on the AIMS to be negatively correlated with age. This indicates that as student-athletes progress through college and mature, they may become exposed to other experiences that decrease their identification with being an athlete (Brewer et al., 1993). Furthermore, Lally and Kerr (2005) discovered a shift in student-athletes' career plans and commitment to their athletic and student role identities from the time they entered college to when they graduated. Early on, participants in their study had uncertain career plans, were devoted to their athletic roles, and did not have a high amount of commitment to their student roles. By their final year of eligibility, participants' commitment to their athletic roles had declined, while their student role identities and career plans became more prominent (Lally & Kerr, 2005).

Although several researchers have found athletic identity to diminish as student-athletes progress through college, others have cited a different pattern. For example, Sturm et al. (2011) found that student-athletes' identities were relatively constant throughout their college career, and Houle et al. (2010) did not find athletic identity to decline with age unless sport involvement ended. Additionally, Adler and Adler (1987) investigated how the saliency of collegiate

basketball players' athletic, academic, and social roles changed over a period of four years. The athletic role was found to be the most salient, with the social role secondary; however, the academic role was still an important part of the athletes' identity. As time progressed, the athletes experienced an increase in the amount of pressure and time associated with their athletic role, which resulted in issues with managing all of the roles. Additionally, the athletic identity was socially reinforced by the athletes' peer group and coaches, while little reinforcement was provided for their academic efforts. When a role is not positively reinforced, individuals will not devote much of their self-identity to it (Adler & Adler, 1987). The athletes in the study also evaluated the strengths and weaknesses of their various roles and put more emphasis on the athletic role, which they viewed as being positive. As a result, athletic role saliency was found to increase over time, while academic role saliency decreased (Adler & Adler, 1987).

Researchers have clearly found inconsistent results pertaining to whether athletic identity wanes as student-athletes progress through college. These discrepancies may be due to several reasons. First, some of the studies did not take student-athletes' year in school into consideration and the differences that may be present due to class level. Relatedly, studying student-athletes longitudinally versus cross-sectionally could also lead to different findings. Finally, researchers often included student-athletes from different NCAA division levels in their studies. This may be problematic because nuances in the student-athlete experience may exist among universities that belong to different divisions (Aries, McCarthy, Salovey, & Banaji, 2004).

Athletic Identity and Career Development

The existing research that explores the relationship between athletic identity and student-athlete career development has also resulted in inconsistent findings. Research suggests that student-athletes who strongly identify with the athlete role may not engage in career development activities or may consider doing so a threat to their athletic identity or their desire to become a professional athlete (Good et al., 1993; Linnemeyer & Brown, 2010). As such, they may not be as prepared for their careers compared to those who do not have a strong athletic identity (Pearson & Petitpas, 1990). Lally and Kerr (2005) postulated that if student-athletes give more attention to their academics (i.e., have a less prominent athletic identity), they may be more likely to explore career options related to their program of study.

Although previous research supports the notion of an inverse relationship between athletic identity and career maturity (see Murphy et al., 1996), Brown and Hartley (1998) did not find such an association among their male football and basketball participants. They attributed this to the low percentage of student-athletes in their study who wished to pursue a career as a professional athlete, as well as increased attention that has been given to student-athlete career development. Additionally, Martens and Cox (2000) found differences between the career development of athletes and non-athletes, but a significant relationship between athletic identity and career development was not discovered. Clearly, additional research is warranted to better understand these inconsistencies.

Identity Foreclosure

An important construct that coincides with athletic identity is the notion of identity foreclosure. Marcia's (1966) identity status theory focuses on young adults' identity development and builds on Erikson's (1959) theory, especially as it pertains to the identity versus identity diffusion stage. Marcia identified four nonsequential statuses, rather than linear stages, that describe how individuals may experience and resolve an identity crisis. The first status is identity achievement, in which an individual has committed to an identity after considering other options. The second status is identity diffusion, in which there is a lack of commitment to an identity, and an individual is not concerned about making a decision. The third status is moratorium, in which an individual experiences a crisis and has the desire to make a commitment to an identity, but is feeling the pressure of societal expectations. Finally, the fourth status is foreclosure, in which an individual has not experienced a crisis (i.e., has not conducted an exploration of alternatives), but has prematurely committed to an identity that others expected of him or her (Marcia, 1966). "The individual with a foreclosed identity fails to evaluate internal needs and values and instead internalizes a socially acceptable role identity" (Miller & Kerr, 2003, p. 198). Overall, Marcia's theory focuses on the process of exploring, and subsequently committing to, an identity.

Identity Foreclosure and Student-Athletes

The identity foreclosure status is important to consider as it relates to student-athletes due to the strong athletic identity that is often developed without exploring other roles, identities, or careers (Beamon, 2012). This may put athletes at risk when they are transitioning from their

sport to pursue a career (Pearson & Petitpas, 1990). Identity foreclosure may occur due to several reasons. Athletes receive social reinforcement from others, including parents, coaches, and peers, which may influence them to commit to the athletic identity prematurely without first exploring other alternatives (Beamon, 2012). Also, student-athletes' schedules are often regimented by their coaches and travel, leaving little time to explore alternative identities, experiences, and activities (Lally & Kerr, 2005; Pearson & Petitpas, 1990). They frequently "forgo exploration of other talents, interests, hobbies, or occupations and center their identity on athletic participation and achievement" (Beamon, 2012, p. 196). As a result of these types of factors, student-athletes may identify themselves solely as an athlete, which may be at the expense of other roles (Lally & Kerr, 2005).

Difficulties may occur as a result of a lack of exploration. The benefit of identifying with additional roles is that, when a role ceases to exist, an individual has other roles he or she can assume, thereby maintaining a strong self-concept (Beamon, 2012). When an individual only identifies with one role, issues may occur when it can no longer be pursued, such as when a student-athlete's sport comes to an end. In a study that focused on male African-American student-athletes participating in either football or basketball, Beamon (2012) found that identity foreclosure began at an early age and that the participants' self and social identities were mostly aligned with being an athlete. Due to this, their transition from sport was difficult because they needed to redefine their identity. Even after the participants knew their career as an athlete was over, many struggled to explore their identity and career because they were unprepared or lacked motivation. When the student-athletes realized that a large part of how they defined themselves could no longer fit within their lives, an identity crisis ensued, which they were ill-prepared to

deal with (Beamon, 2012). Lavallee and Robinson (2007) reported similar findings among retired elite female gymnasts when they investigated how being an athlete impacted identity development and retirement from sport. The researchers found that when the athletes retired, they felt lost, which was largely attributed to prematurely assuming an identity as a gymnast at a young age (Lavallee & Robinson, 2007).

Identity Foreclosure and Athletic Identity

Research has shown identity foreclosure and athletic identity to be closely related concepts. In a study that investigated athletic identity, identity foreclosure, and level of college sport participation (i.e., intercollegiate, intramural, and no participation), it was found that athletic identity and identity foreclosure levels increased with sport involvement (Good et al., 1993). Additionally, identity foreclosure was lower for upper-class than under-class non-athletes, but not for intercollegiate and intramural athletes. These results suggest that competitive sport may coincide with an exclusive athletic identity (Good et al., 1993). Furthermore, Good et al. (1993) found a significant relationship between athletic identity and identity foreclosure, suggesting that student-athletes who had a strong identity with being an athlete also had high exclusivity to this role. This result is similar to Lavallee et al.'s (1997) finding that those with a strong athletic identity had the propensity to develop a self-concept that was exclusive to roles other than that of an athlete.

A significant correlation between athletic identity and identity foreclosure has not always been found (Brown et al., 2000; Murphy et al., 1996). Brown et al. (2000) explain that, although individuals may have a strong athletic identity, they may not necessarily have identity

foreclosure. It is suggested that "failing to explore alternative roles and behaviors and identifying strongly and exclusively with the athlete role are separate processes" (Murphy et al., 1996, p. 243). These constructs may indeed be independent of one another and further research is needed to understand their relationship.

Student-Athlete Career Maturity, Athletic Identity, and Identity Foreclosure

In general, few empirical studies have investigated career development among student-athletes (Brown et al., 2000). Even fewer have examined career maturity, athletic identity, and identity foreclosure despite the connection that has been established in the literature among these constructs. In a review of the literature, only Murphy et al. (1996) were found to have examined these three constructs simultaneously within the Division I student-athlete population. In their study, these researchers found athletic identity and identity foreclosure to be negatively correlated with career maturity. Additionally, Murphy et al. assessed how gender, playing status (i.e., varsity versus non-varsity), and type of sport (i.e., revenue- versus nonrevenue-producing) related to these three constructs. They found female athletes to have higher career maturity levels than male athletes, yet men and women had similar identity foreclosure and athletic identity levels. Varsity athletes had higher identity foreclosure and athletic identity levels than non-varsity athletes, while non-varsity athletes had higher career maturity scores. Finally, those in revenue-producing sports had higher foreclosure and lower career maturity levels than athletes in nonrevenue-producing sports (Murphy et al., 1996). These results suggest that examining career maturity, athletic identity, and identity foreclosure concurrently may provide a more comprehensive picture of how these constructs relate to student-athletes.

Investigating how other factors coincide with student-athlete career maturity, athletic identity, and identity foreclosure may also be warranted. As previously mentioned, the existing research often investigated student-athletes broadly instead of considering the unique demographics of the individuals (Shurts & Shoffner, 2004). For example, the potential influence of the student-athlete's performance level has not been adequately examined. Various studies have explored one or more of the career maturity, athletic identity, and identity foreclosure constructs in relation to elite athletes (Lavallee & Robinson, 2007; Stephan & Brewer, 2007), level of participation (i.e., intramural or intercollegiate; Good et al., 1993), competitive level (i.e., Division I versus Division III; Blann, 1985; Sturm et al., 2011), or varsity status (Martens & Cox, 2000; Murphy et al., 1996; Smallman & Sowa, 1996). However, the individual performance level of the collegiate student-athlete has not been considered.

Additionally, the focus on student-athletes competing in nonrevenue-producing sports is lacking (Paule & Gilson, 2010) even though participation in these sports is much more prevalent than in revenue-producing sports (NCAA, 2014). When nonrevenue sport athletes are included in a study, distinctions are often not made between them and those in revenue-producing sports (Paule & Gilson, 2010). Because fewer professional sport career opportunities may exist for student-athletes in nonrevenue sports, an assumption is often made that they will engage in career exploration (Linnemeyer & Brown, 2010). However, research suggests that career maturity differences between athletes in revenue- and nonrevenue-producing sports may not be present and that both groups face challenges (Smallman & Sowa, 1996). Very little is known about nonrevenue sport athletes, but understanding their career development may prove to be beneficial to them, as well as to those who support these individuals.

Career Development Programs

The research literature to date that focuses on student-athlete career and identity development provides a foundation for assisting student affairs practitioners, counselors, professors, coaches, and university administrators in understanding the experiences and obstacles that athletes may encounter as their sport career comes to a close. Increasing awareness among all of these individuals could help to improve the post-sport transition process (Harrison & Lawrence, 2004). The literature suggests many different practices and approaches that can be implemented by universities to support the student-athlete population. Recently, the NCAA acknowledged the need to assist student-athletes with their development, and subsequently, the Challenging Athletic Minds for Personal Success (CHAMPS)/Life Skills program was created (NCAA, 2008). NCAA Division I institutions have this program available, which assists student-athletes in enhancing their academic and athletic excellence, personal development, career development, and service within the community (NCAA, 2008). The purpose of this program is "to facilitate individuals' personal and career development through a process of exploratory behavior and skill development that begins in the first year at college and continues through graduation" via various courses and workshops (Petitpas, Brewer, & Van Raalte, 2009, p. 296). The fact that this program was created demonstrates that others are becoming more aware that a need exists to assist student-athletes with their development.

The literature has outlined other methods that may assist with student-athlete career development. One such approach is for practitioners and coaches to help student-athletes explore career choices and provide support so that they can focus on their career and academic plans (Brown et al., 2000). This exploration can be accomplished through such career

development activities as internships, informational interviews, job shadowing, professional networking, and mentoring (Brown et al., 2000). Howard-Hamilton and Sina (2001) suggest that orientation programs encourage student-athletes to become involved in activities outside of athletics. It is also recommended that practitioners assist student-athletes in developing realistic expectations of becoming professional athletes, as they may be more likely to explore other options after realizing they cannot advance athletically (Lally & Kerr, 2005). Additionally, Smallman and Sowa (1996) describe a career development program that is targeted toward student-athletes in their first year of college. These students engage in activities that encourage exploration, create career action plans, and eventually become mentors to new students. Utilizing career development assessments is suggested to fully understand the interventions that may best assist individual student-athletes (Smallman & Sowa, 1996).

The literature also discusses several preventive programs that may assist student-athletes with their transition to a non-sport career. For example, the Career Assessment Program for Athletes and the Making the Jump Program provide workshops that help student-athletes develop skills and knowledge for a successful transition (Pearson & Petitpas, 1990). The Positive Transitions Program, which targets student-athletes approaching the end of their eligibility, focuses on identity development, transferable skills, and career exploration (Stankovich et al., 2001). Positive effects from this program were found on career maturity, confidence in making career-related decisions, and readiness to transition from sport. Additionally, student-athletes' commitment to their athletic identity decreased (Stankovich et al., 2001). Research indicates that implementing career development programs may be helpful in preparing student-athletes for their transition (Stankovich et al., 2001). It seems that an increased number of colleges and

universities are recognizing that “Institutions of higher education have an obligation to prepare athletes for life beyond collegiate athletic competition” (Carodine et al., 2001, p. 22).

Summary of the Research

One of the primary reasons individuals attend college is to determine what they want to do with their career (Gordon, 1982). The literature has revealed that the experiences of student-athletes are different than those of non-athletes (Carodine et al., 2001; Paule & Gilson, 2010; Potuto & O’Hanlon, 2007; Watt & Moore, 2001), yet very little research has been devoted to understanding the former subgroup, especially as it pertains to their career development (Brown et al., 2000). Even less research has focused on student-athletes participating in nonrevenue-producing sports (Paule & Gilson, 2010) even though this group makes up the majority of the collegiate student-athlete population (NCAA, 2014). When they are included in research, aggregate findings of data attained from student-athletes in both revenue- and nonrevenue-producing sports are typically presented (Paule & Gilson, 2010).

It is important to understand student-athlete career development because research has found these individuals to have lower levels of career maturity than non-athletes (Kennedy & Dimick, 1987; Linnemeyer & Brown, 2010; Martens & Cox, 2000; Murphy et al., 1996; Smallman & Sowa, 1996), which may coincide with a difficult post-sport transition (Beamon, 2012; Murphy et al., 1996). The majority of student-athletes will need to pursue a non-sport career once their athletic eligibility has ended (NCAA, 2013), so assisting them with their development is important. Theories of identity development provide a foundation for understanding student-athlete career development, and particularly for understanding how

athletic identity and identity foreclosure relate to career maturity. Little research has been devoted to simultaneously examining these three constructs, particularly among student-athletes in nonrevenue-producing sports. Therefore, this study sought to provide additional insight into the career development of these athletes by investigating their athletic identity, identity foreclosure, and career maturity.

Chapter Summary

Chapter 2 provided a review of the relevant literature pertaining to collegiate student-athlete career development. The experiences that student-athletes typically encounter while in college were highlighted to provide context for the remainder of the discussion. Next, various career development theories were outlined, with a focus on developmental models and how one's career evolves over time. Important research regarding the construct of career maturity and how it relates to student-athletes was then provided. Identity development theory was then discussed, with an emphasis on seminal psychosocial theorists, including Erikson (1959) and Chickering (1969). Important parallels between career and identity development were offered. A discussion of athletic identity, how this changes and develops over time, and its relationship to career development was provided. The concept of identity foreclosure was introduced, with a specific focus on how this construct relates to student-athlete career development and athletic identity. The relationships among student-athlete career maturity, athletic identity, and identity foreclosure were discussed, as well as existing gaps in the literature. Finally, career development programs for student-athletes were outlined. Chapter 3 describes the method of data collection and analysis for the study.

CHAPTER 3

METHODOLOGY

The purpose of this quantitative study was to investigate collegiate student-athlete career development by examining the relationships among athletic identity, identity foreclosure, and career maturity. Student-athletes competing in nonrevenue-producing sports at NCAA Division I universities belonging to four conferences were recruited to participate in the study. The intent was to utilize data gathered from survey instruments to assess the following: (1) how the three constructs (athletic identity, identity foreclosure, and career maturity) are related, and (2) whether the relationships between the identity variables and career maturity are moderated by the student-athlete's gender, year in school, and performance level. In this chapter, the research design, participants, instruments, data collection procedures, and data analyses performed will be described.

Research Design

This study employed a quantitative, cross-sectional correlational research design that examined three constructs: athletic identity, identity foreclosure, and career maturity. Surveys were used to collect quantitative data, which were then analyzed with latent variable modeling techniques. Survey research was an appropriate method for this study because surveys are used to collect information from a sample of the population by asking relevant questions (Fraenkel & Wallen, 2006). Additionally, surveys are used to obtain information from a large group of

individuals about a specific topic. Questionnaires were given to a pre-determined sample, and following the data analysis, inferences about the target population will be discussed. Because this study examined how the scores obtained from the various surveys relate to one another, correlational research was an appropriate method (Fraenkel & Wallen, 2006).

Selection of the Sample

A non-probability sampling method was utilized to obtain a convenience sample (Schuh & Associates, 2008) of student-athletes who were members of a nonrevenue-producing sport team at one of 12 NCAA Division I universities belonging to one of four athletic conferences (with member institutions primarily located in the Midwest). The final sample (N = 668) consisted solely of participants whose sport teams and universities were affiliated with the NCAA and one of the conferences targeted for this study. Student-athletes who were currently competing, in an off season, not competing due to injury or other reasons, redshirting (i.e., taking the season off), or had recently completed their athletic eligibility were eligible to participate in the study.

Instrumentation

This study utilized a demographic questionnaire, along with three additional instruments that measure the athletic identity, identity foreclosure, and career maturity constructs. The demographic survey included items that assessed age, gender, race/ethnicity, academic year, cumulative grade point average (CGPA), status as a collegiate athlete, athletic eligibility year, sport, number of hours dedicated to one's sport per week, scholarship status, individual athletic

achievements, self-reported performance level, and expectations of becoming a professional athlete. An online survey consisting of items from the questionnaires was created using Qualtrics (i.e., online survey software).

Athletic identity was assessed by using the Athletic Identity Measurement Scale (AIMS; Brewer & Cornelius, 2001), which measures the "strength and exclusivity of identification with the athlete role" (Brewer et al., 1993, p. 242). The AIMS consists of 7 items to which responses are provided utilizing 7-point Likert items (1 = *strongly disagree* to 7 = *strongly agree*). Total scores for the AIMS range from 7 to 49, and higher scores on the scale indicate greater identification with being an athlete. To account for measurement error, however, in the present study aggregated items were used as indicators of the latent athletic identity construct. This "abbreviated, 7-item version of the AIMS…is internally consistent (alpha = .81) and highly correlated with the original 10-item version" (Brewer & Cornelius, 2001, p. 107) in which test-retest reliability (r = .89 over a period of two weeks) for scores obtained from the instrument was found to be high (Brewer et al., 1993). Additionally, construct validity has been established for the scores from the AIMS (Brewer & Cornelius, 2001; Brewer et al., 1993).

Identity foreclosure was measured with the foreclosure identity status subscale of the revised Extended Objective Measure of Ego Identity Status (EOM-EIS; Bennion & Adams, 1986) instrument. This subscale consists of 16 Likert-type items (1 = *strongly agree* to 6 = *strongly disagree*). For purposes of this study, the response scale was reversed so that the directionality coincided with the AIMS response scale (1 = *strongly disagree* to 6 = *strongly agree*). Eight items consist of statements regarding ideological domains (i.e., politics, philosophical lifestyle, occupation, and religion), while the other eight items consist of

statements regarding interpersonal domains (i.e., sex roles, recreation, friendship, and dating; Adams, 1998). A score for each of the two domains can be obtained by totaling the scores on the eight items (scores for each domain range from 8 to 48). The overall foreclosure identity status subscale score can be determined by totaling the scores on all 16 items (total scores range from 16 to 96). A more foreclosed identity is indicated by higher scores on the subscale (Adams, 1998). To account for measurement error, however, in the present study aggregated items were used as indicators of the latent identity foreclosure construct. Good internal consistency (ideological domain alpha = .75; interpersonal domain alpha = .80) and strong convergent and discriminant validity have been demonstrated for scores resulting from the subscale (Bennion & Adams, 1986).

Career maturity was assessed with the Career Maturity Inventory Form C (CMI-C), which consists of 24 attitudinal items with dichotomous responses of *agree/mostly agree* or *disagree/mostly disagree* (Savickas & Porfeli, 2011). The CMI-C is the most updated version of the well-established CMI (Crites, 1978a) in which Savickas's (2005) career construction theory was applied. Five scores can be derived from the CMI-C instrument (Savickas & Porfeli, 2011). The first is a composite score based on 18 items that measures career choice readiness (i.e., career maturity). One point is given to the more mature response for each of the 18 items, and scores range from 0 to 18. These same 18 items also are used to derive three subscale scores, where each subscale consists of 6 items. These three subscales relate to the career construction theory's model of career adaptability: (1) career concern, (2) career curiosity, and (3) career confidence. A fourth subscale score is based on the remaining six items and measures the degree to which an individual seeks assistance from others when making career decisions. A scoring

key is provided by the authors and higher scores indicate greater career choice readiness (i.e., career maturity), concern, curiosity, and confidence, as well as an interdependent relational style (Savickas & Porfeli, 2011). The current study did not include the consultation scale, and additionally, aggregated items from the other subscales were used as indicators of the latent career maturity construct to account for measurement error. Criterion-related, construct, and content validity evidence for scores from the original CMI have been reported (Crites, 1978b). Additionally, evidence for internal consistency reliability of scores obtained from the CMI-C has been found, with coefficient alphas ranging from .62 to .78 for the various scales (Savickas & Porfeli, 2011). The value of coefficient alpha for the composite score was found to be .84 and it also correlated moderately strongly (r = .75) with the total score of the 50-item CMI Form A-1, an earlier version of the instrument. Evidence of convergent and external validity of scores obtained from the CMI-C also exists (Savickas & Porfeli, 2011).

Data Collection Procedures

Following Institutional Review Board (IRB) approval, an excel file was created that included student-athletes participating in nonrevenue-producing sports at 12 universities that belong to one of four athletic conferences. Three universities from each of the four conferences that shared the following similar characteristics were targeted for the sample: (1) public university, (2) located in the Midwest, as defined by the U.S. Census Bureau (2015), (3) the presence of team roster information on the university's website, and (4) an online student directory that was publicly available. The student-athletes' names, sport, and gender were

retrieved from the online rosters and entered into the excel file. Email addresses were then obtained from the schools' online directories.

The student-athletes were contacted via an email message containing information about the study and a link to the Qualtrics survey site, where an electronic informed consent form and the web-based questionnaires were provided. The initial email message was sent school-by-school (as email addresses were collected from the directories) at the beginning of the fall semester to a total of 3344 student-athletes. A reminder email was sent several weeks after the initial email. Survey responses were submitted anonymously (i.e., no identifiers were used that could link the data to the participant). Seventy-nine student-athletes supplied incomplete data that were not included in the analysis. A total of 680 individuals participated, which amounted to a final response rate of 20.3%. Once all data had been collected, the data were exported from Qualtrics for analysis.

Data Analysis

SPSS Statistics for Windows 23 software was used to prepare the data using the following procedures: (1) each case was assigned a participant number, (2) missing data and items that did not apply to participants (i.e., responses of N/A) were recoded, and (3) responses for demographic items that allowed for multiple responses were combined for ease of analysis. Additionally, SPSS was used to test for normality and conduct descriptive statistical analyses. Data at the item level for each of the instruments were acquired and utilized, and the reliability and validity of the data were assessed by indices of factor reliability.

This study used regression analysis, which is a technique in which one or more predictor values measured from a sample are used to predict criterion (i.e., outcome) variables in the population from which the sample is drawn, either concurrently or at some future point in time (Palmer & O'Connell, 2009). Regression yields a set of predicted values for the outcome, derived from a linear combination of the predictor variables. Specifically, the present study used latent variable regression analysis (see Geiser, 2013), a type of linear structural equation model (SEM), to assess the research questions. Latent regression is "used to model complex relationships between continuous variables at the latent level, that is, at the levels of variables that are corrected for measurement error" (Geiser, 2013, p. 24). Independent variables are called exogenous variables, while variables that are regressed on other variables (i.e., dependent variables) are referred to as endogenous variables. Latent regression is composed of two different types of models. The first is the measurement model, which uses observed (i.e., manifest) variables as indicators to specify how the latent variables (i.e., factors) are measured. The second is the structural model, which indicates the relationships among the latent variables (Geiser, 2013). The models for the current study were fitted using the data obtained from the AIMS, EOM-EIS, CMI-C, and demographic questionnaire.

Several benefits exist with using latent variable regression. One of the most important advantages is that, by using latent variables, measurement error is accounted for (Geiser, 2013). Due to this, more accurate estimates of the relationships between variables in the structural model can be obtained as compared to correlation or regression procedures at the level of manifest variables, which are not adjusted for measurement error. Another benefit is that complex relationships can be tested due to the flexibility that latent regression modeling offers.

Researchers use latent regression to examine the degree to which one or more exogenous variables are predictive of an endogenous variable (Geiser, 2013). In the next section, each research question (RQ) will be stated and an explanation of the hypotheses and statistical tests that were utilized will be provided.

Research Question 1

RQ1: How are athletic identity and identity foreclosure related to the career maturity of collegiate student-athletes?

The purpose of RQ1 was to examine whether the two independent variables (i.e., exogenous variables; athletic identity and identity foreclosure) were reasonable predictors of the dependent variable (i.e., endogenous variable; career maturity). To investigate, latent variable regression analysis was performed in Mplus using data from the AIMS, EOM-EIS, and CMI-C. The null hypothesis was as follows: H_0: $b_1 = b_2 = 0$, where b_1 is the regression weight associated with athletic identity and b_2 is the weight associated with identity foreclosure. The null hypothesis states that the exogenous variables (b_1 and b_2) are not reasonable predictors of the endogenous variable. The alternative hypothesis was as follows: H_1: At least one $b \neq 0$. In other words, at least one of the exogenous variables is a reasonable predictor of the endogenous variable. The analysis controlled for gender and year in school because previous research has found them to correlate with career maturity. An analysis of the results from the latent regression began with assessing the fit of the measurement model. The unstandardized and standardized regression coefficients and their statistical significance were then evaluated to determine the capacity of the exogenous variables to predict the endogenous variable.

Statistically significant regression coefficients would indicate that athletic identity and identity foreclosure are reliable predictors of career maturity. Nonsignificant regression coefficients would indicate that a predictive relationship between the variables does not exist. Although some inconsistencies in the literature exist, overall, research suggests that student-athletes have lower levels of career maturity (Kennedy & Dimick, 1987; Linnemeyer & Brown, 2010; Martens & Cox, 2000; Murphy et al., 1996; Smallman & Sowa, 1996), which have been found to coincide with a strong athletic identity and identity foreclosure (Murphy et al., 1996). Therefore, the current study's research hypothesis was that a predictive relationship would exist between athletic identity and career maturity, and between identity foreclosure and career maturity.

Research Question 2

RQ2: How are the athletic identity and identity foreclosure of collegiate student-athletes related?

The purpose of RQ2 was to assess the relationship between athletic identity and identity foreclosure. The test for this relationship was included in the latent variable regression that was performed for RQ1. The null hypothesis was as follows: H_0: $\rho = 0$, which states that the population correlation coefficient is equal to zero. In other words, a relationship does not exist between the two variables. The alternative hypothesis is H_1: $\rho \neq 0$, which states that the population correlation coefficient is significantly different from zero (i.e., a relationship does exist between the two variables). The significance of the correlation coefficients was examined from the Mplus output to determine the relationship between athletic identity and identity foreclosure. Statistically significant correlation coefficients would indicate that athletic identity

and identity foreclosure are related, while nonsignificant correlation coefficients would indicate that a relationship does not exist between these two variables. Additionally, the zero-order correlation between the two observed variables was examined by computing this value using SPSS. Due to the demands that are placed on student-athletes, the social reinforcement that many receive, the commitment that these individuals often have to their role as an athlete, and the fact that previous research has found a correlation between athletic identity and identity foreclosure (Good et al., 1993; Lavallee et al., 1997), the current study hypothesized that a significant relationship would exist between these two constructs.

Research Questions 3 and 4

RQ3: Is the relationship between athletic identity and career maturity moderated by the student-athlete's gender, year in school, and performance level?

RQ4: Is the relationship between identity foreclosure and career maturity moderated by the student-athlete's gender, year in school, and performance level?

The purpose of RQ3 and RQ4 was to assess whether the relationships between athletic identity and career maturity, and identity foreclosure and career maturity differ based on gender, year in school, and performance level. The moderators (i.e., gender, year in school, and performance level) were each incorporated into separate latent variable regressions. The product of the latent athletic identity variable and each of the moderator variables (for RQ3), and the product of the identity foreclosure latent variable and each of the moderator variables (for RQ4), along with the original predictor variables used in RQ1, served as the independent (i.e., exogenous) variables, with career maturity as the dependent (i.e., endogenous) variable.

The null hypothesis for RQ3 and RQ4 was as follows: H_0: $b_{12} = 0$, where b_{12} represents the moderator variable of interest. The null hypothesis states that the moderator variable of interest does not moderate the relationship of another predictor with the endogenous variable. The alternative hypothesis was as follows: H_1: $b_{12} \neq 0$. The significance of the regression coefficient for the endogenous variable on each of the moderator variables was evaluated. A statistically significant regression coefficient would indicate that the relationships between athletic identity and career maturity, and between identity foreclosure and career maturity are different for varying levels of the moderator variable. A nonsignificant regression coefficient would indicate that a predictive relationship between athletic identity and career maturity, and between identity foreclosure and career maturity does not differ for varying values of the moderator variable.

The researcher hypothesized that the relationships between the identity constructs and career maturity would be moderated by gender, year in school, and performance level. Gender was hypothesized to be a moderating variable due to gender differences that have been found among athletic identity, identity foreclosure, and career maturity in previous research (see Archer, 1989; Brewer et al., 1993; McPherson, 2013; Murphy et al., 1996; Rivas Quinones, 2002; Sturm et al., 2011). Additionally, year in school was hypothesized to be a moderator due to the developmental nature of the career maturity and identity constructs. Research suggests that individuals' career maturity levels increase (Blann, 1985), while identity foreclosure decreases (Adams, 1998) with time, and athletic identity has been found to change throughout college (Adler & Adler, 1987; Brewer et al., 1993; Lally & Kerr, 2005; Miller & Kerr, 2003). Finally, performance level was expected to be a moderator because previous research that has

examined one or more of the athletic identity, identity foreclosure, or career maturity constructs in relation to a similar variable (e.g., varsity status; Murphy et al., 1996) has found significant differences in these constructs between those at a higher versus lower athletic level.

Chapter Summary

This chapter provided details regarding how the study was conducted to address the research questions. An overview of the research design was provided, followed by a description of the sample. The demographic questionnaire, AIMS, EOM-EIS, and CMI-C were then described in detail, along with how the data were collected. Finally, procedures for how the data were analyzed were outlined. The results are reported in Chapter 4. Finally, Chapter 5 provides a thorough discussion of the findings, as well as conclusions, limitations of the study, implications for practice, and potential topics for future research.

CHAPTER 4

RESULTS

This chapter outlines the results of the present study. Specifically, characteristics of the sample are provided, descriptive statistics for survey items are computed and displayed, and results pertaining to each research question are presented.

Characteristics of the Sample

The initial sample consisted of 680 student-athletes from nonrevenue-producing sports (i.e., sports other than football or men's basketball). Data corresponding to 10 participants who were members of sports that did not belong to one of the targeted conferences and/or were not recognized by the NCAA were removed. Additionally, data for two participants who belonged to a sport that had not yet officially begun at their university were removed. Therefore, the final sample consisted of a total of 668 student-athletes.

The participants ranged in age from 18 to 24 years, with a mean age of 19.64 years (*SD* = 1.29). There were 481 females (72%) and 187 males (28%). The racial/ethnic makeup of the sample included American Indian/Alaska Native (*n* = 2, 0.3%), Asian (*n* = 7, 1.0%), Black/African American (*n* = 38, 5.7%), Hispanic/Latino(a) (*n* = 27, 4.0%), Native Hawaiian/Other Pacific Islander (*n* = 3, 0.5%), White/Caucasian (*n* = 552, 82.6%), and Multi-racial (*n* = 39, 5.8%). The sample represented the following academic years: (1) Freshman (*n* = 198, 29.6%), (2) Sophomore (*n* = 168, 25.1%), (3) Junior (*n* = 156, 23.4%), (4) Senior (*n* = 141,

21.1%), and (5) graduate student (n = 5, 0.7%). The self-reported mean CGPA of the sample was 3.39 on a 4.0 scale, with a range of 2.30 to 4.0. Five hundred five participants (75.6%) were receiving an athletic scholarship (books, partial, or full) and 15 different nonrevenue-producing sports were represented in the sample. The majority of the sample (43.6%) indicated that 16 to 20 hours per week were dedicated to their sport while in-season. Additional characteristics of the sample are presented in Table 1.

Normality Assessment

Before beginning the latent regression modeling, normality of the AIMS and EOM-EIS items was assessed by analyzing the data's skewness statistics, histograms, and Kolmogorov-Smirnov and Shapiro-Wilk tests. (Normality testing was not conducted for the CMI-C because items within this scale are dichotomous.) For the AIMS, skewness statistics ranged from -3.99 to -0.02 for the seven items and Kolmogorov-Smirnov and Shapiro-Wilk values were $p < .05$. For the EOM-EIS, skewness statistics ranged from -0.09 to 2.16 for the 16 items and Kolmogorov-Smirnov and Shapiro-Wilk values were $p < .05$. These results indicate that the AIMS and EOM-EIS data had a significantly non-normal distribution. Tables 2 and 3 provide descriptive statistics for the AIMS, EOM-EIS, and CMI-C items.

Measurement Model

A measurement model was constructed using item aggregation in which the indicators of each latent variable were aggregated (von der Heidt & Scott, 2007; Figure 1). This item-parceling technique is beneficial because it retains the separate dimensions of the factors of

Table 1

Student-Athlete Demographic and Other Characteristics

Characteristic	Category	Frequency	Percent
Gender	Male	187	28.0%
	Female	481	72.0%
	Total	668	100%
Race/Ethnicity	American Indian/Alaska Native	2	0.3%
	Asian	7	1.0%
	Black/African American	38	5.7%
	Hispanic/Latino/Latina	27	4.0%
	Native Hawaiian/Other Pacific Islander	3	0.5%
	White/Caucasian	552	82.6%
	Multi-Racial	39	5.8%
	Total	668	100%
Academic Year	Freshman	198	29.6%
	Sophomore	168	25.1%
	Junior	156	23.4%
	Senior	141	21.1%
	Graduate Student	5	0.7%
	Total	668	100%
Athletic Eligibility	1st Year	231	34.6%
	2nd Year	171	25.6%
	3rd Year	146	21.9%
	4th Year	119	17.8%
	Completed Eligibility	1	0.1%
	Total	668	100%
Sport	Baseball	29	4.3%
	Basketball (W)	24	3.6%
	Cross Country	10	1.5%
	Field Hockey	19	2.8%
	Golf	20	3.0%
	Gymnastics	22	3.3%
	Ice Hockey	4	0.6%
	Rowing	53	7.9%
	Soccer	65	9.7%
	Softball	57	8.5%
	Swimming & Diving	105	15.7%
	Tennis	21	3.1%
	Track & Field	88	13.2%
	Volleyball	37	5.5%

(continued on following page)

Table 1 (continued)

	Wrestling	25	3.7%
	Multiple: Cross Country, Track & Field	88	13.2%
	Multiple: Soccer, Track & Field	1	0.1%
	Total	668	100%
Hours Per Week Dedicated to Sport	1 to 5	1	0.1%
	6 to 10	10	1.5%
	11 to 15	52	7.8%
	16 to 20	291	43.6%
	21 to 25	198	29.6%
	26 or more	90	13.5%
	N/A	26	3.9%
	Total	668	100%
Athletic Scholarship	No Scholarship	163	24.4%
	Books Only	24	3.6%
	Partial	301	45.1%
	Full	180	26.9%
	Total	668	100%
Athletic Achievements	All-Conference	89	13.3%
	All-American	9	1.3%
	All-Conference and All-American	28	4.2%
	None of the Above	329	49.3%
	N/A	213	31.9%
	Total	668	100%
Athletic Participation[a]	Competing in In-Season Sport	405	60.6%
	Sport is in an Off-Season	198	29.6%
	Not Competing: Injury	46	6.95%
	Not Competing: Red-Shirting	32	4.8%
	Final Sport Season has Ended	0	0.0%
	Other	4	0.6%
Self-Reported Performance Level (M = 3.47)	1: Low Performer	7	1.0%
	2: Below Average Performer	50	7.5%
	3: Average Performer	256	38.3%
	4: Above Average Performer	186	27.8%
	5: High Performer	75	11.2%
	N/A	94	14.1%
	Total	668	100%
Professional Athlete Expectations (M = 2.01)	1: Very Low or No Expectations	358	53.6%
	2	102	15.3%
	3	106	15.9%
	4	46	6.9%
	5: Very High Expectations	56	8.4%
	Total	668	100%

Note. [a] Multiple responses were allowed.

Table 2

AIMS and EOM-EIS Descriptive Statistics

Construct/Item	Mean	Range	*SD*	Skewness
Athletic Identity				
Item 1	6.65	1-7	0.93	-3.99
Item 2	6.03	1-7	1.35	-1.53
Item 3	5.71	1-7	1.42	-1.01
Item 4	4.15	1-7	1.56	-0.21
Item 5	4.04	1-7	1.58	-0.02
Item 6	5.41	1-7	1.45	-0.72
Item 7	5.10	1-7	1.61	-0.58
Identity Foreclosure				
Item 1	3.59	1-6	1.32	-0.09
Item 2	1.86	1-6	1.14	1.40
Item 3	2.92	1-6	1.31	0.35
Item 4	3.40	1-6	1.47	0.05
Item 5	3.47	1-6	1.30	-0.001
Item 6	2.49	1-6	1.26	0.57
Item 7	3.20	1-6	1.76	0.13
Item 8	2.47	1-6	1.35	0.66
Item 9	1.57	1-6	0.98	2.16
Item 10	2.27	1-6	1.26	0.74
Item 11	2.47	1-6	1.24	0.67
Item 12	2.47	1-6	1.30	0.52
Item 13	2.66	1-6	1.63	0.63
Item 14	2.14	1-6	1.22	1.05
Item 15	2.71	1-6	1.49	0.52
Item 16	2.67	1-6	1.41	0.56

Table 3

CMI-C Frequency Distribution

Item/Response	Frequency	Percent
Item 1		
Agree/Mostly Agree	122	18.3%
Disagree/Mostly Disagree	546	81.7%
Item 2		
Agree/Mostly Agree	191	28.6%
Disagree/Mostly Disagree	477	71.4%
Item 3		
Agree/Mostly Agree	384	57.5%
Disagree/Mostly Disagree	284	42.5%
Item 4		
Agree/Mostly Agree	118	17.7%
Disagree/Mostly Disagree	550	82.3%
Item 5		
Agree/Mostly Agree	226	33.8%
Disagree/Mostly Disagree	442	66.2%
Item 6		
Agree/Mostly Agree	186	27.8%
Disagree/Mostly Disagree	482	72.2%
Item 7		
Agree/Mostly Agree	110	16.5%
Disagree/Mostly Disagree	558	83.5%
Item 8		
Agree/Mostly Agree	195	29.2%
Disagree/Mostly Disagree	473	70.8%
Item 9		
Agree/Mostly Agree	185	27.7%
Disagree/Mostly Disagree	483	72.3%
Item 10		
Agree/Mostly Agree	68	10.2%
Disagree/Mostly Disagree	600	89.8%
Item 11		
Agree/Mostly Agree	98	14.7%
Disagree/Mostly Disagree	570	85.3%
Item 12		
Agree/Mostly Agree	237	35.5%
Disagree/Mostly Disagree	431	64.5%

(continued on following page)

Table 3 (continued)

Item 13		
Agree/Mostly Agree	276	41.3%
Disagree/Mostly Disagree	392	58.7%
Item 14		
Agree/Mostly Agree	222	33.2%
Disagree/Mostly Disagree	446	66.8%
Item 15		
Agree/Mostly Agree	427	63.9%
Disagree/Mostly Disagree	241	36.1%
Item 16		
Agree/Mostly Agree	120	18.0%
Disagree/Mostly Disagree	548	82.0%
Item 17		
Agree/Mostly Agree	238	35.6%
Disagree/Mostly Disagree	430	64.4%
Item 18		
Agree/Mostly Agree	244	36.5%
Disagree/Mostly Disagree	424	63.5%

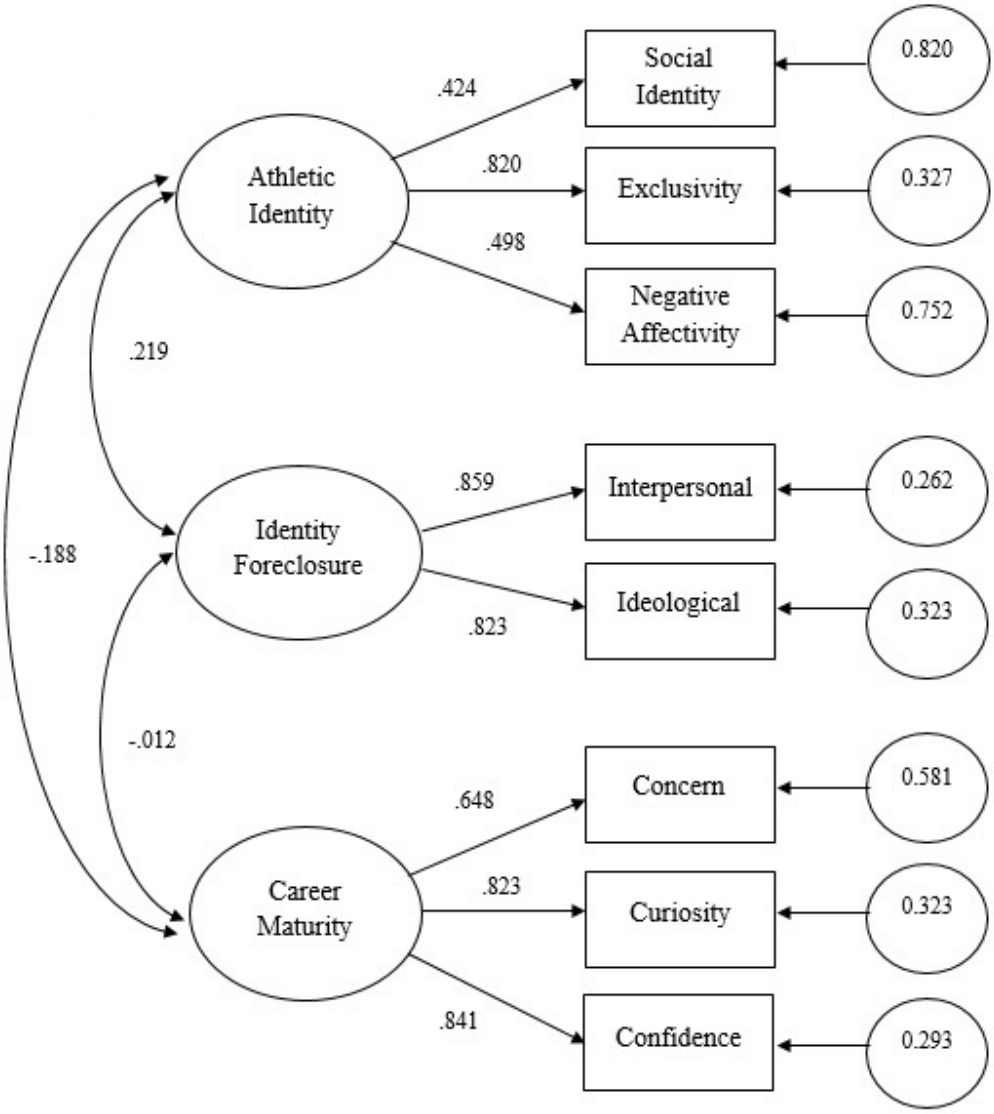

Figure 1: Latent regression measurement model depicting how the latent factors are measured.

interest, and was utilized to increase the parsimony of the study's model and to increase the reliability of the measurement model. The athletic identity indicators were aggregated to align with three elements of athletic identity measured by the AIMS instrument in which three items pertained to social identity, two items to exclusivity, and two items to negative affectivity (Brewer & Cornelius, 2001). The identity foreclosure indicators were aggregated according to the EOM-EIM instrument's two domains, where eight items pertained to the ideological domain and eight items to the interpersonal domain (Bennion & Adams, 1986). Indicators of career maturity were aggregated according to the CMI-C's three subscales (i.e., concern, curiosity and confidence), where each contains six items (Savickas & Porfeli, 2011). Aggregating the indicators in this manner resulted in three composite variables that served as new indicators for the athletic identity factor, two composite variables that served as new indicators for the identity foreclosure factor, and three composite variables that served as new indicators for the career maturity factor. Skewness statistics for each factor's composite variables were as follows: athletic identity (-2.38 to -0.14); identity foreclosure (ideological: 0.41; interpersonal: 0.48); career maturity (-1.12 to -0.29). The Kolmogorov-Smirnov and Shapiro-Wilk values were $p < .05$ for all of the composite variables. These results indicate that data pertaining to the athletic identity, identity foreclosure, and career maturity factors had non-normal distributions.

Several approaches exist that assist researchers in analyzing model fit. The Chi-square (χ^2_{SB}) test is used to formally test model fit (Geiser, 2013) and will be reported for the current study. However, because the large sample size (i.e., $N > 200$) may inflate this statistic, this study focused on specific fit indices. The Comparative Fit Index (CFI) and the Tucker-Lewis Index (TLI) are two goodness-of-fit indices that compare the target model fit to a baseline model (i.e.,

independence model in Mplus), which assumes that relationships among the variables do not exist (Geiser, 2013). For these two indices, large values (close to 1.0) reflect good model fit. The Root Mean Square Error of Approximation (RMSEA) coefficient is another index of model fit, reflecting lack of fit, where large values indicate poor model fit (and conversely, small values indicate good fit). The Standardized Root Mean Square Residual (SRMR) index provides a standardized measure for assessing the residuals; small coefficients indicate that the variances, covariances, and means align with the model (Geiser, 2013). Model fit for the current study's measurement model was assessed using guidelines from Hu and Bentler (1999), who defined acceptable fit as follows: CFI > .95, TLI > .95, RMSEA < .06, and SRMR < .08. When estimating the latent regression models, a robust (MLR) estimator was used due to the non-normality of the data and to account for missing data. Results for the measurement model indicated a good fit, with $\chi^2_{SB}(17, N = 668) = 54.24$, $p < .001$, CFI = .970, TLI = .951, RMSEA = .057 (90% CI: .041 to .075), and SRMR = .038.

Reliability of scores obtained from each of the three instruments was computed using McDonald's Omega, which is "the most popular method used to estimate the internal consistency reliability of composite scores within a factor analytic or latent variable framework" (Gignac, 2009, p. 15). Unlike more commonly used indices such as coefficient alpha, McDonald's Omega does not assume that each item contributes equally to the measurement of the construct. Results showed good reliability for scores obtained from the EOM-EIS (ω = .829) and CMI-C (ω = .817), but questionable reliability for the AIMS (ω = .615).

Research Question 1

Research question 1 was addressed using latent variable regression analysis: *How are athletic identity and identity foreclosure related to the career maturity of collegiate student-athletes?*

The structural model that predicted career maturity from athletic identity and identity foreclosure is shown in Figure 2. Fitting this model to the data resulted in the following values for model fit indices: $\chi^2_{SB}(17, N = 668) = 54.24$, $p < .001$, CFI = .970, TLI = .951, RMSEA = .057 (90% CI: .041 to .075), and SRMR = .038. The fit of this structural model was (as expected) identical to the fit of the measurement model. The regression coefficient of career maturity on athletic identity was statistically significant ($b = -0.150$, $p = .001$), which indicates that athletic identity is a reliable, negative predictor of career maturity (Table 4). The regression coefficient of career maturity on identity foreclosure was not statistically significant ($b = 0.005$, $p = .566$), indicating that identity foreclosure is not a reliable predictor of career maturity.

Next, a second structural model that predicted career maturity from athletic identity and identity foreclosure was constructed, but this time control covariates (i.e., gender and year in school) were added to the model. This model resulted in an adequate fit: $\chi^2_{SB}(31, N = 668) = 117.65$, $p < .001$, CFI = .937, TLI = .910, RMSEA = .065 (90% CI: .053 to .077), and SRMR = .046. A Chi-square difference test was performed to assess the statistical significance of the combined athletic identity and identity foreclosure latent variables. This test is used to compare

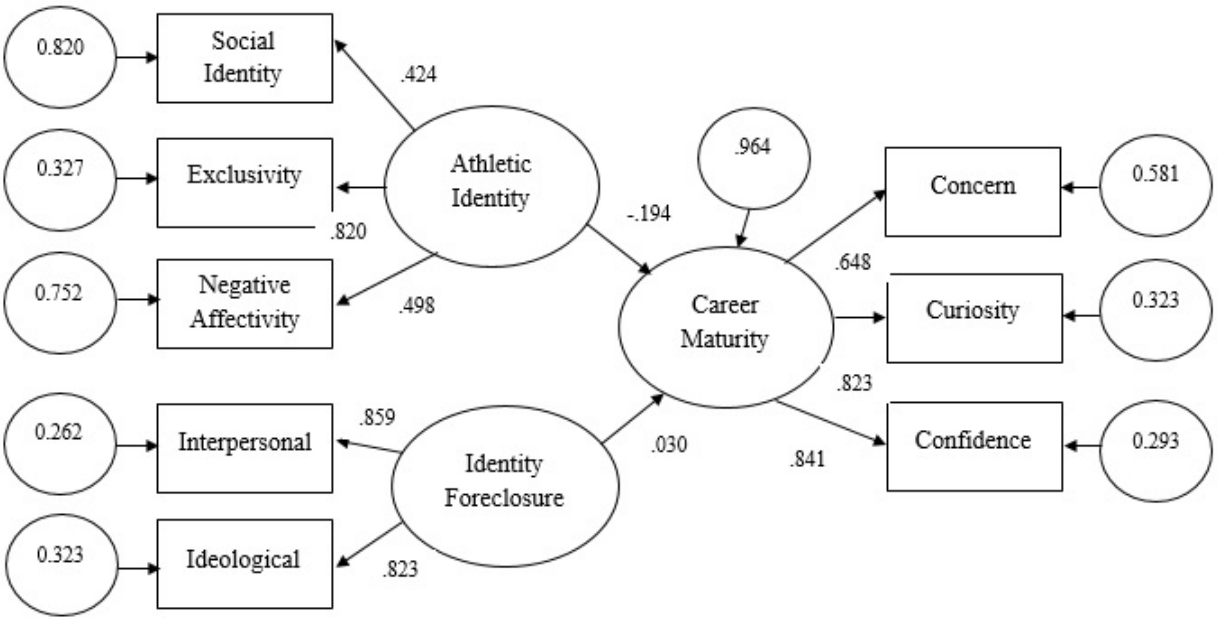

Figure 2: Latent regression structural model depicting the relationships among the latent factors.

Table 4

Research Question 1: Latent Regression Analysis of Career Maturity on Athletic Identity and Identity Foreclosure (without control covariates)

Variable	*b*	*SE(b)*	*B*	*p*
Athletic Identity	-0.150	0.049	-.194	.001*
Identity Foreclosure	0.005	0.008	.030	.566

Note. *Statistically significant.

two SEMs, one being a general model and the other a restricted version of the general model (Geiser, 2013). To perform the Chi-square difference test, the general (i.e., "full") model containing both latent variables and the two covariates as predictors of career maturity was compared to a restricted model that omitted the paths between the two latent variables and the outcome. The resulting Chi-square difference test was statistically significant [$\Delta\chi^2_{SB}(2, N = 668) = 10.86, p = .004$], indicating that the combined latent variables significantly predicted career maturity.

Examining the latent predictors individually, the regression coefficient of career maturity on athletic identity was statistically significant ($b = -0.136$, $p = .002$), which indicates that, when controlling for gender and year in school, athletic identity is a reliable, negative predictor of career maturity (Table 5). The regression coefficient of career maturity on identity foreclosure was not statistically significant ($b = 0.005$, $p = .496$), indicating that, when controlling for gender and year in school, identity foreclosure is not a reliable predictor of career maturity. Additionally, the regression coefficient of career maturity on year in school was found to be statistically significant ($b = 0.110$, $p < .001$), indicating that year in school is a reliable, positive predictor of career maturity. The effect of gender was not statistically significant ($b = 0.098$, $p = .242$). Additional Chi-square difference tests affirmed the significance of athletic identity [$\Delta\chi^2_{SB}(1, N = 668) = 12.49, p = .004$], and the nonsignificance of identity foreclosure [$\Delta\chi^2_{SB}(1, N = 668) = 0.38, p = .538$].

Table 5

Research Question 1: Latent Regression Analysis of Career Maturity on Athletic Identity and Identity Foreclosure (with control covariates)

Variable	*b*	*SE(b)*	*B*	*p*
Athletic Identity	-0.136	0.048	-.177	.002*
Identity Foreclosure	0.005	0.008	.035	.496
Gender	0.098	0.086	.050	.242
Year in School	0.110	0.031	.141	< .001*

Note. *Statistically significant.

Research Question 2

Research question 2—*How are the athletic identity and identity foreclosure of collegiate student-athletes related?*—was addressed using latent variable regression analysis and by calculating the zero-order correlation coefficient between the observed variables.

The correlation between athletic identity and identity foreclosure was assessed first by examining the zero-order correlation between the observed values of athletic identity and identity foreclosure, which indicated a statistically significant, but weak, positive correlation ($r = .161$, $p < .001$). Next, each of the structural models described in research question 1 were examined. In both models (containing and not containing the control covariates), the correlation between the latent athletic identity and identity foreclosure variables was statistically significant ($r = 0.219$, $p < .001$), indicating that a reliable, yet weak, positive relationship exists between these latent factors.

To further examine the relationships between the identity and career constructs, a potential indirect effect of identity foreclosure on career maturity was examined by conducting a

mediation analysis, with athletic identity serving as the mediating variable. Although formal mediation procedures, such as those outlined by Baron and Kenny (1986), would require an association to exist between the independent variable (i.e., identity foreclosure) and the dependent variable (i.e., career maturity), more recent thought suggests that this relationship may not be a necessary condition for mediation (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002). Sobel's test with a biased-corrected bootstrap analysis was conducted, and a statistically significant, but small, indirect effect of identity foreclosure on career maturity was found (b = -0.006, p = .018; 95% CI: -.013 to -.002), indicating that athletic identity mediated the effect of identity foreclosure on career maturity. In other words, increases in a student-athlete's identity foreclosure were associated with increased levels of athletic identity, which were in turn associated with decreased career maturity. Therefore, although identity foreclosure was found not to be a statistically significant predictor of career maturity, an indirect relationship seems to exist whereby identity foreclosure is indirectly related to career maturity through athletic identity.

Research Question 3

Research question 3—*Is the relationship between athletic identity and career maturity moderated by the student-athlete's gender, year in school, and performance level?*—was addressed using latent variable regression analysis.

Three moderation models were constructed to assess research question 3. To construct the first moderation model, an interaction term was created by multiplying the latent athletic identity variable by the binary (0/1 coded) gender variable. The moderating effect of gender on

the relationship between athletic identity and career maturity was then assessed by adding the interaction term as an additional predictor variable to the structural model. The covariates of gender and year in school also were included in the model. The regression coefficient corresponding to the interaction term was not statistically significant (b = -0.002, p = .979; Table 6). This indicates that a moderating effect of gender was not evident (i.e., the relationship between athletic identity and career maturity does not differ depending upon the student-athlete's gender).

Table 6

Research Question 3: Latent Regression Analysis Modeling the Moderating Effect of Gender on the Relationship between Athletic Identity and Career Maturity

Variable	*b*	*SE(b)*	*p*
Athletic Identity × Gender	-0.002	0.085	.979
Athletic Identity	-0.134	0.074	.068
Identity Foreclosure	0.008	0.008	.332
Gender	0.096	0.090	.289
Year in School	0.111	0.038	.003*

Note. *Statistically significant.

To construct the second moderation model, an interaction term was created by multiplying the latent athletic identity variable by the mean-centered year in school variable. The moderating effect of year in school on the relationship between athletic identity and career maturity was then assessed by adding the interaction term as an additional predictor variable to the structural model. The covariates of gender and year in school were also included in the model. The regression coefficient of the interaction term was not statistically significant (b = -

0.022, $p = .520$; Table 7). This indicates that a moderating effect of year in school was not evident (i.e., the relationship between athletic identity and career maturity does not differ depending upon the student-athlete's year in school).

Table 7

Research Question 3: Latent Regression Analysis Modeling the Moderating Effect of Year in School on the Relationship between Athletic Identity and Career Maturity

Variable	*b*	*SE(b)*	*p*
Athletic Identity × Year in School	-0.022	0.035	.520
Athletic Identity	-0.133	0.042	.002*
Identity Foreclosure	0.008	0.008	.331
Gender	0.097	0.086	.261
Year in School	0.111	0.038	.003*

Note. *Statistically significant.

To construct the third moderation model, a new performance level latent variable was created in Mplus. The two indicators that represented performance level were athletic scholarship status (i.e., no scholarship, books, partial, or full) and self-reported performance level, which was measured with one item that contained five Likert-type response options ranging from 1 = *low performer* to 5 = *high performer*. An interaction term was then created by multiplying the latent variable of athletic identity by the performance level latent variable. The moderating effect of performance level on the relationship between athletic identity and career maturity was then assessed by adding the interaction term as an additional predictor variable to the structural model, along with the covariates of gender, year in school, and the performance

level latent variable. The regression coefficient associated with the interaction term was not statistically significant (b = -0.064, p = .565; Table 8). This indicates that a moderating effect of performance level was not evident (i.e., the relationship between athletic identity and career maturity does not differ depending upon the student-athlete's performance level). Notably, similar to what was discovered when examining RQ1, the effect of year in school on career maturity was found to be statistically significant within each moderation model, indicating that year in school is a reliable, positive predictor of career maturity.

Table 8

Research Question 3: Latent Regression Analysis Modeling the Moderating Effect of Performance Level on the Relationship between Athletic Identity and Career Maturity

Variable	*b*	*SE(b)*	*p*
Athletic Identity × Performance Level	-0.064	0.111	.565
Athletic Identity	-0.111	0.049	.023*
Identity Foreclosure	0.004	0.008	.580
Performance Level	-0.124	0.127	.329
Gender	0.117	0.088	.186
Year in School	0.123	0.032	<.001*

Note. *Statistically significant.

Research Question 4

Research question 4 was addressed using latent variable regression analysis: *Is the relationship between identity foreclosure and career maturity moderated by the student-athlete's gender, year in school, and performance level?*

Three moderation models were constructed to assess research question 4. To construct the first moderation model, an interaction term was created by multiplying the latent identity foreclosure variable by the binary (0/1 coded) gender variable. The moderating effect of gender on the relationship between identity foreclosure and career maturity was then assessed by adding the interaction term as an additional predictor variable to the structural model. The covariates of gender and year in school were also included in the model. The regression coefficient for the interaction term was not statistically significant (b = 0.019, p = .279; Table 9). This indicates that a moderating effect of gender was not evident (i.e., the relationship between identity foreclosure and career maturity does not differ depending upon the student-athlete's gender).

Table 9

Research Question 4: Latent Regression Analysis Modeling the Moderating Effect of Gender on the Relationship between Identity Foreclosure and Career Maturity

Variable	*b*	*SE(b)*	*p*
Identity Foreclosure × Gender	0.019	0.017	.279
Athletic Identity	-0.136	0.047	.004*
Identity Foreclosure	-0.008	0.016	.589
Gender	0.098	0.086	.252
Year in School	0.110	0.031	<.001*

Note. *Statistically significant.

To construct the second moderation model, an interaction term was created by multiplying the latent identity foreclosure variable by the mean-centered year in school variable. The moderating effect of year in school on the relationship between identity foreclosure and

career maturity was then assessed by adding the interaction term as an additional predictor variable to the structural model. The covariates of gender and year in school were also included in the model. The identity foreclosure × year in school interaction term was not statistically significant (b = 0.006, p = .448; Table 10). This indicates that a moderating effect of year in school was not evident (i.e., the relationship between identity foreclosure and career maturity does not differ depending upon the student-athlete's year in school).

Table 10

Research Question 4: Latent Regression Analysis Modeling the Moderating Effect of Year in School on the Relationship between Identity Foreclosure and Career Maturity

Variable	*b*	*SE(b)*	*p*
Identity Foreclosure × Year in School	0.006	0.007	.448
Athletic Identity	-0.137	0.042	.001*
Identity Foreclosure	0.008	0.008	.319
Gender	0.094	0.087	.278
Year in School	0.112	0.037	.003*

Note. *Statistically significant.

To construct the third moderation model, an interaction term was created by multiplying the latent variable of identity foreclosure by the performance level latent variable. The moderating effect of performance level on the relationship between identity foreclosure and career maturity was then assessed by adding the interaction term as an additional predictor variable to the structural model, along with the covariates of gender, year in school, and the performance level latent variable. The identity foreclosure × performance level interaction term

was not statistically significant (b = -0.042, p = .077; Table 11). This indicates that a moderating effect of performance level was not evident (i.e., the relationship between identity foreclosure and career maturity does not differ depending upon the student-athlete's performance level). Additionally, the effect of year in school on career maturity was found to be statistically significant within each moderation model, indicating that year in school is a reliable, positive predictor of career maturity.

Table 11

Research Question 4: Latent Regression Analysis Modeling the Moderating Effect of Performance Level on the Relationship between Identity Foreclosure and Career Maturity

Variable	*b*	*SE(b)*	*p*
Identity Foreclosure × Performance Level	-0.042	0.024	.077
Athletic Identity	-0.111	0.049	.023*
Identity Foreclosure	0.004	0.007	.612
Performance Level	-0.137	0.130	.292
Gender	0.118	0.088	.178
Year in School	0.115	0.032	<.001*

Note. *Statistically significant.

Exploratory Analyses

An additional moderator, expectations of becoming a professional athlete, was assessed to analyze whether the relationships between athletic identity and career maturity, and between identity foreclosure and career maturity would differ based on this variable. This analysis was conducted due to previous research that has suggested student-athletes' aspirations to pursue a career as a professional athlete may contribute to the relationships among these variables (Brown

& Hartley, 1998; Kennedy & Dimick, 1987; Lally & Kerr, 2005). To assess this, two moderation models were fitted. First, an interaction term was created by multiplying the latent variable of athletic identity by the mean-centered professional athlete expectations variable. The moderating effect of professional athlete expectations on the relationship between athletic identity and career maturity was then assessed by adding the interaction term as an additional predictor variable to the structural model, along with the main effects for professional athlete expectations, gender, and year in school. The regression coefficient for this interaction term was not statistically significant ($b = 0.022$, $p = .490$; Table 12). This indicates that a moderating effect of professional athlete expectations was not evident (i.e., the relationship between athletic identity and career maturity does not differ depending upon the student-athlete's expectations of becoming a professional athlete).

Table 12

Latent Regression Analysis Modeling the Moderating Effect of Professional Athlete Expectations on the Relationship between Athletic Identity and Career Maturity

Variable	*b*	*SE(b)*	*p*
Athletic Identity × Professional Athlete Expectations	0.022	0.032	.490
Athletic Identity	-0.117	0.050	.019*
Identity Foreclosure	0.005	0.008	.565
Professional Athlete Expectations	-0.042	0.033	.193
Gender	0.080	0.086	.352
Year in School	0.109	0.031	<.001*

Note. *Statistically significant.

A second interaction term was then created by multiplying the latent variable of identity foreclosure by the mean-centered professional athlete expectations variable. This interaction term was added as an additional predictor variable to the structural model, along with the covariates of professional athlete expectations, gender, and year in school. This identity foreclosure × professional athlete expectations interaction term was not found to be statistically significant (b = -0.003, p = .643; Table 13), which indicates that a moderating effect of professional athlete expectations was not evident.

Table 13

Latent Regression Analysis Modeling the Moderating Effect of Professional Athlete Expectations on the Relationship between Identity Foreclosure and Career Maturity

Variable	*b*	*SE(b)*	*p*
Identity Foreclosure × Professional Athlete Expectations	-0.003	0.005	.643
Athletic Identity	-0.121	0.043	.005*
Identity Foreclosure	0.008	0.009	.324
Professional Athlete Expectations	-0.034	0.030	.264
Gender	0.080	0.088	.364
Year in School	0.111	0.038	.003*

Note. *Statistically significant.

Chapter Summary

This chapter provided information about results pertaining to each of the four research questions in this study. Details regarding the latent regression analyses, including the measurement and structural models that were constructed for the study, were outlined. Chapter 5

will provide a discussion of these findings, implications, and recommendations for future research. Limitations of the current study will also be discussed.

CHAPTER 5

DISCUSSION

The purpose of this study was to investigate the career development of collegiate student-athletes participating in Division I nonrevenue-producing sports by examining the relationships among athletic identity, identity foreclosure, and career maturity. This chapter will provide a discussion of the findings for each of the four research questions, along with the exploratory analyses, within the context of previous research. Conclusions will then be presented, along with limitations of the current study. Finally, the chapter will conclude with a discussion of implications, suggestions for future research, and a summary of the chapter.

Findings

Research Question 1

A discussion of the findings will begin with research question 1: *How are athletic identity and identity foreclosure related to the career maturity of collegiate student-athletes?*

The first part of RQ1 was meant to investigate the relationship between athletic identity and career maturity. Athletic identity refers to "the degree to which an individual identifies with the athlete role" (Brewer et al., 1993, p. 237), while career maturity is defined as an individual's readiness to make career choices (Savickas & Porfeli, 2011). Although some inconsistencies exist, previous research has found a significant negative relationship between athletic identity and career maturity among the collegiate student-athlete population (Murphy et al., 1996). Due

to this, the current study, which examined the relationship between these two constructs among student-athletes who are members of a nonrevenue-producing sport, hypothesized that a predictive relationship would exist between athletic identity and career maturity. The results of the data analysis supported this hypothesis; athletic identity was found to be a reliable, negative predictor of career maturity. In other words, as athletic identity increased, career maturity levels decreased. This finding suggests that identifying strongly with the athlete role may hinder student-athlete career development.

The majority of collegiate student-athletes compete in nonrevenue sports, so it is important to understand this population's career development and how their identity as an athlete may relate to it. However, previous studies have not focused solely on the nonrevenue-producing sport student-athlete population when exploring athletic identity and career maturity. The current study's finding that identifying strongly with the athlete role coincides with being less career mature is important because it provides added insight into the career development of these student-athletes. This is significant because the majority of student-athletes will not have the opportunity to become a professional athlete, so they need to prepare for their careers, which will hopefully lead to a more successful post-sport transition (Drahota & Eitzen, 1998). The current research suggests that it is important for educators, coaches, and family members to attend to nonrevenue sport student-athletes and help them prepare for their future careers. In particular, higher education practitioners who work closely with these individuals should help them engage in career exploration in anticipation of their collegiate athletic eligibility coming to a close.

The second part of RQ1 pertained to how identity foreclosure relates to career maturity. Identity foreclosure occurs when an individual has not conducted exploratory behavior, but has instead prematurely committed to an identity that others expected of him or her (Marcia, 1966). Previous research suggests that sport participation may impede student-athletes from exploring other identities and experiences (Brown et al., 2000; Lally & Kerr, 2005; Pearson & Petitpas, 1990). A strong athletic identity may develop without student-athletes exploring other roles (Beamon, 2012), and they thus may identify themselves solely as an athlete at the expense of other roles (Lally & Kerr, 2005).

Although the presence of identity foreclosure among student-athletes has been indicated in previous research (see Murphy et al., 1996), inconsistent findings have emerged when exploring the relationship between identity foreclosure and career maturity. The current study hypothesized that a predictive relationship would exist between these two constructs. However, the results of the data analysis did not support this hypothesis; identity foreclosure was not found to be associated with career maturity. Overall, it seems that identity foreclosure does not have a direct role in the career development process of nonrevenue sport student-athletes. A possible reason for this finding may be related to the type of participants utilized in other studies that have found a significant relationship between identity foreclosure and career maturity. In these studies, the samples often contained a combination of revenue and nonrevenue sport athletes, which is true of most prior research (Linnemeyer & Brown, 2010). It is possible that a stronger relationship between identity foreclosure and career maturity existed among those participating in revenue-producing sports than those in nonrevenue sports, leading researchers to find an overall significant relationship between these two constructs. The main objective of the current

study was to better understand the nonrevenue sport student-athlete population apart from the revenue sport population. So, although a significant relationship between identity foreclosure and career maturity was not found, this information adds to this understanding and may assist others in their work with these individuals.

Research Question 2

The next part of the discussion will focus on the second research question: *How are the athletic identity and identity foreclosure of collegiate student-athletes related?*

Previous research indicates that athletic identity and identity foreclosure are closely related constructs in which student-athletes who have a strong athletic identity are likely to have high exclusivity to the athlete role (Good et al., 1993; Lavallee et al., 1997). However, a significant relationship between these constructs has not always been found. Some researchers have speculated that athletic identity and identity foreclosure may actually be independent of one another (Brown et al., 2000; Murphy et al., 1996). That is, student-athletes could have a strong athletic identity, but they may not necessarily have a foreclosed identity; these may be two separate processes (Murphy et al., 1996).

Due to the demands that are placed on student-athletes, the social reinforcement that many receive, and the commitment that these individuals often have to their role as an athlete (Beamon, 2012; Lally & Kerr, 2005), the researcher hypothesized that a significant relationship would exist between athletic identity and identity foreclosure. The results supported this hypothesis. A statistically significant, but weak, positive correlation exists between these two constructs, which indicates that as student-athletes' athletic identity increased, so too did their

identity foreclosure. This finding is especially interesting when relating it to the aforementioned RQ1 results in which athletic identity was found to be predictive of career maturity, while identity foreclosure was not. Because only a weak relationship was present and identity foreclosure was not found to be a predictor of career maturity, in the career development realm, it appears that athletic identity is the more essential variable to consider in regard to nonrevenue sport student-athlete career maturity. However, because a correlation does exist between athletic identity and identity foreclosure, it is important for practitioners to be aware that nonrevenue sport student-athletes who identify strongly as an athlete may not have the propensity to explore other roles. That is, they may have high exclusivity to the athlete role.

To further examine the relationships between the identity and career constructs, an additional analysis was conducted in which a potential indirect effect of identity foreclosure on career maturity (with athletic identity as the mediating variable) was investigated. This effect was found to be statistically significant, indicating that athletic identity mediated the relationship between identity foreclosure and career maturity. That is, it seems that identity foreclosure is associated with increased levels of athletic identity, which in turn is related to lower career maturity levels. Although identity foreclosure alone was not significantly related to career maturity, the relationship between these constructs can be better understood when athletic identity is taken into consideration. While results from the study do not establish cause-and-effect relationships, these findings are consistent with an interpretation that a foreclosed identity may result in a stronger athletic identity among nonrevenue sport student-athletes, leading to decreased career maturity.

Research Questions 3 and 4

A discussion of the findings will continue with research question 3 (*Is the relationship between athletic identity and career maturity moderated by the student-athlete's gender, year in school, and performance level?)* and research question 4 *(Is the relationship between identity foreclosure and career maturity moderated by the student-athlete's gender, year in school, and performance level?).*

The researcher was interested in investigating whether the relationship between athletic identity and career maturity, and between identity foreclosure and career maturity differed depending upon the student-athlete's gender, year in school, and performance level. It was hypothesized that gender would moderate the relationships between the identity variables and career maturity because previous research has found gender differences among these three constructs. For example, female collegiate student-athletes have been found to have higher levels of career maturity than males (Murphy et al., 1996; Rivas Quinones, 2002); males have been found to have higher athletic identity levels than females (Brewer et al., 1993; McPherson, 2013; Sturm et al., 2011); and males have been found to be characterized as foreclosed significantly more than females (Archer, 1989). However, the results of the current study did not support the hypothesis, which indicates that, for student-athletes who are members of nonrevenue sports, being female versus male did not affect the relationships among the identity and career constructs. Additionally, no significant main effect of gender was observed on career maturity. That is, females and males did not appear to differ in their level of this construct.

The nonrevenue sport student-athlete population is one that has not been adequately researched and understood. Instead, much of the previous research conducted with collegiate

student-athletes had been based on those in revenue-producing sports or a combination of those in revenue- and nonrevenue-producing sports. As a result, some of the conclusions that have been drawn about the student-athlete population may not be completely applicable to the nonrevenue sport student-athlete population. As such, although gender differences have been found in relation to athletic identity, identity foreclosure, and career maturity in previous studies, this was not the case within the current study; a gender effect does not appear to exist for nonrevenue sport student-athletes.

Year in school was also hypothesized to be a moderating variable due to the developmental nature of the career maturity and identity constructs. Research suggests that individuals' career maturity increases during the college years (Blann, 1985), while foreclosure tends to decrease with time (Adams, 1998). Additionally, although some inconsistencies exist, athletic identity has been found to decrease throughout college (Brewer et al., 1993; Miller & Kerr, 2003). A fairly even representation of participants from each academic year was present within the current study, and it was believed that year in school would moderate the relationship between athletic identity and career maturity, and between identity foreclosure and career maturity. However, the results indicated that year in school did not moderate the relationships among these constructs. That is, regardless of a student-athlete's year in school, the relationships among these constructs remained the same. It is notable, however, that year in school was found to be a statistically significant, positive predictor of career maturity. So, although one's year in school does not seem to moderate the relationships between the identity variables and career maturity, student-athletes who are further along in college tend to have higher career maturity levels than those who are newer.

Research questions 3 and 4 also examined whether student-athletes' performance level would moderate the relationships between the identity constructs and career maturity. Previous research that examined one or more of the athletic identity, identity foreclosure, or career maturity constructs in relation to participation level (i.e., intramural or intercollegiate; Good et al., 1993), competitive level (i.e., Division I versus Division III; Blann, 1985), or varsity status (Murphy et al., 1996) often found significant differences in these constructs between those at a higher versus lower athletic level. These differences may have been due in part to the additional demands and expectations that are frequently placed on those at a higher athletic level. Therefore, the researcher was interested in investigating how the individual performance level of the collegiate student-athlete may moderate the relationships among the identity and career variables. To examine this, two indicators were used to represent performance level in the current study. Athletic scholarship status (i.e., none, books, partial, or full) was included based on the notion that individuals with a scholarship generally may be better athletes and/or have been recognized as having the potential to perform at a high level. A self-reported performance level item ("*How would you rate your overall performance as an athlete at this point in your collegiate career as compared to other Division I student-athletes in your sport?*") was also included as an indicator to get a general sense of the student-athletes' perception of their own performance. This item had response options ranging from 1 = *low performer* to 5 = *high performer.*

The relationship between athletic identity and career maturity, and between identity foreclosure and career maturity were not found to differ by student-athlete performance level. That is, regardless of a student-athlete's individual performance level, the relationships among

these constructs remained the same. Additionally, no significant main effect of performance level was observed on career maturity. Lower versus higher performers did not appear to differ in their level of this construct. These findings do not align with previous research that has found significant differences in the career and identity constructs between student-athletes at a higher versus lower athletic level. Although significant effects were not observed in the current study, examining the effect of individual performance level on the career and identity constructs provides increased understanding of the nonrevenue sport student-athlete. Overall, these results suggest that it may not be critical for practitioners to consider the performance level of these athletes when assessing their career development needs. Again, it seems that focusing solely on nonrevenue sport student-athletes has provided new insight into this population that may not have been found previously.

Exploratory Analyses

In addition to the moderating variables included in the study's research questions, the researcher was also interested in exploring how student-athletes' aspirations of pursuing a career as a professional athlete may moderate the relationships between athletic identity and career maturity, and between identity foreclosure and career maturity. Previous research has found a negative relationship between student-athletes' expectations of becoming a professional athlete and career maturity (Brown & Hartley, 1998). Although fewer opportunities to pursue a professional athletic career may exist for nonrevenue sports as compared to revenue sports, an athlete participating in a nonrevenue sport could certainly have these aspirations, which may influence their identity and career maturity.

The student-athletes in the current study were asked to rate what their expectations were of becoming a professional athlete, with five possible response options (1 = *very low or no expectations* to 5 = *very high expectations*). A moderating effect on the relationships between the two identity variables and career maturity was not found. Although some of the athletes in the sample had aspirations of pursuing a career as a professional athlete, overall, having higher or lower expectations did not significantly alter the relationships between the identity variables and career maturity. Additionally, no main effect of professional athlete expectations on career maturity was found (i.e., expectations of becoming a professional athlete did not significantly predict career maturity).

A point that warrants discussion pertains to Murphy et al.'s (1996) suggestion that "identifying strongly and exclusively with the athlete role may reduce examination of nonsport career possibilities" (p. 244). The results from the current study suggest that those with elevated athletic identity levels may have reduced career maturity, but this may not be related to their expectations of specifically pursuing a career as a professional athlete. Furthermore, Brown and Hartley (1998) did not find a relationship between athletic identity and career maturity within their male football and basketball sample, which was partially attributed by the authors to the low percentage of participants who wished to pursue a career as a professional athlete. The current study seems to refute this claim. The sample in the present study also had a low percentage of student-athletes with expectations of becoming a professional athlete (15.3%), yet a relationship still was found between these two constructs. These findings once again highlight other potential nuances within the nonrevenue sport student-athlete population. More research

certainly is needed to further investigate how professional athlete expectations are associated with the athletic identity, identity foreclosure, and career maturity constructs.

Conclusions

Providing overarching conclusions regarding the career development of nonrevenue sport student-athletes based on findings of the current study is somewhat challenging because some of the results almost seem to contradict one another. Particularly, athletic identity was found to be a statistically significant, negative predictor of career maturity, whereby career maturity decreases as athletic identity increases, but a similar relationship between identity foreclosure and career maturity was not discovered. Therefore, unlike athletic identity, identity foreclosure was not found to be directly associated with inhibited career decision-making. However, a positive, albeit weak, correlation between athletic identity and identity foreclosure was found, along with an indirect effect of identity foreclosure on career maturity, making it difficult to separate a discussion of athletic identity's relationship to career maturity from identity foreclosure.

Perhaps offering a "profile" of those with a higher athletic identity in the current study's sample may help to explain why a relationship between athletic identity and career maturity was found, while no direct relationship between identity foreclosure and career maturity was observed. Based on the current study's results, those with a higher athletic identity are more likely to have lower career maturity levels, and due to the significant, positive correlation that was found between athletic identity and identity foreclosure, may have the tendency to identify exclusively with the athlete role (i.e., they are less likely to explore alternative roles). That is, while identity foreclosure alone was not significantly related to career maturity, those with a

higher athletic identity may identify more exclusively with their role as an athlete. Furthermore, because a positive correlation exists between athletic identity and foreclosure, perhaps those with a more exclusive athletic identity also tend to be less career mature, as suggested by Beamon (2012) and Lavallee and Robinson (2007). The mediating effect of athletic identity that was observed on the relationship between identity foreclosure and career maturity seems to support this notion. As a student-athlete's identity becomes more foreclosed, a stronger athletic identity may develop, resulting in lower career maturity levels. That is, perhaps one's tendency to have a foreclosed identity due to not exploring other roles and experiences reinforces his or her athletic identity, which in turn may impact readiness to make career choices. This explanation differs from other research that suggests involvement in athletics, and the strong athletic identity that may develop, inhibits exploration (Beamon, 2012; Lally & Kerr, 2005; Murphy et al., 1996). The current study uncovered a mediating effect of athletic identity, which has not been previously examined, and additional research is needed to further explore this effect. Doing so may provide more clarity regarding how identity foreclosure relates to athletic identity, as well as its indirect effect on career maturity.

Limitations

This study was subject to several limitations that should be considered. First, a threat to internal validity relates to the sampling procedures of the participants. Random selection was not performed; rather, a convenience sampling method was employed to obtain student-athletes on nonrevenue-producing sports teams who were willing to participate in this study. Perhaps those who chose to participate were generally more interested in and aware of the career

development and exploration process than those who did not participate. Second, due to the nature of correlational research, all potential covariates were not controlled, some of which had the potential to impact the results of the study. Additionally, one indicator of the performance level latent variable was the participants' self-reported performance level. Because the student-athletes' subjective perceptions of their own performance were utilized as an indicator, it is possible that the outcomes of the analysis pertaining to the performance level variable may have been different had more directly-measured indicators of performance been obtained.

Several threats to external validity also exist. First, a cross-sectional correlational research design was used to obtain data from one point in time, and results from the study do not establish a cause-and-effect relationship. Second, due to the non-probability sampling method that was deployed, the generalizability of the results may be limited. That is, the sample may not be completely representative of all nonrevenue sport collegiate student-athletes. Generalizing the study's findings to student-athletes who do not share similar characteristics as those in the sample may not be warranted.

Another limitation of the current study pertains to the reliability of scores from the AIMS instrument. Although good reliability and validity have been established for scores obtained from the AIMS (Brewer & Cornelius, 2001), an analysis of the reliability of scores attained from this measure for the current study indicated that reliability was questionable. After further examining why this may have occurred, it was discovered that the responses for one item (*"I consider myself an athlete"*) had very little variability (i.e., 80.7% of participants responded with the most affirmative response option), leading to low factor loadings for that item. Although this

item seemed to be problematic, it was not removed from the analysis to keep the instrument in its original, intact form.

A final limitation that warrants discussion pertains to the CMI-C instrument. As previously mentioned, several iterations of the Career Maturity Inventory (CMI) have been developed over the years, with earlier versions including scales that measured attitudes and competencies related to career maturity. The latest version (i.e., CMI-C) only measures attitudinal career maturity (i.e., attitudes toward career choice), so it does not assess all aspects of the career maturity construct as originally defined by Crites (1978a). Although attitudes are considered a measurable and valid indication of an individual's career maturity (Crites, 1978a; Savickas, 1990), and the CMI attitudes scale has been found to be the most frequently used by researchers and practitioners (Crites & Savickas, 1996), caution should be taken when comparing the findings of the current study to other studies that have utilized different career maturity measures.

Implications

This study provides further insight into the career development of nonrevenue sport student-athletes, which may be useful to university personnel who work closely with this population. Much focus often is given to revenue sport student-athletes, but the findings from this research suggest that paying attention to the career development of nonrevenue sport student-athletes is just as important. This is especially true when those with a strong athletic identity are taken into consideration because they may not be as ready to make career choices. Helping these athletes engage in behaviors that will increase their readiness is important because

student-athletes who "have a career minded focus will have a better chance to succeed in their transitions and future non-athletic careers" (Harrison & Lawrence, 2004, p. 500).

Because student-athletes have the responsibility of being a collegiate athlete while also balancing other priorities, such as their student role, it certainly is possible that their own career development is not always at the forefront of their minds. It would therefore behoove athletic department staff (e.g., coaches, study center staff, etc.), who often serve as mentors and confidants and see these student-athletes on a regular basis, to become more educated about career development so that they can increase their athletes' awareness and recommend small steps they can take that will assist with their career development. For example, exploration options such as job shadowing, informational interviews, or mentoring could be offered (Brown et al., 2000). Doing so may help athletes realize that career planning and exploration does not have to consist of time-consuming activities that might detract from their many obligations.

Other types of individualized support may also be warranted, including interventions from on-campus career services personnel. For example, instruments such as the AIMS and CMI-C could be used preliminarily to determine athletes' levels of athletic identity and career maturity. Other interest and career inventories could then be assessed. Depending upon the results, a step-by-step plan outlining activities that can be completed to further the student-athletes' career development could be created. Perhaps discussions regarding careers related to athletics, which may align with student-athletes' skillsets and interests, would be beneficial. This type of support may provide those who do have aspirations of becoming a professional athlete with alternative career options if becoming a professional does not come to fruition. All of these methods could possibly be integrated into the CHAMPS/Life Skills programs already in

existence at many colleges and universities. Regardless of the approach, "The continued development and implementation of programs for student athletes that help them get a realistic view of their future and teach them skills necessary for wise career decision-making is critical" (Brown & Hartley, 1998, p. 24). Increasing student-athletes' awareness of their own career development and focusing efforts on this important piece of development throughout their college career may assist in helping student-athletes have a smooth transition into the workforce.

Suggestions for Future Research

There are several directions that future research can consider when studying nonrevenue sport student-athletes. The first involves the instruments used to assess the various constructs. The current study utilized the CMI-C to measure career maturity. This was the first study to date in which the CMI-C was used with a sample of collegiate student-athletes, so additional student-athlete research with this instrument is needed. Additionally, using other instruments that measure different aspects of career maturity, such as the Career Development Inventory (CDI; Super et al., 1981), may provide further insight into the career development of nonrevenue sport athletes. Furthermore, an alternative measure could be used to measure identity foreclosure. Although the EOM-EIS is well-researched and has been used in the majority of studies pertaining to identity foreclosure in the collegiate student-athlete population, perhaps utilizing an instrument that measures foreclosure specific to one's career, such as the Commitment to Career Choices Scale (CCCS; Blustein, Ellis, & Devenis, 1989), would be valuable. Finally, a different method to measure individual performance level is needed rather than only relying on self-

reported data. For example, athletic performance statistics for each student-athlete targeted for a study could be obtained from the university in which they are enrolled.

A second focus for future research pertains to the research design. Career and identity development are developmental processes, so conducting longitudinal research with nonrevenue sport student-athletes may provide additional insights into how athletic identity, identity foreclosure, and career maturity—along with their relationships to one another—change over time. Qualitative research in which student-athletes are interviewed to learn more about their points of view also may further practitioners' understanding of the nonrevenue sport student-athlete population, as they would have the opportunity to explain their experiences in-depth. Similarly, retrospective interviews could also be conducted with former collegiate student-athletes who have successfully transitioned from their sport, as well as with those who may have had a more difficult post-sport transition.

The third area that future research could consider pertains to the characteristics of the sample. Overall, additional research with nonrevenue sport student-athletes is warranted to better understand their career and identity development. However, there are specific characteristics that could also be explored within this population. The current study consisted of student-athletes who competed in NCAA Division I collegiate sports. Because variances in the student-athlete experience have been found within the different NCAA division levels (Watt & Moore, 2001), conducting research with nonrevenue sport athletes at Division II and III institutions may provide a more comprehensive understanding of this population's career development. Additionally, including student-athletes from more diverse ethnic backgrounds and from various regions of the United States also would afford a more complete picture of these

individuals. Finally, comparing nonrevenue-producing sport student-athletes to non-athletes also may lead to a further understanding of how career development may differ between these two groups.

A final recommendation for future research involves addressing other potential moderating variables that may influence the relationships among athletic identity, identity foreclosure, and career maturity. For example, the various roles that student-athletes may identify with, especially that of student, could be investigated because they often navigate their athletic and student roles throughout college, and the saliency of these roles may shift over time (Adler & Adler, 1987; Lally & Kerr, 2005; Miller & Kerr, 2003). This relates to the life-space component of Super's (1980) life-span, life-space approach in which it was postulated that individuals possess simultaneous life roles that may potentially impact career development. Researchers have proposed these roles to often be in conflict with one another, and student-athletes may encounter issues when there is an over-commitment of the athlete role (Stephan & Brewer, 2007). It is possible that individuals who become ingrained in their role as an athlete put their student role aside (Lally & Kerr, 2005), as evidenced by the negative correlation found between athletic identity and student identity (Sturm et al., 2011). Lally and Kerr (2005) suggest that an "investment in the student role may be an important variable in the relationship between career planning and athletic identity" (p. 284). This may be because an increased student role identity could lend itself to additional opportunities for career exploration, especially those that coincide with one's program of study (Brown & Hartley, 1998; Lally & Kerr, 2005). This perception is also indicated by research that has found differences in career maturity levels between student-athletes and non-athletes (Kennedy & Dimick, 1987; Linnemeyer & Brown,

2010; Martens & Cox, 2000; Murphy et al., 1996; Smallman & Sowa, 1996). Perhaps examining the student role and other potential moderators, such as the availability of career support for student-athletes, will provide an increased understanding of what contributes to the career development of nonrevenue sport athletes.

Chapter Summary

Chapter 5 provided an analysis of the results outlined in Chapter 4, including a discussion of the findings for each of the research questions, conclusions, limitations of the study, implications, and suggestions for future research. Overall, the current study's findings indicate that athletic identity is an important construct to consider in the career development process of nonrevenue-producing sport student-athletes, which adds to the body of research pertaining to this population. Those with a stronger athletic identity may be at risk of having decreased career maturity levels, which may ultimately affect their post-sport transition. As Carodine et al. (2001) point out, "Institutions of higher education have an obligation to prepare athletes for life beyond collegiate athletic competition" (p. 22). This begins with the university personnel who work directly with student-athletes, who should make it a priority to understand athletic identity issues student-athletes may encounter and use this knowledge to assist in the development of career planning programs (Murphy et al., 1996). Implementing career development programming that will increase student-athletes' awareness of the career planning and decision-making process, as well as their own interests and skills, may be essential in helping them have as seamless a transition as possible and pursue meaningful careers once their time as an athlete has come to an end.

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APPENDICES

APPENDIX A

INSTITUTIONAL REVIEW BOARD LETTER

NORTHERN ILLINOIS UNIVERSITY
Office of Research Compliance and Integrity
Lowden Hall 301 · DeKalb, IL 60115-2584
815-753-8588 · Fax 815-753-1631 · www.niu.edu/orci

Exempt Determination

01-Sep-2015
Stacia Klasen
Counseling, Adult and Higher Education

RE: Protocol # **HS15-0245 "An examination of the athletic identity, identity foreclosure, and career maturity of Division I collegiate athletes in nonrevenue-producing sports**"

Dear Stacia Klasen,

Your application for institutional review of research involving human subjects was reviewed by Institutional Review Board #1 on **01-Sep-2015** and it was determined that it meets the criteria for exemption, as defined by the U. S. Department of Health and Human Services Regulations for the Protection of Human Subjects, 45 CFR 46.101(b), 2

Although this research is exempt, you have responsibilities for the ethical conduct of the research and must comply with the following:
Amendments: You are responsible for reporting any amendments or changes to your research protocol that may affect the determination of exemption and/or the specific category. This may result in your research no longer being eligible for the exemption that has been granted.
Record Keeping: You are responsible for maintaining a copy of all research related records in a secure location, in the event future verification is necessary. At a minimum these documents include: the research protocol, all questionnaires, survey instruments, interview questions and/or data collection instruments associated with this research protocol, recruiting or advertising materials, any consent forms or information sheets given to participants, all correspondence to or from the IRB, and any other pertinent documents.

Please include the **protocol number** (**HS15-0245**) on any documents or correspondence sent to the IRB about this study.

If you have questions or need additional information, please contact the Office of Research Compliance and Integrity at 815-753-8588.

APPENDIX B

INFORMED CONSENT

Informed Consent

Hello,

You have been invited to participate in a research project examining the career development of Division I collegiate student-athletes that is being conducted by Stacia Klasen, a doctoral student at Northern Illinois University (NIU). The purpose of this study is to investigate the perspectives and career attitudes of student-athletes, which may lead to a better understanding of this important student population and how practitioners in the field of higher education can assist them with their career preparation.

Participation: If you agree to participate in this study, you will be asked to complete questionnaires online, which will take a total of 5 to 10 minutes. Your survey responses will be submitted anonymously (i.e., no identifiers will be used that can link you to the data/information that you provide). Participation is voluntary and may be withdrawn at any time without penalty or prejudice. Even if you begin the survey, you can stop at any time without consequence. By participating in this study, you will be benefitting the body of knowledge pertaining to student-athlete career development and planning, which may assist personnel who support student-athletes.

Potential Risks: This study has no reasonably foreseeable risks to you as a participant.

Contacts: If you have any questions concerning this study, you may contact Stacia Klasen at xxxxx@niu.edu or (xxx) xxx-xxxx, or Dr. Thomas Smith, faculty advisor, at xxxxx@niu.edu or (xxx) xxx-xxxx. If you would like further information regarding your rights as a research subject, you may contact the Office of Research Compliance at Northern Illinois University at (815) 753-8588.

Consent: Your consent to participate in this study does not constitute a waiver of any legal rights or redress you might have as a result of your participation. **Please print out a copy of this consent form for your records.**

By clicking to continue with the survey, you are indicating that you consent to participate in this study.

Thank you for your time and participation!

Stacia Klasen

APPENDIX C

DEMOGRAPHIC QUESTIONNAIRE

Demographic Questionnaire

1) What is your age?
2) What is your gender?
    a. Male
    b. Female
3) What is your ethnicity?
    a. Hispanic or Latino(a)
    b. Not Hispanic or Latino(a)
4) What is your race? (Check all that apply.)
    a. American Indian or Alaska Native
    b. Asian
    c. Black or African American
    d. Native Hawaiian or Other Pacific Islander
    e. White or Caucasian
    f. Other (please specify)
5) What academic year best describes you?
    a. Freshman
    b. Sophomore
    c. Junior
    d. Senior (4^{th}, 5^{th} or 6^{th} academic year)
    e. Graduate Student
    f. I am currently *not* a student
        i. I graduated with my bachelor's degree
        ii. I am taking time off from school or withdrew
6) What is/was your college major?
7) What is your cumulative Grade Point Average (GPA)? (Input "N/A" if not yet calculated.)
8) What GPA scale does your university use?
    a. 4.0 scale
    b. 5.0 scale
    c. Other (please specify)
9) Which of the following best describes your status as an NCAA Division I collegiate student-athlete?
    a. I am currently a student-athlete who is a member of an NCAA Division I collegiate sport team
    b. I recently completed all of my NCAA Division I athletic eligibility
        i. Approximately how long ago did you complete your eligibility?
            1. 1 semester
            2. 2 semesters
            3. 3 semesters
    c. I am no longer on an NCAA Division I collegiate sport team
    d. Other (please explain)
10) What athletic eligibility year best describes you?

   a. 1st Year
   b. 2nd Year
   c. 3rd Year
   d. 4th Year
   e. I have completed my athletic eligibility
11) What university do/did you attend?
12) Which NCAA Division I collegiate sport team(s) are you a member of? (Note: if you have completed your athletic eligibility, choose the sport team(s) you belonged to.) Check all that apply:
   a. Baseball
   b. Basketball – Men's
   c. Basketball – Women's
   d. Cross Country
   e. Equestrian
   f. Field Hockey
   g. Football
   h. Golf
   i. Gymnastics
   j. Hockey
   k. Lacrosse
   l. Rowing
   m. Soccer
   n. Softball
   o. Swimming & Diving
   p. Tennis
   q. Track & Field
   r. Volleyball
   s. Wrestling
   t. Other (please specify)
13) Which conference does your sport team belong to?
14) Sport membership status: (Check all that apply.)
   a. I am a member of a sport that is currently in-season
   b. I am a member of a sport that is currently in an off-season
   c. My final sport season has ended
15) Athletic participation status: (Check all that apply.)
   a. I am currently participating and/or competing in an in-season sport
   b. I am not currently competing because my sport is in an off-season
   c. I am not currently competing because I am injured
   d. I am not currently competing because I am redshirting
   e. My final sport season has ended
   f. Other (please explain)
16) On average, approximately how many hours per week are/were dedicated to your sport while in-season (including practicing, competing, and weight-training)?
   a. 1-5

b. 6-10
c. 11-15
d. 16-20
e. 21-25
f. 26 or more
g. N/A - I haven't yet started my 1st season

17) Are you receiving an athletic scholarship? (Or, if you have completed your athletic eligibility, were you receiving an athletic scholarship while you were a student-athlete?)
    a. Yes
        a. What type of scholarship? (Check all that apply.)
            1. Books
            2. Partial
            3. Full
    b. No
18) Which of the following *individual* athletic achievements have you received?
    a. All-Conference
    b. All-American
    c. Both All-Conference and All-American
    d. None of the above
    e. N/A - I haven't completed my 1st season
19) How would you rate your overall performance as an athlete at this point in your collegiate career as compared to other Division I student-athletes in your sport?
    a. 1 - Low performer
    b. 2 - Below average performer
    c. 3 - Average performer
    d. 4 - Above average performer
    e. 5 - High performer
    f. N/A - I haven't yet started my 1st season
20) What are your expectations of becoming a professional athlete in your sport?
    a. 1 - I have very low or no expectations
    b. 2
    c. 3
    d. 4
    e. 5 - I have very high expectations