

Athletic Identity, Vocational Identity, and Occupational Engagement  
in College Student-Athletes and Non-Athletes

By

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## **Abstract**

Athletic departments in National Collegiate Athletic Association Football Bowl Subdivision universities provide academic support services to their student-athletes. Even though student-athletes receive help including career assistance from academic counselors, some studies have found that student-athletes are behind non-athletes in career development. This study examined the relationship between athletic identity and career identity in student-athletes attending one Football Bowl Subdivision institution in comparison with non-athletes, between genders of student-athletes, and between earlier and later years in college for student-athletes using multiple instruments: Athletic Identity Measurement Scale; Vocational Identity Scale of the My Vocational Situation; and the Occupational Engagement Scale-Student. No relationship was found to exist between athletic identity and vocational identity or athletic identity and occupational engagement. Non-athletes had higher occupational engagement levels than did student-athletes, while student-athletes had higher vocational identity levels than did non-athletes. Additionally, female student-athletes had higher occupational engagement levels than did male student-athletes. Student-athletes in years 3 and 4 had higher occupational engagement levels than did student-athletes in years 1 and 2.

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## Table of Contents

Abstract .....	iii
Acknowledgements .....	iv
Table of Contents .....	v
Chapter 1 .....	1
Statement of Problem.....	3
Rationale for Study .....	5
Purpose of the Study and Research Questions.....	6
Research Hypotheses .....	7
Definition of Terms.....	9
Assumptions.....	10
Limitations .....	11
Significance of Study .....	11
Chapter 2.....	13
Career Development .....	14
Life Stages. ....	15
Career Development and College Students .....	18
Career Development and College Student-Athletes .....	19
Identity formation. ....	20
Athletic identity. ....	23

	vi
Identity foreclosure.....	28
Multi-stage identity focus.....	32
Explanations for multi-stage identity focus.....	34
Gender differences.....	37
Vocational Identity.....	39
Occupational Engagement.....	43
Summary of Literature Review.....	50
Chapter 3.....	54
Participants.....	54
Participant Characteristics.....	55
Instrumentation.....	56
Athletic Identity Measurement Scale.....	56
My Vocational Situation.....	57
Occupational Engagement Scale.....	58
Procedures.....	59
Design and Analysis.....	60
Testing of Hypotheses.....	61
Chapter 4.....	65
Hypothesis 1.....	68
Hypothesis 2.....	70

	vii
Hypothesis 3.....	71
Hypothesis 5.....	72
Hypothesis 6.....	73
Hypothesis 7.....	73
Hypothesis 8.....	73
Hypothesis 9.....	75
Chapter 5.....	78
Discussion.....	78
Athletic Identity and Career Development.....	80
Differences between Student-Athletes and Non-Athletes.....	81
Multiple Stage Identity Focus Differences.....	86
Summary.....	90
Recommendations for Future Research.....	91
Conclusions.....	92
References.....	93
Appendix A.....	102
Appendix B.....	105
Appendix C.....	106
Appendix D.....	107

## **Chapter 1**

### **Introduction**

The National Collegiate Athletic Association was established in 1906 to govern intercollegiate athletics and especially the oftentimes brutal sport of football. Because of the belief of institutional control, or home rule, for over 50 years the National Collegiate Athletic Association did not mandate academic rules because these were under the purview of college faculty. After the awarding of grants-in-aid to athletes and associated recruiting rules were approved by member representatives in the late 1950s, the National Collegiate Athletic Association began to enact a series of minimal academic standards. For example, National Collegiate Athletic Association rules such as the 1.600 rule, Proposition 48, and Proposition 16 required that prospective student-athletes attain minimal grade point averages and/or standardized test scores for eligibility to play college sports. The National Collegiate Athletic Association also mandated that college athletes earn minimal grade point averages, pass minimal numbers of credit hours each year, and declare majors. Most recently, the National Collegiate Athletic Association established the Academic Progress Rate and Graduation Success Rate as ways of tracking academic performance and holding athletic teams and departments more accountable for student-athletes' grade point averages and graduation.

Division I, Division II, and Division III comprise the National Collegiate Athletic Association with Division I representing the highest competitive level. According to the National Collegiate Athletic Association Division I academic philosophy:

The National Collegiate Athletic Association membership is committed to the education of student-athletes and has implemented a series of policies to strengthen the preparedness of Division I student-athletes for college work and ensure they make steady progress toward a degree. To that end, college and



university presidents decided that institutions should be held accountable for the academic performance of student-athletes. The National Collegiate Athletic Association developed the Academic Progress Rate, a system that provides a snapshot in time for each academic term, allowing schools to intercede and help academically challenged student-athletes before it is too late. The rate is team-based and accompanied by a penalty system that includes sanctions for teams falling below a prescribed benchmark. (National Collegiate Athletic Association, 2010a)

The CHAMPS/Life Skills Program, developed in 1994 and recommended by the National Collegiate Athletic Association to all of its member institutions, had as its goal helping student-athletes take maximal advantage of their educational opportunities and experiences as well as to help prepare for their careers and future contributions (Wade, 1999). The guidelines provided for the CHAMPS/Life Skills Program focused on five areas of student-athlete development: academics; athletics; personal development; service; and career development.

Even with academic minimum requirements to maintain athletic eligibility, penalties for not achieving minimum Academic Progress Rates and weekly maximum hours (the National Collegiate Athletic Association limits countable athletic-related activities to a maximum of 4 hours per day and 20 hours per week), research conducted by the National Collegiate Athletic Association concluded that student-athletes saw themselves more as athletes than as students (National Collegiate Athletic Association, 2008). This research also found that student-athletes spent more time on athletics than academics, and if given additional time, they would spend it on their sports, not on

academics or other extracurricular activities (National Collegiate Athletic Association, 2008). Despite these results showing athletes' preferences for use of their time, on average only 3% of National Collegiate Athletic Association student-athletes in men's and women's basketball, football, baseball, men's ice hockey, and men's soccer will play professional sports (National Collegiate Athletic Association, 2010b). Since, according to National Collegiate Athletic Association advertisements typically shown during bowl games and March Madness and its website, "the majority of student-athletes go pro in something other than sports," it is essential for student-athletes to graduate from college and enter the working world with equal measures of career development when compared to non-athletes.

### **Statement of Problem**

All athletic departments in National Collegiate Athletic Association Football Bowl Subdivision (formerly Division I-A) universities provide academic support to student-athletes at varying degrees based on financial resources. Student-athletes have access to tutors, academic counselors, and career assistance within athletic departments, yet student-athletes have been found to be behind non-athletes in terms of career development (Blann, 1985; Kennedy & Dimick, 1987; Martens & Cox, 2000; Murphy, Petitpas, & Brewer, 1996; Sowa & Gressard, 1983). Because of the likelihood of student-athletes experiencing identity foreclosure, which is when individuals prematurely make a firm commitment to an occupation or an ideology without exploring internal needs and values (Petipas, 1978; Snyder, 1985), and devoting a large portion of their time to sports, career development is not a priority and consequently gets put in second place (Chartrand & Lent, 1987). Often, the more time a student-athlete devotes to athletic

participation, the less confidence a student-athlete has in personal ability to make career decisions (Glastetter-Fender, 2000).

Past research has shown student-athletes go through multiple stages of identity or role focus throughout their college years (Blann, 1985; Lally & Kerr, 2005; Miller & Kerr, 2002, 2003). These authors showed that during the first two years of student-athletes' time in college, they were more committed to their athletic roles and devoted less time to other things. However, in student-athletes' final one or two collegiate years, they allotted more time and energy to their academic roles to help prepare for future careers. Past research has been inconclusive or has yet to examine if student-athletes possess comparable measurements of vocational identity and occupational engagement to non-athletes. Furthermore, results of research attempting to find a relationship between vocational identity and occupational engagement using the Athletic Identity Measurement Scale have been varied or not yet attempted. Vocational identity refers to how clear and stable a picture an individual possesses of his or her goals, interests, personality, and talents. Occupational engagement refers to how devoted, concerned, or involved an individual is in engaging in a variety of life experiences that may help them make better career decisions. The Athletic Identity Measurement Scale is a quick, reliable, and valid measure of an individual's self-assessed athletic identity.

The purpose of the current study was to examine the relationship between athletic identity and career identity in student-athletes in comparison with non-athletes, between genders of athletes, and between earlier and later years in college for athletes. Specifically, the present study compared student-athletes with non-athletes and examined if relationships existed between athletic identity and two distinct measures of career development: the Vocational Identity Scale of the My Vocational Situation and Occupational Engagement Scale-Student.

## **Rationale for Study**

While some studies have examined career development measures of student-athletes, the results have varied. Brown and Hartley (1998) and Martens and Cox (2000) did not find a correlation between athletic identity and career development measures, while Murphy, Petitpas, and Brewer (1996) found athletic identity was inversely related to career maturity (i.e., if a student-athlete had a strong athletic identity, he or she was likely to have a lower level of career maturity). Adler and Adler (1987) found male student-athletes were less advanced than non-athletes in career development measures, while Meyer (1990) found career development measures of female student-athletes were more advanced. Other research (Kennedy & Dimick, 1987; Murphy, Petitpas, & Brewer, 1996; Sowa & Gressard, 1983) reported that student-athletes had lower levels of career development than did non-athletes. By examining the results of past studies and conducting a study involving student-athletes attending one institution that competed in the Football Bowl Subdivision, the data will help to answer the question, “How do student-athletes compare to non-athletes in career development as measured by Vocational Identity and Occupational Engagement”? In addition, the research will examine the relationship between the seven-item Athletic Identity Measurement Scale and career development measured by Vocational Identity and Occupational Engagement to determine if strength of athletic identity relates to a high or low level of Vocational Identity and Occupational Engagement.

While past research has examined career development from the perspective of career maturity and to some extent, vocational identity, career development of student-athletes has not been examined from the perspective of occupational engagement. A final component of this study is the use of the Occupational Engagement Scale-Student. The Occupational Engagement Scale-Student is linked with many traits considered desirable in college students such as personal

development, vocational identity, and grade point average (Krieshok, Black, & McKay, 2009). The Vocational Identity is based on previous decision-making theory focused on a rational method. However, recent theory points to decision-making being an unconscious process based on intuition (Hartung & Blustein, 2002). The rational method of decision-making is rooted in Parsons' theory of career development and maintains decisions are made thoughtfully, consciously, and with reason (Parsons, 1909). The alternative method of decision-making is rooted in a non-rational process. The Occupational Engagement Scale-Student examines career development from a combination of this alternative perspective and the rational method. Using surveys that examine decision-making theory from rational and non-rational perspectives will measure if student-athletes are better prepared or less well-prepared than non-athletes in one decision-making process or both processes.

### **Purpose of the Study and Research Questions**

One of the three primary purposes of this study is to establish what relationship, if any, exists between athletic identity and the two selected instruments of career development. The second purpose of this study is to determine if there is a significant difference in the characteristics of career development of student-athletes attending one institution that competes in Football Bowl Subdivision and non-athletes attending the same institution. Also, this study will examine the relationship between the career development of male and female student-athletes and between student-athletes in their early years (years 1-2) of college to those in their later years of college (years 3-4). Specifically, this study seeks to answer the following research questions:

- 1) In what ways, if any, can self-reported athletic identity, as measured by Athletic Identity Measurement Scale, identify student-athletes who have lower levels of career development?
- 2) Are there significant differences in any of the career development levels of student-athletes and non-athletes attending one university that competes in the Football Bowl Subdivision?
- 3) Are there significant differences in any of the career development levels of male student-athletes compared to female student-athletes attending one institution competing in the Football Bowl Subdivision?
- 4) Are there significant differences in any of the career development levels of male and female student-athletes in years 1 and 2 compared to male and female student-athletes in years 3 and 4 attending one institution that competes in the Football Bowl Subdivision?

### **Research Hypotheses**

This study will utilize the Athletic Identity Measurement Scale, Vocational Identity scale of My Vocational Situation, and Occupational Engagement Scale-Student to examine the following hypotheses:

- *Hypothesis 1: There is a negative relationship between athletic identity and vocational identity.*
- *Hypothesis 2: There is a negative relationship between athletic identity and occupational engagement.*
- *Hypothesis 3: Non-athletes have higher vocational identity than do student-athletes.*
- *Hypothesis 4: Non-athletes have higher occupational engagement than do student-athletes.*

- *Hypothesis 5: Male student-athletes have higher athletic identity than do female student-athletes.*
- *Hypothesis 6: Female student-athletes have higher vocational identity than do male student-athletes.*
- *Hypothesis 7: Female student-athletes have higher occupational engagement than do male student-athletes.*
- *Hypothesis 8: Student-athletes in years 3 and 4 have higher vocational identity than do student-athletes in years 1 and 2. Sub-hypothesis 8a: Student-athletes in year 2 have higher vocational identity than do student-athletes in year 1. Sub-hypothesis 8b: Student-athletes in year 3 have higher vocational identity than do student-athletes in year 2. Sub-hypothesis 8c: Student-athletes in year 4 have higher vocational identity than do student-athletes in year 3. Sub-hypothesis 8d: Student-athletes in year 3 have higher vocational identity than do student-athletes in year 1. Sub-hypothesis 8e: Student-athletes in year 4 have higher vocational identity than do student-athletes in year 1. Sub-hypothesis 8f: Student-athletes in year 4 have higher vocational identity than do student-athletes in year 2.*
- *Hypothesis 9: Student-athlete in years 3 and 4 have higher occupational engagement than do student-athletes in years 1 and 2. Sub-hypothesis 9a: Student-athletes in year 2 have higher occupational engagement than do student-athletes in year 1. Sub-hypothesis 9b: Student-athletes in year 3 have higher occupational engagement than do student-athletes in year 2. Sub-hypothesis 9c: Student-athletes in year 4 have higher occupational engagement than do student-athletes in year 3. Sub-hypothesis 9d: Student-athletes in year 3 have higher occupational engagement than do student-athletes in year*

1. *Sub-hypothesis 9e: Student-athletes in year 4 have higher occupational engagement than do student-athletes in year 1. Sub-hypothesis 9f: Student-athletes in year 4 have higher occupational engagement than do student-athletes in year 2.*

### **Definition of Terms**

- *Athletic Identity:* “An individual with strong athletic identity ascribes great importance to involvement in sport/exercise and is especially attuned to self-perceptions in the athletic domain” (Brewer, Raalte, & Linder, 1993, p. 238). In this study it is operationalized with the Athletic Identity Measurement Scale.
- *Career Development:* “The total constellation of psychological, sociological, education, physical, economic, and chance factors that combine to shape the career of any given individual over the life span” (Sears, 1982, p. 139).
- *Crystallization:* “Crystallization involves formulating a general preference for occupations within a particular field and at a particular level” (Savickas, 1990, p. 376).
- *Football Bowl Subdivision:* There are 120 members in the Football Bowl Subdivision, which “uses the postseason bowl system rather than a playoff to determine a national champion in football. Football Bowl Subdivision members must comply with higher standards for sports sponsorship (the overall program must offer 16 teams rather than the 14 required of other Division I members), football scheduling and overall financial aid” (National Collegiate Athletic Association, 2010b).
- *Identity Foreclosure:*

Identity foreclosure occurs when individuals prematurely make a firm commitment to an occupation or ideology. These individuals have not allowed for an exploration of their internal needs and values; instead they



have been influenced by the demands of their environments and adopted socially accepted role identity. (Petipas, 1978, p. 558)

- *Occupational Engagement*: Occupational engagement is “taking part in behaviors that contribute to the career decision-maker’s fund of information and experience of the larger world, not just the world as processed when a career decision is imminent” (Krieshok, Black, & McKay, 2009, p. 284). In this study it is operationalized with the Occupational Engagement Scale-Student.
- *Vocational Identity*: Vocational identity refers to the “possession of a clear and stable picture of one’s goals, interests, personality, and talents” (Holland, Daiger, & Power, 1980, p. 1). In this study it is operationalized with the Vocational Identity Scale.
- *Year 1*: Year 1 represents when a participant enrolled in his or her first year of college.
- *Year 2*: Year 2 represents when a participant enrolled in his or her second year of college.
- *Year 3*: Year 3 represents when a participant enrolled in his or her third year of college.
- *Year 4*: Year 4 represents when a participant enrolled in his or her fourth year of college.

### **Assumptions**

Student-athletes and non-athletes will answer the survey questions honestly based on appropriate self-assessment. Respondents are a representative sample of student-athletes and generally matched sample of undergraduate students attending one institution that competes in the Football Bowl Subdivision. Courses in the 100s include mostly students in their first years in college. Courses in the 200s are mostly for students in their second years in college. Courses in the 300s are mostly for students in their third years in college. Courses in the 400s are mostly for students in their fourth years in college. While this course numbering system generally describes level of courses, there is considerable overlap of students’ years in college across these courses.

## **Limitations**

One limitation of this study is it will include only student-athletes attending one university competing in the Football Bowl Subdivision. As such, caution should be taken when making interpretations and broad applications about the results of this research. The results may not be applicable for institutions from different National Collegiate Athletic Association divisions or competitive levels. A second limitation is the sample of responding non-athletes enrolled in undergraduate courses can only be generally matched and thus may not be demographically the same by year in college, gender, and ethnicity as for athletes who respond.

## **Significance of Study**

The results of this study will be used to provide statistical evidence regarding whether the career development levels of student-athletes attending one university competing in the Football Bowl Subdivision are comparable to those of non-athletes as determined by the Vocational Identity Scale and Occupational Engagement Scale-Student. Should the results show that student-athletes are behind non-athletes on career development measures, the results could suggest the need to change information and services provided within the athletic department to further the career development of athletes. That is, alternative intervention strategies may be needed to further the career development of student-athletes. Since less than 3% of intercollegiate student-athletes in men's and women's basketball, football, baseball, men's ice hockey, and men's soccer play their sports professionally, it is assumed that athletic academic support personnel might need to better educate student-athletes about career development (athletes in all other sports are unlikely to play their sports professionally). If student-athletes are prepared in terms of vocational identity and occupational engagement, they are more likely to graduate from their institutions knowing their career goals (Holland, Daiger, & Power, 1980),

make appropriate career decisions, and use their time wisely while enrolled in college to become well-rounded individuals who are occupationally engaged (Krieshok, Black, & McKay, 2009).

## Chapter 2

### Review of Literature

There were many time frames in individuals' lives that could be considered important for personal growth with the college years an especially pivotal time. For most, this represented the entrance to adulthood, otherwise known as *emerging adulthood* (Arnett, 2000). Emerging adulthood, ages 18-25, was distinguished from adolescence and young adulthood because it was a time of relative independence from social roles and normative expectations (Arnett, 2000). It was characterized as a time of change and exploration of possible life directions. According to Arnett, emerging adults do not consider themselves entirely as adults nor do they see themselves as adolescents; while they are no longer dependent like adolescents, most do not have the full responsibilities of adulthood. Arnett argued "identity achievement has rarely been reached by the end of high school and that identity development continues through the late teens and the twenties" (p. 473). Emerging adults focused identity explorations in three main areas of love, work, and worldviews.

In terms of work identity exploration, emerging adults were concerned with adult work roles and how current work experiences could propel them into a career throughout adulthood (Arnett, 2000). Work exploration was emphasized since emerging adulthood allowed for experimentation and exploration to learn personal likes, interests, strengths, and weaknesses. As emerging adults matured and became better educated, decisions were made regarding their futures. Academic majors were chosen, changed, and eventually settled upon, and internships were selected. This review of literature will focus on the career development of emerging adults as they enter, progress through, and eventually exit college and begin their initial careers. It will

also describe the assessments used: Athletic Identity Measurement Scale; Vocational Identity Scale; and Occupational Engagement Scale-Student.

### **Career Development**

Parsons, considered the father of career development, created a three-part wise choice model of vocation in 1909. As this was the first formal model of career decision-making, it has been incorporated into many other frameworks throughout career development and decision-making research (Hartung and Blustein, 2002). The three factors of Parsons' wise choice model, which formed the basic elements of the trait-and-factor approach to career development included:

(1) a clear understanding of yourself, your aptitudes, abilities, interests, ambitions, resources, limitations, and their causes; (2) a knowledge of the requirements and conditions of success, advantages and disadvantages, compensation, opportunities, and prospects in different lines of work; (3) true reasoning on the relations of these two groups of facts. (Niles & Harris-Bowlsbey, 2005, p. 5)

Career development is not a new concept; however, the definition has expanded to suggest that it spanned an individual's lifetime. Career development can be defined as the combination of psychological, sociological, education, physical, economic, and chance factors that develop and influence the careers of individuals throughout life (Sears, 1982). Since career development continued throughout life, Buehler's life stages and Super's vocational development tasks for each life stage should be considered. Super described vocational development tasks that were accomplished during each life stage (Savickas, 2002). Vocational tasks were defined as "expectations of behaviors, related directly or indirectly to the world of

work, which society expects its members to manifest at certain periods in their lives” (Sears, 1982, p. 141).

**Life Stages.** Buehler was the first to segment life into stages. After an intensive analysis of life histories, Buehler defined five life stages or segments as the Growth Stage, Exploratory Stage, Establishment Stage, Maintenance Stage, and Decline Stage (as cited in Super, 1957). The age range for each stage varied from person to person depending on individual life experiences, but typically the Growth Stage lasted from birth to age 14. Individuals explored their interests, values, and needs through everyday life of school, work, activities, and travel from ages 15 to 24 in the Exploration Stage. Self-examination was important during the Exploration Stage as individuals figured out what was truly important and thought about future goals. Ideally by the end of this stage, individuals entered into appropriate career fields with their first full-time jobs based on interests and goals. The ages of individuals in the Establishment Stage and the Maintenance Stage ranged from 25 to 44 and 45 to 64 respectively. The Decline Stage covered the remainder of an individual’s life after the age of 65.

College students during the Exploration Stage comprised the sample for this study, making it important to explain the Exploration Stage from a developmental and vocational perspective. Career choice occurred as a progressive process throughout life. However, this literature review will focus on the career choice processes and vocational development tasks that occurred only during a portion of the Exploration Stage. By the time adolescents progressed through college, they have evolved through the Exploration Stage. Ideally, during the Exploration Stage individuals experienced self-examination, tried out various roles, and explored potential occupational interests through schooling, internships, work, and leisure activities (Pietrofesa, 1975).

Buehler's life stages were described from a psychological development perspective. Super found that Buehler's psychological life stages applied to and affected individuals' career development experiences and progression through the five life stages could be facilitated (Pietrofesa & Splete, 1975). Super adapted Buehler's life stages and attached the goal of that stage as the name of the stage: Growth; Exploration; Establishment; Maintenance or Management; and Disengagement (Savickas, 2002). Vocational development tasks for each stage were established. The vocational tasks for the Exploration Stage were orientation, crystallization, specification, and implementation (Savickas, 1990). These tasks, which individuals progressed through to determine what career paths were appropriate, were part of the career choice process (Savickas, 1990). An appropriate career path was one in which the worker possessed the abilities to fulfill job demands and meet personal needs. The career choice process was designed to assist individuals in selection of career paths for which they possessed the abilities to successfully fulfill job demands and reach personal needs and goals. Super described the concept of vocational or career maturity as "the place reached (by an individual) on the continuum of vocational development from exploration to decline" (Super, 1974, p. 25). Reaching vocational or career maturity was a process that lasted the duration of the life stages.

Career orientation occurred when an individual was ready for vocational decision-making through the development of self-esteem, independence, and preparedness. This was the first developmental task because each individual developed personal resources and basic levels of readiness in building the capacity to make appropriate career decisions. During crystallization an individual chose general occupational preferences, within a specific field, based on interests, abilities, values, and needs discovered during the orientation stage. Through specification, an individual narrowed the occupational field and level preferences to realistic choices based on

confidence and comfort with selections made. During implementation the individual prepared for and secured a position in the specified occupation (Savickas, 1990). This process developed from a rational model of career development.

The work of Parsons and rational models of career development were “intimately intertwined with the historical roots of career development” (Niles & Harris-Bowlsbey, 2005, p. 36). The vocational developmental tasks of the Exploration Stage were rooted in Parsons’ model of career development in which the decision-making process was rational and objective and happened consciously. Rational models embraced Parsons’ three-factor model of wise choice and valued “logic, objectivity, and independence” (Hartung & Blustein, 2002, p. 43). However, in the 1990s, a shift in the decision-making process began.

Alternative models of career decision-making based on intuition and “other-than-rational” models (Hartung & Blustein, 2002) were developed. In contrast to rational models, alternative models valued “intuition, emotion, subjectivity, and interdependence...emphasizing the circumstances surrounding the decision-making process” (Hartung & Blustein, 2002, p. 43). Much of the literature, theories, and research focused on career development and decision-making as a rational process (Hartung & Blustein, 2002). The vocational identity scale was built on the rational theory. However, the occupational engagement scale was developed from a combination of both rational and intuitive theories of career decision-making. In one career decision-making was approached from a rational process, while the other approached career decision-making from combining rational and non-rational processes. This study was planned with the past and the future of career decision-making in mind since career development scales from both thought processes were used as described in this literature review.



## **Career Development and College Students**

For many, the college years served a substantive role in career development as a time when choices were made and educational preparation for a career occurred. According to Medalie (1981), the college years have been viewed as a mini-life cycle consisting of different stages during each year beginning with the divestment of childhood ties through investment and exploration into college life during the first year. Second-year students developed interests and formed commitments to future goals based on explorations and often decided upon academic majors. Medalie (1981) argued that by their third years, students were more committed to their academics and career choices and pursued practical work experiences in their chosen fields. Students saw hard academic work pay off by mastering study skills, learning, and attaining internships. Traditionally, students in their fourth years had realistic post-graduation plans either thorough anticipated careers or planned continuation into graduate or professional school. If students followed Medalie's developmental process, they were more likely to have gained the most out of their college education and experiences.

Career development differences have been reported between the genders. Luzzo (1995) found that female college students scored significantly higher than did male students on the attitude scale of the Career Maturity Inventory. Female students also displayed statistically significantly greater decision-making skills than did male students and had higher levels of vocation congruence, meaning vocational interests corresponded with their career aspirations. Through qualitative analysis, Luzzo found that women planned out the process for choosing where to attend college, deciding on a major, and selecting a career path, while men appeared to be more random and unplanned when making such decisions.

## **Career Development and College Student-Athletes**

Finch (2009) found that identities of college athletes were predictors of career decision-making self-efficacy. That is, the more a student-athlete identified with his or her academic identity, the more confidence he or she possessed in the ability to make career decisions. However, something found to interfere with academic identity commitment was role conflict. Role conflict occurred when an individual struggled to find time or energy to support more than one role. Student-athletes may not possess the time, energy, or resources to support both athletic and academic roles. As role conflict occurred between athletic identity and academic identity, research showed athletic identity dominated during student-athletes' first two years of college (Lally & Kerr, 2005; Miller & Kerr, 2002, 2003). When conflicted between the academic role and athletic role, student-athletes tended to choose to devote more time, energy, and resources to the athletic role, sometimes even neglecting the academic role. This was an important decision or choice because it suggested that when student-athletes prioritized athletic identity over student identity, they were less focused on their careers. However, the research results of student-athlete career development studies have been mixed as some studies negatively associated athletics with career development and others found athletics to have no affect on career development (Adler & Adler, 1987; Blann, 1985; Chartrand & Lent, 1987; Finch, 2009; Jaques, 2000; Meyer, 1990).

Research studies have examined multiple aspects of career development including career maturity (Crites, 1971; Crites & Savickas, 1996; Murphy, Petitpas, & Brewer, 1996), vocational identity (Holland, Daiger, & Power, 1980; Leong & Morris, 1989; Lewis & Savickas, 1995; Savickas, 1985), class ranking (Shulman & Bowen, 2001), career decision-making self-efficacy (Brown & Glastetter-Fender, 2000), and student identity among student-athletes (Snyder, 1985) with varied results. Some studies revealed differences, both positive (Chartrand & Lent, 1987;

Meyer, 1990) and negative (Adler & Adler, 1987; Blann, 1985; Kennedy & Dimick, 1987; Murphy, Petitpas, & Brewer, 1996; Sowa & Gressard, 1983) in career development between student-athletes and non-athletes, while others did not find any significant differences (Brown & Hartley, 1998; Finch, 2009; Jaques, 2000). Different studies showed what relationships were found between college student-athletes and measures of career development (Hinkle, 1994; Lally & Kerr, 2005; Marten & Lee, 1998; Miller & Kerr, 2002, 2003; Smallman & Sowa, 1996). Studies that examined student-athletes and career development have focused on the topics of identity formation, athletic identity, identity foreclosure, multi-stage identity focus, explanations for multi-stage identity focus, and gender differences. Each of these will be discussed to gain a deeper understanding of any relationship with or impact on career development. Then the two career development topics and two selected scales, vocational identity and occupational engagement, will be presented.

**Identity formation.** Individuals can form identities or perceptions of themselves in multiple ways. An identity can be defined as a characterization that an individual attributed to himself, or an identity can be based on what others think of that individual in a particular role. Typically identity formation was a combination of personal perception and others' perceptions. Burke and Reitzes (1981) proposed that identity had three elements. First, identity was formed through self-assessment, such as by answering the question, "What do I think of myself"? This could have been based on a particular situation, or "What did I think of myself in that particular situation"? Burke and Reitzes proposed that a person organized specific situations based on level of importance, and these specific situations combined over time to produce "self." Second, since identities have been developed and established through social interactions with others, social encounters were vital to forming a personal identity. Third, interactions with others

helped an individual interpret his or her identity. How others responded to a person's actions formed a portion of that person's identity. Identity can also be an "indicator of the degree of clarity of the picture of one's goals, interests, and talents" (Spokane, 1996, p. 46).

Role identity referred to how an individual perceived himself or herself based on the roles in which he or she participated. The commitment the individual made to a role was based on self-perception. Role identities referred to how individuals saw themselves and commitments made to each role based on this perception. According to Snyder (1985), "The depth, intensity, and continuity of one's identity invested in a role reflect the level of commitment that in turn serves to maintain an adherence to the role—including the expenditure of time, energy, or other valuables to the role" (p. 212). If individuals were committed to their roles, it was shown through the amount of time and energy they devoted to these roles. In the case of student-athletes, if they were intensely invested in the athletic role, it was demonstrated by the amount of time and energy they devoted to their sports. Adler and Adler (1987) reported that individuals did not invest in their identities or roles equally.

During late adolescence, individuals began to develop personal identities as they actively participated in a variety of life experiences, specifically trying multiple areas of interest to see what they enjoyed or disliked. Once numerous options had been explored, individuals needed to choose what was most important and where they wanted to focus their time and energy based on personal values, ideas, skills, and interests discovered during the exploratory stage (Petitpas & Champagne, 1988). Exploring interests and determining personal values comprised the early stages of occupational decisions, which was one reason why the exploratory stage was so vital to career development.

The time and energy demands of participating in intercollegiate athletics may not have provided environments conducive to promote the exploratory stage for student-athletes. Results from National Collegiate Athletic Association (2008) -sponsored research concluded that the athletic commitments of student-athletes “cut into their participation in other campus activities, their ability to work to earn extra spending money and even affected their academic performance.” Brown and Glastetter-Fender (2000) found that an extensive time commitment to sports resulted in decreased career decision-making abilities in Division I student-athletes.

Within Division I, the National Collegiate Athletic Association allows for an institution to hold membership in one of the three subdivisions; Football Bowl Subdivision, (uses a post-season bowl system in football); Football Championship Division, (uses a play-off system in football); or Division I (does not sponsor football teams). The authors (Brown & Glastetter-Fender, 2000) did not identify what subdivision within Division I the student-athletes competed. However, at the time of their research, the National Collegiate Athletic Association used the following divisions: Division I was divided into I-A, I-AA, and I-AAA, which replaced the three subdivisions just described. The authors reported that 56% of Division I student-athletes from three Midwestern universities spent over 30 hours per week on their sports. As these Division I student-athletes dedicated more time to their sports, they had lower levels of career decision-making self-efficacy, which referred to the confidence student-athletes had in personal abilities to make career decisions. According to Petitpas and Champagne (1998), “this need for active questioning and exploratory behavior may not, however, be compatible with an athletic system that promotes conformity and requires such large amounts of physical and psychological time and energy” (p. 455).

For a student-athlete, the individual's role as athlete tended to take center stage with the majority of time and energy available spent committed to athletics. An individual with a strong athletic identity can be described as someone who ascribed "great importance to involvement in sport/exercise and was especially attuned to self-perceptions in the athletic domain" (Brewer, Raalte, & Linder, 1993, p. 238). The next section will further discuss research related to the concept of athletic identity.

**Athletic identity.** Brewer, Van Raalte, and Linder (1993) created the Athletic Identity Measurement Scale to assess the strength and exclusivity to which an individual identified with the role of athlete. According to Cornelius (1995), the construct of athletic identity indicated the degree of identification both behaviorally and psychologically with the role of athlete. While previous instruments measured either the strength of identification with the role of athlete or the exclusivity of the role of athlete, none measured both simultaneously. The Athletic Identity Measurement Scale was designed to measure athletic identity "as a superordinate construct incorporating disparate aspects of sport-specific self-identity" (Brewer & Cornelius, 2001, p. 104).

Brewer, Van Raalte, and Linder (1993) designed the Athletic Identity Measurement Scale to measure the strength and the exclusivity of an individual's identification with the athlete role through a 10-item quantitative inventory. The authors established validity for the Athletic Identity Measurement Scale ranging from .87 to .93 and reliability of .89. Construct validity was demonstrated by showing that mean scores in the Athletic Identity Measurement Scale increased with the level of athletic involvement. So, typically, a competitive athlete should score higher than a recreational athlete who should score higher than a non-athlete.

Within the literature, the Athletic Identity Measurement Scale was associated with positive and negative characteristics. For example, Cornelius (1995) reported that having a stronger athletic identity was associated with having more life management and developmental skills, such as better management of relationships, time, and obligations. This meant a better “ability to structure their lives and to manipulate their environment in ways that allow them to satisfy daily needs and meet responsibilities without extensive direction or support from others” (Cornelius, 1995, p. 569). Student-athletes were found to exhibit good time-management abilities that enabled them to handle the demands of athletics, academics, personal interests, and a social life. As for negative effects, Jaques’ (2000) study of National Collegiate Athletic Association Division I female student-athletes, reported a significant inverse correlation between scores in the Athletic Identity Measurement Scale and measures of career maturity. This meant that female student-athletes with stronger athletic identity had lower scores on all measures of career maturity. Good et al. (1993) found that as the level of athletic identity increased, so did the chance of experiencing identity foreclosure.

The Athletic Identity Measurement Scale was designed to measure self-concept as a multi-dimensional entity. Self-concept was defined as “global conceptions people have of themselves, their abilities, and interests that they express through work, leisure, family, and community roles and activities” (Sears, 1982, p. 141). For example, if individuals did not excel in mathematics, but this specific domain was of little importance to them, it would not affect their self-esteem. But, if individuals perceived knowledge of mathematics as important, and they were unsuccessful in this content area, their lower levels of competence in mathematics would negatively affect their self-esteem. Similarly, if individuals highly valued athletic abilities (had

strong athletic identities) and possessed talent in a chosen sport, this positively and strongly influenced their self-esteem. Cornelius (1995) explained,

people will choose to participate in activities that are consistent with more highly developed and central aspects of their self-concept, and they will be more satisfied with relationships that tend to confirm or validate highly salient dimensions of their self-concept. (p. 561)

Concurrent validity of Athletic Identity Measurement Scale was shown to have moderate correlations with the Physical Self-Perception Profile, Self-Role Scale, and Sport Orientation Questionnaire (Hale, James, & Stambulova, 1999). Concurrent validity is a form of criterion validity that verified the responses from one test predicted performance in another situation or test. Specifically, concurrent validity occurred when the responses on one test were related to performance on other criteria. The Physical Self-Perception Profile was designed to assess perceived bodily attractiveness, sports competence, physical strength, physical conditioning, and physical self-worth (Fox & Corbin, 1989). The Self-Role Scale assessed a college athlete's merger of self with the sport role (Curry & Weiss, 1989). The Sport Orientation Questionnaire assessed three dimensions of sport achievement orientation, competitiveness, win orientation, and goal orientation to determine on which of these an athlete was most focused (Gill & Dziewaltowski, 1988). Because the Athletic Identity Measurement Scale has moderate correlations with each of these instruments, student-athletes' scores on the Athletic Identity Measurement Scale have been used to predict their scores on other instruments.

According to Hale (1995), the Athletic Identity Measurement Scale showed evidence of discriminant validity because it had non-significant correlations with the Rosenberg Self-Esteem Scale, social desirability, perceived sports competence, and sport skill level. The Rosenberg



Self-Esteem Scale was developed in the 1960s to measure self-esteem (Rosenberg, 1989). The three factors of social identity, exclusivity, and negative affectivity accounted for 61.3% of the variance within the Athletic Identity Measurement Scale (Hale, 1995). The internal coefficient alpha for the Athletic Identity Measurement Scale was .80 (Brewer & Cornelius, 2001; Hale, James, & Stambulova, 1999).

Hale (1995) characterized the Athletic Identity Measurement Scale as a multi-dimensional, three-factor scale. First, Social Identity represented the extent to which individuals viewed themselves as athletes. Second, Exclusivity represented the extent to which an individual's self-esteem was determined solely by sport performance. Third, Negative Affectivity represented the extent to which individuals experienced negative effects in response to undesirable outcomes in sport. Hale, James, and Stambulova (1999) examined the multi-dimensional, three-factor scale of the Athletic Identity Measurement Scale. Through a study involving over 1,100 Olympic and intercollegiate athletes from the United States, United Kingdom, and Russia, the authors confirmed the best-fit factorial structure of the Athletic Identity Measurement Scale included these same three factors.

Brewer and Cornelius (2001), based on a sample collected 10 years of over 2,800 male and female athletes from National Collegiate Athletic Association Division I, II, and III institutions reaffirmed Hale's (1995) results proving that athletic identity was a higher-order factor comprised of three highly correlated first-order factors. However, instead of a 10- or 9-item instrument, the authors concluded that only a 7-item Athletic Identity Measurement Scale was necessary for assessing athletic identity in college-age men and women. Using confirmatory factor analytic techniques, the authors concluded that items 6, 7, and 9 should be eliminated from the original 10-item Athletic Identity Measurement Scale. In reference to the new seven-item

version of the Athletic Identity Measurement Scale, items one, two, and three measured social identity, items four and five measured exclusivity, and items six and seven measured negative affectivity.

Due to the results of the Hale, James, and Stambulova (1999) study, using the Athletic Identity Measurement Scale as a one-dimensional concept was called into question since athletic identity was found to be a three-factor construct best measured by a seven-item Athletic Identity Measurement Scale (Brewer & Cornelius, 2001). This was one reason the results of the present study will be valuable, since numerous past studies only used the 10-item version of the Athletic Identity Measurement Scale. The results of this study using the 7-item Athletic Identity Measurement Scale could support prior research that used the previous 10-item version of the Athletic Identity Measurement Scale or contradict past findings.

Some previous research (Brown & Hartley, 1998; Martens & Cox, 2000) did not find a correlation between athletic identity and career development measures. Brown and Hartley (1998) hypothesized they would find an inverse correlation between athletic identity and career development, meaning the greater the athletic identities, the lower athletes' levels of career maturity. However, the results of their study indicated that career maturity was not correlated with level of athletic identity. The participants of Brown and Harley's study included male football and basketball student-athletes at Division I and II institutions. In another study, Martens and Cox (2000) found no correlation between athletic identity and career development as measured by the Vocational Identity scale of the My Vocational Situation, which assesses vocational identity. Their participants included male and female student-athletes and non-athletes at a large Midwestern university. Murphy, Petitpas, and Brewer (1996), who studied

male and female National Collegiate Athletic Association Division I student-athletes, found that athletic identity was inversely related to career maturity.

In summary, Athletic Identity Measurement Scale uses a seven-question Likert scale to measure how strongly an individual relates to the athlete role by assessing three factors: social identity; exclusivity; and negative affectivity. Previous studies had not found a correlation between athletic identity and career development measures. This study explored whether there were differences between athletic identity, as measured by the seven-item Athletic Identity Measurement Scale and two career development measures as assessed by the Vocational Identity scale and Occupational Engagement Scale-Student. The following section will discuss the concept of identity foreclosure, which student-athletes may be prone to experience because of their athletic identity and time commitment to their sports (Petitpas & Champagne, 1988) as it related to delayed career development.

**Identity foreclosure.** Identity foreclosure occurred when individuals prematurely made firm commitments to occupations or ideologies without exploring internal needs and values. These individuals accepted or committed to roles that best suited them based on the environment and what was socially accepted without exploring their needs or values (Petitpas, 1978). This was easy for a student-athlete to do because of the devotion and time commitment dedicated to a sport. In 1989, 97% of the male student-athletes who played football, basketball, and ice hockey at Football Bowl Subdivision public universities were recruited. According to Petitpas (1978), peers, community members, and social circles typically viewed athletes uni-dimensionally, regardless of what other things athletes valued or were good at, including academics. These athletes viewed themselves as athletes first with other interests secondary. According to Petitpas and Champagne (1988), “Being a successful athlete in high school is a prime way of developing

a sense of industry and is seen by many as more important than academic achievement” (p. 454). Brown and Glastetter-Fender (2000) found a negative relationship existed between identity foreclosure and career decision-making self-efficacy in male and female student-athletes attending institutions competing in the Football Bowl Subdivision, thus suggesting that student-athletes who did not experience identity foreclosure had more confidence in their career decision-making abilities. However, other studies reported no significant relationship between athletic identity and identity foreclosure (Brown & Glastetter-Fender, 2000; Finch, 2009) suggesting that a strong commitment to the athletic role did not lead to identity foreclosure.

Murphy, Petitpas, and Brewer (1996) found a negative correlation between identity foreclosure and career development in male and female student-athletes attending institutions that competed in the Football Bowl Subdivision. That is, if male and female student-athletes in Football Bowl Subdivision institutions experienced identity foreclosure, they had lower levels of career development. These authors also found an inverse relationship existed between athletic identity and career development. The more intensely male and female student-athletes attending institutions competing in the Football Bowl Subdivision related to their athletic identities, the lower their career development levels.

In another study focusing on identity foreclosure, Adler and Adler (1987) found that male basketball players entered college with the plan of focusing on three roles, athletic, academic, and social. Their study focused on male basketball student-athletes at an athletically successful, medium-size private university with demanding academic standards. While the stereotypical view was that student-athletes were only concerned about athletics, many of the basketball players had intentions to focus on academics. They entered college to play sports and earn college degrees to better prepare for future employment. Many of the basketball players had

high hopes for their academic studies and planned to major in challenging or difficult academic programs in the fields of business, engineering, arts, or one of the sciences. While the original message the male basketball student-athletes received from the coaching staff supported pursuing and balancing multiple roles, these male basketball student-athletes quickly learned that was not a feasible option. Instead, the time commitment necessary for success in the athletic role quickly dominated time and focus, as academics and socializing became lesser important concerns (Adler & Adler, 1987). Shulman and Bowen (2001) found the class ranking of male and female student-athletes declined as Division I-A (today's Football Bowl Subdivision), Ivy League, and Division III student-athletes increasingly ranked in the bottom third of their classes thus emphasizing the dominance of time, focus, and importance placed on the athletic role.

Athletic role salience, when the athlete role was prominent and took precedence over other potential roles, was further solidified by the way male basketball student-athletes were perceived by peers and professors. Regardless of where male basketball student-athletes were observed or what they were doing, they were viewed in their primary roles as athletes (Adler & Adler, 1987). Society judged individuals' actions to see if they fit or were appropriate for the identities people had of them (Burke & Reitzes, 1981). Often for student-athletes that meant their actions were judged as appropriate or inappropriate based on how the actions fit with their roles as athletes.

The stereotypical view has been that student-athletes were most focused and concerned with athletic performance and did not take their studies seriously, (i.e., academic achievement was not their number one priority). Because of the perception as proposed by Burke and Reitzes (1981) that an individual's actions were judged by society based on if the actions were seen as appropriate for this individual's perceived role by others, student-athletes were pre-judged by

others as being concerned primarily with athletics. When student-athletes attempted to prioritize academics over athletics, their peers and others saw this as inconsistent with the role of athlete. This inconsistency was further compounded when student-athletes associated primarily with other student-athletes. Due to the time commitment involved in competing in sports in the Football Bowl Subdivision, most of student-athletes' time was spent with teammates and other student-athletes, often leading to athletic role salience. Because of the time commitment dedicated to sport participation and athletic role salience, academics typically became even less important, and athletics remained the primary focus. This was one suggested example of how student-athletes attending institutions competing in the Football Bowl Subdivision accepted their roles as athletes, which, without the exploration of other interests and options, often led to identity foreclosure.

Bowen and Levin (2003), based on their study of male and female student-athletes attending Ivy League and Division III institutions, discussed how easily it was for student-athletes to experience identity foreclosure by associating primarily with other student-athletes. This implied that a separate athletic culture can lead to identity foreclosure.

Athletes tend...to spend large amounts of time together even outside of the formal demands of membership on a team, to limit extracurricular activity to their sport, and to live with other athletes—evidence that points to the existence of a separate athletic “culture.” (p. 327)

In summary, identity foreclosure happened when individuals accepted roles prematurely without exploring internal needs and values. Overall, student-athletes were prone to experience identity foreclosure because of the time demands involved in participating in intercollegiate sports, peer and society perceptions that they were

concerned primarily with athletic roles as opposed to academic roles, and associations primarily with other athletes outside of a sport setting. The next section presents research showing how student-athletes may change as they experienced multiple stages of role focus throughout their college years.

**Multi-stage identity focus.** Student-athletes have been found to realign athletic and academic roles throughout the college years (Miller & Kerr, 2002). Miller and Kerr (2003) conducted a follow-up study to their previous research involving Canadian student-athletes, which revealed that the lives of student-athletes revolved around three central spheres: athletic; academic; and social. These authors found that male and female Canadian student-athletes participating in basketball, volleyball, track and field, and swimming went through two stages of identity formation while in college. When the student-athletes began college, they were in *Stage 1: Over-identification with the athlete role*. In this period student-athletes had a singular focus on athletics, which dominated their lives and came at a cost as exploration of other interests diminished or were never begun. As stated previously, exploration of interests was a key vocational development task during the Exploration Stage. Failure to explore alternative interests often led to identity foreclosure. During the first period of the *Over-identification with the athlete role*, student-athletes invested very little time and interest in their academic work as their sports and commitments to their athlete identity consumed their time and efforts. During the second period of *Over-identification with the athlete role*, student-athletes began to focus on academics and increased their commitment to their studies. While student-athletes were still fully committed to and gained most of their sense of self from the athletic role, they were able to balance their time better between athletics and academics. It was during this stage (second and third years of college) that some student-athletes changed their academic majors.

In *Stage 2: Deferred role experimentation*, student-athletes shifted their primary focus from their athletic roles to academic roles. The student-athletes in Miller and Kerr's (2003) study showed declining interest in their athletic roles as they transferred priorities to academics and preparation for future careers. While the time devoted to athletics did not drastically decrease, the psychological and mental commitment to sports decreased as the vast majority of student-athletes accepted that their athletic careers were nearing an end since they would not become professional athletes. They devoted more time to their academic roles in an attempt to improve their grades. They also began preparing for their futures of continuing their studies into graduate school or focusing on a career. Other studies (Blann, 1985; Lally & Kerr, 2005; Miller & Kerr, 2002, 2003) supported this two-stage theory. Blann (1985) found that male freshmen and sophomore student-athletes scored significantly lower than did non-athletes on measures of educational and career plans. However, as juniors and seniors there were no significant differences between student-athletes and non-athletes on measures of educational and career plans.

Lally and Kerr (2005), using in-depth interviews with male and female student-athletes from a large Canadian university, found student-athletes had a very different identity focus during their first two to three years compared with the final year of college. During the *Early career plans* (years one through three), student-athletes were unsure of their academic futures, had hopes of post-college athletic careers, and found themselves fully committed to their athletic identities with a lack of investment in academic identity. Consistent with Adler and Adler's (1987) findings, student-athletes in the *Early career plans* stage defined themselves by athletic roles and had strong relationships with teammates and coaches.



A shift in roles took place prior to the student-athletes' final year or two of eligibility when they began to increase focus on academics and career plans (Lally & Kerr, 2005). During the *Late career plans* phase (last year or two of college), student-athletes acknowledged that their athletic careers would end with college. They also realized that because of their athletic role salience, their academic performance typically had suffered. Student-athletes changed from being fully committed to their athletic identities to devoting more time to academic work; some attempted to make up for previous academic shortcomings. According to Lally and Kerr (2005), while student-athletes maintained a strong commitment to their athletic roles, it was no longer exclusive or so strongly prioritized. With increased investment in their studies, student-athletes expanded their social networks and included more peers from their academic programs (Lally & Kerr, 2005).

In summary, multiple authors found that student-athletes appeared to make a transition from a role identity primarily concerned with sports in their first two or three years of college to a role identity shared between sport and academics by their last year or two of college. The next section will present some explanations why student-athletes tended to experience multi-stages of identity focus.

**Explanations for multi-stage identity focus.** As previously discussed, some research (Blann, 1985; Lally & Kerr, 2005; Miller & Kerr, 2002, 2003) found that student-athletes experienced multiple stages of career development or identity focus throughout their college years. In this section some reasons for apparent delayed career development of student-athletes will be presented. Snyder (1985) offered several explanations why some student-athletes may not have been focused on their student identity as much as their athletic identity. Some student-athletes were placed by coaches or academic support services staff in less time-consuming or less

challenging classes to help them maintain the minimum grade point average required for athletic eligibility. Some professors gave preferential treatment to student-athletes, which may have contributed to false student identities. That is, if student-athletes were given undeserved grades, they may have thought they performed better academically than they actually had. If unfairly rewarded for poor academic performance, student-athletes could have thought that minimal academic engagement was sufficient for all courses and little effort could produce positive academic outcomes leading to a false student identity. Sometimes the positive qualities associated with athletics, such as hard work, determination, and success, did not transfer to the classroom. This transfer may not have occurred for a variety of reasons. Student-athletes may not have seen the benefit in succeeding in their academic work if they believed athletic talent was the key to success; or, student-athletes might not have learned how to apply skills like hard work and determination to academics. In addition, if student-athletes had unrealistic professional athletic career plans, this could have reduced the importance or effort placed on their academic roles.

Chartrand and Lent (1987) found that as student-athletes' commitment to the athletic role increased, their abilities to make career decisions were restricted because they failed to pursue alternative interests or explore other options. This could have happened because a strong commitment to the athletic role led to an increase in time allocated to it, which left little time, effort, or energy to pursue other interests. In addition, personnel working in athletic departments whose teams competed in the Football Bowl Subdivision may have provided student-athletes so much assistance that athletes did not have to think and do things for themselves (Remer, Tongate, & Watson, 1978). Student-athletes may have had people to remind them about assignments, tutors to explain confusing concepts from classes, academic advisors to schedule

their courses, and someone to check to ensure they attended classes. These reasons may have contributed to a delayed development of mature decision-making skills for student-athletes.

Marten and Lee (1998) suggested time, structure, athletic identity, and sport commitment as reasons why student-athletes had lower levels of career development or delayed career development. As previously discussed, student-athletes devoted a large amount of time to individual and team skill development and performances. In addition, student-athletes' lives were more structured than the typical college student's life. Structure referred to the amount of conformity and dependence on athletic department personnel encouraged by the athletic system. Because coaches required so much dedication of time, this led to student-athletes falling behind in career development as Sowa and Gressard discovered (1983) in a study of varsity athletes at a large university. These authors found significant differences between student-athletes and non-athletes in educational plans, career plans, and mature relationships with peers. Commitment to athletic identity led to decreased dedication to other roles such as academic or social; premature sport commitment before other interests were explored led to identity foreclosure. As a result, most student-athletes were not as integrated into campus culture as other students were.

Career decisions by athletes were often postponed or neglected completely until participation in sports neared an end (Hinkle, 1994). Many student-athletes began their collegiate careers with dreams of turning professional and continuing sport participation. Often, as a student-athlete proceeded through college, he or she realized how unrealistic a professional athlete career was and began to shift focus toward academics and prepare for a more realistic career. During student-athletes' final one or two years in college, they readjusted their athletic and academic goals and became less willing to make sacrifices solely for athletics and were more concerned with academic success and career preparation (Miller & Kerr, 2002).

This section presented multiple reasons why student-athletes may have experienced delayed career development or progressed through multiple stages of role identity throughout the college years. The main reasons leading to delayed career development were lack of time to devote to activities other than sports, extensive assistance from academic support services personnel, realization that participation in professional sports was not a career option, and identity foreclosure. Because more opportunities in professional sports have existed and been the aspiration of male student-athletes, the following section will focus on career development differences found between male and female student-athletes.

**Gender differences.** While Hale (1995) did not find significant gender differences on Athletic Identity Measurement Scale scores, Brewer and Cornelius (2001) found that the mean scores for males were significantly higher than the mean scores for females on the Athletic Identity Measurement Scale. The sample in the Brewer and Cornelius study included athletes and non-athletes; however, non-athletes only accounted for 18.5% of the total sample size.

Meyer (1990) replicated Adler and Adler's 1987 study with male college basketball players with female athletes participating in multiple team sports. While Adler and Adler concluded that male student-athletes in basketball were behind non-athletes in career development measures, Meyer's results with female team sport athletes were much more positive. Meyer found female team sport athletes were encouraged to focus and succeed in academics and received equal praise for athletic and academic achievements. This author also found that female team sport athletes demonstrated an increased commitment to academics throughout college and affirmed that being an athlete helped them obtain an education and taught them greater self-discipline. Female team sport athletes were able to transfer the self-discipline learned from athletics to the classroom, which benefited their academic work. They claimed that

since sport participation consumed a large amount of their time, when spare time was available they were disciplined and focused on academics. Murphy, Petitpas, and Brewer (1996) found that female student-athletes scored significantly higher than did male student-athletes on career maturity. In addition, male non-revenue-producing sport athletes scored higher than did male revenue-producing sport athletes. However, there also have been studies that found no differences between the genders or between female student-athletes and female non-athletes. For example, Sowa and Gressard (1983) found no significant differences between male and female student-athletes regarding educational plans, career plans, and mature relationships with peers.

In summary, some differences have been found regarding the support and encouragement female student-athletes received for academics compared to male student-athletes (Adler & Adler, 1987; Meyer, 1990), while other researchers found no differences between the genders on measures of career development (Sowa & Gressard, 1983). Another study (Murphy, Petitpas, & Brewer, 1996) found female student-athletes measured higher on career development skills than did male student-athletes. No studies found that male student-athletes measured higher on career development than female student-athletes.

The following sections will focus on the development and past research of the two career development scales used in the present study: Vocational Identity scale and Occupational Engagement Scale-Student. The Vocational Identity scale of the My Vocational Situation was selected for use because it has been proven a valid and reliable instrument for measuring the content-oriented portion of the career decision process. It also has been used extensively in research studies and has been used commonly with college students. The Occupational Engagement Scale-Student also has been proven reliable and valid. However, it is a relatively new instrument and has not yet been used with student-athletes. The Vocational Identity Scale

focuses on the career decision-making process being rational, while the Occupational Engagement Scale-Student assesses decisions made from combination of rational and non-conscious perspectives. They are presented in order of development. The next section will discuss the development and research related to Vocational Identity scale of the My Vocational Situation.

### **Vocational Identity**

Career development has been described as a lifelong process consisting of four primary phases: (1) development of appropriate work-related behaviors; (2) development of vocational identity; (3) development of effective career decision-making; and (4) development of the ability to find an appropriate job (Strauser, Lustig, & Ciftci, 2008). The Vocational Identity, a sub-scale of the My Vocational Situation created by Holland, Daiger, and Power in 1980, measured the second stage of career development, the development of vocational identity. An individual with a strong vocational identity had “a clear and stable picture of one’s goals, interests, personality, and talents” (Holland, Daiger, & Power, 1980, p. 1). The possession of a strong Vocational Identity led to confidence in the ability to make good decisions and less trouble in making career decisions, according to these authors. The My Vocational Situation was developed based on counseling theory, indecision literature, and experimental studies in an attempt to determine if career decision difficulties were caused by vocational identity problems, lack of information, lack of training, environmental barriers, or personal barriers (Holland, Daiger, & Power, 1980). The questions in the My Vocational Situation were derived from two correlating scales, the Vocational Decision-Making Difficulty scale and the Identity Scale (Holland, Daiger & Power, 1980). The items in the My Vocational Situation were designed to measure identity and the need

for occupational information. Numerous tests conducted by these authors provided support for the construct validity of the My Vocational Situation by the following measures:

The construct validity of the My Vocational Situation scales lies in the origins of the items, the scale development, and the analyses performed to test multiple hypotheses about the relation of vocational identity to age, educational level, vocational aspirations, external ratings, and other criteria. (Holland, Daiger, & Power, 1980, p. 4)

Since its development, the My Vocational Situation had been used in numerous vocational studies and linked with many positive characteristics. Holland, Johnston, and Asama (1993) compiled a summary of the research that used the My Vocational Situation. These authors found that use of the My Vocational Situation had been reported in over 50 published studies involving primarily college students and adults, which linked the Vocational Identity scale to many positive characteristics including vocational attitudes, vocational commitment, desirable career beliefs, desirable problem solving attitudes, and rational career decision-making styles. Nauta (2010) added that vocational identity was associated with occupational commitment, life satisfaction, well-being and adjustment, and career decision-making self-efficacy readiness.

My Vocational Situation consisted of three sections, an 18-item Vocational Identity scale, a 4-item Occupational Information scale, and a 4-item Barriers scale. Possessing a strong vocational identity led to confidence in career decisions and less trouble in making career decisions and had the highest measure of internal consistency among the subscales of the My Vocational Situation (Holland, Daiger, & Power, 1980). The Occupational Information scale and Barriers scale had low measures of reliability ( $r = .14$  and  $r = .36$  respectively) and were

more appropriate for career counselors to use with clients in one-on-one settings and resembled checklists more than scales (Holland, Daiger, & Power, 1980). Another reason why only the Vocational Identity scale of the My Vocational Situation was chosen for this study was because normal distribution was found for the Vocational Identity scores of first-year college students, while the distribution was skewed on the Occupational Information and Barriers scales (Lucas, Gysbers, Buescher, & Heppner, 1988). The Vocational Identity scale positively correlated with age and training or education (Holland, Daiger, & Power, 1980). One point was accumulated for each “false” response for a maximum of 18 points on the Vocational Identity scale. A higher score indicated greater stability, showed clarity of vocational development, and indicated an individual was well-organized, self-confident, and competent to handle life situations (Savickas, 1985). One would expect individuals who progressed through college and individuals with more specialized training or education to have stronger vocational identities.

Holland, Daiger, and Power (1980) reported the Vocational Identity scale had internal consistency reliability coefficients ranging from .86 to .89. When specifically using the Vocational Identity scale with college students, internal consistency reliability ranged from .84 to .94 (Holland, Johnston, & Asama, 1993; Lewis & Savickas, 1995; Strauser, Lustig, & Ciftici, 2008). Savickas (1985) provided support for the construct validity of the Vocational Identity scale when he found Vocational Identity had a moderate association with the degree of vocational development and ego-identity achievement since “students who had a clear picture of their vocational goals, abilities, and talents also were dealing with tasks further along the continuum of vocational development and had made more progress in ego-identity achievement” (p. 334). Identity and vocation were distinct components: the Vocational Identity scale included questions about identity and vocation, thus giving it construct validity since the scale actually



measured what it was created to measure. Test-retest reliability for the My Vocational Situation was .75 over time periods of 1 to 3 months (Holland, Johnston, & Asama, 1993), which fell in the middle of the test-retest range of .62 to .84 found in 5 samples with interval ranges of 2 weeks to 1 year (Holland, 1997).

Lewis and Savickas (1995) found that Vocational Identity scale scores of college students were significantly positively correlated to academic year in college since as students progressed through college their Vocational Identity scores increased. In terms of gender, Savickas (1985) found that college females ages 17 to 20 scored significantly higher than did college males of the same ages on the Vocational Identity scale. However, another study found no differences between genders on the Vocational Identity scale (Holland, Johnston, & Asama, 1993). These authors determined that students who scored high on the Vocational Identity scale were vocationally mature, had constructive beliefs about career decision-making, were interpersonally competent, conscientious, responsible, and hopeful, did not have disabling psychological problems, and had a clear sense of identity. In contrast, the authors found students with low scores tended to suffer from psychological problems, had low self-esteem, lacked identity, experienced hopelessness, and were poor problem-solvers, neurotic, and dependent. In addition, Holland (1997) stated that the Vocational Identity scale was significantly positively correlated with self-esteem, career self-efficacy, and career decision-making self-efficacy. The Vocational Identity scale was negatively correlated with trait anxiety and career decision needs.

Martens and Cox (2000) found a significant difference between male and female student-athletes and non-athletes at a large Midwestern university on career development measures. Non-athletes scored significantly higher than did student-athletes on vocational identity;

however, it should be noted these significant differences were small. Non-athletes also had a statistically significant stronger vocational identity than did student-athletes.

To summarize, the Vocational Identity scale measured how clear and stable an individual's picture of his or her vocational future was. The Vocational Identity can be used to measure indecision and difficulties involved in the content portion of the career choice process. The Vocational Identity scale was positively correlated with career maturity (Leong & Morris, 1989). The more an individual identified with his or her vocational goals, the more career mature the individual was. The Vocational Identity measured the content-oriented portion of the career choice process. It was based on Parsons' wise choice model based on career decision-making being a rational and conscious process. The following section introduces a relatively new instrument in career development, the Occupational Engagement Scale-Student, which was predicated on the theory that decision-making was a combination of conscious and experiential processes.

### **Occupational Engagement**

Vocational identity was rooted in the early theories of vocational psychology, particularly those of Parsons that led to the trait-factor theory and the more contemporary person-environment theory of Holland. At the core of these two instruments was the rationale that individuals fit some occupational interests better than others, based on their interests, values, and personality. As previously discussed, these constructs had value in the area of career decision-making and have been used to assist career counselors in diagnosing and helping clients with career decisions. Niles and Harris-Bowlsbey (2005) agreed with a career development prediction made by Bingham and Ward (1994) when they suggested that vocational counseling grew out of changing demographics and economic needs. That is, career counseling must

change in response to evolving needs in the coming century. In the past, employees developed skills and abilities while they worked for one company for the duration of their life-long careers. Just as employees were loyal to their employers, employers were loyal to their employees. In the current work environment, workers have found themselves changing careers and jobs multiple times throughout their working years.

Savickas (2000) summarized the changes in career patterns in the United States by examining agrarian, urban, and global economies. The agrarian economy centered on family. Overall, farming dominated, but regardless of the vocation, extended families nurtured children who continued the family business. With industrialization, the urban economy reigned as cities developed, and children pursued a plethora of career options. Education became more popular and important as did relocating away from family for a career based on interests and academic degrees attained. Career paths were stable as the trend was to start early with a company and advance into higher positions within the same company throughout life. However, the present-day economy has been categorized as the global economy with changes endlessly creating variable career paths. Gone were the days of an unchanging career path and lifetime employment with a single company. Companies expanded, downsized, and relocated for economic reasons, moved overseas for less expensive labor, and replaced human workers with technology. According to Savickas (2000), “given this transformation in society and its occupations, life-time employment must become life-time employability” (p. 57).

Individuals had to adapt to changes in their careers and prepare for occupational transitions involving exiting one occupation and finding and beginning a new occupation. In congruence with transformations in the work environment, some theorists suggested that the career decision-making process also needed reexamination. Rooted in social and cognitive

psychology literature on decision-making, one construct for measuring the occupational engagement of students was developed by Krieshok, Black, and McKay. Occupational engagement was a constant process defined as “taking part in behaviors that contribute to the career decision-maker’s fund of information and experience of the larger world, not just the world as processed when a career decision was imminent” (2009, p. 284).

The decision-making process was not as rational as once perceived (Krieshok, 1998). Instead Krieshok concluded, “most processing performed by the human mind for decision making and behavior initiation was not performed at the conscious level, and that reflection on those decision-making processes was not only futile, but possibly confusing and detrimental to good decisions” (p. 217). Based on the premise that decision-making was not solely a conscious process, Bubany, Krieshok, Black, and McKay (2008) summarized the anti-introspectivist view of career decision-making:

Alternative models were thought to be more descriptive of the true nature of decision making by tending to value intuition, emotion, subjectivity, and interdependence. By and large, nonrational models also share an emphasis on coping with ambiguity and uncertainty, as well as on the continual accumulation of work-related experiences. By emphasizing the accumulation of information and experience, these models can be described as being experiential or empirical in nature. (p. 179)

As researchers continued to explore intuitive decision-making, new theories developed. One theory that described the distinctions between rational and intuitive decision-making was Epstein’s cognitive-experiential self-theory (Epstein, 1994). The cognitive-experiential self-theory involved an experiential system and a rational system that interacted to process

information. The rational system worked consciously to objectively process logical information and required a significant amount of energy to use compared to the experiential system that worked unconsciously to encode and process information to form self-evident conclusions. In contrast to the rational system, the experiential system required less energy to use because it was driven by emotional experiences and happened automatically. Epstein (1994) described the natural process of the experiential system in the following way:

This new unconscious, sometimes referred to as the cognitive unconscious, is a fundamentally adaptive system that automatically, effortlessly, and intuitively organizes experience and directs behavior...the new concept holds that most information processing occurs automatically and effortlessly outside of awareness because that is its natural mode of operation, a mode that is far more efficient than conscious, deliberative thinking. (p. 710)

Therefore, based on the cognitive-experiential self-theory, when decisions were made, people used the experiential system first followed by the rational system as determined by the situation (Krieshok, Black, & McKay, 2009). Bubany et al. (2008) found that college students' perceptions of career decision-making were consistent with alternative or unconscious models of career decision-making. Results of their qualitative study revealed that college students valued intuition, experience, interdependence, and emotions when making career decisions, all of which described unconscious models of career decision-making. The Occupational Engagement Scale-Student measured occupational engagement.

Krieshok, Black, and McKay (2009) developed the trilateral model of adaptive career decision-making based on a review of empirical research, which suggested the decision-making process was not an exclusively rational process. Instead, consistent with cognitive-experiential

self-theory, the trilateral model proposed that two modes (i.e., rational and experiential; in other words, conscious and unconscious) of processing were used in the decision-making process. Occupational engagement supported and influenced decisions because it was the base of the triangular model. Occupational engagement was the foundation of the trilateral model because while “reason and intuition play critical roles in career decision making, they both depended on occupational engagement as the behavioral tool leading to their full development and optimal tuning” (Krieshok, Black, & McKay, 2009, p. 284). Adaptive career decision-making referred to enhanced decision making through the accumulation of information (reason), experience (intuition), and engagement (Krieshok, Black, & McKay, 2009). These authors stated that students needed to learn to think and experience in more intentional ways to gain the maximum knowledge to use when making decisions. Adaptive career decision-makers added to their experience, even when not faced with career decisions, so that when career decisions were faced, they would have more experience leading to better use of intuition and reason.

Krieshok, Black, and McKay (2009) described someone who was an adaptive decision-maker in this way:

- (a) is persistently engaged, accepting that career decision making was an enduring process and that vocational security was illusory,
- (b) does not rely exclusively on innate talents, but rather seeks to compensate for deficits to become a competent generalist,
- (c) is wary of specialization and how it can narrow vocational options,
- (d) is a life-long learner and integrates new knowledge with what he or she already knows,

- (e) cultivates a sense of foresight in respect to trends in the field as a result of persistent occupational engagement, learning, and the integration of new knowledge,
  - (f) is never completely foreclosed,
  - (g) is flexible and willing to act despite fears,
  - (h) regularly questions his or her perceptions of the vocational reality with which he or she is faced,
  - (i) is aware of the limits of reason and intuition and seeks to manage biases and heuristics, and
  - (j) has an existential/zen outlook that affords numerous advantages, including an essential trust in the universe that allows him or her to see beyond appearances and transform seemingly threatening problems into opportunities.
- (p. 285)

The Occupational Engagement Scale-Student correlated positively with the Vocational Identity scale ( $r = .22$ ) as well as other scales that measured desired traits such as openness to experience, extraversion, and conscientiousness (Krieschok, Black, & McKay, 2009). A study by Black (2006), in which the earlier Occupational Engagement Scale for college students was used, found that occupational engagement correlated positively with rational and intuitive thinking styles, Vocational Identity, openness, conscientiousness, extraversion, and agreeableness. Cox (2008) supported the argument that occupational engagement was important to college students when he found that occupational engagement significantly related to specific measures of college success, grade point average, and personal development. Cox also found that students were more likely to have greater satisfaction with life if they were occupationally engaged.

The Occupational Engagement Scale-Student was a 14-item scale consisting of items that reflected enrichment and exploration. It used a four-point Likert scale ranging from “Not at all like me” to “Very much like me.” The higher the score, the greater occupational engagement a student had. The Occupational Engagement Scale-Student was found to be a psychometrically sound measure of occupational engagement with face validity and initial reliability of .85 (Cox, 2008). Content validity was supported with extensive testing of each item included in the Occupational Engagement Scale-Student to determine if each question fit with the construct and measured the construct. The coefficient alpha was .85 for the Occupational Engagement Scale-Student (Cox, 2008). Sophomores, juniors, and seniors were found to have similar occupational engagement scores but significantly higher occupational engagement scores than did first-year college students (Cox, 2008). Cox also found that students of the same age who were occupationally engaged were more likely to have higher vocational identity. He found no significant difference in occupational engagement between the genders.

In conclusion, a shift in vocational psychology has occurred in the decision-making process. When Krieshok (1998) reviewed the empirical literature of cognitive and experimental social psychology, he found the earliest discussion of non-conscious decision-making occurred in 1967. Since then, some theorists no longer considered it strictly a rational process. Instead, the process of making decisions was thought to include an unconscious process where decisions were made intuitively based on past experiences. Occupational engagement resulted from participating in behaviors that contributed to the information and experience of individuals so there would be enough prior knowledge available for use when the time came to make career decisions.



## Summary of Literature Review

This review of literature presented information on the following topics: career development; career development and college students; career development and college student-athletes; identity formation; athletic identity; identity foreclosure; multiple stage identity focus; explanations for multiple stage identity focus; gender differences; vocational identity; and occupational engagement. Career orientation, crystallization, specification, and implementation were identified as the vocational developmental tasks completed as an individual progressed through the career choice process. This typically took place throughout the college years as individuals moved through the exploration stage of Super's life stages. The college years were viewed as a mini-life cycle consisting of four stages: investment; exploration; commitments to academics, career, and personal relationships; and anticipated entry into the working world.

Identity formation was comprised of a combination of self-perception and the perception of others. Individuals began developing personal identities during the Exploration Stage by exploring multiple areas of interest to determine what values, ideas, skills, and interests were most important. Athletic identity was a self-concept that referred to how an individual related to an athletic role and was comprised of three factors: social identity; exclusivity; and negative affectivity that could be measured by the 7-item Athletic Identity Measurement Scale. The Athletic Identity Measurement Scale was used to see if there was a correlation between athletic identity and career development. In past studies males were found to have stronger athletic identities than did females.

Identity foreclosure occurred when individuals prematurely made a commitment to roles without exploring internal needs or values. Student-athletes were prone to experience identity foreclosure because of early athletic success or talent as they often committed to the role of

athlete and seldom explored other potential interests. Due to dreams of playing professional sports, many student-athletes failed to pursue other interests until later in college when they realized those dreams would not become realities. Another reason for identity foreclosure occurred when student-athletes only associated with or spent the dominant portion of time engaged in sports and with teammates.

Research pointed to a multi-stage identity role focus or career development in student-athletes. Student-athletes tended to focus on the athletic role their first two years of college and neglected or spent less time on their academic roles. As student-athletes progressed to their final year or two of college, for many the focus adjusted and more time was spent on academics and career preparation. This could have happened for a variety of reasons. Some researchers thought academic support services personnel were too controlling with student-athletes' time and lives. For example, a coach or academic advisor may have selected what courses a student-athlete took or discouraged a student-athlete from a specific major if courses interfered with practice times or sport commitments. Lack of free time also may have limited a student-athlete's career development. Often student-athletes considered themselves athletes first and students second. Individuals did not invest their identity or self-involvement in all roles equally.

Despite the research on the career development of student-athletes, differing results have suggested the need for the current study. Numerous studies revealed negative significant differences in career development between student-athletes and non-athletes. Yet other studies did not report career development differences between student-athletes and non-athletes. While the findings of previous career development studies of student-athletes differed in their findings, one consistency throughout numerous studies appeared to be the growth of student-athletes' career development later in the college years as commitment to the athletic role decreased or

commitment to the academic role increased. Findings on a correlation between athletic identity and career development measures also varied. A few studies reported correlations between Athletic Identity Measurement Scale and career development measures, while other researchers suggested an inverse relationship existed. The combination of scales used in this study allowed for more diverse discussions and implications since the scales involved two different processes for making decisions.

The My Vocational Situation assessed individuals' perceptions on the latter stages of the career choice process. By using the My Vocational Situation, distinctive difficulties of the career choice process will be measured between student-athletes and non-athletes allowing for a better analysis and opportunity to specify where potential interventions or more assistance could be beneficial. Only the Vocational Identity scale will be used from the My Vocational Situation because a strong Vocational Identity was found to lead to confidence in career decisions and less trouble making career decisions and had the highest measure of internal consistency (Holland, Daiger, & Power, 1980). The Vocational Identity scale of the My Vocational Situation examined the career decision-making process from a rational decision-making perspective. However, recent literature pointed to a shift in the decision-making process from rational toward unconscious. The Occupational Engagement Scale-Student examined career development from a combination of rational and unconscious perspectives. By using the two instruments, a variety of perspectives of career development will be examined.

The purpose of the current study was to examine the relationship between athletic identity and career identity in student-athletes in comparison with non-athletes, between genders, between each year in college, and between two sets of years in college using multiple instruments. Specifically, the present study compared student-athletes and non-athletes and

examined if relationships existed between athletic identity and two measures of career development: the Vocational Identity scale of the My Vocational Situation and Occupational Engagement Scale-Student.

## Chapter 3

### Method

#### Participants

This research studied student-athletes and non-athletes attending 1 of the 120 Football Bowl Subdivision member institutions in the National Collegiate Athletic Association. To gain insight into the career development of student-athletes and non-athletes, it was essential to gain the support of Student-Athlete Support Services within the Department of Athletics for assistance in soliciting participation from student-athletes. Approximately 500 student-athletes from a public university that competed in the Football Bowl Subdivision located in the Midwest were invited to participate in this study. It also was essential to gain the support of selected course instructors to solicit participation from an equivalent number of non-athletes demographically similar to the student-athlete sample. A power analysis (Faul & Erdfelder, 1992) was conducted to determine the number of participants necessary to find a medium to small effect size at 80% power and statistically significant at a .05 alpha level. To find a medium effect (.25 or half a standard deviation), a minimum total sample size of 128 participants (64 student-athletes; 64 non-athletes) was required. To find a small effect (.10) 788 participants (394 student-athletes; 394 non-athletes) were required.

Participation of all student-athletes in the spring semester of 2011 was solicited via email from the Director of Student-Athlete Support Services. Specific undergraduate courses were selected based on professional school and academic division within the university, level of course (100; 200; 300; 400), and number of students enrolled. More courses were selected within the American and African American Studies department with the goal of increasing the Black non-athlete student ethnicity ratio since 20% of student-athletes identified themselves as

Black. Course instructors were solicited for their assistance in getting voluntary participation from non-athletes. Included in the email contact to students was the purpose of the study, Institutional Review Board approval, voluntary participation statement, Human Subjects Committee informed consent statement, instructions for data collection, and the link to the electronic Qualtrics survey.

### **Participant Characteristics**

Participants included grant-in-aid and non-grant-in-aid male and female student-athletes attending one university that competed in the Football Bowl Subdivision. This Midwestern university's full-time (enrollment of 12 or more hours) undergraduate enrollment for the main campus was approximately 17,813 (51.7% male; 48.3% female). These data were obtained from the University's Office of Institutional Research and Planning. In addition, student-athlete demographic data were provided by the University's Office of Institutional Research and Planning.

Non-athlete participants were solicited from specific courses selected by the researcher in an attempt to have a sample demographically similar to the student-athletes. When comprising a demographically similar non-athlete sample, the researcher focused primarily on professional school or academic division and year (see assumptions regarding class level). One goal was to increase the non-athlete sample of Black students to a ratio similar to that of student-athletes (20%). This was attempted by selecting more courses within the Department of American and African American Studies. All participants were between the ages of 18 and 25. If a student under the age of 18 or over the age of 25, which was the first question asked, this person was directed not to complete the survey. Participant year refers to the number of years enrolled in

college. Participation was voluntary, and an informed consent statement was included prior to the start of the electronic survey.

### **Instrumentation**

Three survey instruments were used in this study the Athletic Identity Measurement Scale, Vocational Identity Scale, and the Occupational Engagement Scale-Student.

Demographic information was collected including age, current year of enrollment in college (defined as year 1, year 2, etc.), gender, ethnicity, current sport, grant-in-aid status, intention to compete in a sport after college and at what level, and academic unit.

**Athletic Identity Measurement Scale.** Student-athlete and non-athlete athletic identity was assessed using the Athletic Identity Measurement Scale, which measured the degree to which an individual identified with the athletic role (Brewer, Raalte, & Linder, 1993). The Athletic Identity Measurement Scale provided a rapid, reliable, and valid tool for assessing an important aspect of student-athletes' personalities (Brewer & Cornelius, 2001). If individuals had strong athletic identities they valued participation in sports and their athletic roles were of high importance as their self-perceptions revolved around their athletic abilities (Brewer, Raalte, & Linder, 1993). The Athletic Identity Measurement Scale, a seven-item quantitative inventory that used a seven-option Likert scale ranging from "Strongly Disagree to Strongly Agree," measured how much an individual agreed or disagreed with his or her role as an athlete. The more an individual agreed with a statement, the higher his or her score. Scores ranged on a scale of 10 to 70. A few examples of the Athletic Identity Measurement Scale statements were *I consider myself an athlete* and *I feel bad about myself when I do poorly in sport*. All participants were asked to complete this scale. Cornelius (1995) suggested that a strong athletic identity as

measured by Athletic Identity Measurement Scale was “a more useful distinction for examining developmental implications of participating in sports than an athlete/non-athlete dichotomy” (p. 561).

The Athletic Identity Measurement Scale has been established as a reliable and an internally consistent measure of the construct of athletic identity. Initial validity testing for the Athletic Identity Measurement Scale (Brewer, Raalte, & Linder, 1993) found a coefficient alpha ranging from .87 to .93 and a test-retest over a 14-day period reliability coefficient of .89 (Brewer, Raalte, & Linder, 1993). Construct validity was also demonstrated by showing mean scores on the Athletic Identity Measurement Scale that increased with level of athletic involvement (Brewer, Raalte, & Linder, 1993). According to Li (2006), internal consistency for the Athletic Identity Measurement Scale was acceptable with Cronbach’s alphas ranging from .81 to .86. By 2006, the Athletic Identity Measurement Scale had been cited 70 times in academic literature (Nasco & Webb, 2006).

**My Vocational Situation.** Permission to use the Vocational Identity of the My Vocational Situation was granted by the author, Mark L. Savickas. The Vocational Identity is an 18-item true or false scale used to assess if individuals possessed a “clear and stable picture of their goals, interests, personality, and talents” (Holland, Daiger, & Power, 1980, p. 1). Examples of questions included *I need reassurance that I have made the right choice of occupation* and *I am not sure that my present occupational choice or job is right for me*. Over 50 studies with college students and adult participants using the Vocational Identity Scale had been published by 1993 (Holland, Johnston, & Asama, 1993). The Vocational Identity Scale was positively correlated with age and education or specific job-related training (Holland, Daiger, & Power,



1980). The Vocational Identity Scale also positively correlated with the Career Maturity Inventory scale (Leong & Morris, 1989).

Individuals with a strong vocational identity had confidence in their abilities to make good decisions and had less trouble making career decisions (Holland, Daiger, & Power, 1980). The Vocational Identity Scale also was associated with occupational commitment, life satisfaction, well-being, and career decision-making self-efficacy (Nauta, 2010). Internal consistency reliability coefficients ranged from .84 to .94 for the Vocational Identity scale (Holland, Daiger, & Power, 1980; Holland, Johnston, & Asama, 1993; Lewis & Savickas, 1995; Strauser, Lustig, & Ciftici, 2008). Test-retest reliability was .75 for the My Vocational Situation over a time period of three months (Holland, Johnston, & Asama, 1993).

**Occupational Engagement Scale-Students.** The Occupational Engagement Scale-Students was used with the permission of the developer, Thomas S. Krieshok. Occupational engagement was defined as “taking part in behaviors that contribute to the career decision-maker’s fund of information and experience of the larger world, not just the world as processed when a career decision is imminent” (Krieshok, Black, & McKay, 2009). The Occupational Engagement Scale-Student was a 14-item scale that correlated with many variables seen as desirable in college students and had yet to be used with student-athletes. The instrument used a five-option Likert scale from “Not at all Like Me, Somewhat Like Me, and Very Much Like Me” to indicate how well the statement described each of the desirable statements. Examples of the statements included *I am actively involved in groups or organizations, I attend lectures, exhibits, and community events, and I visit places I’m interested in working at so I can learn more about them*. The mean score on the Occupational Engagement Scale-Student was 32.53 with a standard deviation of 9.47 for the 311 college students in Cox’s (2008) study. The Occupational

Engagement Scale-Student shared the following positive statistically significant correlations at the .01 alpha level with the following variables which were desirable in college students: general education (.34); personal development (.42); science and technology (.29); intellectual skills (.44); practical and vocational competence (.47); college grade point average (.19); vocational identity (.31); and satisfaction with life (.21) (Cox, 2008).

### **Procedures**

Approval from the institution's Human Subjects Committee was secured (see approval letter in the appendix). The University's Office of Institutional Research and Planning provided demographics of the 2010-2011 student-athletes to the researcher. Based on the demographics of student-athletes, specific courses, as shown in Table 3.1, offered during the spring semester of 2011 were selected, and instructors were asked to invite their students to participate in this study. The goal was to have an academic unit, year, and ethnicity demographically similar sample of student-athletes and non-athletes. The Director of the Student-Athlete Support Services sent an email to all student-athletes. The selected course instructors, who agreed to assist, sent an email to their students requesting voluntary participation in the study. However, if requested by the course instructor to administer the survey during class time, the researcher agreed. In this scenario, the survey was an exact duplicate of the electronic survey, the only difference was the responses were manually entered into the data set. Course instructors had the option to email students a forwarded email message that included an informed consent statement, a description of the study with instructions, and a link to the Qualtrics electronic survey. Qualtrics is a software system that enabled users to create Web-based surveys and collect data for statistical analysis. It was hoped that participation would be increased by the convenience of electronic

data collection. However, because of an anticipated lower response rate, the number of non-athletes asked to participate in the survey was greater than the number of student-athletes.

Table 3.1

*Non-Athlete Courses Included in Survey*

Division	Prefix	Course Number	Title	Enrolled Students
Humanities	AAAS	306	The Black Experience in the U.S since Emancipation	35
	AAAS	470	Language and Society in Africa	35
	HIST	412	The Civil War in America, 1828-1877	80
Natural Sciences	BIOL	350	Principles of Genetics	165
Social Sciences	SOC	220	Sociology of Families	30
	COMS	104	Intro to Communication Studies	80
Architecture	ARCH	408	Architectural Design III	17
	Education	HSES	260	Personal and Community Health
	HSES	305	Procedures & Techniques for Physical Fitness	30
	HSES	489	Health and Human Sexuality	80
Journalism	JOUR	201	Current Issues in Journalism	106
Business	MKTG	310	Marketing	235

**Design and Analysis**

Prior to data analysis, reliability was demonstrated for all three instruments by measuring for internal consistency with the sample. The Cronbach's alpha was calculated for each scale to verify the internal consistency for the sample used in this research project was consistent with

the Cronbach's alpha found in past research samples. Descriptive statistics were used to determine the means and standard deviations. An alpha level of .05 was set for the data analyses of all hypotheses. Analyses of Variance were used to compare student-athletes and non-athletes on each instrument. In addition, Analysis of Variance was used to compare male and female student-athletes on each instrument and to compare Year 1 and Year 2 student-athletes with Year 3 and Year 4 student-athletes. Correlations were run to determine if any relationships existed between Athletic Identity Measurement Scale and each measure of career development, Vocational Identity, and Occupational Engagement Scale-Student.

### **Testing of Hypotheses**

- *Hypothesis 1: There is a negative relationship between athletic identity and vocational identity.*

This hypothesis was tested using Pearson Product Correlation analysis at a .05 significance level.

- *Hypothesis 2: There is a negative relationship between athletic identity and occupational engagement.*

This hypothesis was tested using Pearson Product Correlation analysis at a .05 significance level.

- *Hypothesis 3: Non-athletes have higher vocational identity than do student-athletes.*

This hypothesis was tested using Analysis of Variance procedures at a .05 significance level to compare student-athletes and non-athletes.

- *Hypothesis 4: Non-athletes have higher occupational engagement than do student-athletes.*

This hypothesis was tested using Analysis of Variance procedures at a .05 significance level to compare student-athletes and non-athletes.

- *Hypothesis 5: Male student-athletes have higher athletic identity than do female student-athletes.*

This hypothesis was tested using Analysis of Variance procedures at a .05 significance level to compare female student-athletes and male student-athletes.

- *Hypothesis 6: Female student-athletes have higher vocational identity than do male student-athletes.*

This hypothesis was tested using Analysis of Variance procedures at a .05 significance level to compare female student-athletes and male student-athletes.

- *Hypothesis 7: Female student-athletes have higher occupational engagement than do male student-athletes.*

This hypothesis was tested using Analysis of Variance procedures at a .05 significance level to compare female student-athletes and male student-athletes.

- *Hypothesis 8: Student-athletes in years 3 and 4 have higher vocational identity than do student-athletes in years 1 and 2. Sub-hypothesis 8a: Student-athletes in year 2 have higher vocational identity than do student-athletes in year 1. Sub-hypothesis 8b: Student-athletes in year 3 have higher vocational identity than do student-athletes in year 2. Sub-hypothesis 8c: Student-athletes in year 4 have higher vocational identity than do student-athletes in year 3. Sub-hypothesis 8d: Student-athletes in year 3 have higher vocational identity than do student-athletes in year 1. Sub-hypothesis 8e: Student-athletes in year 4 have higher vocational identity than do student-athletes in year 1. Sub-hypothesis 8f:*

*Student-athletes in year 4 have higher vocational identity than do student-athletes in year 2.*

These sub-hypotheses were tested using Analysis of Variance procedures at a .05 significance level to test for any overall significant differences between years. Since the omnibus F-test revealed overall significant differences, Least Significant Difference post-hoc tests were used to determine where the significant differences existed. An Analysis of Variance at a .05 significance level was used to compare years 1 and 2 student-athletes and years 3 and 4 student-athletes.

- *Hypothesis 9: Student-athletes in years 3 and 4 have higher occupational engagement than do student-athletes in years 1 and 2. Sub-hypothesis 9a: Student-athletes in year 2 have higher occupational engagement than do student-athletes in year 1. Sub-hypothesis 9b: Student-athletes in year 3 have higher occupational engagement than do student-athletes in year 2. Sub-hypothesis 9c: Student-athletes in year 4 have higher occupational engagement than do student-athletes in year 3. Sub-hypothesis 9d: Student-athletes in year 3 have higher occupational engagement than do student-athletes in year 1. Sub-hypothesis 9e: Student-athletes in year 4 have higher occupational engagement than do student-athletes in year 1. Sub-hypothesis 9f: Student-athletes in year 4 have higher occupational engagement than do student-athletes in year 2.*

These sub-hypotheses were tested using Analysis of Variance procedures at a .05 significance level to test for any overall significant differences between years. Since the omnibus F-test revealed overall significant differences, Least Significant Difference post-hoc tests were used to determine where the significant differences existed. An Analysis of Variance

at a .05 significance level was used to compare years 1 and 2 student-athletes and years 3 and 4 student-athletes.

Although much research has been conducted on student-athletes and athletic identity, the conflicting results showed the need for further investigation. By adding the career development instruments of vocational identity and occupational engagement, new information will be added to the field. The results may provide new or additional support for or refute the argument that student-athletes are comparable with non-athletes in regards to career development.

## Chapter 4

### Results

There were three main purposes of this study. First, the study examined the relationship between athletic identity and career identity in student-athletes in comparison with non-athletes and between genders for student-athletes using two distinct measures of career development: the Vocational Identity scale of the My Vocational Situation and Occupational Engagement Scale-Student. A second aim of the study was to examine the relationship between the career development of student-athletes attending one institution competing in the National Collegiate Athletic Association's Football Bowl Subdivision in their earlier and later years of college. A third aim of the study was to determine if relationships existed between athletic identity and scores on the Vocational Identity scale and Occupational Engagement Scale-Student.

Answers to four research questions were sought. The first research question investigated if self-reported athletic identity as measured by Athletic Identity Measurement Scale could identify student-athletes who had lower levels of career development. The second research question examined whether there were differences between the career development levels of student-athletes and non-athletes who attended one university competing in the Football Bowl Subdivision. The third research question explored whether there were any differences in the career development levels between male and female student-athletes. The fourth research question sought to find if there were any differences in the career development between the first two years of enrollment and the last two years of enrollment for male and female student-athletes attending one institution that competed in the Football Bowl Subdivision. In addition, any potential student-athlete career development differences between each year in college were investigated.



This chapter reports the results of statistical analyses conducted to answer the research questions and test the hypotheses. The results of the Pearson Product Correlations and Analyses of Variance conducted to evaluate each hypothesis are presented. Means and standard deviations for student-athletes and non-athletes on each scale are provided. The section will present the results related to each hypothesis.

Prior to analyzing the research questions and hypotheses, all three instruments were measured for internal consistency with the sample. The Athletic Identity Measurement Scale demonstrated the highest measure of internal reliability with a Cronbach's Alpha measurement of .92. Vocational Identity scale of the My Vocational Situation had a Cronbach's Alpha of .89 for the sample; Occupational Engagement Scale-Student measured at .88. This means each scale measured the construct with consistency and precision. Table 4.1 shows the demographic frequencies of non-athletes and student-athletes for the sample.

Table 4.1

*Student-Athlete and Non-Athlete Demographic Frequencies*

Characteristic	Student-Athletes	Non-Athletes
Gender		
Male	40	105
Female	69	172
Year		
Year 1	39	58
Year 2	22	91
Year 3	27	72
Year 4	16	47

## Age

18	11	19
19	33	68
20	22	74
21	25	65
22	12	33
23	5	8
24	1	5
25	0	6

## Ethnicity

American Indian	1	0
Asian	1	8
Black	10	8
Hispanic	3	6
Native Hawaiian Pacific Islander	1	2
White	88	249
Multiple Ethnic	4	5

## Academic Unit

College of Liberal Arts and Sciences	55	139
School of Architecture, Design and Planning	2	2
School of Business	18	26
School of Education	23	69
School of Engineering	1	0

William Allen White School of Journalism and Mass Communication	5	29
School of Pharmacy	0	3
<b>Sport</b>		
Men's Baseball	6	NA
Men's Basketball	1	NA
Men's Cross Country	5	NA
Men's Football	18	NA
Men's Track & Field	14	NA
Women's Basketball	2	NA
Women's Cross Country	3	NA
Women's Golf	4	NA
Women's Rowing	27	NA
Women's Soccer	11	NA
Women's Softball	2	NA
Women's Swimming & Diving	11	NA
Women's Tennis	3	NA
Women's Track & Field	5	NA
Women's Volleyball	6	NA

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### **Hypothesis 1**

Hypothesis 1 proposed there was a negative relationship between athletic identity and vocational identity. To investigate this hypothesis, a Pearson Product Correlation analysis was conducted using a .05 significance level. The negative relationship was minimal and not

significant at the .05 level,  $r(386) = -.02$ ,  $p = .695$ . Table 4.2 shows the non-athlete and student-athlete means and standard deviations for the Athletic Identity Measurement Scale, Vocational Identity scale of the My Vocational Situation, and Occupational Engagement Scale-Student by year and gender.

Table 4.2

*Means and Standard Deviations for Scores by Gender on the Athletic Identity Measurement Scale, Vocational Identity Scale of the My Vocational Situation, and Occupational Engagement Scale-Student*

			Males			Females		
			AIMS	VI	OES-S	AIMS	VI	OES-S
Student-Athletes	Year 1	<i>n</i>	16	16	16	23	23	23
		<i>M</i>	42.25	12.06	39.00	37.30	10.30	44.17
		<i>SD</i>	6.93	5.66	11.90	6.42	5.30	10.82
	Year 2	<i>n</i>	8	7	8	14	14	14
		<i>M</i>	42.50	13.86	44.00	37.93	11.21	42.29
		<i>SD</i>	5.98	2.73	5.35	5.69	5.18	7.08
	Year 3	<i>n</i>	10	10	10	17	17	17
		<i>M</i>	37.30	10.30	45.90	32.71	13.18	50.59
		<i>SD</i>	9.25	6.20	8.47	5.73	3.70	11.24
Year 4	<i>n</i>	4	4	4	12	12	12	
	<i>M</i>	38.25	11.50	42.50	37.92	12.75	52.25	
	<i>SD</i>	10.81	4.80	5.45	7.60	4.09	7.83	
Non-Athletes	Year 1	<i>n</i>	15	15	15	42	42	43

	<i>M</i>	30.60	11.13	50.13	24.31	10.81	51.02
	<i>SD</i>	8.99	6.17	11.18	9.09	5.16	8.61
Year 2	<i>n</i>	38	38	38	53	53	53
	<i>M</i>	29.32	8.29	45.13	20.94	10.36	49.23
	<i>SD</i>	8.05	4.97	7.41	9.12	5.04	8.24
Year 3	<i>n</i>	34	34	34	37	37	37
	<i>M</i>	27.50	9.65	47.59	21.41	11.68	47.46
	<i>SD</i>	9.83	5.29	10.67	8.72	4.31	7.45
Year 4	<i>n</i>	15	15	15	32	32	32
	<i>M</i>	24.80	10.73	46.13	19.53	10.38	47.87
	<i>SD</i>	9.04	5.65	6.95	10.45	5.02	11.78

*Note.* AIMS = Athletic Identity Measurement Scale, VI = Vocational Identity of the My Vocational Situation, OES-S = Occupational Engagement Scale-Student

## Hypothesis 2

Hypothesis 2 proposed there was a negative relationship between athletic identity and occupational engagement. To investigate this hypothesis a Pearson Product Correlation analysis was conducted using a .05 significance level. The results failed to support this hypothesis. This relationship was minimal and not significant,  $r(386) = .02, p = .743$ . Refer to Table 4.2 for the non-athlete and student-athlete means and standard deviations for the Athletic Identity Measurement Scale, Vocational Identity of the My Vocational Situation, and Occupational Engagement Scale-Student by year and gender.

### Hypothesis 3

Hypothesis 3 proposed that non-athletes had higher vocational identity than did student-athletes. To investigate this hypothesis, an Analysis of Variance was conducted using a .05 significance level. There was a difference between student-athletes and non-athletes, but it was in the opposite direction than hypothesized. Student-athletes did not have lower vocational identity scores than non-athletes, so this hypothesis was not supported. As shown in Table 4.3, non-athletes had, on average, significantly lower vocational identity scores than did student-athletes,  $F(1, 383) = 5.782, p < .05, \eta^2 = .015$ .

Table 4.3

#### *Student-Athlete to Non-Athlete Career Development Comparisons*

		Student-Athletes	Non-Athletes
		( <i>n</i> = 109)	( <i>n</i> = 277)
AIMS	<i>M</i>	37.97*	24.18
	SD	7.36	9.74
VI	<i>M</i>	11.65*	10.27
	SD	4.86	5.12
OES-S	<i>M</i>	45.29*	48.00
	SD	10.08	9.36

*Note.* \* $p < .05$ , AIMS = Athletic Identity Measurement Scale, VI = Vocational Identity of the My Vocational Situation, OES-S = Occupational Engagement Scale-Student

### Hypothesis 4

Hypothesis 4 proposed that non-athletes had higher occupational engagement than did student-athletes. A significance level of .05 was set for the Analysis of Variance. The results

showed that non-athletes had significantly higher occupational engagement scores than did student-athletes,  $F(1, 385) = 6.247, p < .05$ , eta square = .016. The difference was considered small. The means for non-athletes and student athletes are shown in Table 4.3.

### Hypothesis 5

Hypothesis 5 proposed that male student-athletes had higher athletic identities than did female student-athletes. A Multivariate Analysis of Variance was conducted with gender and athlete status as the independent variables and Athletic Identity Measurement scores, Vocational Identity scores, and Occupational Engagement scores as the dependent variables. The independent variable of gender caused significant differences in the measurement scores, Wilks'  $\Lambda = .89, F(3,378) = 15.50, p < .05$ . The independent variable of athlete status also caused a significant difference in the measurement scores, Wilks'  $\Lambda = .63, F(3,378) = 75.36, p < .05$ . However, there was no interaction effect between gender and athlete status. A significance level of .05 was used for the Analysis of Variance. The results showed that male student-athletes had significantly higher athletic identity levels than did female student-athletes,  $F(1, 107) = 11.321, p < .05$ , eta square = .096. The difference was moderate to large. Table 4.4 shows the means for both genders.

Table 4.4

#### *Student-Athlete Career Development Gender Comparisons*

		Males	Females
		( <i>n</i> = 40)	( <i>n</i> = 69)
AIMS	<i>M</i>	40.95	36.35*
	<i>SD</i>	7.84	6.53
VI	<i>M</i>	11.67	11.64

	SD	5.27	4.65
OES-S	<i>M</i>	42.55	46.88*
	SD	9.44	10.17

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*Note.* \* $p < .05$ , AIMS = Athletic Identity Measurement Scale, VI = Vocational Identity of the My Vocational Situation, OES-S = Occupational Engagement Scale-Student

### **Hypothesis 6**

Hypothesis 6 proposed that female student-athletes had higher vocational identity levels than did male student-athletes. A .05 significance level was used for the Analysis of Variance. The results showed that female student-athletes did not have significantly higher vocational identity scores than male-student athletes,  $F(1, 106) = .001, p > .05$ , eta square = .001. Table 4.4 compares the vocational identity means for student-athletes.

### **Hypothesis 7**

Hypothesis 7 proposed that female student-athletes had higher occupational engagement than did male student-athletes. A .05 significance level was used for the Analysis of Variance. The results showed that female student-athletes had significantly higher occupational engagement scores than did male student-athletes,  $F(1, 107) = 4.845, p < .05$ , eta square = .043. The difference was considered moderate. Table 4.4 compares the occupational engagement means for student-athletes.

### **Hypothesis 8**

Hypothesis 8 proposed that student-athletes in years 3 and 4 had higher vocational identity than did student-athletes in years 1 and 2. In addition there were sub-hypotheses for year-by-year comparisons. Sub-hypothesis 8a proposed that student-athletes in year 2 had higher vocational identity levels than did student-athletes in year 1. Sub-hypothesis 8b proposed that



student-athletes in year 3 had higher vocational identity levels than did student-athletes in year 2. Sub-hypothesis 8c proposed that student-athletes in year 4 had higher vocational identity levels than did student-athletes in year 3. Sub-hypothesis 8d proposed that student-athletes in year 3 had higher vocational identity levels than did student-athletes in year 1. Sub-hypothesis 8e proposed that student-athletes in year 4 had higher vocational identity levels than did student-athletes in year 1. Sub-hypothesis 8f proposed that student-athletes in year 4 had higher vocational identity levels than did student-athletes in year 2. A .05 significance level was used for the Analysis of Variance to analyze the sub-hypotheses. The omnibus F-test showed no overall significant differences among vocational identity means existed between years in college,  $F(3, 99) = .463, p > .05, \eta^2 = .014$ .

To evaluate hypothesis 8, student-athletes' scores in years 1 and 2 were combined as were student-athletes' scores in years 3 and 4. A .05 significance level was used for the Analysis of Variance to analyze this hypothesis. The results showed that student-athletes in years 3 and 4 did not have significantly higher vocational identity than student-athletes in years 1 and 2,  $F(1, 101) = .717, p > .05, \eta^2 = .007$ . As shown in Table 4.5, student-athletes in years 3 and 4 had, on average, higher vocational identity scores than in years 1 and 2, but the differences were not significant.

Table 4.5

*Student-Athlete Mean Comparison by Group*

		Years 1 and 2	Years 3 and 4
VI	<i>M</i>	11.40	12.23
	<i>SD</i>	5.16	4.57
OES-S	<i>M</i>	42.36*	49.21*

SD                      9.86                      9.59

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*Note.* \* $p < .05$ , VI = Vocational Identity of the My Vocational Situation, OES-S = Occupational Engagement Scale-Student

### **Hypothesis 9**

Hypothesis 9 proposed that student-athletes in years 3 and 4 had higher occupational engagement than did student-athletes in years 1 and 2. In addition, there were sub-hypotheses for year-by-year comparisons. Sub-hypothesis 9a proposed that student-athletes in year 2 had higher occupational engagement levels than did student-athletes in year 1. Sub-hypothesis 9b proposed that student-athletes in year 3 had higher occupational engagement levels than did student-athletes in year 2. Sub-hypothesis 9c proposed that student-athletes in year 4 had higher occupational engagement levels than did student-athletes in year 3. Sub-hypothesis 9d proposed that student-athletes in year 3 had higher occupational engagement levels than did student-athletes in year 1. Sub-hypothesis 9e proposed that student-athletes in year 4 had higher occupational engagement than did student-athletes in year 1. Sub-hypothesis 9f proposed that student-athletes in year 4 had higher occupational engagement than did student-athletes in year 2. A .05 significance level was used for the Analysis of Variance to analyze the sub-hypotheses. The omnibus F-test showed that overall a significant difference among occupational engagement means existed between years in college,  $F(3, 100) = 4.145, p < .05$ , eta square = .111. The omnibus eta squared was described as medium to large. Since the omnibus F-test yielded a significant difference, Fisher's Least Significant Difference post-hoc test was conducted to examine between what years the significant difference existed. The results showed a significant difference between student-athletes in year 1 and student-athletes in year 3 ( $p < .05$ ) and in year 4 ( $p < .05$ ) and between student-athletes in year 2 and student athletes in year 3 ( $p < .05$ ) and

those in year 4 ( $p < .05$ ). As student-athletes advanced in year in college, the mean Occupational Engagement Scale-Student value also increased. The occupational engagement means and significance levels for student-athletes are shown in Table 4.6.

Table 4.6

*Student-Athlete Occupational Engagement Scale-Student Comparison by Year*

Enrollment Year	Mean	Enrollment Year	Mean Difference	Significance
Year 1	42.05	Year 2	-.86	.744
		Year 3	-6.80*	.007
		Year 4	-7.76*	.009
Year 2	42.91	Year 1	.86	.744
		Year 3	-5.94*	.038
		Year 4	-6.90*	.035
Year 3	48.85	Year 1	6.80*	.007
		Year 2	5.94*	.038
		Year 4	-.96	.757
Year 4	49.81	Year 1	7.76*	.009
		Year 2	6.90*	.035
		Year 3	.96	.757

*Note.* \* $p < .05$ , the mean difference is significant at the .05 level.

To evaluate hypothesis 9, student-athletes in years 1 and 2 were combined as were student-athletes in years 3 and 4. A .05 significance level was used for the Analysis of Variance to analyze the hypothesis. The results showed that student-athletes in years 3 and 4 had significantly higher occupational engagement levels than did student-athletes in years 1 and 2,  $F$

(1, 102) = 12.451,  $p < .05$ , eta square = .109. The difference was described as medium to large. Student-athletes in years 3 and 4, on average, scored higher on the Occupational Engagement Scale-Student than did student-athletes in years 1 and 2.

### **Summary of Findings**

No significant relationships existed between athletic identity and vocational identity and between athletic identity and occupational engagement. For the student-athletes in this study, self-assessed athletic identity did not predict measures of vocational identity or occupational engagement. Some significant differences in career development of student-athletes and non-athletes attending one institution competing in the Football Bowl Subdivision were found. Student-athletes, on average, had statistically significantly lower occupational engagement scores than did non-athletes. However, student-athletes, on average, were found to have statistically significant higher vocational identity scores than non-athletes. Two significant differences were found between genders. Male student-athletes were found to have significantly higher levels of athletic identity than female student-athletes. Concerning career development levels, female student-athletes were found to have significantly higher occupational engagement scores than did male student-athletes.

This study also examined career development of student-athletes in their early years (years 1 and 2) of college and those in their later years of college (years 3 and 4). Results showed a significant difference in occupational engagement between collegiate student-athletes in years 1 and 2 and years 3 and 4. Student-athletes in their later two years had, on average, significantly higher occupational engagement scores than did student-athletes in their first two years. The next chapter will examine these findings in greater depth and discuss ways the results of the study might be used to benefit the career development of student-athletes.

## Chapter 5

### Discussion, Summary, and Future Research

#### Discussion

One of the three primary purposes of this study was to establish what relationship, if any, existed between athletic identity and career development as measured by the Vocational Identity scale of the My Vocational Situation and Occupational Engagement Scale-Student. The data showed that there was no relationship between athletic identity and vocational identity or athletic identity and occupational engagement. A second purpose of this study was to determine if a significant difference existed in the characteristics of career development of student-athletes and non-athletes attending one institution that competed in the Football Bowl Subdivision. Non-athletes had statistically significantly lower vocational identity scores than did student-athletes. In addition, non-athletes had statistically significantly lower athletic identity scores measured by the Athletic Identity Measurement Scale. However, in contrast, non-athletes had significantly higher occupational engagement scores than did student-athletes. A third purpose of this study was to examine the relationship, if any, between the career development of male and female student-athletes attending one institution that competed in the Football Bowl Subdivision and between student-athletes in their early years of college (years 1 and 2) to those in their later years of college (years 3 and 4). Results supported this difference between student-athletes in their early years and those in their later years of college. The following sections discuss these findings in comparison with related literature.

The primary goal of this study was to explore relationships and comparisons between athletic identity and career development of student-athletes and non-athletes attending one institution that competed in the Football Bowl Subdivision. In a study with college athletes,

Finch (2009) found that academic identities of college athletes were predictors of career decision-making self-efficacy. That is, the more a student-athlete identified with his or her academic identity, the more confidence he or she possessed in the ability to make career decisions. Instead of examining academic identity, this study used athletic identity to attempt to identify career identity. However, since no relationship between athletic identity and career identity was found, it may be better to use academic identity in future studies or continue to use the Athletic Identity Measurement Scale to measure athletic identity while using a larger sample size. Brown and Glastetter-Fender (2000) found that an extensive time commitment to sports resulted in decreased career decision-making abilities in National Collegiate Athletic Association Division I student-athletes. That is, when student-athletes dedicated more time to their sports (i.e., increased athletic identity levels), they had lower levels of career decision-making self-efficacy, which referred to the confidence student-athletes had in their abilities to make career decisions. Since usage of time has been shown to be linked with athletic identity (Brown & Glastetter-Fender, 2000; Cornelius, 1995), it could be speculated that since extensive time commitment led to decreased career development, increased athletic identity also would lead to decreased career development. It may be valuable to add the independent variable of time to future studies to determine if time spent on sports would be a statistically significant indicator of athletic identity and career development. However, the data in the current study did not support the theory that increased athletic identity levels (i.e., extensive time commitment to sports) led to decreased career development. Even though the Athletic Identity Measurement Scale provided a rapid, reliable, and valid tool for assessing athletic identity, in this case it did identify those student-athletes who may have elevated risks for experiencing some of the potential negatives associated with strong athletic identities. The Athletic Identity Measurement means in this

sample were statistically higher than the previous college student (athlete and non-athlete combined) norms established by Brewer and Cornelius (2001).

### **Athletic Identity and Career Development**

The first research question sought to determine if athletic identity predicted career development level. The two measurements used to examine career development were Vocational Identity scale of the My Vocational Situation and Occupational Engagement Scale-Student. No statistically significant positive or negative relationships were found. These results differed from some previous research which found statistically significant relationships between athletic identity and career development. For example, Jacques (2000) found a statistically significant inverse correlation between athletic identity and career maturity in female Division I student-athletes; as athletic identity increased, career maturity decreased. The current study examined the athletic identity of male and female student-athletes combined. For a better comparison with Jacques' (2000) results, it would be beneficial to examine athletic identity and career development only as it related to female student-athletes or examine both genders separately. Good et al. (1993) found a similar inverse relationship between athletic identity and identity foreclosure. Identity foreclosure in student-athletes resulted in failure to explore other interests.

Murphy, Petitpas, and Brewer (1996) found that athletic identity was inversely related to career maturity. The results of Jacques (2000), Good et al. (1993), and Murphy, Petitpas, and Brewer (1996) negatively linked athletic identity to career development, which the data in this study did not support. However, the results of this study were consistent with some other researchers (Brown & Hartley, 1998; Martens & Cox, 2000) who reported no statistically significant relationship between athletic identity and career development. The conflicting results

could be due to the variations in samples, years, institutions, or survey questions. Potentially, some samples of student-athletes with strong athletic identities were less focused on career development than other student-athletes. Another reason for the different findings could be the expansion of academic support services for student-athletes that were available at many universities. Perhaps if a comparison was conducted between student-athletes that used the academic support services available and those who do not, the results might vary.

### **Differences between Student-Athletes and Non-Athletes**

The second research question sought to determine whether there were discernible career development differences between student-athletes and non-athletes. Results showed that student-athletes had significantly higher vocational identity scores than did non-athletes. The results of this study differed from the findings Kennedy and Dimick (1987), Murphy, Petitpas, and Brewer (1996), and Sowa and Gressard (1983) who reported that student-athletes had lower levels of career development than did non-athletes. Martens and Cox (2000) found a significant difference between student-athletes and non-athletes regarding vocational identity. According to Martens and Cox (2000), non-athletes had statistically significant stronger vocational identities than did student-athletes. Holland, Johnston, and Asama (1993) concluded that students who scored high on the Vocational Identity scale were vocationally mature, had constructive beliefs about career decision-making, were interpersonally competent, conscientious, responsible, did not have disabling psychological problems, and had a clear sense of self-identity. Vocational identity also was associated with occupational commitment, life satisfaction, well-being and adjustment, and career decision-making self-efficacy readiness (Nauta, 2010). Based on the results of the current study, student-athletes may possess some of these characteristics since they had statistically significant higher vocational identities.



Holland, Gottfredson, and Power (1980) set the norms for vocational identity. They reported mean vocational identity scores of 15.86 for male college students and 14.34 for female college students. Compared to the norm means, male and female student-athletes in this study had significantly lower than average vocational identity scores; the highest overall Vocational Identity average was 13.86, found in year 2 male student-athletes. Maybe, as Savickas (1990) suggested, student-athletes with lower Vocational Identity scores needed to be taught decision-making abilities related to the specification and implementation stages of the career decision process.

Vocational identity measured how clear and stable a picture an individual had of his or her vocational future. It was possible that student-athletes thought they had clear and stable career paths, such as continuing to compete in their sports after college as professionals or pursuing a coaching career. It may not be until later in college when student-athletes realized their chances of becoming professional athletes were nonexistent that they struggled to find their vocational identities. Possibly at the time in their lives when student-athletes realized their playing careers were coming to an end, these student-athletes' vocational identities could be low; until that realization, if a student-athlete was convinced his or her career path was as a professional player or coach, he or she might maintain a high vocational identity score.

In the second career development survey used, Occupational Engagement Scale-Student, non-athletes were found, on average, to have statistically significantly higher levels of occupational engagement than student-athletes. As changes in the career patterns of individuals have evolved over the past 20 years, so have the ways to measure career development. The Occupational Engagement Scale-Student was developed to measure the career decision-making process from a non-rational and experiential perspective rooted in intuition, emotion, and

subjectivity (Krieshok, Black, & McKay, 2009). Occupational engagement resulted from participating in activities and engaging in behaviors that contributed to the information and experience of individuals so there would be enough prior knowledge available when the time came to make future career decisions. This scale examined the diversity and extent of student-athletes' past experiences to assess if they had enough past experience to make intuitive and rational decisions. Cox (2008) found the mean score on this scale was 32.53. However, the maximum score for occupational engagement in the Cox study was 56 while 70 was the maximum score possible in this study. This could indicate that student-athletes were provided with more opportunities to experience new things or interact with more diverse individuals. Typically, at most Football Bowl Subdivision institutions, student-athletes, individually and as well as along with their teams, were encouraged to participate in community service activities from reading programs for local elementary school students to conducting youth sport clinics to partnering with hospitals to host or visit hospitalized children. The mission of the Student-Athlete Advisory Committee is:

to encourage unity, common purpose, and camaraderie among teams and all student-athletes; to promote positive student-athlete images on and off campus; to provide an accessible way to be involved with the athletic and university communities; to give back to the community through outreach programs; to give all student-athletes the opportunity to enhance leadership skills, and to enhance the quality of life of student-athletes. (Student-Athlete Handbook, p. 61)

This mission seemed to support the development of occupational engagement since student-athletes were provided opportunities to “take part in behaviors that contribute to the career decision-maker’s fund of information and experience of the larger world” (Krieshok, Black, &

McKay, 2009, p. 284) and encouraged “to seek internal and external activities in order to create camaraderie and cohesion among teams and to create a positive image within the community” (Student-Athlete Handbook, p. 61). In addition to encouraging community involvement, it was common for student-athletes attending one institution that competed in the Football Bowl Subdivision to have an opportunity to travel and experience different cultures through sport. Teams travelled to compete with conference teams and other opponents. Sometimes teams got opportunities to travel internationally for competition (allowed by the National Collegiate Athletic Association once every four years) (National Collegiate Athletic Association, 2011a). Promotion and encouragement of community service by the Student-Athlete Advisory Committee may be one reason the sample of student-athletes for this study had higher Occupational Engagement Scale-Student scores than the sample in Cox’s (2008) study. It would be worth further examination to determine if Student-Athlete Advisory Committee involvement accounted for statistically significant differences in occupational engagement scores among student-athletes attending different institutions. National Collegiate Athletic Association legislation has mandated that each member institution have a Student-Athlete Advisory Committee (National Collegiate Athletic Association, 2011b).

### **Student-Athlete Gender Differences**

The third research question sought to determine whether there were career development differences between male and female student-athletes attending one institution that competed in the Football Bowl Subdivision. Results showed there were significant career development differences between genders. The first difference found, which confirmed and differed from previous research, that male student-athletes had higher athletic identities than did female student-athletes. Brewer, Van Raalte, and Linder (1993) created the Athletic Identity

Measurement Scale to measure the strength and exclusivity to which an individual identified with the role of athlete. Hale (1995) found no significant difference between genders in their athletic identities. Brewer and Cornelius (2001) using the Athletic Identity Measurement Scale found that males had higher athletic identities than did females suggesting that male student-athletes identified with and put more emphasis on their roles as athletes. This could include spending more time, focus, and energy on their sports or athletic development. It also could lead to identity foreclosure at an earlier age. Identity foreclosure occurred when individuals prematurely made firm commitments to occupations or ideologies without exploring internal needs and values. This happened when individuals accepted or committed to roles that best suited them based on the environment and what was socially accepted without exploring their needs or values (Petitpas, 1978). Because student-athletes with high athletic identities spent more time devoted to their sports, this may have led to identity foreclosure, meaning they spent less time and energy devoted to experiences and activities outside of sports. It would be worth further investigation to determine if any relationship existed between male student-athletes with high athletic identity and career development levels, specifically occupational engagement since male student-athletes had lower levels of occupational engagement than did female student-athletes.

In terms of career development, female student-athletes were found to have statistically significantly higher occupational engagement levels than male student-athletes. Based on the definition of occupational engagement, since female student-athletes had higher levels of occupational engagement they may have had more diverse and broader past experiences that helped guide them in making career decisions. This may have meant they spent more time on activities outside of their sports, had a broader range of friends other than did male student-

athletes, and focused more on hobbies and experiences. Also, female student-athletes may have participated in more activities than did male student-athletes that enriched their career exploration experiences. These experiences may have impacted student-athletes' career development differences over time, which will be discussed in the next section.

### **Multiple Stage Identity Focus Differences**

The fourth research question sought to determine what career development differences existed between student-athletes based on year in college. Additionally, were there career development differences between student-athletes in years 1 and 2 compared to student-athletes in years 3 and 4? Results showed no differences existed between vocational identity scores as student-athletes progressed through college. This was not consistent with previous research (Blann, 1985; Chartrand & Lent, 1987; Lally & Kerr, 2005; Miller & Kerr, 2002, 2003) on multi-stage identity focus of student-athletes. These authors suggested that there was a distinctive career development difference between student-athletes in their early years of college compared to athletes in their later years. This could be due to the sample used in the study or perhaps an alternative measure of career development, such as the Occupational Engagement Scale-Student, would be more appropriate for distinguishing significant differences.

Statistically significant differences were found in occupational engagement scores. Student-athletes in year 3 had statistically significant higher occupational engagement scores than did student-athletes in year 1. Student-athletes in year 4 had statistically significant higher occupational engagement scores than did student-athletes in year 1. Student-athletes in year 3 had statistically significant higher occupational engagement scores than did student-athletes in year 2. Student-athletes in year 4 had statistically significant higher occupational engagement scores than did student-athletes in year 2. When student-athletes were grouped (years 1 and 2;

years 3 and 4), a statistically significant difference was found in occupational engagement scores. Student-athletes in years 3 and 4 had statistically significantly higher occupational engagement scores than those in years 1 and 2. This supported previous research by Blann (1985), Lally and Kerr (2005), and Miller and Kerr (2002, 2003) that found significant differences between identity focus for student-athletes in their earlier years of college compared to their later years. Some student-athletes began college focused on their athletic identities (Blann, 1985; Lally & Kerr, 2005; Miller & Kerr, 2002, 2003) but graduated from college focused on their academic identities (Blann, 1985; Lally & Kerr, 2005; Miller & Kerr, 2002, 2003). According to Miller and Kerr (2002, 2003), when most student-athletes began college, they were in *Stage 1: Over-identification with the athlete role*. During *Stage 1*, most student-athletes had a singular focus on athletics, which dominated their lives and came at a cost as exploration of other interests diminished or never began. Academic work received less time as engagement in sports and commitments to athlete identity were prioritized. In *Stage 2: Deferred role experimentation*, most student-athletes shifted their primary focus from their athletic roles to academic roles. Student-athletes may have shown a declining interest in their athletic roles as they transferred priorities to academics and preparation for future careers. They devoted more time to academic roles and began preparing for graduate school or focusing on a career field during the last year or two of college. The findings of Blann (1985), Lally and Kerr (2005), and Miller and Kerr (2002, 2003) were supported by the results of the current study with the occupational engagement data since student-athletes in years 3 and 4, on average, had statistically significant higher levels of occupational engagement than did student athletes in years 1 and 2. This important finding added to the evidence that student-athletes experienced multi-stage identity focus.

The results of the current study also supported the findings of Blann (1985) who reported that male freshmen and sophomore student-athletes scored significantly lower than did non-athletes on measures of educational and career plans. However, as juniors and seniors there were no significant differences between student-athletes and non-athletes on measures of educational career plans. The findings of Lally and Kerr (2005) also supported multiple identity focus for student-athletes. Their research showed that in the early years of college student-athletes were unsure of their academic futures and more committed to their athletic identities. However, during the final year or two of college, student-athletes began to increase their focus on career plans. It appeared, based on the results of this study, that student-athletes experienced a shift in career development levels between their early years and later years in college. There were multiple possibilities for why this may have occurred. First, some student-athletes entered college with dreams of playing professional sports. It may not be until later in their college years that they realized playing their sports professionally was not a viable option. It was at this time these student-athletes put more focus, time, and effort into their academic studies. One way to test this possibility would be to examine grade point averages, years in college, and career development measures. Two other reasons for delayed career development could be lack of time to devote to activities other than sports and extensive assistance from academic support services personnel. With little time to devote to other activities, including academics, student-athletes may have had people to remind them about assignments, tutors to explain confusing concepts from classes, academic advisors to schedule their courses, and someone check to ensure they attended classes. While this type of assistance was helpful to student-athletes, it also may have caused delays in career development when they were provided so much assistance that they no

longer had to be held responsible for academic and life activities like their peers (Remer, Tongate, & Watson, 1978).

Based on the research, while it is important for student-athletes to receive academic support services, it seems student-athletes still need to be empowered to make their own decisions and be responsible for their own actions. There seems to be a fine line between the academic support services personnel being overly helpful, thus potentially causing delayed career development, and providing the appropriate amount of academic and career development assistance. Student-athletes may need encouragement from academic support services personnel to actively seek job opportunities or interest areas before they get into the final year or two of college. This will help student-athletes focus on goals and life outside of sport. While the Athletic Identity Measurement Scale cannot be used to predict career development levels, it could still be used to identify students who may be prone to some of the negatives associated with a high athletic identity. The data from this study revealed student-athletes actually had a higher level of vocational identity. The academic support services personnel at one university may have contributed to student-athletes having higher scores than non-athletes. Student-athletes appeared to have clear and stable pictures of their futures in terms of careers. Another area of focus for academic support services personnel is the continued encouragement of involvement outside of sports. Involvement in community, academics, career, interest areas, and interaction with a diverse population of students has been shown to aid in the development of a high occupational identity. The academic support services personnel could offer guest speakers from a variety of occupations and encourage student-athletes to seek information on potential future careers.



## Summary

This study was an investigation into the relationships and levels of career development in student-athletes in comparison with non-athletes attending one institution that competed in the Football Bowl Subdivision. Some researchers have hypothesized that student-athletes experienced two phases of identity focus throughout their college years, this study supported that hypothesis. A statistically significant difference in occupational engagement levels was found between student-athletes in years 1 and 2 compared to student-athletes in years 3 and 4. This study provided further evidence to support that student-athletes had a multi-phase identity focus. In addition this study also provided further evidence to support a career development difference between male and female student-athletes. While male student-athletes were found to have a higher level of athletic identity, female student-athletes had a higher level of occupational engagement. However, male and female student-athletes had similar levels of vocational identity. Lastly, the data from this study did not find a relationship between athletic identity and vocational identity or athletic identity and occupational engagement.

Unlike previous research, this study used a survey instrument that was recently developed to measure a different aspect of career development. This study was the first to analyze the occupational engagement level of student-athletes, as it had previously only been used with non-athletes. The means established by the student-athletes from this study can be used by future studies to make comparisons. However, since the student-athletes in this study attended one university that competed in the Football Bowl Subdivision, in order to be more applicable, it would be beneficial to use the Occupational Engagement Scale-Students with student-athletes and non-athletes at multiple Division I, II, and III institutions.

## **Recommendations for Future Research**

Through this investigation, a number of directions for future research emerged.

Recommendations for future study include the following:

1. Future research could continue to explore the concept of occupational engagement as a measure of career development. Since occupational engagement is a relatively new concept, it could continue to be explored for a variety of groups of college students.
2. Future research could collect data from male and female student-athletes and non-athletes at more than one university. The sample also should incorporate all of the National Collegiate Athletic Association divisions and regions of the United States. A broader and larger sample will increase the generalizability of results.
3. Future research could examine the differences in career development among student-athletes involved in different sports. Some research has been conducted on revenue and non-revenue-producing sports relative to career development, but more is needed. Using the variable of sports would be a valuable addition to this field of research and make for more comprehensive comparisons and results.
4. Additional variables, such as grade point average, Student-Athlete Advisory Committee involvement, socioeconomic status, time spent in sport participation, and a student-athlete's likelihood of playing his or her sport professionally, could be included in future research to determine the importance of each on the career decision-making process.
5. Future research could focus on the development of an updated Athletic Identity Measurement Scale or use of an alternative scale to measure athletic identity to determine if career development can be linked to a measurement of athletic identity.

## Conclusions

Results of this study suggested that there was no relationship between athletic identity and vocational identity or occupational engagement. It also demonstrated that student-athletes at one institution that competed in the Football Bowl Subdivision had statistically significant higher levels of athletic identity and vocational identity than did non-athletes. However, non-athletes had a statistically significant higher level of occupational engagement than did student-athletes. When conducting gender comparisons, the research showed that female student-athletes had a statistically significant lower level of athletic identity than did male student-athletes, but a statistically significant higher level of occupational engagement than did male student-athletes. Finally, this study concluded that student-athletes in years 3 and 4 had higher occupational engagement levels than did student-athletes in years 1 and 2.

Although the generalizability of these findings was limited by the number of respondents at only one institution that competed in the Football Bowl Subdivision, there were important findings. Due to the variety of results involving past studies using the same or similar variables, these were important empirical findings since they supported the argument that there was no relationship between athletic identity and career development. Future research could continue to focus on the career development of student-athletes in order to produce more applicable and conclusive results.

## References

- Adler, P., & Adler, P. A. (1987). Role conflict and identity salience: College athletics and the academic role. *The Social Science Journal, 24*, 443-455.
- Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist, 55*, 469-480.
- Bingham, R. P. & Ward, C. M. (1994). Career counseling with ethnic minority women. In W. Walsh & S. Osipow (Eds.), *Career counseling with women* (pp. 165-195). Hillsdale, NJ: Erlbaum.
- Black, M. D. (2006). *Reason, intuition, and engagement: A trilateral model of adaptive career decision making* (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (UMI No. 3234970)
- Blann, F. (1985). Intercollegiate athlete competition and students' educational and career plans. *Journal of College Student Personnel, 26*, 115-118.
- Bluestein, D. L., Luanna, E. D., & Kidney, B. A. (1989). Relationship between the identity formation process and career development. *Journal of Counseling Psychology, 36*, 196-202.
- Bowen, W. G., & Levin, S. A. (2003). *Reclaiming the game: College sports and educational values*. Princeton, NJ: Princeton University Press.
- Brewer, B. W., & Cornelius, A. E. (2001). Norms and factorial invariance of the athletic identity measurement scale (AIMS). *The Academic Athletic Journal, 15*, 103-113.
- Brewer, B. W., Van Raalte, J. L., & Linder, D. E. (1993). Athletic identity: Hercules' muscles or Achilles heel? *International Journal of Sport Psychology, 24*, 237-254.

- Brown, C., & Glastetter-Fender, C. (2000). Psychosocial identity and career control in college student-athletes. *Journal of Vocational Behavior, 56*, 53-62.
- Brown, C., & Hartley, D. (1998). Athletic identity and career maturity of male college student athletes. *International Journal of Sport Psychology, 29*, 17-26.
- Bubany, S. T., Krieshok, T. S., Black, M. D., & McKay, R. A. (2008). College students' perspectives on their career decision making. *Journal of Career Assessment, 16*, 177-197.
- Burke, P. J., & Reitzes, D. C. (1981). The link between identity and role performance. *Social Psychology Quarterly, 44*, 83-92.
- Chartrand, J. M., & Lent, R. W. (1987). Sports counseling: Enhancing the development of the student-athlete. *Journal of Counseling and Development, 66*, 164-167.
- Cornelius, A. (1995). The relationship between athletic identity, peer and faculty socialization, and college student development. *Journal of College Student Development, 36*, 560-573.
- Cox, D. W. (2008). *Bringing vocational psychology into the 21<sup>st</sup> century: The operationalization of occupation engagement and initial validation of the occupational engagement scale for students* (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses database. (UMI No. 3330347)
- Crites, J. O. (1971). *The maturity of vocational attitudes in adolescence*. Washington, DC: American Personnel and Guidance Association.
- Crites, J. O., & Savickas, M. (1996). Revision of the career maturity inventory. *Journal of Career Assessment, 4*, 131-138.
- Curry, T. J., & Weiss, O. (1989). Sport identity and motivation for sport participation: A comparison between American college athletes and Austrian student sport club members. *Sociology of Sport Journal, 6*, 257-268.

- Epstein, S. (1994). Integration of the cognitive and the psychodynamic unconscious. *American Psychologist, 49*, 709-724.
- Faul, F., & Erdfelder, E. (1992). *GPOWER: A priori, post-hoc, and compromise power analyses for MS-DOS* (Computer program). Bonn, FRG: Bonn University, Department of Psychology.
- Finch, B. (2009). Investigating college athletes' role identity and self-efficacy for career decision-making. *International Journal of Sport Management, 10*, 427-435.
- Fox, K. R., & Corbin, C. B. (1989). The physical self-perception profile: Development and preliminary validation. *Journal of Sport and Exercise Psychology, 11*, 408-430.
- Gill, D. L., & Dzewaltowski, D. A. (1988). Competitive orientations among intercollegiate athletes: Is winning the only thing? *The Sport Psychologist, 2*, 212-221.
- Good, A. J., Brewer, B. W., Petitpas, A. J., Van Raalte, J. L., & Mahar, M. T. (1993). Identity foreclosure, athletic identity, and college sport participation. *Academic Athletic Journal, 8*, 1-12.
- Hale, B. D. (1995, July). *Exclusive athletic identity: A predictor of positive or negative psychological characteristics*. Paper presented at the meeting of the Federation of European Sport and Exercise Psychology, Brussels, Belgium.
- Hale, B. D., James, B., & Stambulova, N. (1999). Determining the dimensionality of athletic identity: A herculean cross-cultural undertaking. *International Journal of Sport Psychology, 30*, 83-100.
- Hartung, P. J., & Blustein, D. L. (2002). Reason, intuition, and social justice: Elaborating on Parsons' career decision-making model. *Journal of Counseling and Development, 80*, 41-47.

- Hinkle, J. S. (1994). Integrating sport psychology and sports counseling: Developmental programming, education, and research. *Journal of Sport Behavior, 17*, 52-59.
- Holland, J. L. (1997). *Making vocational choices: A theory of vocational personalities and work environments* (3<sup>rd</sup> ed.). Odessa, FL: Psychological Assessment Resources.
- Holland, J. L., Daiger, D. C., & Power, P. G. (1980). *My vocational situation*. Palo Alto: CA: Consulting Psychologists Press, Inc.
- Holland, J. L., Gottfredson, D. C., & Power, P. G. (1980). Some diagnostic scales for research in decision making and personality: Identity, information, and barriers. *Journal of Personality and Social Psychology, 39*, 1191-1200.
- Holland, J. L., Johnston, J. A., & Asama, N. F. (1993). The vocational identity scale: A diagnostic and treatment tool. *Journal of Career Assessment, 1*, 1-12.
- Jaques, J. D. (2000). *Career maturity and female student-athletes* (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses database. (UMI No. 9975506)
- Kennedy, S., & Dimick, K. (1987). Career maturity and professional sports expectations of college football and basketball players. *Journal of College Student Personnel, 28*, 293-297.
- Krieshok, T. S. (1998). An anti-introspectivist view of career decision making. *Career Development Quarterly, 46*, 210-229.
- Krieshok, T. S., Black, M. D., & McKay, R. A. (2009). Career decision-making: The limits of rationality and the abundance of non-conscious processes. *Journal of Vocational Behavior, 75*, 275-290.

- Lally, P. S., & Kerr, G. A. (2005). The career planning, athletic identity, and student role identity of intercollegiate student athletes. *Research Quarterly for Exercise and Sport*, 76, 275-285.
- Leong, F., & Morris, J. (1989). Assessing the construct validity of Holland, Daiger, and Power's measure of vocational identity. *Measurement and Evaluation in Counseling and Development*, 22, 117-125.
- Lewis, D. M., & Savickas, M. L. (1995). Validity of the career factors inventory. *Journal of Career Assessment*, 3, 44-56.
- Li, H. Y. (2006). *Validation of the athletic identity measurement scale with a Hong Kong sample* (Doctoral thesis, Victoria University, Melbourne, Australia). Retrieved from <http://eprints.vu.edu.au/519/>
- Lucas, E. B., Gysbers, N. C., Buescher, K. L., & Heppner, P. P. (1988). My vocational situation: Normative, psychometric, and comparative data. *Measurement and Evaluation in Counseling and Development*, 20, 162-170.
- Luzzo, D. A. (1995). Gender differences in college students' career maturity and perceived barriers in career development. *Journal of Counseling and Development*, 73, 319-322.
- Martens, M. P., & Cox, R. H. (2000). Career development in college varsity athletes. *Journal of College Student Development*, 41, 172-180.
- Medalie, J. (1981). The college years as a mini-life cycle: Developmental tasks and adaptive options. *Journal of American College Health Association*, 30, 75-79.
- Meyer, B. (1990). From idealism to actualization: The academic performance of female collegiate athletes. *Sociology of Sport Journal*, 7, 44-57.



Miller, P., & Kerr, G. (2002). The athletic, academic and social experiences of intercollegiate student athletes. *Journal of Sport Behavior, 25*, 346-367.

Miller, P., & Kerr, G. (2003). The role experimentation of intercollegiate student athletes. *Sport Psychologist, 17*, 196-219.

Murphy, G., Petitpas, A., & Brewer, B. (1996). Identity foreclosure, athletic identity, and career maturity in intercollegiate athletes. *The Sport Psychologist, 10*, 239-246.

Nasco, S. A., & Webb, W. M. (2006). Toward an expanded measure of athletic identity: The inclusion of public and private dimensions. *Journal of Sport and Exercise Psychology, 28*, 434-453.

Nauta, M. M. (2010). The development, evolution, and status of Holland's theory of vocational personalities: Reflections and future directions for counseling psychology. *Journal of Counseling Psychology, 57*, 11-22.

National Collegiate Athletic Association. (2008). *The student-athlete perspective of the college experience: Findings from the NCAA GOALS and SCORE studies*. Presented at the National Collegiate Athletic Association Convention, Nashville, Tennessee.

National Collegiate Athletic Association. (2010a). *Description of DI academic philosophy*.

Retrieved from

<http://www.ncaa.org/wps/wcm/connect/public/NCAA/Academics/Academic+Division+I+landing+page>

National Collegiate Athletic Association. (2010b). *Differences among the three divisions:*

*Division I* Retrieved from

<http://www.ncaa.org/wps/wcm/connect/public/ncaa/about+the+ncaa/who+we+are/differences+among+the+divisions/division+i/about+division+i>

- National Collegiate Athletic Association. (2011a). *Division I manual*. Retrieved from <https://www.ncaapublications.com/productdownloads/D112.pdf>
- National Collegiate Athletic Association. (2011b). *Student athlete advisory committees*. Retrieved from [http://www.ncaa.org/wps/portal/ncaahome?WCM\\_GLOBAL\\_CONTEXT=/ncaa/ncaa/legislation+and+governance/committees/division+i/saac](http://www.ncaa.org/wps/portal/ncaahome?WCM_GLOBAL_CONTEXT=/ncaa/ncaa/legislation+and+governance/committees/division+i/saac)
- Niles, S. G., & Harris-Bowlsbey, J. (2005). *Career development interventions in the 21<sup>st</sup> century* (2<sup>nd</sup> ed.). Upper Saddle River, NJ: Prentice Hall.
- Parsons, F. (1909). *Choosing a vocation*. Boston, MA: Houghton-Mifflin.
- Petitpas, A. (1978). Identity foreclosure: A unique challenge. *Personnel and Guidance Journal*, 56, 558-561.
- Petitpas, A., & Champagne, D. (1988). Developmental programming for intercollegiate athletes. *Journal of College Student Development*, 29, 454-460.
- Pietrofesa, J. J., & Splete, H. (1975). *Career development: Theory and research*. New York, NY: Grune and Stratton, Inc.
- Remer, R., Tongate, F. A., & Watson, J. (1978). Athletes: Counseling the overprivileged minority. *Personnel and Guidance Journal*, 56, 626-629.
- Rosenberg, M. (1989). *Society and the adolescent self-image* (Rev. ed.). Middletown, CT: Wesleyan University Press.
- Savickas, M. L. (1985). Identity in vocational development. *Journal of Vocational Behavior*, 27, 329-337.

- Savickas, M. L. (1990). The use of career choice process scales in counseling practice. In E. Watkins & V. Campbell (Eds.), *Testing in counseling practice* (pp. 373-418). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Savickas, M. L. (2000). Renovating the psychology of careers for the twenty-first century. In A. Collin & R. A. Young (Eds.), *The future of career* (pp. 53-68). New York, NY: Cambridge University Press.
- Savickas, M. L. (2002). Career construction: A developmental theory. In D. Brown & Associates (Eds.), *Career choice and development* (4<sup>th</sup> ed.) (pp. 149-205). San Francisco, CA: Jossey-Bass.
- Sears, S. (1982). A definition of career guidance terms: A National Vocational Guidance Association perspective. *Vocational Guidance Quarterly*, 31, 137-143.
- Shulman, J. L., & Bowen, W. G. (2001). *The game of life*. Princeton, NJ: Princeton University Press.
- Smallman, E., & Sowa, C. (1996). Career maturity levels of male intercollegiate varsity athletes. *Career Development Quarterly*, 44, 270.
- Snyder, E. E. (1985). A theoretical analysis of academic and athletic roles. *Sociology of Sport Journal*, 2, 210-217.
- Sowa, C., & Gressard, C. (1983). Athletic participation—Its relationship to student-development. *Journal of College Student Personnel*, 24, 236-239.
- Spokane, A. R. (1996). Holland's theory. In D. Brown, L. Brooks, & Associates (Eds.), *Career choice and development* (3<sup>rd</sup> ed.) (pp. 33-74). San Francisco, CA: Jossey-Bass.

Strauser, D. R., Lustig, D. C., & Ciftci, A. (2008). Psychological well-being: Its relation to work personality, vocational identity, and career thoughts. *The Journal of Psychology, 142*, 21-35.

*Student-Athlete Handbook*. (2011) Retrieved from

[http://grfx.cstv.com/photos/schools/kan/genrel/auto\\_pdf/2011-12/misc\\_non\\_event/1112-sa-handbook.pdf](http://grfx.cstv.com/photos/schools/kan/genrel/auto_pdf/2011-12/misc_non_event/1112-sa-handbook.pdf)

Super, D. E. (1957). *The psychology of careers*. New York, NY: Harper & Brothers.

Super, D. E. (1974). *Measuring vocational maturity for counseling and evaluation*. Washington, DC: National Vocational Guidance Association.

Wade, E. (1999). History of the NCAA CHAMPS/life skills program. In S. Robinson (Ed.), *Gaining the competitive edge: Enriching the collegiate experience of the new student-athlete* (pp. 61-68). University of South Carolina: The National Resource Center for the First-Year Experience and Students in Transition.

## Appendix A

### Demographic Questionnaire

This form is designed to obtain demographic information from the participants in this study. Please check the appropriate box in response to the following questions.

1. Age: (select one)

- 17 (If you are 17, please do not continue with the survey)
- 18
- 19
- 20
- 21
- 22
- 23
- 24
- 25
- 26 (If you are 26 or older, please do not continue with the survey)

2. What is your current year of enrollment in college (Select one)?

- 1<sup>st</sup> Year
- 2<sup>nd</sup> Year
- 3<sup>rd</sup> Year
- 4<sup>th</sup> Year
- 5<sup>th</sup> Year
- 6<sup>th</sup> Year
- Graduate Student

3. Gender: (select one)

- Female
- Male

4. Ethnicity: (select one)

- American Indian
- Asian
- Black
- Hispanic
- Native Hawaiian Pacific Islander
- Nonresident Alien
- White
- Multiple Ethnic
- Unknown

5. Select the current sport team you are a member of at KU (if you are a member of more than one team, please select both):

- None, because I am not a student-athlete at the University of Kansas

- Baseball
- Men's Basketball
- Men's Cross Country
- Football
- Men's Golf
- Men's Track & Field
- Women's Basketball
- Women's Cross Country
- Women's Golf
- Rowing
- Women's Soccer
- Softball
- Women's Swimming & Diving
- Women's Tennis
- Women's Track & Field
- Volleyball

6. Have you received a partial or full athletic grant-in-aid to participate in your sport/s this season (check one)?

- Full
- Partial
- No athletic grant-in-aid, but I am a student-athlete
- Does not apply because I am not a student-athlete at the University of Kansas

7. Do you currently have intentions of competing in your sport/s at a higher level of competition after college (check one)?

- Yes
- No
- Does not apply because I am not a student-athlete at the University of Kansas.

8. If you checked 'Yes' to question #7, please indicate at what level you plan to participate (check all that apply):

- Professional or Olympic
- Semi-Professional (A semi-professional athlete is one who is paid to play and thus is not an amateur, but for whom sport is not a full-time occupation, generally because the level of pay is too low to make a reasonable living based solely upon that source, thus making the athlete not a full professional athlete).
- Other

9. At the University of Kansas, in which academic unit are you currently enrolled?

- Architecture, Design & Planning
- Arts
- Business
- Education
- Engineering
- Journalism & Mass Communications

- Music
- Pharmacy
- Social Welfare
- College of Liberal Arts & Sciences
- Graduate School

10. At the University of Kansas, which of the following best reflects your cumulative grade point average?

- 4.0
- 3.5 – 3.99
- 3.0 – 3.49
- 2.5 – 2.99
- 2.0 – 2.49
- 1.5 – 1.99
- Below 1.5

## Appendix B

### Vocational Identity Scale of the My Vocational Situation

J. L., Holland, D. C., Daiger, & P. G., Power (1980)

Try to answer all the following statements as mostly **TRUE** or mostly **FALSE**.

**Circle** the answer that *best represents your present opinion*.

In thinking about your present job or in planning for an occupation or career:

- |   |   |                                                                                              |
|---|---|----------------------------------------------------------------------------------------------|
| T | F | 1. I need reassurance that I have made the right choice of occupation.                       |
| T | F | 2. I am concerned that my present interests may change over the years.                       |
| T | F | 3. I am uncertain about the occupations I could perform well.                                |
| T | F | 4. I don't know what my major strengths and weaknesses are.                                  |
| T | F | 5. The jobs I <i>can do</i> may not pay enough to live the kind of life I want.              |
| T | F | 6. If I had to make an occupational choice right now, I am afraid I would make a bad choice. |
| T | F | 7. I need to find out what kind of career I should follow.                                   |
| T | F | 8. Making up my mind about a career has been a long and difficult problem for me.            |
| T | F | 9. I am confused about the whole problem of deciding on a career.                            |
| T | F | 10. I am not sure that my present occupational choice or job is right for me.                |
| T | F | 11. I don't know enough about what workers do in various occupations.                        |
| T | F | 12. No single occupation appeals strongly to me.                                             |
| T | F | 13. I am uncertain about which occupation I would enjoy.                                     |
| T | F | 14. I would like to increase the number of occupations I could consider.                     |
| T | F | 15. My estimates of my abilities and talents vary a lot from year to year.                   |
| T | F | 16. I am not sure of myself in many areas of life.                                           |
| T | F | 17. I have known what occupation I want to follow for less than one year.                    |
| T | F | 18. I can't understand how some people can be so set about what they want to do.             |





## Appendix D

### Athletic Identity Measurement Scale (AIMS)

Brewer, B. W., Van Raalte, J. L., & Linder, D. E., 1993

This questionnaire is designed to measure people's perceptions about their athletic role. There are no right or wrong answers. Use the scale below to respond to each statement. **Circle** the number that best describes how you feel.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Disagree	Unsure	Agree	Moderately Agree	Strongly Agree

- |               |                                                                                |
|---------------|--------------------------------------------------------------------------------|
| 1 2 3 4 5 6 7 | 1. I consider myself an athlete.                                               |
| 1 2 3 4 5 6 7 | 2. I have many goals related to sports.                                        |
| 1 2 3 4 5 6 7 | 3. Most of my friends are athletes.                                            |
| 1 2 3 4 5 6 7 | 4. Sport is the most important part of my life.                                |
| 1 2 3 4 5 6 7 | 5. I spend more time thinking about sport than anything else.                  |
| 1 2 3 4 5 6 7 | 6. I feel bad about myself when I do poorly in sport.                          |
| 1 2 3 4 5 6 7 | 7. I would be very depressed if I were injured and could not compete in sport. |

Approved by the Human Subjects Committee University of Kansas,  
Lawrence Campus (HSCL). Approval expires one year from 11/17/2010.  
HSCL #19069

## Internet Information Statement

The Department of Health, Sport, & Exercise Sciences at the University of Kansas supports the practice of protection for human subjects participating in research. The following information is provided for you to decide whether you wish to participate in the present study. You should be aware that even if you agree to participate, you are free to withdraw at any time without penalty.

We are conducting this study to better understand the career development of student-athletes and non-athlete-students. This will entail your completion of a questionnaire. The questionnaire is expected to take approximately 15 minutes to complete.

The content of the questionnaire should cause no more discomfort than you would experience in your everyday life. Although participation may not benefit you directly, we believe that the information obtained from this study will help us gain a better understanding of vocational identity, occupational engagement, and athletic identity of college students. Your participation is solicited, although strictly voluntary. Your name will not be associated in any way with the research findings. It is possible, however, with internet communications, that through intent or accident someone other than the intended recipient may see your responses.

If you would like additional information concerning this study before or after it is completed, please feel free to contact us by phone or mail.

Completion of the survey indicates your willingness to participate in this project and that you are at least age eighteen. If you have any additional questions about your rights as a research participant, you may call (785) 864-7429, write the Human Subjects Committee Lawrence Campus (HSCL), University of Kansas, 2385 Irving Hill Road, Lawrence, Kansas 66045-7563, or email [mdenning@ku.edu](mailto:mdenning@ku.edu).

Sincerely,

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